APPLICATION NO. | ISSUE DATE | PATENT NO. | ATTORNEY DOCKET NO. | CONFIRMATION NO.
--- | --- | --- | --- | ---
11/872,320 | 04/22/2014 | 8/707355 | EZ-0006 | 8623

KED & ASSOCIATES, LLP
P.O. Box 8638
Reston, VA 20195

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**

(application filed on or after May 29, 2000)

The Patent Term Adjustment is 619 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Min-Haeng Cho, Seongnam-si, KOREA, REPUBLIC OF;
Chang-Woo Lee, Seoul, KOREA, REPUBLIC OF;
Eun-Kyung Chang, Seongnam-si, KOREA, REPUBLIC OF;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.
PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail

Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

34610 7590 12/05/2013
KED & ASSOCIATES, LLP
P.O. Box 8638
Reston, VA 20195

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Date)

APPLICATION NO. 11/872,320
FILING DATE 10/15/2007
FIRST NAMED INVENTOR Min-Haeng Cho
ATTORNEY DOCKET NO. EZ-0006
CONFIRMATION NO. 8623

TITLIE OF INVENTION: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

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ALATA, YASSIN 2427 725-037000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
   - Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
   - "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list
   1. KED & Associates LLP
   2. (A) NAME OF ASSIGNEE
   3. Seongnam-si, Korea

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)
   PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.
   (A) NAME OF ASSIGNEE

   Humax Co., Ltd.

   Please check the appropriate assignee category or categories (will not be printed on the patent):
   - Individual
   - Corporation or other private group entity
   - Government

4a. The following fee(s) are submitted:
   - Issue Fee
   - Payment Fee (No small entity discount permitted)
   - Advance Order - # of Copies

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)
   - A check is enclosed.
   - Payment by credit card
   - The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number 16-0507 (enclose as extra copy of this form).

Page 2 of 4

PTOL-85 (Rev. 02/11)
5. Change in Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see form PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature ________________________________ Date 03/04/2014

Typed or printed name  David C. Oren

Registration No. 38,694

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
# Electronic Patent Application Fee Transmittal

**Application Number:** 11872320  
**Filing Date:** 15-Oct-2007

**Title of Invention:** METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

**First Named Inventor/Applicant Name:** Min-Haeng Cho

**Filer:** David Carlton Oren/Kathy Humphries

**Attorney Docket Number:** EZ-0005

Filed as Large Entity

## Utility under 35 USC 111(a) Filing Fees

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**Title of Invention:** METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

**First Named Inventor/Applicant Name:** Min-Haeng Cho

**Customer Number:** 34610

**Filer:** David Carlton Oren/Kathy Humphries

**Filer Authorized By:** David Carlton Oren

**Attorney Docket Number:** EZ-0006

**Receipt Date:** 04-MAR-2014

**Filing Date:** 15-OCT-2007

**Time Stamp:** 17:40:42

**Application Type:** Utility under 35 USC 111(a)

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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/E0/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.
NOTICE OF ALLOWANCE AND FEE(S) DUE

KED & ASSOCIATES, LLP
P.O. Box 8638
Reston, VA 20195

34610 7590 12/05/2013
EXAMINER
ALATA, YASSIN
ART UNIT 2427
PAPER NUMBER

APPLICATION NO. FILING DATE FIRST NAMED INVENTOR ATTORNEY DOCKET NO. CONFIRMATION NO.
11/872,320 10/15/2007 Min-Haeng Cho EZ-0006 8623

TITLE OF INVENTION: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

APPLN. TYPE ENTITY STATUS ISSUE FEE DUE PUBLICATION FEE DUE PREV. PAID ISSUE FEE TOTAL FEE(S) DUE DATE DUE
nonprovisional UNDISCOUNTED $1780 $300 $0 $2080 03/05/2014

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE CONSIDERED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)."

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

Page 1 of 4

PTOL-85 (Rev. 02/11)
PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail

Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

or Fax
(571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

KED & ASSOCIATES, LLP
P.O. Box 8638
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34610 7590 12/05/2013

APPLICATION NO. FILING DATE FIRST NAMED INVENTOR ATTORNEY DOCKET NO. CONFIRMATION NO.

11/872,320 10/15/2007 Min-Haeng Cho EZ-0006 8623

TITLE OF INVENTION: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

APPLN. TYPE ENTITY STATUS ISSUE FEE DUE PUBLICATION FEE DUE PREV. PAID ISSUE FEE TOTAL FEE(S) DUE DATE DUE

nonprovisional UNDISCOUNTED $1780 $300 $0 $2080 03/05/2014

EXAMINER ART UNIT CLASS-SUBCLASS

ALATA, YASSIN 2427 725-037000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).  
   ☐ Change of correspondence address (Change of Correspondence Address form PTO/SB/122) attached.
   ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list
   (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1
   (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2
   registered patent attorneys or agents. If no name is listed, no name will be printed. 2

3. ASSIGNEE: NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:
   ☐ Issue Fee
   ☐ Publication Fee (No small entity discount permitted)
   ☐ Advance Order - # of Copies __________________________

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)
   ☐ A check is enclosed.
   ☐ Payment by credit card. Form PTO-2038 is attached.
   ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number __________________ (enclose an extra copy of this form).

Page 2 of 4

PTOL-85 (Rev. 02/11)
5. Change in Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see form PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature __________________________________________ Date __________________________________________

Typed or printed name __________________________________________ Registration No. __________________________________________

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 517 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 517 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.
Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.
Notices of Allowance and Fee(s) Due mailed between October 1, 2013 and December 31, 2013

(Addendum to PTOL-85)

If the “Notice of Allowance and Fee(s) Due” has a mailing date on or after October 1, 2013 and before January 1, 2014, the following information is applicable to this application.

If the issue fee is being timely paid on or after January 1, 2014, the amount due is the issue fee and publication fee in effect January 1, 2014. On January 1, 2014, the issue fees set forth in 37 CFR 1.18 decrease significantly and the publication fee set forth in 37 CFR 1.18(d)(1) decreases to $0.

If an issue fee or publication fee has been previously paid in this application, applicant is not entitled to a refund of the difference between the amount paid and the amount in effect on January 1, 2014.
Notice of Allowability

Application No. 11/872,320
Applicant(s) CHO ET AL.
Examiner YASSIN ALATA
Art Unit 2427

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-65) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 09/11/2013.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are 1,4,7,9,14,20 and 25.

4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All  b) ☐ Some*  c) ☐ None  of the:
   1. ☒ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. ______.
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ______.

Applicant has THREE MONTHS FROM THE MAILING DATE of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER’S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as “replacement sheets”) must be submitted.
   (a) ☐ including changes required by the Notice of Draftsman’s Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date ______.
   (b) ☐ including changes required by the attached Examiner’s Amendment / Comment or in the Office action of Paper No./Mail Date ______.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner’s comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)
1. ☐ Notice of References Cited (PTO-892)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date ______
4. ☐ Examiner’s Comment Regarding Requirement for Deposit of Biological Material
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date ______
7. ☒ Examiner’s Amendment/Comment
8. ☒ Examiner’s Statement of Reasons for Allowance
9. ☐ Other ______.

/YASSIN ALATA/
Examiner, Art Unit 2427

U.S. Patent and Trademark Office
PTOL-37 (Rev. 03-11)
EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given by David C. Oren during a telephone interview on 11/27/2013.

The Application has been amended as follows:

1. (Currently Amended) A method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, comprising:

   in response to receiving a first input of a single key, initially displaying, on a display, an EPG mode screen that includes a channel field and an event field;

   in response to receiving a second input of the single key, determining a first new field based on a previously stored order of fields and changing the previously displayed screen to display the first new field between the channel field and the event field, wherein the determined first new field is a first field in the previously stored order of fields, and the determined first new field is a day field, and wherein the day field is displayed between the channel field and the event field in response to the second input of the single key, and wherein the second input of the single key is after the first input of the single key;

   displaying a cursor on a preselected channel of the channel field, after displaying the day field;

   selecting a desired channel of the channel field and a desired day on the day field by moving the cursor based on an up-down-left-right-navigation key;

   extracting event information corresponding to the selected day and the selected current channel;

   displaying the event information on the event field according to the selected day and the selected current channel; and
in response to receiving a third input of the single key, determining a second new field based on the previously stored order of fields and changing the previously displayed screen to display the second new field, the day field, the channel field and the event field, wherein the determined second new field is a second field after the first field in the previously stored order of fields, and wherein the third input of the single key is after the second input of the single key, and the second new field is a different field from the first new field,

wherein in response to receiving the first input of the single key, the event field is displayed with a time axis in a horizontal direction, and in response to receiving the second input of the single key, the event field is changed to display a time axis in a vertical direction, and

wherein the second new field is a broadcast type field.

2-3. (Canceled)

4. (Previously Presented) The method of claim 1, further comprising moving a cursor to any one of the channel field and the day field or to any one of the values of the fields in accordance with an input from the user, wherein the event information selected by a cursor or corresponding to predetermined values of the fields is displayed in the event field.

5-6. (Canceled)

7. (Previously Presented) The method of Claim 1, wherein a predetermined order of a plurality of items is configured by an operation of the user.

8. (Canceled)

9. (Previously Presented) An Electronic Program Guide (EPG) display device, comprising:

a memory to store the order of fields;

an input device having an EPG mode execution command key and a display mode change key;
a display to display generated EPG screens; and

a controller being adapted to execute the method of claim 1.

10-13. (Canceled)

14. (Previously Presented) The EPG display device of Claim 9, wherein the controller controls the display to display a user interface (CUI) screen for the user to input a specific order of the order of fields.

15-19. (Canceled)

20. (Previously Presented) The method of Claim 1, wherein the event information further corresponding to the added new field is displayed on the event field.

21-24. (Canceled)

25. (New) The method of claim 1, further comprising preparing the order of fields, and storing the order of fields.

3. The following is an examiner's statement of reasons for allowance:

With regard to independent claim 1, the prior art or any other art fails to disclose or reasonably suggest: in response to receiving a first input of a single key, initially displaying, on a display, an EPG mode screen that includes a channel field and an event field; in response to receiving a second input of the single key, determining a first new field based on a previously stored order of fields and changing the previously displayed screen to display the first new field between the channel field and the event field, wherein the determined first new field is a first field in the previously stored order of fields, and the determined first new field is a day field, and wherein the day field is
displayed between the channel field and the event field in response to the second input of the single key, and wherein the second input of the single key is after the first input of the single key; displaying a cursor on a preselected channel of the channel field, after displaying the day field; selecting a desired channel of the channel field and a desired day on the day field by moving the cursor based on an up-down-left-right-navigation key; extracting event information corresponding to the selected day and the selected current channel; displaying the event information on the event field according to the selected day and the selected current channel; and in response to receiving a third input of the single key, determining a second new field based on the previously stored order of fields and changing the previously displayed screen to display the second new field, the channel field and the event field, wherein the determined second new field is a second field after the first field in the previously stored order of fields, and wherein the third input of the single key is after the second input of the single key, and the second new field is a different field from the first new field, wherein in response to receiving the first input of the single key, the event field is displayed with a time axis in a horizontal direction, and in response to receiving the second input of the single key, the event field is changed to display a time axis in a vertical direction, and wherein the second new field is a broadcast type field.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably
accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YASSIN ALATA whose telephone number is 571-270-5683. The examiner can normally be reached on Mon-Fri 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SCOTT BELIVEAU can be reached on 571-272-7343343. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Yassin Alata /
**Examiner-Initiated Interview Summary**

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All participants (applicant, applicant’s representative, PTO personnel):

1. **YASSIN ALATA**
2. **DAVID C. OREN**
3. __________
4. __________

Date of Interview: **27 November 2013**

Type:  
- [x] Telephonic
- [ ] Video Conference
- [ ] Personal [copy given to: [ ] applicant [ ] applicant’s representative]

Exhibit shown or demonstration conducted:  
- [ ] Yes
- [x] No

Issues Discussed:  
- [ ] 101
- [ ] 112
- [ ] 102
- [ ] 103
- [x] Others

(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: **1**

Identification of prior art discussed: **None**.

Substance of Interview:

(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

*The Examiner called the Applicant’s representative to discuss an allowable subject matter and to have his permission for an Examiner amendment to the claims. The Examiner thanks the Applicant’s representative for being so cooperative.*

**Applicant recordation instructions**: It is not necessary for applicant to provide a separate record of the substance of interview.

**Examiner recordation instructions**: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/YASSIN ALATA/
Examiner, Art Unit 2427
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**EAST Search History (Interference)**

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### Application/Control No.
11872320

### Applicant(s)/Patent Under Reexamination
CHO ET AL.

### Examinee
YASSIN ALATA

### Art Unit
2427

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**Application/Control No.**
11872320

**Examiner**
YASSIN ALATA

**Artist Unit**
2427

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(Primary Examiner)  
YASSIN ALATA  
Examiner, Art Unit 2427  
(Assistant Examiner)  

(Date)  
11/30/2013  
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Total Claims Allowed: 7

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Assistant Examiner: YASSIN ALATA
Examiner Art Unit 2427:

Primary Examiner: (Date)

U.S. Patent and Trademark Office
Part of Paper No. 20131129
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11/30/2013 11:40:50 PM
C:\Users\yalata\Documents\EAST\Workspaces\11872320.wsp
Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.
All participants (applicant, applicant's representative, PTO personnel):

(1) YASSIN ALATA.
(2) DAVID C. OREN.
(3) ___.
(4) ___.

Date of Interview: 10 September 2013.

Type: ☑ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☑ No.
If Yes, brief description: _____.

Issues Discussed ☐ 101 ☐ 112 ☐ 102 ☑ 103 ☐ Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: Claim 1.

Identification of prior art discussed: None.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

The Applicant called the Examiner to explain the new amendments that will be filed this week. No agreement was reached. Further search and/or consideration shall be provided subsequent to an official response. _____.

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/Scott Béliveau/
Supervisory Patent Examiner, Art Unit 2427
Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner’s responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the “Contents” section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant’s correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephone, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner.
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant’s record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner’s version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, “Interview Record OK” on the paper recording the substance of the interview along with the date and the examiner’s initials.

1. Submission required under 37 C.F.R. §1.114
   a. □ Previously submitted
      i. □ Consider the amendment(s)/reply under 37 C.F.R. §1.116 previously filed on ______
         (Any unentered amendment(s) referred to above will be entered).
      ii. □ Consider the arguments in the Appeal Brief or Reply Brief previously filed on ______
      iii. □ Other: ______
   b. □ Enclosed
      i. □ Amendment/Reply
      ii. □ Affidavit(s)/Declaration(s)
      iii. □ Information Disclosure Statement (IDS)
      iv. □ Other: ______

2. Miscellaneous
   a. □ Suspension of action on the above-identified application is requested under 37 C.F.R. §1.103(c) for a period of ______ months. Fee amount $130.00 under 37 C.F.R. §1.17(f) enclosed. (Period of suspension shall not exceed 3 months; Fee under 37 C.F.R.§1.17(f) required).
   b. □ Other: ______

3. Fees □ RCE fee required under 37 C.F.R. §1.17(e); Small Entity $600.00, other than small entity $1,700.00. The RCE fee under 37 C.F.R. §1.17(e) is required by 37 C.F.R. §1.114 when the RCE is filed.
     □ Extension of time fee (37 C.F.R. §§1.136 and 1.17)
     Payment by: □ Please charge my Credit Card.

The Commissioner is hereby authorized to charge payment of any deficiency in the above fees associated with this communication or credit any overpayment to Deposit Account No. 16-0607.

Respectfully submitted,
KED & ASSOCIATES, LLP

David C. Orci
Registration No. 38,694

Correspondence Address:
P.O. Box 8638
Reston, VA 20195
(703) 766-3777 DCO/kah
Date: September 11, 2013

Please direct all correspondence to Customer Number 34610
AMENDMENT AND/OR SUBMISSION
UNDER 37 C.F.R. §1.114

Sir:

In reply to the Office Action dated June 11, 2013, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims.

Remarks begin after the listing of the claims.
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, comprising:

   in response to receiving a first input of a single key, initially displaying, on a display, an EPG default mode screen that includes a channel field and an event field—by receiving a pushing of an EPG mode execution command key a first time by a user;

   displaying, on the display, an EPG addition mode screen by adding—in response to receiving a second input of the single key, determining a first new field based on a previously stored order of fields and changing the previously displayed screen to display the first new field between the channel field and the event field, wherein the determined first new field is a first field in the previously stored order of fields, and the determined first new field is a day field, and wherein the day field is displayed between the channel field and the event field; by pushing the EPG mode execution command key a second time directly after the pushing of the EPG mode execution command key the first time in response to the second input of the single key, and wherein the second input of the single key is after the first input of the single key;

   locating—displaying a cursor on a preselected channel of the channel field displayed on the EPG addition mode screen, after displaying the day field is added;
selecting a desired channel of the channel field on the EPG addition mode screen and a desired day on the day field on the EPG addition mode screen by moving the cursor based on an up-down-left-right-navigation key;

extracting event information corresponding to the selected day and the selected current channel; and

displaying the event information on the event field according to the selected day and the selected current channel;

wherein the channel field, the day field and the event field are displayed on separate regions of the display, respectively; and

in response to receiving a third input of the single key, determining a second new field based on the previously stored order of fields and changing the previously displayed screen to display the second new field, the day field, the channel field and the event field, wherein the determined second new field is a second field after the first field in the previously stored order of fields, and wherein the third input of the single key is after the second input of the single key, and the second new field is a different field from the first new field.

2-3. (Canceled)
4. (Previously Presented) The method of claim 1, further comprising moving a cursor to any one of the channel field and the day field or to any one of the values of the fields in accordance with an input from the user,

wherein the event information selected by a cursor or corresponding to predetermined values of the fields is displayed in the event field.

5-6. (Canceled)

7. (Previously Presented) The method of Claim 1, wherein a predetermined order of a plurality of items is configured by an operation of the user.

8. (Canceled)

9. (Currently Amended) An Electronic Program Guide (EPG) display device, comprising:

a memory to store the order of fields;

an input device having an EPG mode execution command key and a display mode change key;

a display to display generated EPG screens; and

a controller being adapted to execute the method of claim 1.

10-13. (Canceled)
14. (Currently Amended) The EPG display device of Claim 9, wherein the controller controls the display to display a user interface (UI) screen for the user to determine an order input a specific order of the order of fields.

15-19. (Canceled)

20. (Currently Amended) The method of Claim 1, further comprising adding a new field of another item on the displayed EPG addition mode screen when the EPG mode execution command key is pressed a third time;

    wherein the event information further corresponding to the added new field is displayed on the event field.

21-22. (Canceled)

23. (New) The method of claim 1, wherein in response to receiving the first input of the single key, the event field is displayed with a time axis in a horizontal direction, and in response to receiving the second input of the single key, the event field is changed to display a time axis in a vertical direction.

24. (New) The method of claim 1, wherein the second new field is a broadcast type field.
25. (New) The method of claim 1, further comprising preparing the order of fields, and storing the order of fields.
REMARKS

Claims 1, 4, 7, 9, 14, 20 and 23-25 are pending in this application. By this Amendment, claims 1, 9, 14 and 20 are amended, claims 21-22 are canceled without prejudice or disclaimer, and new claims 23-25 are added. Various amendments may be made for clarity, and may be unrelated to issues of patentability.

Applicants gratefully acknowledge the courtesies extended by Examiner Alata during the telephonic interview on September 10 with applicants’ representative, Mr. Oren. The substance of the interview is incorporated in the following remarks.

During the interview, applicants discussed features such as single key, a previously stored order of fields, a first new field and a second new field, as recited in independent claim 1. Applicants also discussed the display of the time axis in a horizontal direction and a vertical direction as recited in dependent claim 23.

The Office Action rejects claims 1, 4, 7, 9, 14 and 20-22 under 35 U.S.C. §103(a) over U.S. Patent 6,323,911 to Schein in view of U.S. Patent 7,100,184 to Kahn and U.S. Patent 5,850,218 to LaJoie. The rejection is respectfully traversed with respect to the pending claims.

Independent claim 1 recites in response to receiving a first input of a single key, initially displaying, on a display, an EPG mode screen that includes a channel field and an event field. Independent claim 1 also recites in response to receiving a second input of the single key, determining a first new field based on a previously stored order of fields and
changing the previously displayed screen to display the first new field between the channel field and the event field, wherein the determined first new field is a first field in the previously stored order of fields, and the determined first new field is a day field, and wherein the day field is displayed between the channel field and the event field in response to the second input of the single key, and wherein the second input of the single key is after the first input of the single key. Additionally, independent claim 1 recites displaying a cursor on a preselected channel of the channel field, after displaying the day field, selecting a desired channel of the channel field and a desired day on the day field by moving the cursor based on an up-down-left-right-navigation key, extracting event information corresponding to the selected day and the selected current channel, and displaying the event information on the event field according to the selected day and the selected current channel. Independent claim 1 also recites in response to receiving a third input of the single key, determining a second new field based on the previously stored order of fields and changing the previously displayed screen to display the second new field, the day field, the channel field and the event field, wherein the determined second new field is a second field after the first field in the previously stored order of fields, and wherein the third input of the single key is after the second input of the single key, and the second new field is a different field from the first new field.

The applied references do not teach or suggest all the features of independent claim 1. More specifically and as discussed during the telephonic interview, the applied references
do not teach or suggest in response to receiving a first input of a single key, initially displaying, on a display, an EPG mode screen that includes a channel field and an event field, and in response to receiving a second input of the single key, determining a first new field based on a previously stored order of fields and changing the previously displayed screen to display the first new field between the channel field and the event field, as recited in independent claim 1. The Office Action (on page 5) cites Kahn’s col. 4, lines 43-55 and col. 5, line 65-col. 5, line 10 as teaching features related to repeatedly pressing a key to add a second field item. The cited section relates to elements 62a and 62b of FIG. 3. The elements 62a and 62b do not related to initially displaying an EPG mode screen, determining a first new field based on a previous stored order of fields and changing the previously displayed screen to display the first new field between the channel field and the event field. Kahn’s elements 62a and 62b merely relate to moving the program guide forward or backward.

As discussed during the telephonic interview, the applied references also do not teach or suggest in response to receiving a third input of the single key, determining a second new field based on the previously stored order of fields and changing the previously displayed screen to display the second new field, the day field, the channel field and the event field, wherein the determined second new field is a second field after the first field in the previously stored order of fields, as recited in independent claim 1. Kahn’s 62a and 62b do not perform the above features related to a single key. Kahn’s 62a and 62b do not relate to determining a second new field based on the previously-stored order of fields. Kahn’s 62a
and 62b also do not relate to changing the previously displayed screen to display the second new field, the day field, the channel field and the event field.

Schein and LaJoie also do not teach or suggest the claimed features relating the single key.

As discussed during the telephonic interview, Schein, Kahn and LaJoie also do not teach or suggest the features related to a previously stored order of field (that includes a first new field and a second new field). When discussing previous claims 20-21, the Office Action states that the claim does not require that the third time is different from the first or second time. Independent claim 1 specifically recites that the second input of the single key is after the first input of the single key, and the third input of the single key is after the second input of the single key, and the second new field is a different field from the first new field.

The Office Action also cites LaJoie’s FIGs. 20-23 for features relating to a day field being between the channel field and the event field. FIGs. 20-21 show a theme based program list (based on the theme and programs bar 422). FIGs. 22-23 show a title based program list (based on the alphabet and program bar 446). These are different types of program lists. LaJoie does not teach or suggest in response to receiving a second input of the single key, determining a first new field based on a previously stored order of fields and changing the previously displayed screen to display the first new field between the channel field and the event field. LaJoie does not switch between different types of program lists.
based on a (second) input of the single key. LaJoie does not teach or suggest the specific features related to the single key.

For at least these reasons, Schein, Kahn and LaJoie do not teach or suggest all the features of independent claim 1. Independent claim 1 therefore defines patentable subject matter.

Each of the dependent claims depends from independent claim 1 and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims recite features that further and independently distinguish over the applied references.

For example, as discussed during the telephonic interview, Schein, Kahn and LaJoie do not teach or suggest in response to receiving the first input of the single key, the event field is displayed with a time axis in a horizontal direction, and in response to receiving the second input of the single key, the event field is changed to display a time axis in a vertical direction, as recited in dependent claim 23.

Additionally, Schein, Kahn and LaJoie do not teach or suggest the controller controls the display to display a user interface (UI) screen for the user to input a specific order of the order of fields, as recited in dependent claim 14. Dependent claim 14 defines patentable subject matter for at least this additional reason.

**CONCLUSION**

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1, 4, 7, 9,
14, 20 and 23-25 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
KED & ASSOCIATES, LLP

[Signature]
David C. Oren
Registration No. 38,694

P.O. Box 8638
Reston, VA 20195
703 766-3777 DCO/iah

Date: September 11, 2013
Please direct all correspondence to Customer Number 34610
# Electronic Patent Application Fee Transmittal

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Filed as Large Entity

## Utility under 35 USC 111(a) Filing Fees

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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.
PATENT APPLICATION FEE DETERMINATION RECORD
Substitute for Form PTO-875

Application or Docket Number: 11/872,320
Filing Date: 10/15/2007

ENTITY: ☐ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

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APPLICATION AS AMENDED – PART II

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TOTAL ADD’L FEE

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*** If the “Highest Number Previously Paid For” in this space is less than 3, enter “3”.

The “Highest Number Previously Paid For” (Total or Independent) is the highest number found in the appropriate box in column 1.

Application: LIE /SHERRY DAVIS/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you need to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.
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34610
7590
06/11/2013
KED & ASSOCIATES, LLP
P.O. Box 8638
Reston, VA 20195

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.
Office Action Summary

Application No. 11/872,320
Applicant(s) CHO ET AL.
Examiner YASSIN ALATA
Art Unit 2427

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply to the Office within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) □ Responsive to communication(s) filed on 04 June 2013.
2a) □ This action is FINAL. 2b) □ This action is non-final.
3) □ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) □ Claim(s) 1,4,7,9,14 and 20-22 is/are pending in the application.
   4a) Of the above claim(s) ______ is/are withdrawn from consideration.
5) □ Claim(s) ______ is/are allowed.
6) □ Claim(s) 1,4,7,9,14 and 20-22 is/are rejected.
7) □ Claim(s) ______ is/are objected to.
8) □ Claim(s) ______ are subject to restriction and/or election requirement.

Application Papers

9) □ The specification is objected to by the Examiner.
10) □ The drawing(s) filed on 15 October 2007 is/are: a) □ accepted or b) □ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) □ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) □ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) □ All  b) □ Some *  c) □ None of:
   1. □ Certified copies of the priority documents have been received.
   2. □ Certified copies of the priority documents have been received in Application No. ______.
   3. □ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) □ Notice of References Cited (PTO-892)
2) □ Notice of Draftsman’s Patent Drawing Review (PTO-948)
3) □ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date ______.
4) □ Interview Summary (PTO-413)
   Paper No(s)/Mail Date ______.
5) □ Notice of Informal Patent Application
6) □ Other: ______.
DETAILED ACTION

Response to Arguments

1. Applicant’s arguments with respect to claims 1, 4, 7, 9, 14 and 20-22 have been considered but are moot in view of the new ground of rejection.

The Applicant argues that the applied references do not teach or suggest displaying, on the display, an EPG addition mode screen by adding a day field between the channel field and the event field, by pushing the EPG mode execution command key a second time directly after the pushing of the EPG mode execution command key the first time, displaying a day field between a channel field and an event filed, and pushing an EPG mode execution command key a first time and a second time. The Examiner respectfully disagrees.

The Applicant is arguing references individually. The Applicant is reminded that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F.2d 1091,231 USPQ 375 (Fed. Cir. 1986).

The combination of references discloses displaying, on the display, an EPG addition mode screen by adding a day field between the channel field and the event field, by pushing the EPG mode execution command key a second time directly after the pushing of the EPG mode execution command key the first time, displaying a day field between a channel field and an event filed, and pushing an EPG mode execution command key a first time and a second time.
For example, Schein discloses displaying, on the display, an EPG addition mode screen by adding a day field; see at least Figs. 4A-4B, 6A-7A. Therefore, Schein teaches displaying, on the display, an EPG addition mode screen by adding a day field.

Kahn discloses an EPG mode execution command key, i.e. EPG button or key and repeatedly pressing a key to add a second field item (when pressing the action key twice, the program guide maybe moved by a 12 hour increment; see at least Figs. 3-5, and col. 4, lines 43-col. 5, line 10). Therefore, Kahn teaches adding field by pushing the EPG mode execution command key a second time directly after the pushing of the EPG mode execution command key the first time.

LaJoie discloses that a day field is added between the channel filed and the event field; see at least Figs. 20-23. Therefore, LaJoie teaches adding a day field between the channel field and the event field.

Furthermore, Schein discloses locating a cursor on a preselected channel of the channel field displayed on the EPG addition mode screen, after the day field is added, and selecting a desired channel of the channel field on the EPG addition mode screen and a desired day on the day field on the EPG addition mode screen by moving the cursor based on an up-down-left-right navigation key.

For example, Schein discloses that after adding a day field, the can select a day and after that a cursor will be located on a preselected channel, i.e. the cursor will be on abc channel when Wednesday Dec. 20 is selected; see at least Figs. 7C-7D.

Accordingly, all the limitations are met by the combination of the cited references.
2. Claims 1, 4, 9 and 22 have been amended, and claims 2-3, 5-6, 8, 10-13 and 15-19 have been cancelled.

**Claim Rejections - 35 USC § 103**

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 4, 7, 9, 14 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein (US 6,323,911) in view of Kahn (US 7,100,184) and further in view of LaJoie (US 5,850,218).

Regarding claim 1, Schein discloses a method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, comprising:

- displaying, on a display, an EPG default mode screen that includes a channel field and an event field by receiving a pushing of a key a first time by a user (see at least Figs. 4A-4B, 6A-7A, col. 8, lines 45-67, col. 9, lines 19-45, col. 10, line 66-col. 11, line 50);

- displaying, on the display, an EPG addition mode screen by adding a day field (see at least Fig. 7B and col. 11, lines 18-50);

- locating a cursor on a preselected channel of the channel field displayed on the EPG addition mode screen, after the day field is added (see at least Figs. 7C-8A);
selecting a desired channel of the channel field on the EPG addition mode
screen a desired day on the day field on the EPG addition mode scree by moving the
cursor based on an up-down-left-right navigation key (see at least Figs. 7C-8A);
extracting event information corresponding to the selected day and the selected
current channel (EPG database; see at least col. 12, lines 5-25); and
displaying the event information on the event field according to the selected day
and the selected current channel (see at least Figs. 7B-7D).

Schein is not clear about an EPG mode execution command key, i.e. EPG button
or key, a day field between the channel filed and the event field, the added field is
added by pushing the EPG mode execution command key a second time directly after
the pushing of the EPG mode execution command key the first time. Furthermore,
Schein is not clear about wherein a channel filed, a day field and the event field are
displayed on separate regions of the display, respectively.

Kahn discloses an EPG mode execution command key, i.e. EPG button or key
(see at least Fig. 4 and col. 4, line 65-col. 5, line 10) and repeatedly pressing a key to
add a second field item (when pressing the action key twice, the program guide maybe
moved by a 12 hour increment; see at least Figs. 3, 5, and col. 4, lines 43-55).

Therefore, it would have been obvious to one of ordinary skills in the art at the
time the invention was made to modify Schein by the teachings of Kahn by the above
limitation so to be able to save the number of buttons on the remote control and use one
key instead of several dedicated keys.
Schein in view of Kahn are not clear about a day field between the channel filed and the event field. Furthermore, Schein in view of Kahn are not clear about wherein the channel filed, the day field and the event field are displayed on separate regions of the display, respectively.

LaJoie discloses that a day field is added between the channel filed and the event field and wherein the channel filed, a day field and an event field are displayed on separate regions of the display, respectively; see at least Figs. 20-23.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Schein in view of Kahn by the teachings of LaJoie by the above limitation so to provide the user with plurality of modes to easily operate the set-top box and navigate through the abundance of programs and services available in the cable TV system; See at least col. 6, lines 14-29.

Regarding claim 4, Schein in view of Kahn and further in view of LaJoie disclose the method of claim 1, further comprising moving a cursor to any one of the channel field and the day field or to any one of the values of the fields in accordance with an input from the user (Schein; see at least col. 4, line 66-col. 6, line 27, col. 9, lines 18-45 and col. 11, lines 18-50), wherein the event information selected by the cursor or corresponding to predetermined values of the fields is displayed on the event field (Schein; see at least the rejection of claim 1).
Regarding claim 7, Schein in view of Kahn and further in view of LaJoie disclose the method of Claim 1, wherein a predetermined order of a plurality of items is configured by an operation of the user (Kahn; when pressing the action key twice, the program guide may be moved by a 12 hour increment; see at least Figs. 3, 5, and col. 4, lines 43-55).

Claim 9 is rejected on the same grounds as claim 1.

Regarding claim 14, Schein in view of Kahn and further in view of LaJoie disclose the EPG display device of Claim 9, wherein the controller controls the display to display a user interface (UI) screen for the user to determine an order (Kahn; see at least the rejection of claim 9).

Regarding claim 20, Schein in view of Kahn and further in view of LaJoie disclose the method of claim 1, further comprising adding a new field of another item on the display EPG addition mode screen when the EPG mode execution command key is pressed a third time (the claim does not require that the third time is different from the first or second time, therefore, it interpreted as being the days field; see at least the rejection of claim 1), wherein the event information further corresponding to the added new field is displayed on the event field (the claim does not distinguish between the fields nor
pressing the key; i.e. when changing the EPG theme in Kahn, event information corresponding to the days field is displayed; Kahn; see at least the rejection of claim 1).

Claim 21 is rejected on the same grounds as claim 20.

Regarding claim 22, Schein in view of Kahn and further in view of LaJoie disclose the method of claim 1, wherein displaying the EPG addition mode screen includes simultaneously displaying the added day field, the channel field and the event field on the displayed EPG addition mode screen (see at least the rejection of claim 1).

**Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.
Any inquiry concerning this communication or earlier communications from the examiner should be directed to YASSIN ALATA whose telephone number is (571)270-5683. The examiner can normally be reached on Mon-Fri 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Scott Beliveau can be reached on 571-272-7343. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Y. A./
Examiner, Art Unit 2427

/Scott Beliveau/
Supervisory Patent Examiner, Art Unit 2427
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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).) Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.*
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| L4    | 1    | ((key or button) near10 repeat$5 near10 field) same (epg or ipg or guide)     | US-PGPUB; USPAT; USOC; FPRS; EPO; JPC; DERWENT; IBM_TDB | OR    | CN               | 2013/06/07 23:28 |
| L5    | 42   | ((key or button) near10 (time) near10 field) same (epg or ipg or guide)       | US-PGPUB; USPAT; USOC; FPRS; EPO; JPC; DERWENT; IBM_TDB | OR    | CN               | 2013/06/07 23:28 |
| L6    | 239  | ((key or button) near10 twice ) same (epg or ipg or guide)                    | US-PGPUB; USPAT; USOC; FPRS; EPO; JPC; DERWENT; IBM_TDB | OR    | CN               | 2013/06/07 23:28 |
| L7    | 63   | ((key or button) near10 press$4 near10 twice ) same (epg or ipg or guide)     | US-PGPUB; USPAT; USOC; FPRS; EPO; JPC; DERWENT; IBM_TDB | OR    | CN               | 2013/06/07 23:28 |
| L8    | 65   | ((key or button) near10 (press$4 or hit$4)                                    | US-PGPUB;                                            | OR    | CN               | 2013/06/07 23:28 |
near10 twice) same (epg or ipg or guide)

USPAT; USOCR; FPRS; EPO; JPO; DERMWENT; IBM TDB

23:28

L9 2 ("20080109847") .PN.

US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERMWENT; IBM TDB

OR OFF 2013/06/07 23:28

L10 1 "7065777".pn. and (twice or again)

US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERMWENT; IBM TDB

OR ON 2013/06/07 23:28

L11 4 ((key or button) near10 (press$4 or push$4 or hit$4) near10 (repeat$5 or again or twice) ) same (epg or ipg or guide) same (week)

US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERMWENT; IBM TDB

OR ON 2013/06/07 23:28

L12 7 ((key or button) near10 (press$4 or push$4 or hit$4) near10 (repeat$5 or again or twice) ) same (epg or ipg or guide) same (week$4)

US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERMWENT; IBM TDB

OR ON 2013/06/07 23:28

L13 17 ((key or button) near10 (press$4 or push$4 or hit$4) near10 (repeat$5 or again or twice) ) same (epg or ipg or guide) same day$4

US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERMWENT; IBM TDB

OR ON 2013/06/07 23:28

L14 159 ((key or button) near10 (press$4 or push$4 or hit$4) near10 (repeat$5 or again or twice) ) same (epg or ipg or guide) same mode

US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERMWENT; IBM TDB

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L15 19 ((key or button) near10 (press$4 or push$4 or hit$4) near10 (repeat$5 or again or twice) ) same (epg or ipg or guide) same field

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L16 1228 ((key or button) near10 (press$4 or push$4 or hit$4) near10 (repeat$5 or again or twice) ) same field

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Part of Paper No.: 20130608
In reply to the Office Action dated March 4, 2013, please amend the above-identified application as follows:

**Amendments to the Claims** are reflected in the listing of claims.

**Remarks** begin after the listing of the claims.
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, comprising:

   displaying, on a display, an EPG default mode screen that includes a channel field and an event field by receiving a pushing of an EPG mode execution command key a first time by a user;

   displaying, on the display, an EPG addition mode screen by adding a day field that includes a group of predetermined values and a value preselected among the group of predetermined values between the channel field and the event field, by receiving pushing the EPG mode execution command key a second time directly after the pushing of the EPG mode execution command key a second time the first time;

   locating a cursor on a preselected channel of the channel field displayed on the EPG addition mode screen, after the day field is added;

   selecting a desired channel of the channel field on the EPG addition mode screen and changing the selected value of the added a desired day on the day field on the EPG addition mode screen by moving [[a]]the cursor based on an up-down-left-right-navigation key;
extracting event information corresponding to the selected value of day and a preselected the selected current channel; and

displaying the event information on the event field according to the selected value of day and the desired selected current channel,

wherein the channel field, the added day field and the event field are displayed on separate regions of the display, respectively; and

wherein the predefined value of the added field is a day of a week, and the specific value of the added field of the day is initialized to "today".

2-3. (Canceled)

4. (Currently Amended) The method of claim 1, further comprising moving a cursor to any one of the channel field and the added day field or to any one of the values of the fields in accordance with an input from the user,

wherein the event information selected by a cursor or corresponding to predetermined values of the fields is displayed in the event field.

5-6. (Canceled)

7. (Previously Presented) The method of Claim 1, wherein a predetermined order of a plurality of items is configured by an operation of the user.
8. (Canceled)

9. (Currently Amended) An Electronic Program Guide (EPG) display device, comprising:

an input device having an EPG mode execution command key and a display mode change key;

a display to display generated EPG screens; and

a controller being adapted to execute the method in accordance with claim 1.

10-13. (Canceled)

14. (Previously Presented) The EPG display device of Claim 9, wherein the controller controls the display to display a user interface (UI) screen for the user to determine an order.

15-19. (Canceled)

20. (Previously Presented) The method of Claim 1, further comprising adding a new field of another item on the displayed EPG addition mode screen when the EPG mode execution command key is pressed a third time,
wherein the event information further corresponding to the added new field is displayed on the event field.

21. (Previously Presented) The EPG display device of Claim 9, wherein when the EPG mode execution command key is pressed a third time, the controller adds a new field of another item on the displayed EPG addition mode screen, and wherein the event information further corresponding to the added new field is displayed on the event field.

22. (Currently Amended) The method of Claim 1, wherein displaying the EPG addition mode screen includes simultaneously displaying the added day field, the channel field and the event field on the displayed EPG addition mode screen.
REMARKS

Claims 1, 4, 7, 9, 14 and 20-22 are pending in this application. By this Amendment, claims 1, 4, 9 and 22 are amended and claims 5 and 12 are canceled without prejudice or disclaimer. Various amendments may be made for clarity, and may be unrelated to issues of patentability.


Independent claim 1 recites displaying, on a display, an EPG default mode screen that includes a channel field and an event field by receiving a pushing of an EPG mode execution command key a first time by a user, and displaying, on the display, an EPG addition mode screen by adding a day field between the channel field and the event field, by pushing the EPG mode execution command key a second time directly after the pushing of the EPG mode execution command key the first time. Independent claim 1 also recites locating a cursor on a preselected channel of the channel field displayed on the EPG addition mode screen, after the day field is added, and selecting a desired channel of the channel field on the EPG addition mode screen and a desired day on the day field on the EPG addition mode screen by moving the cursor based on an up-down-left-right-navigation
key. Independent claim 1 also recites extracting event information corresponding to the selected day and the selected current channel, and displaying the event information on the event field according to the selected day and the selected current channel, wherein the channel field, the day field and the event field are displayed on separate regions of the display, respectively.

The applied references do not teach or suggest all the features of independent claim 1. More specifically, the applied references do not teach or suggest displaying, on the display, an EPG addition mode screen by adding a day field between the channel field and the event field, by pushing the EPG mode execution command key a second time directly after the pushing of the EPG mode execution command key the first time, as recited in independent claim 1. The applied references do not teach displaying a day field between a channel field and an event field. The applied references also do not teach or suggest features related to pushing an EPG mode execution command key a first time and a second time.

The Office Action (on page 5) cites Schein’s FIG 7B for features relating to an EPG addition mode screen. Schein does not teach adding a day field between the channel field and the event field. Schein also does not teach by pushing the EPG mode execution command key a second time directly after the pushing of the EPG mode execution command key the first time.

Kahn’s col. 4, lines 43-55 and col. 5, lines 11-28 merely discloses that when a desired field is highlighted, the viewer may activate the field by pressing an action key. This does not
teach or suggest the missing features. LaJoie's FIGs. 20-23, Lahdesmaki and Inoue also do not teach or suggest these missing features.

The Office Action (on pages 2-3) states that "claim 1 does not require selecting a channel in the channel field." The Office Action (on page 3) cites Schein's FIG. 7A as selecting ABC Monday Nite Football. However, Schein's FIG. 7A (and the other applied references) do not teach or suggest locating a cursor on a preselected channel of the channel field displayed on the EPG addition mode screen, after the day field is added, and selecting a desired channel of the channel field on the EPG addition mode screen and a desired day on the day field on the EPG addition mode screen by moving the cursor based on an up-down-left-right-navigation key, as recited in independent claim 1. The other applied references do not teach or suggest these missing features.

For at least these reasons, the applied references do not teach or suggest all the features of independent claim 1. Independent claim 1 therefore defines patentable subject matter.

Each of the dependent claims depends from independent claim 1 and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims recite features that further and independently distinguish over the applied references.

CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1, 4, 7, 9,
14 and 20-22 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
KED & ASSOCIATES, LLP

David C. Oren
Registration No. 38,694

P.O. Box 8638
Reston, VA 20195
703 766-3777 DCO/kah

Date: June 4, 2013
Please direct all correspondence to Customer Number 34610
**Electronic Acknowledgement Receipt**

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New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
Min-Haeng CHO et al.

Serial No: 11/872,320

Filed: October 15, 2007

For: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

U.S. Patent and Trademark Office
Customer Window, MAIL STOP AMENDMENT
Randolph Building
401 Dulany Street
Alexandria, Virginia 22314

Dear Sir:

Transmitted herewith is an Amendment and/or Reply in the above identified application.

☒ No additional fee is required.
☐ Also attached:

The fee has been calculated as shown below:

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If multiple claims newly presented, add $780.00
Fee for extension of time

TOTAL FEE DUE $0.00

☒ The Commissioner is hereby authorized to charge payment of any fees associated with this communication or credit any overpayment, to Deposit Account No. 16-0607, including any filing fees under 37 C.F.R. §1.16 for presentation of extra claims and any patent application processing fees under 37 C.F.R. §1.17.

Respectfully submitted,
KED & ASSOCIATES, LLP

David C. Oren
Registration No. 38,694

Correspondence Address:
P.O. Box 8638
Reston, VA 20195
(703) 766-3777 DCO/kah
Date: June 4, 2013

Please direct all correspondence to Customer Number 34610
**APPLICATION AS FILED – PART I**

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*** If the "Highest Number Previously Paid For" in THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

/LJACQUELINE WEIR/
Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.
Office Action Summary

Application No.
11/872,320

Applicant(s)
CHO ET AL.

Examiner
YASSIN ALATA

Art Unit
2427

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply to the Notice will result in ABANDONMENT of this application. See 37 CFR 1.17(c).

Status

1) X Responsive to communication(s) filed on 01/02/2013.
2a)☐ This action is FINAL.
2b) X This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) X Claim(s) 1,4,5,7,9,12,14 and 20-22 is/are pending in the application.
   4a) Of the above claim(s) ______ is/are withdrawn from consideration.
5)☐ Claim(s) ______ is/are allowed.
6) X Claim(s) 1,4-5,7,9,12,14 and 20-22 is/are rejected.
7)☐ Claim(s) ______ is/are objected to.
8)☐ Claim(s) ______ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10) X The drawing(s) filed on 15 October 2007 is/are: a) X accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) X Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All b)☐ Some * c)☐ None of:
   1. X Certified copies of the priority documents have been received.
   2.☐ Certified copies of the priority documents have been received in Application No. ______.
   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) X Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson’s Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SD/08)
   Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: ______.
DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/02/2013 has been entered.

Response to Arguments

2. Applicant’s arguments with respect to claims 1, 4-5, 7, 9, 12, 14 and 20-22 have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

The Applicant argues that Schein, Kahn and LaJoie do not teach or suggest selecting a desired channel of the channel field and changing the selected value of the added field by moving a cursor based on an up-down-left-right navigation key, the predefined value of the added field is a day of a week, and the specific value of the added field of the day is initialized to “today”. The Examiner respectfully disagrees.

Claim 1 recites "selecting a desired channel of the channel field and changing the selected value of the added field by moving a cursor based on an up-down-left-right navigation key". The claim does not require selecting a channel in the channel field.
Schein discloses selecting a channel of the channel field. For example, as shown below, the user can select ABC Monday Night Football on the abc channel.

Claim 1 does not require selecting a channel in the channel field. Furthermore, Schein discloses changing the selected value of the added field by moving a cursor based on an up-down-left-right navigation key, the predefined value of the added field is a day of a week.

For example, in an addition mode (Fig. 7B, illustrated below) a new field is added that includes a group of predetermined values and a value preselected among the group of predetermined values, i.e. days of the week wherein the Monday value is preselected.
The user can then navigate to a different day; see at least Fig. 7D wherein Wednesday, Dec. 20 is selected. Therefore, Schein discloses changing the selected value of the added field by moving a cursor based on an up-down-left-right navigation key, the predefined value of the added field is a day of a week.

Regarding the last limitation which recites ... the specific value of the added field of the day is initialized to “today”, the Examiner is using a new references, therefore, the arguments are moot.

Accordingly, all the limitations are met by the combination of the cited references.

3. Claim 1 has been amended, claims 2-3, 6, 8, 10-11, 13 and 15-19 have been previously cancelled.
Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 4-5, 7, 9, 12, 14 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein (US 6,323,911) in view of Kahn (US 7,100,184) and further in view of LaJoie (US 5,850,218) and further in view of Lahdesmaki (US 2004/0233238) and further in view of Inoue (US 2001/0016946).

Regarding claim 1, Schein discloses a method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, comprising:

- displaying, on a display, an EPG default mode screen that includes a channel field and an event field by receiving a pushing of a key a first time by a user (see at least Figs. 4A-4B, 6A-7A, col. 8, lines 45-67, col. 9, lines 19-45, col. 10, line 66-col. 11, line 50);

- displaying, on the display, an EPG addition mode screen by adding a field that includes a group of predetermined values and a value preselected among the group of predetermined values (see at least Fig. 7B and col. 11, lines 18-50);

- selecting a desired channel of the channel field and changing the selected value of the added field by moving a cursor based on an up-down-left-right navigation key;

- extracting event information corresponding to the selected value and a preselected current channel (EPG database; see at least col. 12, lines 5-25); and
displaying the event information on the event field according to the selected value and the desired channel (see at least Figs. 7B-7D), wherein the predefined value of the added field is a day of a week (see at least Figs. 7B-7D).

Schein is not clear about an EPG mode execution command key, i.e. EPG button or key and repeatedly pressing a key to add a second field item according to a predetermined order. Further, Schein is not clear about that the group of predetermined value and a value preselected among the group are displayed between the channel field and the event field. Furthermore, Schein is not clear about wherein the channel filed, the added field and the event field are displayed on separate regions of the display, respectively, and the specific value of the field of the day is initialized to "today".

Kahn discloses an EPG mode execution command key, i.e. EPG button or key (see at least Fig. 4 and col. 4, line 65-col. 5, line 10) and repeatedly pressing a key to add a second field item according to a predetermined order (when pressing the action key twice, the program guide maybe moved by a 12 hour increment; see at least Figs. 3, 5, and col. 4, lines 43-55).

Therefore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Schein by the teachings of Kahn by the above limitation so to be able to save the number of buttons on the remote control and use one key instead of several dedicated keys.

Schein in view of Kahn are not clear about that the group of predetermined value and a value preselected among the group are displayed between the channel field and the event field. Furthermore, Schein in view of Kahn are not clear about wherein the
channel filed, the added field and the event field are displayed on separate regions of
the display, respectively, and the specific value of the field of the day is initialized to
"today".

LaJoie discloses that the group of predetermined value and a value preselected
among the group are displayed between the channel field and the event field; see at
least Figs. 20-23.

Therefore, it would have been obvious to one of ordinary skill in the art at the
time the invention was made to modify Schein in view of Kahn by the teachings of
LaJoie by the above limitation so to provide the user with plurality of modes to easily
operate the set-top box and navigate through the abundance of programs and services
available in the cable TV system; See at least col. 6, lines 14-29.

Schein in view of Kahn and further in view of LaJoie are not clear about wherein
the channel filed, the added field and the event field are displayed on separate regions
of the display, respectively, and the specific value of the field of the day is initialized to
"today".

Lahdesmaki discloses a channel filed, an added field and an event field are
displayed on separate regions of the display, respectively (see at least ).

Therefore, it would have been obvious to one of ordinary skill in the art at the
time the invention was made to modify Schein in view of Kahn and further in view of
LaJoie by the teachings of Lahdesmaki by the above limitation so to allow the user to
quickly access elements contained in a plurality of folders; see at least the Abstract.
Schein in view of Kahn and further in view of LaJoie and further in view of Lahdesmaki are not clear about the specific value of the field of the day is initialized to "today".

Inoue discloses the above missing limitation; see at least Figs. 6-7.

Therefore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Schein in view of Kahn and further in view of LaJoie and further in view of Lahdesmaki by the above limitations for the convenience of the user.

Regarding claim 4, Schein in view of Kahn and further in view of LaJoie and further in view of Lahdesmaki and further in view of Inoue disclose the method of claim 1, further comprising moving a cursor to any one of the channel field and the added field or to any one of the values of the fields in accordance with an input from the user (Schein; see at least col. 4, line 66-col. 6, line 27, col. 9, lines 18-45 and col. 11, lines 18-50),

wherein the event information selected by the cursor or corresponding to predetermined values of the fields is displayed on the event field (Schein; see at least the rejection of claim 1).

Regarding claim 5, Schein in view of Kahn and further in view of LaJoie and further in view of Lahdesmaki and further in view of Inoue disclose the method of Claim 1, wherein when a field of the item is added, an EPG screen is displayed (as in claim 1
rejection) such that a cursor is located on the preselected channel of the channel field (Schein; see at least Figs. 7C-8A).

Regarding claim 7, Schein in view of Kahn and further in view of LaJoie and further in view of Lahdesmaki and further in view of Inoue disclose the method of Claim 1, wherein a predetermined order of a plurality of items is configured by an operation of the user (Kahn; when pressing the action key twice, the program guide maybe moved by a 12 hour increment; see at least Figs. 3, 5, and col. 4, lines 43-55).

Claim 9 is rejected on the same grounds as claim 1.

Claim 12 is rejected on the same grounds as claim 4.

Regarding claim 14, Schein in view of Kahn and further in view of LaJoie and further in view of Lahdesmaki and further in view of Inoue disclose the EPG display device of Claim 9, wherein the controller controls the display to display a user interface (UI) screen for the user to determine an order (Kahn; see at least the rejection of claim 9).

Regarding claim 20, Schein in view of Kahn and further in view of LaJoie and further in view of Lahdesmaki and further in view of Inoue disclose the method of claim 1, further comprising adding a new field of another item on the display EPG addition mode screen when the EPG mode execution command key is pressed a third time (the
claim does not require that the third time is different from the first or second time, therefore, it interpreted as being the days field; see at least the rejection of claim 1), wherein the event information further corresponding to the added new field is displayed on the event field (the claim does not distinguish between the fields nor pressing the key; i.e. when changing the EPG theme in Kahn, event information corresponding to the days field is displayed; Kahn; see at least the rejection of claim 1).

Claim 21 is rejected on the same grounds as claim 20.

Regarding claim 22, Schein in view of Kahn and further in view of LaJoie and further in view of Lahdesmaki and further in view of Inoue disclose the method of claim 1, wherein displaying the EPG addition mode screen includes simultaneously displaying the added field, the channel field and the event field on the displayed EPG addition mode screen (see at least the rejection of claim 1).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YASSIN ALATA whose telephone number is (571)270-5683. The examiner can normally be reached on Mon-Fri 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott BeLiveau can be reached on 571-272-7343. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yassine Alata/
Examiner, Art Unit 2427
# Notice of References Cited

**Applicant(s)/Patent Under Reexamination:** CHO ET AL.

**Examiner:** YASSIN ALATA

**Art Unit:** 2427

## U.S. Patent Documents

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## Non-Patent Documents

Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)

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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)

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## EAST Search History

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REQUEST FOR CONTINUED EXAMINATION (RCE)
TRANSMITTAL UNDER 37 C.F.R. §1.114

DOCKET NUMBER: EZ-0006
Prior Appln Serial No.: 11/872,320
Filed: October 15, 2007
Inventor(s): Min-Haeng CHO et al.
Confirmation No.: 8623
Group Art Unit: 2427
Examiner: Yassin ALATA

U.S. Patent and Trademark Office
Customer Service Window, Mail Stop RCE
Randolph Building
401 Dulany Street
Alexandria, Virginia 22314

Sir:


1. Submission required under 37 C.F.R. §1.114
   a.  ☑ Previously submitted
      i.  ☑ Consider the amendment(s)/reply under 37 C.F.R. §1.116 previously filed on December 12, 2012
          (Any unentered amendment(s) referred to above will be entered).
      ii. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on ______
      iii. ☐ Other: ______
   b. ☐ Enclosed
      i. ☐ Amendment/Reply
      ii. ☐ Affidavit(s)/Declaration(s)
      iii. ☐ Information Disclosure Statement (IDS)
      iv. ☐ Other: ______

2. Miscellaneous
   a. ☐ Suspension of action on the above-identified application is requested under 37 C.F.R. §1.103(c) for a period of ______ months. Fee amount $130.00 under 37 C.F.R. §1.17(i) enclosed. (Period of suspension shall not exceed 3 months; Fee under 37 C.F.R.§1.17(i) required).
   b. ☐ Other: ______

3. Fees ☑ RCE fee required under 37 C.F.R. §1.17(e); Small Entity $465.00, other than small entity $930.00. The RCE fee under 37 C.F.R. §1.17(e) is required by 37 C.F.R. §1.114 when the RCE is filed.
   ☐ Extension of time fee (37 C.F.R. §§1.136 and 1.17)
   Payment by: ☑ Please charge my Credit Card.

The Commissioner is hereby authorized to charge payment of any deficiency in the above fees associated with this communication or credit any overpayment to Deposit Account No. 16-0607.

Respectfully submitted,
KED & ASSOCIATES, LLP

David C. Oren
Registration No. 38,694

Correspondence Address:
P.O. Box 8638
Chantilly, VA 20195
(703) 766-3777 DCO/kah
Date: January 2, 2013

Please direct all correspondence to Customer Number 34610
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Min-Haeng CHO et al. Confirmation No.: 8623
Serial No.: 11/872,320 Group Art Unit: 2427
Filed: October 15, 2007 Examiner: Yassim ALATA
Customer No.: 34610

For: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

PETITION FOR EXTENSION OF TIME UNDER 37 C.F.R. §1.136(a)(1)

U.S. Patent and Trademark Office
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, Virginia 22314

Sir:

Applicant petitions the Commissioner of Patents and Trademarks to extend the time for response to the Office Action dated September 12, 2012 for one month.

Please charge our credit card in the amount of $150.00 for the extension of time under 37 C.F.R. §1.17(a). Any deficiency or overpayment should be charged or credited to Deposit Account No. 16-0607.

Respectfully submitted,
KED & ASSOCIATES, LLP

[Signature]

David C. Oren
Registration No. 38,694

Correspondence Address:
P.O. Box 8638
Reston, VA 20195
703 766-3777 DCO/akb
Date: January 2, 2012
Please direct all correspondence to Customer Number 34610
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**Title of Invention:** METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

**First Named Inventor/Applicant Name:** Min-Haeng Cho

**Filer:** David Carlton Oren/Kathy Humphries

**Attorney Docket Number:** EZ-0005

Filed as Large Entity

### Utility under 35 USC 111(a) Filing Fees

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- Payment was successfully received in RAM: $1080
- RAM confirmation Number: 7364
- Deposit Account
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.
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| Multiple Dependent Claim Present | N/A | N/A |

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**First Presentation of Multiple Dependent Claim (37 CFR 1.16(g))**

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**Application Size Fee (37 CFR 1.16(c))**

**First Presentation of Multiple Dependent Claim (37 CFR 1.16(g))**

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*If the entry in column 1 is less than the entry in column 2, write “0” in column 3.

**If the “Highest Number Previously Paid For” in this space is less than 20, enter “20”.

***If the “Highest Number Previously Paid For” in this space is less than 3, enter “3”.

The “Highest Number Previously Paid For” (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner: /EVELYN NIMMONS/
Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.
Advisory Action
Before the Filing of an Appeal Brief

THE MAILING DATE of this communication appears on the cover sheet with the correspondence address.

NO NOTICE OF APPEAL FILED

1. X The reply was filed after a final rejection. No Notice of Appeal has been filed. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance;
   (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114 if this is a utility or plant application. Note that RCEs are not permitted in design applications. The reply must be filed within one of the following time periods:
   a) ☑ The period for reply expires 2 months from the mailing date of the final rejection.
   b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action; or (2) the date set forth in the final rejection, whichever is later.
   In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
   c) ☐ A prior Advisory Action was mailed more than 3 months after the mailing date of the final rejection in response to a first-after-final reply filed within 2 months of the mailing date of the final rejection. The current period for reply expires 3 months from the mailing date of the prior Advisory Action or SIX MONTHS from the mailing date of the final rejection, whichever is earlier.

   Examiner Note: If box 1 is checked, check either box (a), (b) or (c). ONLY CHECK BOX (b) WHEN THIS ADVISORY ACTION IS THE FIRST RESPONSE TO APPLICANT’S FIRST AFTER-FINAL REPLY WHICH WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. ONLY CHECK BOX (c) IN THE LIMITED SITUATION SET FORTH UNDER BOX (c). See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the due date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) or (c) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on . A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)); or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. X The proposed amendments filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   a) ☑ They raise new issues that would require further consideration and/or search (see NOTE below);
   b) ☑ They raise the issue of new matter (see NOTE below);
   c) ☑ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   d) ☑ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: . (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant’s reply has overcome the following rejection(s): .

6. ☑ Newly proposed or amended claim(s) would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☑ For purposes of appeal, the proposed amendment(s): (a) ☑ will not be entered, or (b) ☑ will be entered, and an explanation of how the new or amended claims would be rejected is provided below or appended.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. ☑ The affidavit or other evidence filed after the date of filing the Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☑ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:

   See Continuation of 11.

12. ☑ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). .

13. ☑ Other: .

STATUS OF CLAMS

14. The status of the claim(s) is (or will be) as follows:

   Claim(s) allowed: .
   Claim(s) objected to: .
   Claim(s) rejected: 1,4-5,7,9,12,14 and 20-22.
   Claim(s) withdrawn from consideration: .

/Scott Beliveau/
Supervisory Patent Examiner, Art Unit 2427
Continuation of 3. The proposed amendments impacts the existing grounds of art rejection, requires reconsideration of the prior art and/or a new search. Further, the proposed amendments does not reduce or simplify issue for appeal in that the entry of the amendments may require a new grounds of art rejection.

Continuation of 11. The proposed amendments do NOT place the application in condition for allowance because: Applicant’s arguments are directed toward the claim as proposed, which will not be entered for the reasons above. Thus, the arguments are moot.
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: Min-Haeng CHO et al.

Serial No.: 11/872,320 Group Art Unit: 2427
Confirmation No.: 8623 Examiner: Yassin ALATA

Filed: October 15, 2007 Customer No.: 34610

For: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

AMENDMENT AFTER FINAL REJECTION UNDER 37 C.F.R. §1.116

U.S. Patent and Trademark Office
Customer Window, Mail Stop AF
Randolph Building
401 Dupont Street
Alexandria, VA 22314

Sir:

In reply to the Office Action dated September 12, 2012, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims.

Remarks begin after the listing of the claims.
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: Min-Haeng CHO et al.

Serial No.: 11/872,320 Group Art Unit: 2427

Confirmation No.: 8623 Examiner: Yassin ALATA

Filed: October 15, 2007 Customer No.: 34610

For: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

AMENDMENT AFTER FINAL REJECTION
UNDER 37 C.F.R. §1.116

U.S. Patent and Trademark Office
Customer Window, Mail Stop AF
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

In reply to the Office Action dated September 12, 2012, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims.

Remarks begin after the listing of the claims.
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, comprising:

   displaying, on a display, an EPG default mode screen that includes a channel field and an event field by receiving a pushing of an EPG mode execution command key a first time by a user;

   displaying, on the display, an EPG addition mode screen by adding a field that includes a group of predetermined values and a value preselected among the group of predetermined values between the channel field and the event field, by receiving a pushing of the EPG mode execution command key a second time;

   selecting a desired channel of the channel field and changing the selected value of the added field by moving a cursor based on an up-down-left-right-navigation key;

   extracting event information corresponding to the selected value and a preselected current channel; and

   displaying the event information on the event field according to the selected value and the desired channel,

   wherein the channel field, the added field and the event field are displayed on separate regions of the display, respectively, and
wherein the predefined value of the added field is a day of a week, and the specific value of the added field of the day is initialized to “today”.

2-3. (Canceled)

4. (Previously Presented) The method of claim 1, further comprising moving a cursor to any one of the channel field and the added field or to any one of the values of the fields in accordance with an input from the user,

wherein the event information selected by a cursor or corresponding to predetermined values of the fields is displayed in the event field.

5. (Previously Presented) The method of Claim 1, wherein when a field of the item is added, an EPG screen is displayed such that a cursor is located on the preselected channel of the channel field.

6. (Canceled)

7. (Previously Presented) The method of Claim 1, wherein a predetermined order of a plurality of items is configured by an operation of the user.
8. (Canceled)

9. (Previously Presented) An Electronic Program Guide (EPG) display device, comprising:

   an input device having an EPG mode execution command key and a display mode change key;

   a display to display generated EPG screens; and

   a controller being adapted to execute the method in accordance with claim 1.

10-11. (Canceled)

12. (Previously Presented) The EPG display device of Claim 9, wherein the controller moves a cursor to any one of the channel field and the added field or to any one of the values of the fields in accordance with an input from the user, and the event information selected by the cursor or corresponding to predetermined values of the fields is displayed on the event field of the display.

13. (Canceled)
14. (Previously Presented) The EPG display device of Claim 9, wherein the controller controls the display to display a user interface (UI) screen for the user to determine an order.

15-19. (Canceled)

20. (Previously Presented) The method of Claim 1, further comprising adding a new field of another item on the displayed EPG addition mode screen when the EPG mode execution command key is pressed a third time,

wherein the event information further corresponding to the added new field is displayed on the event field.

21. (Previously Presented) The EPG display device of Claim 9, wherein when the EPG mode execution command key is pressed a third time, the controller adds a new field of another item on the displayed EPG addition mode screen, and

wherein the event information further corresponding to the added new field is displayed on the event field.
22. (Previously Presented) The method of Claim 1, wherein displaying the EPG addition mode screen includes simultaneously displaying the added field, the channel field and the event field on the displayed EPG addition mode screen.
REMARKS

Claims 1, 4, 5, 7, 9, 12, 14 and 20-22 are pending in this application. By this Amendment, claim 1 is amended and claims 2, 3, 10 and 11 are canceled without prejudice or disclaimer. Various amendments may be made for clarity and are unrelated to issues of patentability.

The Office Action rejects claims 1, 2, 4, 5, 7, 9, 10, 12, 14 and 20-22 under 35 U.S.C. §103(a) over U.S. Patent 6,323,911 to Schein in view of U.S. Patent 7,100,184 to Kahn and U.S. Patent 5,850,218 to LaJoie. The Office Action also rejects claims 3 and 11 under 35 U.S.C. §103(a) over Schein in view of Kahn, LaJoie and Official Notice. The rejections are respectfully traversed with respect to the pending claims.

Independent claim 1 recites displaying, on a display, an EPG default mode screen that includes a channel field and an event field by receiving a pushing of an EPG mode execution command key a first time by a user, and displaying, on the display, an EPG addition mode screen by adding a field that includes a group of predetermined values and a value preselected among the group of predetermined values between the channel field and the event field, by receiving a pushing of the EPG mode execution command key a second time. Independent claim 1 also recites selecting a desired channel of the channel field and changing the selected value of the added field by moving a cursor based on an up-down-left-right-navigation key, extracting event information corresponding to the selected value and a preselected current channel, and displaying the event information on the event field
according to the selected value and the desired channel. Independent claim 1 also recites that
the channel field, the added field and the event field are displayed on separate regions of the
display, respectively, and wherein the predefined value of the added field is a day of a week,
and the specific value of the added field of the day is initialized to “today”.

In at least one non-limiting example, the present specification describes that a new
field (i.e., a day of the week field 330) and an event field 350 are displayed on separate
regions of the display, respectively The Office Action (on pages 2-4) cites Schein’s FIGs.
7A-7B as disclosing features related to a new field. The Office Action states that FIG. 7B
shows a new field (submode menu 118) that includes days of the week, wherein the Monday
value is prescribed. Schein’s submode menu 118 is displayed on an alleged event field. Schein
therefore provides for a larger number of button operations in order to change a selected
value of the added field. For example, independent claim 1 recites (after adding a field)
selecting a desired channel of the channel field and changing the selected value of the added
field by moving a cursor based on an up-down-left-right navigation key. In contrast, Schein’s
submode menu 118 disappears when the date is changed after the submode menu 118 is
displayed in the alleged event field. In Schein, the user must then need to press a button for
displaying the submode menu 118 again in order to change to a different date after
displaying a program.

For at least these reasons, Schein does not teach or suggest selecting a desired
channel of the channel field and changing the selected value of the added field by moving a
cursor based on an up-down-left-right-navigation key, and that the channel field, the added field and the event field are displayed on separate regions of the display, respectively, as recited in independent claim 1.

The Office Action (on page 4) also asserts that Kahn discloses that when pressing the action key twice, the program guide may be moved by a 12 hour increment. The Office Action (on page 4) also asserts that LaJoie discloses a default mode and an addition mode, Kahn and LaJoie do not teach or suggest selecting a desired channel of the channel field and changing the selected value of the added field by moving a cursor based on an up-down-left-right-navigation key, and the channel field, the added field and the event field are displayed on separate regions of the display, respectively, as recited in independent claim 1.

Schein, Kahn and LaJoie also do not teach or suggest that the predefined value of the added field is a day of a week, and the specific value of the added field of the day is initialized to "today". When discussing dependent claim 3, the Office Action (on page 11) states that it is well known in the art to replace day of the week by "today." However, independent claim 1 recites that the specific value of the added field of the day is initialized to "today." Schein, Kahn, LaJoie and Official Notice do not teach or suggest this feature of independent claim 1.

For at least these reasons, Schein, Kahn, LaJoie and Official Notice do not teach or suggest all the features of independent claim 1. Kahn does not teach or suggest the missing features. Independent claim 1 therefore defines patentable subject matter.
Each of the dependent claims depends from independent claim 1 and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims recite features that further and independently distinguish over the applied references.

CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1, 4, 5, 7, 9, 12, 14 and 20-22 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
KED & ASSOCIATES, LLP

David C. Oren
Registration No. 38,694

P.O. Box 8638
Reston, VA 20195
703 766-3777 DCO/sah
Date: December 12, 2012
Please direct all correspondence to Customer Number 34610
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**Warnings:**

**Information:**

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**New Applications Under 35 U.S.C. 111**

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**New International Application Filed with the USPTO as a Receiving Office**

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Docket No.: EZ-0006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Min-Haeng CHO et al.

Serial No.: 11/872,320

Filed: October 15, 2007

Confirmation No.: 8623

For METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

U.S. Patent and Trademark Office
Customer Window, MAIL STOP AF
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Dear Sir:

Transmitted herewith is an Amendment and/or Reply in the above identified application.

☒ No additional fee is required.
☐ Also attached:

The fee has been calculated as shown below:

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If multiple claims newly presented, add $460.00 $0.00

Fee for extension of time $0.00

TOTAL FEE DUE $0.00

☒ The Commissioner is hereby authorized to charge payment of any fees associated with this communication or credit any overpayment, to Deposit Account No. 16-0607, including any filing fees under 37 C.F.R. §1.16 for presentation of extra claims and any patent application processing fees under 37 C.F.R.§ 1.17.

Respectfully submitted,
KED & ASSOCIATES, LLP

David C. Oreh
Registration No. 38,694

Correspondence Address:
P.O. Box 8638
Reston, VA 20195
(703) 766-3777 DCO/kah
Date: December 12, 2012

Please direct all correspondence to Customer Number 34610
# Patent Application Fee Determination Record

## Application AsFiled — Part I

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If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(h).

## Application As Amended — Part II

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** If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

*** If the "Highest Number Previously Paid For" in this space is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" in this space is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner: /PATSY ZIMMERMAN/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.
Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.
Office Action Summary

Application No. 11/872,320
Applicant(s) CHO ET AL.
Examiner YASSIN ALATA
Art Unit 2427

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ✖ Responsive to communication(s) filed on 23 August 2012
2a) ✖ This action is FINAL.
2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ✖ Claim(s) 1-5,7,9-12,14 and 20-22 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ✖ Claim(s) 1-5,7,9-12,14 and 20-22 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on 15 October 2007 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a) ☐ All   b) ☐ Some * c) ☐ None of:

  1. ✖ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. ______.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson’s Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date ______.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date ______.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: ______.
DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 08/23/2012 have been fully considered but they are not persuasive.

2. The Applicant argues that 1) the references do not relate displaying an EPG default mode screen when an EPG mode execution command key is pressed one and adding a field when the EPG mode execution command key is pressed twice and that they do not relate to adding a field that includes a group of predetermined values and a value preselected among the group of predetermined values by receiving a pushing of the EPG mode execution command, 2) the references do not teach or suggest displaying an EPG addition mode screen by adding a field that includes a group of predetermined values and a value preselected among the group of predetermined values by receiving a pushing of the EPG mode execution command key a second time, 3) the reference do not teach the features of claim 2. The Examiner respectfully disagrees.

Regarding issues 1) and 2), the Applicant seems to argue references individually. The Applicant is reminded that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F.2d 1091,231 USPQ 375 (Fed. Cir. 1986).

Schein discloses displaying an EPG default mode screen that includes a channel field and an event field by receiving a pushing of a key a first time by a user and
displaying an EPG addition mode screen by adding a field that includes a group of predetermined values and a value preselected among the group of predetermined values. For example, as illustrated below in Figs. 7A-7B, Schein discloses a default mode and an addition mode.
In the default mode (Fig. 7A) the EPG is displayed when an EPG key is pressed. In the addition mode (Fig. 7B) a new field is added that includes a group of predetermined values and a value preselected among the group of predetermined values, i.e. days of the week wherein the Monday value is preselected.

Kahn discloses an EPG mode execution command key, i.e. EPG button or key and repeatedly pressing a key to add a second field item according to a predetermined order. For example, Kahn discloses when pressing the action key twice, the program guide maybe moved by a 12 hour increment; see at least Figs. 3, 5, and col. 4, lines 43-55.

LaJoie also discloses two modes of presenting an EPG. LaJoie discloses a group of predetermined value and a value preselected among the group are displayed between the channel field and the event field. For example, as illustrated below in Figs. 21 and 22, LaJoie discloses a default mode and an addition mode.
A regular EPG is displayed in the first mode (Fig. 21), but an addition mode is displayed (Fig. 22) wherein the addition mode includes a group of predetermined value and a value preselected among the group are displayed between the channel field and the event field, i.e. the days field is displayed between the channel field and the event field. Furthermore, in Fig. 23, illustrated below, a value is preselected among the group of the predetermined value.

![Diagram of EPG display](image)

For example, Fig. 23 shows that the "Monday" is preselected among the group of days.

Regarding issue 3), Schein discloses selecting a desired channel of the channel field and changing the selected value of the added field by moving a cursor based on an up-down-left-right navigation key. For example, the user can select a channel in the EPG; see at least Figs. 1-2, 7A-8A and col. 5, lines 20-col. 6, line 26 and the user can use the remote control keys (which includes an up-down-left-right navigation key) to
navigate the new added field by moving up and down in the field. The language of the
claim is broad and the Examiner is entitled to have claims interpreted broadly, to the
maximum extent permitted by statute, regulation, and applicable case law.

Accordingly, all the limitations are met by the combination of the cited references.

3. Claims 1-3 and 10-11 have been amended, claims 6, 8, 13 and 15-19 have been
previously cancelled.

Note: The Examiner holds that the official notice statements, which were
originally made in the Action mailed 05/23/2012 were not properly traversed and,
therefore, the limitations under Official Notice are taken as admitted prior art (In re

**Claim Rejections - 35 USC § 103**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2, 4-5, 7, 9-10, 12, 14 and 20-22 are rejected under 35 U.S.C. 103(a)
as being unpatentable over Schein (US 6,323,911) in view of Kahn (US 7,100,184) and
further in view of LaJoie (US 5,850,218).
Regarding claim 1, Schein discloses a method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, comprising:

displaying, on a display, an EPG default mode screen that includes a channel field and an event field by receiving a pushing of a key a first time by a user (see at least Figs. 4A-4B, 6A-7A, col. 8, lines 45-67, col. 9, lines 19-45, col. 10, line 66-col. 11, line 50);

displaying, on the display, an EPG addition mode screen by adding a field that includes a group of predetermined values and a value preselected among the group of predetermined values (see at least Fig. 7B and col. 11, lines 18-50);

extracting event information corresponding to the selected value and a preselected current channel (EPG database; see at least col. 12, lines 5-25); and

display the event information on the event field (see at least Figs. 7B-7D).

Schein is not clear about an EPG mode execution command key, i.e. EPG button or key and repeatedly pressing a key to add a second field item according to a predetermined order. Furthermore, Schein is not clear about that the group of predetermined value and a value preselected among the group are displayed between the channel field and the event field.

Kahn discloses an EPG mode execution command key, i.e. EPG button or key (see at least Fig. 4 and col. 4, line 65-col. 5, line 10) and repeatedly pressing a key to add a second field item according to a predetermined order (when pressing the action key twice, the program guide maybe moved by a 12 hour increment; see at least Figs. 3, 5, and col. 4, lines 43-55).
Therefore, the claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art.

Furthermore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Schein by the teachings of Kahn by the above limitation so to be able to save the number of buttons on the remote control and use one key instead of several dedicated keys.

Schein in view of Kahn are not clear about that the group of predetermined value and a value preselected among the group are displayed between the channel field and the event field.

LaJoie discloses the above missing limitation; see at least Figs. 20-23.

Therefore, the claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Schein in view of Kahn by the teachings of LaJoie by the above limitation so to provide the user with plurality of modes to easily operate the set-top box and navigate through the abundance of programs and services available in the cable TV system; See at least col. 6, lines 14-29.

Regarding claim 2, Schein in view of Kahn and further in view of LaJoie disclose the method of Claim 1, further comprising selecting a desired channel of the channel field and changing the selected value of the added field moving a cursor based on an
up-down-left-right navigation key (Schein; see at least Figs. 1-2, 7A-8A and col. 5, lines 20-col. 6, line 26).

Regarding claim 4, Schein in view of Kahn and further in view of LaJoie disclose the method of claim 1, further comprising moving a cursor to any one of the channel field and the added field or to any one of the values of the fields in accordance with an input from the user (Schein; see at least col. 4, line 66-col. 6, line 27, col. 9, lines 18-45 and col. 11, lines 18-50),

wherein the event information selected by the cursor or corresponding to predetermined values of the fields is displayed on the event field (Schein; see at least the rejection of claim 1).

Regarding claim 5, Schein in view of Kahn and further in view of LaJoie disclose the method of Claim 1, wherein when a field of the item is added, an EPG screen is displayed (as in claim 1 rejection) such that a cursor is located on the preselected channel of the channel field (Schein; see at least Figs. 7C-8A).

Regarding claim 7, Schein in view of Kahn and further in view of LaJoie disclose the method of Claim 1, wherein a predetermined order of a plurality of items is configured by an operation of the user (Kahn; when pressing the action key twice, the program guide maybe moved by a 12 hour increment; see at least Figs. 3, 5, and col. 4, lines 43-55).
Claim 9 is rejected on the same grounds as claim 1.

Claim 10 is rejected on the same grounds as claim 2.

Claim 12 is rejected on the same grounds as claim 4.

Regarding claim 14, Schein in view of Kahn and further in view of LaJoie disclose the EPG display device of Claim 9, wherein the controller controls the display to display a user interface (UI) screen for the user to determine an order (Kahn; see at least the rejection of claim 9).

Regarding claim 20, Schein in view of Kahn and further in view of LaJoie disclose the method of claim 1, further comprising adding a new field of another item on the display EPG addition mode screen when the EPG mode execution command key is pressed a third time (the claim does not require that the third time is different from the first or second time, therefore, it interpreted as being the days field; see at least the rejection of claim 1),

wherein the event information further corresponding to the added new field is displayed on the event field (the claim does not distinguish between the fields nor pressing the key; i.e. when changing the EPG theme in Kahn, event information corresponding to the days field is displayed; Kahn; see at least the rejection of claim 1).

Claim 21 is rejected on the same grounds as claim 20.
Regarding claim 22, Schein in view of Kahn and further in view of LaJoie disclose the method of claim 1, wherein displaying the EPG addition mode screen includes simultaneously displaying the added field, the channel field and the event field on the displayed EPG addition mode screen (see at least the rejection of claim 1).

6. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of Kahn and further in view of LaJoie and further in view of an Examiner Official Notice.

Regarding claim 3, Schein in view of Kahn and further in view of LaJoie disclose the method of Claim 2, wherein the predefined item is a day of a week and the specific value of the added first field of the day is initialized to a day of the week.

The Examiner takes an official notice that it is well known in the art to replace a day of the week by “today”.

Therefore, the claim would have been obvious because the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Furthermore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Schein in view of Kahn and further in view of LaJoie by the above limitations for the convenience of the user.

Claim 11 is rejected on the same grounds as claim 3.
Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YASSIN ALATA whose telephone number is (571)270-5683. The examiner can normally be reached on Mon-Fri 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Scott Beliveau can be reached on 571-272-7343. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Y. A./
Examiner, Art Unit 2427

/Scott Beliveau/
Supervisory Patent Examiner, Art Unit 2427
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*Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages*

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).) Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.*
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EAST Search History (Interference)

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Docket No.: EZ-0006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Min-Haeng CHO et al. Confirmation No.: 8623

Serial No.: 11/872,320 Group Art Unit: 2427

Filed: October 15, 2007 Examiner: Yassin ALATA

Customer No.: 34610

For: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

AMENDMENT

U.S. Patent and Trademark Office
Customer Window, Mail Stop Amendment
Randolph Building
401 Dulany Street
Alexandria, Virginia 22314

Sir:

In reply to the Office Action dated May 23, 2012, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims.

Remarks begin after the listing of the claims.
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, comprising:

   displaying, on a display, an EPG default mode screen that includes a channel field and an event field by receiving a pushing of an EPG mode execution command key a first time by a user;

   displaying, on the display, an EPG addition mode screen by adding a field of a predefined item that includes a group of predetermined values and a value preselected among the group of predetermined values between the channel field and the event field, by receiving a pushing of the EPG mode execution command key a second time;

   selecting a desired channel of the channel field and a specific value of the added field by moving a cursor using an up-down-left-right navigation key;

   extracting event information corresponding to the selected specific value and a preselected current channel; and

   displaying the event information on the event field.

2. (Currently Amended) The method of Claim 1, wherein the predefined item is a day of a week further comprising selecting a desired channel of the channel field and changing
the selected value of the added field by moving a cursor based on an up-down-left-right-
navigation key.

3. (Currently Amended) The method of Claim 2, wherein the predefined item is a
day of a week, and the specific value of the added field of the day is initialized to “today”.

4. (Previously Presented) The method of claim 1, further comprising moving a
cursor to any one of the channel field and the added field or to any one of the values of the
fields in accordance with an input from the user,

wherein the event information selected by a cursor or corresponding to
predetermined values of the fields is displayed in the event field.

5. (Previously Presented) The method of Claim 1, wherein when a field of the item is
added, an EPG screen is displayed such that a cursor is located on the preselected channel of the
channel field.

6. (Canceled)

7. (Previously Presented) The method of Claim 1, wherein a predetermined order of
a plurality of items is configured by an operation of the user.
8. (Canceled)

9. (Previously Presented) An Electronic Program Guide (EPG) display device, comprising:

   an input device having an EPG mode execution command key and a display mode change key;

   a display to display generated EPG screens; and

   a controller being adapted to execute the method in accordance with claim 1.

10. (Currently Amended) The EPG display device of Claim 9, wherein the item is a day of a week the controller selects a desired channel of the channel field and changes the selected value of the added field based on movement of a cursor using an up-down-left-right-navigation key.

11. (Currently Amended) The EPG display device of Claim 10, wherein the predefined item is a day of a week, and the specific value of the added field of the day is initialized to “today.”

12. (Previously Presented) The EPG display device of Claim 9, wherein the controller moves a cursor to any one of the channel field and the added field or to any one of the values of the fields in accordance with an input from the user, and the event information selected by the
cursor or corresponding to predetermined values of the fields is displayed on the event field of the display.

13. (Canceled)

14. (Previously Presented) The EPG display device of Claim 9, wherein the controller controls the display to display a user interface (UI) screen for the user to determine an order.

15-19. (Canceled)

20. (Previously Presented) The method of Claim 1, further comprising adding a new field of another item on the displayed EPG addition mode screen when the EPG mode execution command key is pressed a third time,

wherein the event information further corresponding to the added new field is displayed on the event field.

21. (Previously Presented) The EPG display device of Claim 9, wherein when the EPG mode execution command key is pressed a third time, the controller adds a new field of another item on the displayed EPG addition mode screen, and

wherein the event information further corresponding to the added new field is displayed on the event field.
22. (Previously Presented) The method of Claim 1, wherein displaying the EPG addition mode screen includes simultaneously displaying the added field, the channel field and the event field on the displayed EPG addition mode screen.
REMARKS

Claims 1-5, 7, 9-12, 14 and 20-22 are pending in this application. By this Amendment, claims 1-3, 10 and 11 are amended. Various amendments may be made for clarity and are unrelated to issues of patentability.

The Office Action rejects claims 1, 2, 4, 5, 7, 9, 10, 12, 14 and 20-22 under 35 U.S.C. §103(a) over U.S. Patent 6,323,911 to Schein in view of U.S. Patent 7,100,184 to Kahn and newly-cited U.S. Patent 5,850,218 to LaJoie. The Office Action also rejects claims 3 and 11 under 35 U.S.C. §103(a) over Schein in view of Kahn, LaJoie and Official Notice. The rejections are respectfully traversed with respect to the pending claims.

Independent claim 1 recites displaying, on a display, an EPG default mode screen that includes a channel field and an event field by receiving a pushing of an EPG mode execution command key a first time by a user. Independent claim 1 also recites displaying, on the display, an EPG addition mode screen by adding a field that includes a group of predetermined values and a value preselected among the group of predetermined values between the channel field and the event field, by receiving a pushing of the EPG mode execution command key a second time. Independent claim 1 further recites extracting event information corresponding to the selected value and a preselected current channel, and displaying the event information on the event field.

In at least one non-limiting example, the present specification describes that a "day of the week" field may be added by pressing the EPG mode execution command key twice, but a new field can be added while the "today" item included in the "day of the week" field is selected. Accordingly, the user may not have to make a separate remote control operation for selecting
"today," which may be most frequently used, while the "day of the week" field is displayed.

The applied references do not teach or suggest all the features of independent claim 1. More specifically, the Office Action (on page 3) states that Schein is not clear about an EPG mode execution command key and repeatedly pressing a key to add a second field item.

The Office Action (on pages 3-4) then states that Kahn teaches "when pressing the action key twice, the program guide may be moved by a 12-hour increment." The Office Action states that the claimed features would have been obvious by combining Schein's FIG. 7B (in which a separate combo box for selecting a date is displayed), and Kahn (in which a function is executed pursuant to pressing a button twice).

Kahn discloses that pressing the action key once moves the program guide by a 6-hour increment and pressing the action key twice moves the program guide by a 12-hour increment. See Kahn's col. 4, lines 43-54. Kahn teaches repeating a same function with a repeated pressing of the action key.

The applied references do not relate displaying an EPG default mode screen when an EPG mode execution command key is pressed once and adding a field when the EPG mode execution command key is pressed twice. The applied references also do not relate to adding a field that includes a group of predetermined values and a value preselected among the group of predetermined values by receiving a pushing of the EPG mode execution command.

Schein describes that a date area is displayed while the currently-selected date is selected. Schein does not have a configuration corresponding to a feature in which a new field is displayed by receiving the pressing of the EPG mode execution command key repeatedly and in which a
predetermined item of the pertinent field is selected by default.

Schein and Kahn do not teach or suggest displaying an EPG addition mode screen by adding a field that includes a group of predetermined values and a value preselected among the group of predetermined values by receiving a pushing of the EPG mode execution command key a second time, as recited in independent claim 1.

The applied references also do not recognize an advantage that a user can select a preselected value quickly and conveniently by pressing the EPG mode execution command key repeatedly.

For at least these reasons, Schein and Kahn do not teach or suggest all the features of independent claim 1. LaJoie and Offical Notice do not teach or suggest the missing features. Independent claim 1 therefore defines patentable subject matter.

For at least the reasons set forth above, independent claim 1 defines patentable subject matter. Each of the dependent claims depends from independent claim 1 and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims recite features that further and independently distinguish over the applied references.

Dependent claim 2 recites selecting a desired channel of the channel field and changing the selected value of the added field by moving a cursor based on an up-down-left-right-navigation key. See also dependent claim 10. Schein's col. 5, line 20-col. 6, line 26 does not teach these features related to changing the selected value of the added field. The other applied references do not teach or suggest these missing features. Thus, dependent claims 2 and 10 define patentable subject matter for at least this additional reason.
CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-5, 7, 9-12, 14 and 20-22 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
KED & ASSOCIATES, LLP

David C. Oren
Registration No. 38,694

P.O. Box 8638
Reston, VA 20195
703 766-3777 DCO/kah
Date: August 23, 2012
Please direct all correspondence to Customer Number 34610
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Min-Haeng CHO et al.

Confirmation No.: 8623

Group Art Unit: 2427

Serial No: 11/872,320

Examiner: Yassin ALATA

Filed: October 15, 2007

Customer No.: 34610

For: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

U.S. Patent and Trademark Office
Customer Window, MAIL STOP AMENDMENT
Randolph Building
401 Dulany Street
Alexandria, Virginia 22314

Dear Sir:

Transmitted herewith is an Amendment and/or Reply in the above identified application.

☒ No additional fee is required.
☐ Also attached:

The fee has been calculated as shown below:

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Fee for extension of time $0.00

TOTAL FEE DUE $0.00

☒ The Commissioner is hereby authorized to charge payment of any fees associated with this communication or credit any overpayment, to Deposit Account No. 16-6607, including any filing fees under 37 C.F.R. §1.16 for presentation of extra claims and any patent application processing fees under 37 C.F.R. §1.17.

Respectfully submitted,
KED & ASSOCIATES, LLP

David C. Oren
Registration No. 38,694

Correspondence Address:
P.O. Box 8638
Reston, VA 20195
(703) 766-3777 DCO/kah
Date: August 23, 2012

Please direct all correspondence to Customer Number 34610
### PATENT APPLICATION FEE DETERMINATION RECORD

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* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" in this space is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" in this space is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner: /RUBY JOHNSON/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.
Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.
Office Action Summary

Application No. 11/872,320
Applicant(s) CHO ET AL.
Examiner YASSIN ALATA
Art Unit 2427

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) X Responsive to communication(s) filed on 04 November 2011.
2a) □ This action is FINAL.
2b) X This action is non-final.
3) □ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) X Claim(s) 1-5,7,9-12,14 and 20-22 is/are pending in the application.
   4a) Of the above claim(s) □ is/are withdrawn from consideration.
5) □ Claim(s) □ is/are allowed.
6) X Claim(s) 1-5,7,9-12,14 and 20-22 is/are rejected.
7) □ Claim(s) □ is/are objected to.
8) □ Claim(s) □ are subject to restriction and/or election requirement.

Application Papers

9) □ The specification is objected to by the Examiner.
10) X The drawing(s) filed on 15 October 2007 is/are: a) X accepted or b) □ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) □ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) X Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) □ All  b) □ Some *  c) □ None of:
   1. X Certified copies of the priority documents have been received.
   2. □ Certified copies of the priority documents have been received in Application No. ______.
   3. □ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) X Notice of References Cited (PTO-892)
2) □ Notice of Draftsman’s Patent Drawing Review (PTO-948)
3) □ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date ______.
4) □ Interview Summary (PTO-413)
   Paper No(s)/Mail Date ______.
5) □ Notice of Informal Patent Application
6) □ Other: ______.
DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant’s submission filed on 11/04/2011 has been entered.

Response to Arguments

2. Applicant’s arguments with respect to claims 1-5, 7, 9-12, 14 and 20-22 have been considered but are moot in view of the new ground(s) of rejection.

3. Claims 1-4, 7, 9, 11-12 and 14 have been amended, claims 6, 8, 13 and 15-19 have been previously cancelled and claims 20-22 have been newly added.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negativized by the manner in which the invention was made.
5. Claims 1-2, 4-5, 7, 9-10, 12, 14 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein (US 6,323,911) in view of Kahn (US 7,100,184) and further in view of LaJoie (US 5,850,218).

Regarding claim 1, Schein discloses a method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, comprising:

- displaying, on a display, an EPG default mode screen that includes a channel field and an event field by pushing key a first time by a user (see at least Figs. 4A-4B, 6A-7A, col. 8, lines 45-67, col. 9, lines 19-45, col. 10, line 66-col. 11, line 50);

- displaying, on the display, an EPG addition mode screen by adding a field of a predefined item (see at least Fig. 7B and col. 11, lines 18-50);

- selecting a desired channel of the channel field and a specific value of the added field by moving a cursor an up-down-left-right navigation key (see at least Figs. 1-2, 7A-8A and col. 5, lines 20-col. 6, line 26);

- extracting event information corresponding to the selected specific value and a preselected current channel (EPG database; see at least col. 12, lines 5-25); and

- display the event information on the event field (see at least Figs. 7B-7D).

Schein is not clear about an EPG mode execution command key, i.e. EPG button or key and repeatedly pressing a key to add a second field item according to a predetermined order. Furthermore, Schein is not clear about that the predefined item is displayed between the channel field and the event field.

Kahn discloses an EPG mode execution command key, i.e. EPG button or key (see at least Fig. 4 and col. 4, line 65-col. 5, line 10) and repeatedly pressing a key to
add a second field item according to a predetermined order (when pressing the action key twice, the program guide maybe moved by a 12 hour increment; see at least Figs. 3, 5, and col. 4, lines 43-55).

Therefore, the claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art.

Furthermore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Schein by the teachings of Kahn by the above limitation so to be able to save the number of buttons on the remote control and use one key instead of several dedicated keys.

Schein in view of Kahn are not clear about that the predefined item is displayed between the channel field and the event field.

LaJoie discloses a predefined item is displayed between the channel field and the event field; i.e. the days field is displayed between the channel field and the event field when changing the EPG theme; see at least Figs. 20-23.

Therefore, the claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Schein in view of Kahn by the teachings of LaJoie by the above limitation so to provide the user with plurality of modes to easily operate the set-top box and navigate through the abundance of programs and services available in the cable TV system; See at least col. 6, lines 14-29.
Regarding claim 2, Schein in view of Kahn and further in view of LaJoie disclose the method of Claim 1, wherein the predefined item is a day of a week (Schein; see at least Figs. 7C-8A and LaJoie; the days field displayed between the channel field and the event field; see at least Figs. 20-23).

Regarding claim 4, Schein in view of Kahn and further in view of LaJoie disclose the method of claim 1, further comprising moving a cursor to any one of the channel field and the added field or to any one of the values of the fields in accordance with an input from the user (Schein; see at least col. 4, line 66-col. 6, line 27, col. 9, lines 18-45 and col. 11, lines 18-50),

wherein the event information selected by the cursor or corresponding to predetermined values of the fields is displayed on the event field (Schein; see at least the rejection of claim 1).

Regarding claim 5, Schein in view of Kahn and further in view of LaJoie disclose the method of Claim 1, wherein when a field of the item is added, an EPG screen is displayed (as in claim 1 rejection) such that a cursor is located on the preselected channel of the channel field (Schein; see at least Figs. 7C-8A).

Regarding claim 7, Schein in view of Kahn and further in view of LaJoie disclose the method of Claim 1, wherein a predetermined order of a plurality of items is configured by an operation of the user (Kahn; when pressing the action key twice, the
program guide maybe moved by a 12 hour increment; see at least Figs. 3, 5, and col. 4, lines 43-55).

Claim 9 is rejected on the same grounds as claim 1.

Claim 10 is rejected on the same grounds as claim 2.

Claim 12 is rejected on the same grounds as claim 4.

Regarding claim 14, Schein in view of Kahn and further in view of LaJoie disclose the EPG display device of Claim 9, wherein the controller controls the display to display a user interface (UI) screen for the user to determine an order (Kahn; see at least the rejection of claim 9).

Regarding claim 20, Schein in view of Kahn and further in view of LaJoie disclose the method of claim 1, further comprising adding a new field of another item on the display EPG addition mode screen when the EPG mode execution command key is pressed a third time (the claim does not require that the third time is different from the first or second time, therefore, it interpreted as being the days field; see at least the rejection of claim 1), wherein the event information further corresponding to the added new field is displayed on the event field (the claim does not distinguish between the fields nor pressing the key; i.e. when changing the EPG theme in Kahn, event information corresponding to the days field is displayed; Kahn; see at least the rejection of claim 1).
Claim 21 is rejected on the same grounds as claim 20.

Regarding claim 22, Schein in view of Kahn and further in view of LaJoie disclose the method of claim 1, wherein displaying the EPG addition mode screen includes simultaneously displaying the added field, the channel field and the event field on the displayed EPG addition mode screen (see at least the rejection of claim 1).

6. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of Kahn and further in view of LaJoie and further in view of an Examiner Official Notice.

Regarding claim 3, Schein in view of Kahn disclose the method of Claim 2, wherein the specific value of the added first field of the day is initialized to a day of the week.

The Examiner takes an official notice that it is well known in the art to replace a day of the week by “today”.

Therefore, the claim would have been obvious because the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Furthermore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Schein in view of Kahn and further in view of LaJoie by the above limitations for the convenience of the user.
Claim 11 is rejected on the same grounds as claim 3.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YASSIN ALATA whose telephone number is (571)270-5683. The examiner can normally be reached on Mon-Fri 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Beliveau can be reached on 571-272-7343. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Y. A./
Examiner, Art Unit 2427

/Scott Beliveau/
**Notice of References Cited**

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**U.S. PATENT DOCUMENTS**

**FOREIGN PATENT DOCUMENTS**

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L25 413 ((key or button) near10 (press$4 or push$4 or hit$4) near10 (repeat$5 or again or twice) ) same new$4 same menu US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB OR CN 2012/05/04 23:24

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| L28 | 4084 | ((key or button) near10 (press$4 or push$4 or hit$4) near10 (repeat$5 or again or twice) ) same (list$4 or menu) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | CN | 2012/05/04:23:24 |
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| L30 | 207 | L29 not L27 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | CN | 2012/05/04:23:24 |
| L31 | 148 | ((key or button) near10 (press$4 or push$4 or hit$4) near10 (repeat$5 or again or twice) ) same ((new$4 near3 (list$4 or menu)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | CN | 2012/05/04:23:24 |
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DOCKET NUMBER: EZ-0006  
Prior Appln Serial No.: 11/872,320  
Filed: October 15, 2007  
Inventor(s): Min-Haeng CHO et al.  
Confirmation No.: 8623  
Group Art Unit: 2427  
Examiner: Yassin ALATA

U.S. Patent and Trademark Office  
Customer Service Window, Mail Stop RCE  
Randolph Building  
401 Dulany Street  
Alexandria, Virginia 22314

Sir:


1. Submission required under 37 C.F.R. §1.114
   a. □ Previously submitted
      i. □ Consider the amendment(s)/reply under 37 C.F.R. §1.116 previously filed on _____
         (Any unentered amendment(s) referred to above will be entered).
      ii. □ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
      iii. □ Other: _____
   b. □ Enclosed
      i. □ Amendment/Reply
      ii. □ Affidavit(s)/Declaration(s)
      iii. □ Information Disclosure Statement (IDS)
      iv. □ Other. Petition for Extension of Time

2. Miscellaneous
   a. □ Suspension of action on the above-identified application is requested under 37 C.F.R. §1.103(c) for a period of _____ months. Fee amount $130.00 under 37 C.F.R. §1.17(i) enclosed. (Period of suspension shall not exceed 3 months; Fee under 37 C.F.R. §1.17(i) required).
   b. □ Other. _____

3. Fees □ RCE fee required under 37 C.F.R. §1.17(e); Small Entity $465.00, other than small entity $930.00. The RCE fee under 37 C.F.R. §1.17(e) is required by 37 C.F.R. §1.114 when the RCE is filed.
   □ Extension of time fee (37 C.F.R. §§1.136 and 1.17)

Payment by:
□ Please charge my Credit Card.

The Commissioner is hereby authorized to charge payment of any deficiency in the above fees associated with this communication or credit any overpayment to Deposit Account No. 16-0607.

Respectfully submitted,
KPD & ASSOCIATES, LLP

David C. Oren  
Registration No. 38,694

Correspondence Address:  
P.O. Box 8638  
Reston, VA 20195  
(703) 766-3777 DCO/kah  
Date: November 4, 2011  
Please direct all correspondence to Customer Number 34610
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Min-Haeng CHO et al. Confirmation No.: 8623
Serial No.: 11/872,320 Examiner: Yassin ALATA
Filed: October 15, 2007 Customer No.: 34610

For: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

PETITION FOR EXTENSION OF TIME UNDER 37 C.F.R. §1.136(a)(1)

U.S. Patent and Trademark Office
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, Virginia 22314

Sir:

Applicant petitions the Commissioner of Patents and Trademarks to extend the time for response to the Office Action dated August 1, 2011 for one month.

Please charge our credit card including the amount of $150.00 for the extension of time under 37 C.F.R. §1.17(a). Any deficiency or overpayment should be charged or credited to Deposit Account No. 16-0607.

Respectfully submitted,
KED & ASSOCIATES, LLP

David C. Oren
Registration No. 38,694

Correspondence Address:
P.O. Box 8638
Reston, VA 20195
703 766-3777 DCO/kah
Date: November 4, 2011
Please direct all correspondence to Customer Number 34610
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Min-Haeng CHO et al. Confirmation No.: 8623

Serial No.: 11/872,320 Group Art Unit: 2427

Filed: October 15, 2007 Examiner: Yassin ALATA

Customer No.: 34610

For: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

AMENDMENT AND/OR SUBMISSION
UNDER 37 C.F.R. §1.114

U.S. Patent and Trademark Office
Customer Window, Mail Stop Amendment
Randolph Building
401 Dulany Street
Alexandria, Virginia 22314

Sir:

In reply to the Office Action dated August 1, 2011, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims.

Remarks begin after the listing of the claims.
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, comprising:

   displaying, on a display, an EPG default mode screen that includes a channel field and an event field according to a manipulation of by pushing an EPG mode execution command key a first time by a user;

   adding a first field of a predetermined-item in accordance with an input signal corresponding to a display-mode change key; and

   displaying, on the display, an EPG addition mode screen that displays event information corresponding to a preselected channel and a selected value of the added first field;

   wherein when the input signal corresponding to the display mode change key is detected again, a second field of another item according to a predetermined order is newly added, and event information corresponding to the preselected channel, the added first field and the added second field are displayed on the display, and

   wherein the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen or includes the first field and the second field to the EPG default mode.
displaying, on the display, an EPG addition mode screen by adding a field of a predefined item between the channel field and the event field, by pushing the EPG mode execution command key a second time:

selecting a desired channel of the channel field and a specific value of the added field by moving a cursor using an up-down-left-right-navigation key;

extracting event information corresponding to the selected specific value and a preselected current channel; and

displaying the event information on the event field.

2. (Currently Amended) The method of Claim 1, wherein the predetermined predefined item is a day of a week.

3. (Currently Amended) The method of Claim 2, wherein the specific value of the added first field of the day is initialized to “today”.

4. (Currently Amended) The method of claim 1, further comprising moving a cursor to any one of the channel field and the added first field or to any one of the values of the fields in accordance with an input from the user,

wherein the event information selected by a cursor or corresponding to predetermined values of the fields is displayed in the event field.
5. (Previously Presented) The method of Claim 1, wherein when a field of the item is added, an EPG screen is displayed such that a cursor is located on the preselected channel of the channel field.

6. (Canceled)

7. (Currently Amended) The method of Claim 1, wherein [[the]] a predetermined order of a plurality of items is configured by an operation of the user.

8. (Canceled)

9. (Currently Amended) An Electronic Program Guide (EPG) display device, comprising:

   an input device having an EPG mode execution command key and a display mode change key;

   a controller, generating an EPG default mode screen having a channel field and an event field according to a user's manipulation of the EPG mode execution command key, adding a first field of a predetermined item in accordance with an input signal corresponding to the display mode change key, and generating an EPG addition mode screen displayed with a specific value of the added first field and event information to a preselected channel and a selected value of the added first field; and
a display, displaying the to display generated EPG screens))); and

wherein the controller adds a second field of another item in a predetermined order when the input signal corresponding to the display mode change key is again detected and the controller controls the display to display event information corresponding to the newly added second field; and

wherein the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen or includes the first field and the second field to the EPG default mode

a controller being adapted to execute the method in accordance with claim 1.

10. (Original) The EPG display device of Claim 9, wherein the item is a day of a week.

11. (Currently Amended) The EPG display device of Claim 10, wherein the specific value of the added first field of the day is initialized to “today.”

12. (Currently Amended) The EPG display device of Claim 9, wherein the controller moves a cursor to any one of the channel field and the added first field or to any one of the values of the fields in accordance with an input from the user, and the event information selected by the cursor or corresponding to predetermined values of the fields is displayed on the event field of the display.
13. (Canceled)

14. (Currently Amended) The EPG display device of Claim 9, wherein the controller controls the display to display a user interface (UI) screen for the user to determine [[the]]an order.

15-19. (Canceled)

20. (New) The method of Claim 1, further comprising adding a new field of another item on the displayed EPG addition mode screen when the EPG mode execution command key is pressed a third time,

    wherein the event information further corresponding to the added new field is displayed on the event field.

21. (New) The EPG display device of Claim 9, wherein when the EPG mode execution command key is pressed a third time, the controller adds a new field of another item on the displayed EPG addition mode screen, and

    wherein the event information further corresponding to the added new field is displayed on the event field.
22. (New) The method of Claim 1, wherein displaying the EPG addition mode screen includes simultaneously displaying the added field, the channel field and the event field on the displayed EPG addition mode screen.
REMARKS

This Amendment is being filed simultaneously with a Request for Continued Examination (RCE). This Amendment serves as a Submission under 37 C.F.R. §1.114.

Claims 1-5, 7, 9-12, 14 and 20-22 are pending in this application. By this Amendment, claims 1-4, 7, 9, 11, 12 and 14 are amended, claims 8 and 15-19 are canceled without prejudice or disclaimer, and new claims 20-22 are added. Various amendments may be made for clarity and are unrelated to issues of patentability.

The Office Action objects to claims 1, 9 and 17. It is respectfully submitted that the objection is moot.

The Office Action rejects claims 1, 2, 4, 5, 7-10, 12, 14, 15 and 17-19 under 35 U.S.C. §103(a) over U.S. Patent 6,323,911 to Schein in view of newly-cited U.S. Patent 7,100,184 to Kahn. The Office Action also rejects claims 3 and 11 under 35 U.S.C. §103(a) over Schein in view of Kahn and Official Notice. The rejections are respectfully traversed with respect to the pending claims.

Independent claim 1 recites displaying, on a display, an EPG default mode screen that includes a channel field and an event field by pushing an EPG mode execution command key a first time by a user. Independent claim 1 also recites displaying, on the display, an EPG addition mode screen by adding a field of a predefined item between the channel field and the event field, by pushing the EPG mode execution command key a second time. Independent claim 1 further recites selecting a desired channel of the channel field and a specific value of the added field by moving a cursor using an up-down-left-right-navigation key, extracting event information
corresponding to the selected specific value and a preselected current channel, and displaying the event information on the event field.

The applied references do not teach or suggest all the features of independent claim 1. However, Schein's FIG. 7B shows a field (e.g. a day field) in a shape of a submode menu 118 that is newly added on a program guide. The submode menu 118 is not inserted in the program matrix 106 of the program guide 102. The submode menu 118 overlaps the program matrix 106 of the program guide 102.

The Office Action (on page 3) states that Schein is not clear about an EPG mode execution key. The Office Action also asserts that Schein is not clear about repeatedly pressing a key to add a second field item according to a predetermined order. The Office Action then cites Kahn's FIGs. 3 and 5 and col. 3, line 16, col. 6, line 16. The Advisory Action (page 2) states that Kahn discloses that when an action key is pressed twice, new EPG fields (for next 12 hours) are added so as to access the EPG in another portion of the day. This does not teach or suggest displaying, on the display, an EPG addition mode screen by adding a field of a predefined item between the channel field and the event field, by pushing the EPG mode execution command key a second time, as recited in independent claim 1. Kahn also does not teach or suggest selecting a desired channel of the channel field and a specific value of the added field by moving a cursor using an up-down-left-right-navigation key, as recited in independent claim 1.

Schein, Kahn and Official Notice do not teach or suggest displaying, on a display, an EPG default mode screen that includes a channel field and an event field by pushing an EPG mode execution command key a first time by a user, displaying, on the display, an EPG addition
mode screen by adding a field of a predefined item between the channel field and the event field, by pushing the EPG mode execution command key a second time, and selecting a desired channel of the channel field and a specific value on the added field by moving a cursor using an up-down-left-right-navigation key, as recited in independent claim 1. Independent claim 1 therefore defines patentable subject matter.

For at least the reasons set forth above, independent claim 1 defines patentable subject matter. Each of the dependent claims depends from independent claim 1 and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims recite features that further and independently distinguish over the applied references.

For example, dependent claim 22 recites that displaying the EPG addition mode screen includes simultaneously displaying the added field, the channel field and the event field on the displayed EPG addition mode screen. Schein and Kahn do not teach or suggest simultaneously displaying the added field, the channel field and the event field on the displayed EPG addition mode screen. Thus, dependent claim 22 defines patentable subject matter for at least this additional reason.

CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-5, 7, 9-12, 14 and 20-22 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.
To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
KED & ASSOCIATES, LLP

[Signature]
David C. Oren
Registration No. 38,694

P.O. Box 8638
Reston, VA 20195
703 766-3777 DCO/kah

Date: November 4, 2011
Please direct all correspondence to Customer Number 34610
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New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international filing is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.
**PATENT APPLICATION FEE DETERMINATION RECORD**  
Substitute for Form PTO-875

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**LEGAL INSTRUMENT EXAMINER:**  
Dianece Jacobs/

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* If the difference in column 1 is less than zero, enter "0" in column 2.

** Application Size Fee (37 CFR 1.15(e))**

**FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))**

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* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" in this space is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" in this space is less than 3, enter "3".

* The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.*
Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.
Advisory Action
Before the Filing of an Appeal Brief

---The MAILING DATE of this communication appears on the cover sheet with the correspondence address---

THE REPLY FILED 28 September 2011 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

   a) ☐ The period for reply expires [___] months from the mailing date of the final rejection.
   b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(l).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on [___]. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because

   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☒ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: [___]. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant’s reply has overcome the following rejection(s): [___].

6. ☒ Newly proposed or amended claim(s) [___] would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: [___].
Claim(s) objected to: [___].
Claim(s) rejected: 1-5, 7-12, 14-15 and 17-19.
Claim(s) withdrawn from consideration: [___].

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation of 11.

12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). [___].

13. ☐ Other: [___].

/Scott Bellevue/  
Supervisory Patent Examiner, Art Unit 2427
Continuation of 11: The request for reconsideration has been considered but does NOT place the application in condition for allowance because: The Applicant argues that Kahn does not relate to an input signal corresponding to a display mode change key, the input signal is detected again, and the added first field and second field are displayed on the display. The Examiner respectfully disagrees.

Kahn discloses when an input signal corresponding to a display mode change key is detected again, a second field of another item according to a predetermined order is newly added. For example, Kahn discloses when the action key is pressed twice new EPG fields, for the next 12 hours, are added so to quickly access the EPG in another portion of the day. These features are relevant to adding new fields. It is true that the values of fields are changed, but also the fields are changed. For example, if the user presses twice to get the EPG for the next 12 hours, the fields will be displayed based on the time with new event information.

Furthermore, the claim does not require that the first added field and the second added field are displayed on the display simultaneously. For at least these reasons, Schein and Kahn do teach all the features of claim 1. Claims 9 and 17 recite similar limitations and are unpatentable over the cited references for similar reasons.
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: Min-Haeng CHO et al.

Serial No.: 11/872,320 Group Art Unit: 2427
Confirmation No.: 8623 Examiner: Yassim ALATA

Filed: October 15, 2007 Customer No.: 34610

For: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

AMENDMENT AFTER FINAL REJECTION UNDER 37 C.F.R. §1.116

U.S. Patent and Trademark Office
Customer Window, Mail Stop AF
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

In reply to the Office Action dated August 1, 2011, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims.

Remarks begin after the listing of the claims.
In reply to the Office Action dated August 1, 2011, please amend the above-identified application as follows:

**Amendments to the Claims** are reflected in the listing of claims.

**Remarks** begin after the listing of the claims.
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, comprising:
   
   displaying, on a display, an EPG default mode screen that includes a channel field and an event field according to a manipulation of an EPG mode execution command key by a user;

   adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key; and

   displaying, on the display, an EPG addition mode screen that displays event information corresponding to a preselected channel and a selected value of the added first field, wherein when the input signal corresponding to the display mode change key is detected again, a second field of another item according to a predetermined order is newly added, and event information corresponding to the preselected channel, the added first field and the added second field are displayed on the display, and

   wherein the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen or includes the first field and the second field added to the EPG default mode.
2. (Previously Presented) The method of Claim 1, wherein the predetermined item is a day of a week.

3. (Previously Presented) The method of Claim 2, wherein the specific value of the added first field of the day is initialized to “today”.

4. (Previously Presented) The method of claim 1, further comprising moving a cursor to any one of the channel field and the added first field or to any one of the values of the fields in accordance with an input from the user, wherein the event information selected by a cursor or corresponding to predetermined values of the fields is displayed in the event field.

5. (Previously Presented) The method of Claim 1, wherein when a field of the item is added, an EPG screen is displayed such that a cursor is located on the preselected channel of the channel field.

6. (Canceled)

7. (Previously Presented) The method of Claim 1, wherein the predetermined order is configured by an operation of the user.
8. (Previously Presented) The method of Claim 1, wherein the EPG mode execution command key and the display mode change key are embodied as a single key.

9. (Currently Amended) An Electronic Program Guide (EPG) display device, comprising:

an input device having an EPG mode execution command key and a display mode change key;

a controller, generating an EPG default mode screen having a channel field and an event field according to a user's manipulation of the EPG mode execution command key, adding a first field of a predetermined item in accordance with an input signal corresponding to the display mode change key, and generating an EPG addition mode screen displayed with a specific value of the added first field and event information to a preselected channel and a selected value of the added first field; and

a display, displaying the generated EPG screens,

wherein the controller adds a second field of another item in a predetermined order when the input signal corresponding to the display mode change key is again detected and the controller controls the display to display event information corresponding to the newly added second field, and

wherein the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen or includes the first field and the second field added to the EPG default mode.
10. (Original) The EPG display device of Claim 9, wherein the item is a day of a week.

11. (Previously Presented) The EPG display device of Claim 10, wherein the specific value of the added first field of the day is initialized to “today.”

12. (Previously Presented) The EPG display device of Claim 9, wherein the controller moves a cursor to any one of the channel field and the added first field or to any one of the values of the fields in accordance with an input from the user, and the event information selected by the cursor or corresponding to predetermined values of the fields is displayed on the event field of the display.

13. (Canceled)

14. (Previously Presented) The EPG display device of Claim 9, wherein the controller controls the display to display a user interface (UI) screen for the user to determine the order.

15. (Previously Presented) The EPG display device of Claim 9, wherein the EPG mode execution command key and the display mode change key are embodied as a single key.

16. (Canceled)
17. (Currently Amended) A method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, the method comprising:

displaying an EPG default mode screen on a display in response to an EPG mode execution command key input by a user, the EPG default mode screen including a channel field and an event field;

adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key; and

displaying an EPG addition mode screen on a display, the EPG addition mode screen displaying event information corresponding to a preselected channel and a selected value of the added first field,

wherein when the input signal in accordance with the display mode change key is received again, a second field of another item according to a predetermined order is added, and the displayed EPG addition mode screen displays event information corresponding to the preselected channel, the added first field and the added second field, and

wherein the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen or includes the first field and the second field added to the EPG default mode.

18. (Previously Presented) The method of claim 17, further comprising moving a cursor to one of the channel field and the added first field or to one of the values of the fields in accordance with an input from the user,
wherein the event information selected by a cursor or corresponding to predetermined values of the fields is displayed in the event field.

19. (Previously Presented) The method of Claim 17, wherein the EPG mode execution command key and the display mode change key are a single key.
Claims 1-5, 7-12, 14-15 and 17-19 are pending in this application. By this Amendment, claims 1, 9 and 17 are amended. Various amendments may be made for clarity and are unrelated to issues of patentability.

Entry of the amendments is proper under 37 C.F.R. §1.116 because the amendments: (1) place the application in condition for allowance; (2) do not raise any new issues requiring further search and/or consideration; and/or (3) place the application in better form for appeal, should an appeal be necessary. The above amendments are merely based on comments in the Office Action. Thus, no new issues are raised. Entry is thus proper under 37 C.F.R. §1.116.

The Office Action objects to claims 1, 9 and 17. The above amendments correspond to the suggestion in the Office Action. Withdrawal of the objection is respectfully requested.

The Office Action rejects claims 1, 2, 4, 5, 7-10, 12, 14, 15 and 17-19 under 35 U.S.C. §103(a) over U.S. Patent 6,323,911 to Schein in view of newly-cited U.S. Patent 7,100,184 to Kahn. The Office Action also rejects claims 3 and 11 under 35 U.S.C. §103(a) over Schein in view of Kahn and Official Notice. The rejections are respectfully traversed with respect to the pending claims.

Independent claim 1 recites displaying, on a display, an EPG default mode screen that includes a channel field and an event field according to a manipulation of an EPG mode execution command key by a user, adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key, and displaying, on a display, an EPG addition mode screen that displays event information corresponding to a preselected
channel and a selected value of the added first field. Independent claim 1 also recites that when
the input signal corresponding to the display mode change key is detected again, a second field
of another item according to a predetermined order is newly added, and event information
corresponding to the preselected channel and the added first field, the added second field are
displayed on the screen. Independent claim 1 also recites that the EPG addition mode screen is a
display screen that includes the first field added to the EPG default mode screen or includes the
first field and the second field added to the EPG default mode.

The applied references do not teach or suggest all the features of independent claim 1.
More specifically, the Office Action (on page 3) states that Schein is not clear about an EPG
mode execution command key, and the Schein is not clear about repeatedly pressing a key to add
a second field item according to a predetermined order. The Office Action then cites Kahn’s
FIGs. 3 and 5 and col. 3, line 16–col. 6, line 16.

Kahn merely discloses that a viewer may position a cursor on a day field, a date field or a
page field and navigate a program guide by pressing up/down direction keys. Kahn discloses that
titles of TV programs listed in the program guide change when the direction key is pressed.
These features are not relevant to adding new fields by repeatedly pressing a key. In summary,
Kahn discloses changing a value (titles of TV programs) in an existing field (program guide)
(based on another input of the display mode change key). This does not relate to adding a new
field.

Kahn does not relate to: (1) an input signal corresponding to a display mode change key;
(2) the input signal corresponding to the display mode change is detected again; and (3) the
added first field and second field are displayed on the display. Kahn does not teach or suggest the features of independent claim 1 missing from Schein.

Schein and Kahn do not teach or suggest when the input signal corresponding to the display mode change key is detected again, a second field of another item according to a predetermined order is newly added, and event information corresponding to the preselected channel, the added first field and the added second field are displayed on the display, as recited in independent claim 1.

For at least these reasons, Schein and Kahn do not teach or suggest all the features of independent claim 1. Independent claim 1 therefore defines patentable subject matter.

Independent claim 9 recites that the controller adds a second field of another item in a predetermined order when the input signal corresponding to the display mode change key is again detected and the controller controls the display to display event information corresponding to the newly added second field. Independent claim 9 also recites that the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen or includes the first field and the second field added to the EPG default mode.

For at least similar reasons as set forth above, Schein and Kahn do not teach or suggest all the features of independent claim 9. More specifically, Schein and Kahn do not teach or suggest that the controller adds a second field of another item in a predetermined order when the input signal corresponding to the display mode change key is again detected and the controller controls the display to display event information corresponding to the newly added second field, and wherein the EPG addition mode screen is a display screen that includes the
first field added to the EPG default mode screen or includes the first field and the second field added to the EPG default mode, as recited in independent claim 9. Accordingly, independent claim 9 defines patentable subject matter.

Independent claim 17 recites that when the input signal in accordance with the display mode change key is received again, a second field of another item according to a predetermined order is added, and the displayed EPG addition mode screen displays event information corresponding to the preselected channel, the added first field and the added second field. Independent claim 17 also recites that the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen or includes the first field and the second field added to the EPG default mode.

For at least similar reasons as set forth above, Schein and Kahn do not teach or suggest all the features of independent claim 17. More specifically, Schein and Kahn do not teach or suggest that when the input signal in accordance with the display mode change key is received again, a second field of another item according to a predetermined order is added, and the displayed EPG addition mode screen displays event information corresponding to the preselected channel, the added first field and the added second field, and wherein the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen or includes the first field and the second field added to the EPG default mode, as recited in independent claim 17. Accordingly, independent claim 17 defines patentable subject matter.
For at least the reasons set forth above, each of independent claims 1, 9 and 17 defines patentable subject matter. Each of the dependent claims depends from one of the independent claims and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims recite features that further and independently distinguish over the applied references.

**CONCLUSION**

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-5, 7-12, 14-15 and 17-19 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
KED & ASSOCIATES, LLP

David C. Oren
Registration No. 38,694

P.O. Box 8638
Reston, VA 20195
703 766-3777 DCO/kah

Date: September 28, 2011
Please direct all correspondence to Customer Number 34610
## Electronic Acknowledgement Receipt

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<td>Min-Haeng Cho</td>
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Submitted with Payment: no

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**Warnings:**

**Information:**

| Total Files Size (in bytes)                                   | 460144 |

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Min-Haeng CHO et al.

Serial No.: 11/872,320

Filed: October 15, 2007

Confirmation No.: 8623

For METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

U.S. Patent and Trademark Office
Customer Window, MAIL STOP AF
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Dear Sir:

Transmitted herewith is an Amendment and/or Reply in the above identified application.

Yes  No additional fee is required.

Also attached:

The fee has been calculated as shown below:

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If multiple claims newly presented, add $450.00 $0.00

Fee for extension of time $0.00

TOTAL FEE DUE $0.00

The Commissioner is hereby authorized to charge payment of any fees associated with this communication or credit any overpayment, to Deposit Account No. 16-0607, including any filing fees under 37 C.F.R. 1.16 for presentation of extra claims and any patent application processing fees under 37 C.F.R. 1.17.

Respectfully submitted,

KED & ASSOCIATES, LLP

David C. Oren
Registration No. 38,694

Correspondence Address:
P.O. Box 8638
Reston, VA 20195
(703) 766-3777 DCO/kah
Date: September 28, 2011

Please direct all correspondence to Customer Number 34610
# PATENT APPLICATION FEE DETERMINATION RECORD

## APPLICATION AS FILED – PART I

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## APPLICATION AS AMENDED – PART II

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** If the “Highest Number Previously Paid For” in THIS SPACE is less than 20, enter “20”.

*** If the “Highest Number Previously Paid For” in THIS SPACE is less than 3, enter “3”.

The “Highest Number Previously Paid For” (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner: /PEGGY YARBOROUGH/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.
Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.
Office Action Summary

Application No. 11/872,320
Applicant(s) CHO ET AL.

Examiner YASSIN ALATA
Art Unit 2427

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply to the Final Office Action within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☑ Responsive to communication(s) filed on 16 May 2011.
2a) ☑ This action is FINAL.
2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☑ Claim(s) 1-5, 7-12, 14, 15 and 17-19 is/are pending in the application.
   4a) Of the above claim(s) ☑ is/are withdrawn from consideration.
5) ☐ Claim(s) ☑ is/are allowed.
6) ☑ Claim(s) 1-5, 7-12, 14, 15 and 17-19 is/are rejected.
7) ☐ Claim(s) ☐ is/are objected to.
8) ☐ Claim(s) ☐ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☑ The drawing(s) filed on 15 October 2007 is/are: a) ☑ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☑ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All   b) ☑ Some *  c) ☐ None of:
   1. ☑ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. ______.
   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson’s Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date ______.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date ______.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: ______.
DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-5, 7-12, 14-15 and 17-19 have been considered but are moot in view of the new ground(s) of rejection.

2. Claims 1, 9 and 17 have been amended and claims 6, 13 and 16 have been previously cancelled.

Claim Objections

3. Claims 1, 9 and 17 are objected to because they recite the limitation “or includes the first field and the second field to the EPG default mode”. For purposes of timely prosecution, The Examiner will interprets this to mean “or includes the first field and the second field added to the EPG default mode” instead. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-2, 4-5, 7-10, 12, 14-15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein (US 6,323,911) in view of Kahn (US 7,100,184).
Regarding claim 1, Schein discloses a method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, comprising:

displaying, on a display, an EPG default mode screen that includes a channel field and an event field according to a manipulation of keys by a user (see at least Figs. 4A-4B, 6A-7A, col. 8, lines 45-67, col. 9, lines 19-45, col. 10, line 66-col. 11, line 50);

adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key (see at least Fig. 7B and col. 11, lines 18-50); and displaying, on a display, an EPG addition mode screen that displays event information corresponding to a preselected channel and a selected value of the added first field (see at least Figs. 7C-8A),

and event information corresponding to the preselected channel, the added first field are displayed on the display (as above), and

wherein the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen or includes the first field and the second field to the EPG default mode (see at least Figs. 7C-8A).

Schein is not clear about an EPG mode execution command key, i.e. EPG button or key and also Schein is not clear about repeatedly pressing a key to add a second field item according to a predetermined order.

Kahn discloses the above missing limitations; see at least Figs. 3, 5, col. 3, line 16-col. 6, line 16.

Therefore, the claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art.
Furthermore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Schein by the teachings of Kahn by the above limitation so to be able to save the number of buttons on the remote control and use one key instead of several dedicated keys.

Regarding claim 2, Schein in view of Kahn disclose the method of Claim 1, wherein the predetermined item is a day of a week (Schein; see at least Figs. 7C-8A).

Regarding claim 4, Schein in view of Kahn disclose the method of claim 1, further comprising moving a cursor to any one of the channel field and the added first field or to any one of the values of the fields in accordance with an input from the user (Schein; see at least col. 4, line 66-col. 6, line 27, col. 9, lines 18-45 and col. 11, lines 18-50), wherein the event information selected by the cursor or corresponding to predetermined values of the fields is displayed on the event field (Schein; see at least the rejection of claim 1. Furthermore, see Inoue; at least Figs. 5-8).

Regarding claim 5, Schein in view of Kahn disclose the method of Claim 1, wherein when a field of the item is added, an EPG screen is displayed (as in claim 1 rejection) such that a cursor is located on the preselected channel of the channel field (Schein; see at least Figs. 7C-8A).
Regarding claim 7, Schein in view of Kahn disclose the method of Claim 1, wherein the predetermined order is configured by an operation of the user (Kahn; see at least the rejection of claim 1).

Regarding claim 8, Schein in view of Kahn disclose the method of Claim 1, wherein the EPG mode execution command key and the display mode change key are embodied in a single key (the combination of Schein and Kahn; as in claim 1).

Regarding claim 9, Schein discloses an Electronic Program Guide (EPG) display device, comprising:

an input device having command key and a display mode change key (see at least the rejection of claim 1);

a controller, generating an EPG default mode screen having a channel field and an event field according to a user's manipulation of the EPG mode execution command key (see at least the rejection of claim 1), adding a first field of a predetermined item in accordance with an input signal corresponding to the display mode change key (see at least the rejection of claim 1), and generating an EPG addition mode screen displayed with a specific value of the added first field and event information to a preselected channel (see at least the rejection of claim 1) and a selected value of the added first field (see at least the rejection of claim 1); and

a display, displaying the generated EPG screens (see at least the rejection of claim 1),
and the controller controls the display to display event information corresponding to the newly added first field (see at least the rejection of claim 1), and

wherein the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen or includes the first field and the second field to the EPG default mode (see at least Figs. 7C-8A).

Schein is not clear about an EPG mode execution command key, i.e. EPG button or key and also Schein is not clear about repeatedly pressing a key to add a second filed of item in a predetermined order and display event information to the newly added second field.

Kahn discloses the above missing limitations; see at least Figs. 3, 5, col. 3, line 16-col. 6, line 16.

Therefore, the claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art.

Furthermore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Schein by the teachings of Kahn by the above limitation so to be able to save the number of buttons on the remote control and use one key instead of several dedicated keys.

Claim 10 is rejected on the same grounds as claim 2.

Claim 12 is rejected on the same grounds as claim 4.
Regarding claim 14, Schein in view of Kahn disclose the EPG display device of Claim 9, wherein the controller controls the display to display a user interface (UI) screen for the user to determine the order (Kahn; see at least the rejection of claim 9).

Claim 15 is rejected on the same grounds as claim 8.

Claim 17 is rejected on the same grounds as claim 1 and 9.

Claim 18 is rejected on the same grounds as claim 4.

Claim 19 is rejected on the same grounds as claim 8.

6. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of Kahn and further in view of an Examiner Official Notice.

Regarding claim 3, Schein in view of Kahn disclose the method of Claim 2, wherein the specific value of the added first field of the day is initialized to a day of the week.

The Examiner takes an official notice that it is well known in the art to replace a day of the week by “today” as in Inoue; see at least Fig. 5.

Therefore, the claim would have been obvious because the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Furthermore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Schein in view of Kahn by the above limitations for the convenience of the user.

Claim 11 is rejected on the same grounds as claim 3.
**Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YASSIN ALATA whose telephone number is (571)270-5683. The examiner can normally be reached on Mon-Fri 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Scott Beliveau can be reached on 571-272-7343. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Y. A./
Examiner, Art Unit 2427

/Scott Beliveau/
Supervisory Patent Examiner, Art Unit 2427
## Notice of References Cited

**U.S. PATENT DOCUMENTS**

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* A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)

Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

U.S. Patent and Trademark Office
PTO-892 (Rev. 01-2001) Notice of References Cited Part of Paper No. 20110725
### Index of Claims

**Application/Control No.**
11872320

**Applicant(s)/Patent Under Reexamination**
CHO ET AL.

**Examiner**
YASSIN ALATA

**Art Unit**
2427

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AMENDMENT

In reply to the Office Action dated February 16, 2011, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims.

Remarks begin after the listing of the claims.
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, comprising:

   displaying, on a display, an EPG default mode screen that includes a channel field and an event field according to a manipulation of an EPG mode execution command key by a user;

   adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key; and

   displaying, on the display, an EPG addition mode screen that displays event information corresponding to a preselected channel and a selected value of the added first field, wherein when the input signal corresponding to the display mode change key is detected again, a second field of another item according to a predetermined order is newly added, and event information corresponding to the preselected channel, [[and]] the added first field and the added second field are displayed on the display, and

   wherein the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen or includes the first field and the second field to the EPG default mode.
2. (Previously Presented) The method of Claim 1, wherein the predetermined item is a day of a week.

3. (Previously Presented) The method of Claim 2, wherein the specific value of the added first field of the day is initialized to "today".

4. (Previously Presented) The method of claim 1, further comprising moving a cursor to any one of the channel field and the added first field or to any one of the values of the fields in accordance with an input from the user,

   wherein the event information selected by a cursor or corresponding to predetermined values of the fields is displayed in the event field.

5. (Previously Presented) The method of Claim 1, wherein when a field of the item is added, an EPG screen is displayed such that a cursor is located on the preselected channel of the channel field.

6. (Canceled)

7. (Previously Presented) The method of Claim 1, wherein the predetermined order is configured by an operation of the user.
8. (Previously Presented) The method of Claim 1, wherein the EPG mode execution command key and the display mode change key are embodied as a single key.

9. (Currently Amended) An Electronic Program Guide (EPG) display device, comprising:

an input device having an EPG mode execution command key and a display mode change key;

a controller, generating an EPG default mode screen having a channel field and an event field according to a user's manipulation of the EPG mode execution command key, adding a first field of a predetermined item in accordance with an input signal corresponding to the display mode change key, and generating an EPG addition mode screen displayed with a specific value of the added first field and event information to a preselected channel and a selected value of the added first field; and

a display, displaying the generated EPG screens,

wherein the controller adds a second field of another item in a predetermined order when the input signal corresponding to the display mode change key is again detected and the controller controls the display to display event information corresponding to the newly added second field, and

wherein the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen or includes the first field and the second field to the EPG default mode.
10. (Original) The EPG display device of Claim 9, wherein the item is a day of a week.

11. (Previously Presented) The EPG display device of Claim 10, wherein the specific value of the added first field of the day is initialized to “today.”

12. (Previously Presented) The EPG display device of Claim 9, wherein the controller moves a cursor to any one of the channel field and the added first field or to any one of the values of the fields in accordance with an input from the user, and the event information selected by the cursor or corresponding to predetermined values of the fields is displayed on the event field of the display.

13. (Canceled)

14. (Previously Presented) The EPG display device of Claim 9, wherein the controller controls the display to display a user interface (UI) screen for the user to determine the order.

15. (Previously Presented) The EPG display device of Claim 9, wherein the EPG mode execution command key and the display mode change key are embodied as a single key.

16. (Canceled)
17. (Currently Amended) A method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, the method comprising:

displaying an EPG default mode screen on a display in response to an EPG mode execution command key input by a user, the EPG default mode screen including a channel field and an event field;

adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key; and

displaying an EPG addition mode screen on a display, the EPG addition mode screen displaying event information corresponding to a preselected channel and a selected value of the added first field,

wherein when the input signal in accordance with the display mode change key is received again, a second field of another item according to a predetermined order is added, and the displayed EPG addition mode screen displays event information corresponding to the preselected channel, the added first field and the added second field, and

wherein the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen or includes the first field and the second field to the EPG default mode.

18. (Previously Presented) The method of claim 17, further comprising moving a cursor to one of the channel field and the added first field or to one of the values of the fields in accordance with an input from the user,
wherein the event information selected by a cursor or corresponding to predetermined values of the fields is displayed in the event field.

19. (Previously Presented) The method of Claim 17, wherein the EPG mode execution command key and the display mode change key are a single key.
REMARKS

Claims 1-5, 7-12, 14-15 and 17-19 are pending in this application. By this Amendment, claims 1, 9 and 17 are amended. Various amendments may be made for clarity and are unrelated to issues of patentability.

The Office Action rejects claims 1, 2, 4, 5, 7-10, 12, 14, 15 and 17-19 under 35 U.S.C. §103(a) over newly-cited U.S. Patent 6,323,911 to Schein in view of U.S. Patent 7,065,777 to Inoue. The Office Action also rejects claims 3 and 11 under 35 U.S.C. §103(a) over Schein in view of Inoue and Official Notice. The rejections are respectfully traversed with respect to the pending claims.

Independent claim 1 recites displaying, on a display, an EPG default mode screen that includes a channel field and an event field according to a manipulation of an EPG mode execution command key by a user, adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key, and displaying, on a display, an EPG addition mode screen that displays event information corresponding to a preselected channel and a selected value of the added first field. Independent claim 1 also recites that when the input signal corresponding to the display mode change key is detected again, a second field of another item according to a predetermined order is newly added, and event information corresponding to the preselected channel and the added first field, the added second field are displayed on the screen. Independent claim 1 also recites that the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen or includes the first field and the second field to the EPG default mode.
In at least one non-limiting example, the present specification describes that when an input signal corresponding to a display mode change key is detected again, a second field of another item according to a predetermine order is newly added, and event information corresponding to the preselected channel and the added first field and the added second field are displayed on the display. Accordingly, if a user inputs a signal corresponding to the display mode change key again when the EPG addition mode screen including the first field added to the EPG default mode screen is displayed, the second field is newly added to the screen. Thus, the EPG addition mode screen may be a display screen that includes the first field to the EPG default mode screen or may be a display screen that includes the first field and the second field to the EPG default mode.

The Office Action asserts that Schein does not disclose when the input signal corresponding to the display mode change key is detected again, a second field of another item according to a predetermined order is newly added, and event information corresponding to the preselected channel, the added first field and the added second field are displayed on the display, as recited in independent claim 1.

The Office Action then asserts that Inoue’s FIGs. 5 and 9 disclose the missing features. Inoue discloses that every time a user presses a Day Change Key, a Day tab is changed to a next day and a program guide for the next day appears. This may be irrelevant to embodiments of the present specification because Inoue discloses changing a value (day) in an existing field (Day tab). This does not relate to adding a new field. As such, Inoue does not teach or suggest that when the input signal corresponding to the display mode change key is detected again, a second
field of another item according to a predetermined order is newly added, and event information corresponding to the preselected channel, the added first field and the added second field are displayed on the display, as recited in independent claim 1.

Schein and Inoue also do not teach or suggest that the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen or includes the first field and the second field to the EPG default mode, as recited in independent claim 1.

For at least these reasons, Schein and Inoue do not teach or suggest all the features of independent claim 1. Independent claim 1 therefore defines patentable subject matter.

Independent claim 9 recites that the controller adds a second field of another item in a predetermined order when the input signal corresponding to the display mode change key is again detected and the controller controls the display to display event information corresponding to the newly added second field. Independent claim 9 also recites that the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen or includes the first field and the second field to the EPG default mode.

For at least similar reasons as set forth above, Schein and Inoue do not teach or suggest all the features of independent claim 9. More specifically, Schein and Inoue do not teach or suggest that the controller adds a second field of another item in a predetermined order when the input signal corresponding to the display mode change key is again detected and the controller controls the display to display event information corresponding to the newly added second field, and wherein the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen or includes the first field and the second field
to the EPG default mode, as recited in independent claim 9. Accordingly, independent claim 9
defines patentable subject matter.

Independent claim 17 recites that when the input signal in accordance with the display
mode change key is received again, a second field of another item according to a predetermined
order is added, and the displayed EPG addition mode screen displays event information
Corresponding to the preselected channel, the added first field and the added second field.
Independent claim 17 also recites that the EPG addition mode screen is a display screen that
includes the first field added to the EPG default mode screen or includes the first field and the
second field to the EPG default mode.

For at least similar reasons as set forth above, Schein and Inoue do not teach or suggest
All the features of independent claim 17. More specifically, Schein and Inoue do not teach or
suggest that when the input signal in accordance with the display mode change key is received
again, a second field of another item according to a predetermined order is added, and the
displayed EPG addition mode screen displays event information corresponding to the
preselected channel, the added first field and the added second field, and wherein the EPG
addition mode screen is a display screen that includes the first field added to the EPG default
mode screen or includes the first field and the second field to the EPG default mode, as recited
in independent claim 17. Accordingly, independent claim 17 defines patentable subject matter.

For at least the reasons set forth above, each of independent claims 1, 9 and 17 defines
patentable subject matter. Each of the dependent claims depends from one of the independent
claims and therefore defines patentable subject matter at least for this reason. In addition, the
dependent claims recite features that further and independently distinguish over the applied references.

CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-5, 7-12, 14-15 and 17-19 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
KED & ASSOCIATES, LLP

David C. Oren
Registration No. 38,694

Correspondence Address:
P.O. Box 8638
Reston, VA 20195
703 766-3777 DCO/kah

Date: May 16, 2011
Please direct all correspondence to Customer Number 34610
Electronic Acknowledgement Receipt

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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/R0/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Confirmation No.: 8623

Min-Haeng CHO et al.

Group Art Unit: 2427

Serial No: 11/872,320

Examiner: Yassin ALATA

Filed: October 15, 2007

Customer No.: 34610

For: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

Dear Sir:

Transmitted herewith is an Amendment and/or Reply in the above identified application.

No additional fee is required.

Also attached:

The fee has been calculated as shown below:

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If multiple claims newly presented, add $390.00

Fee for extension of time

TOTAL FEE DUE

The Commissioner is hereby authorized to charge payment of any fees associated with this communication or credit any overpayment, to Deposit Account No. 16-0007, including any filing fees under 37 C.F.R. 1.16 for presentation of extra claims and any patent application processing fees under 37 C.F.R. 1.17.

Respectfully submitted,
KED & ASSOCIATES, LLP

David C. Oren
Registration No. 38,694

Correspondence Address:
P.O. Box 8638
Reston, VA 20195
(703) 766-3777  DCO/kah
Date: May 16, 2011

Please direct all correspondence to Customer Number 34610
## PATENT APPLICATION FEE DETERMINATION RECORD

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- FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))

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- FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))

** Total ADD'L FEE | OR | ** Total ADD'L FEE | 0 **

* If the entry in column 1 is less than the entry in column 2, write “0” in column 3.
** If the “Highest Number Previously Paid For” IN THIS SPACE is less than 20, enter “20”.
*** If the “Highest Number Previously Paid For” IN THIS SPACE is less than 3, enter “3”.

The “Highest Number Previously Paid For” (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner: /LASHAWN MARKS/

---

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.
Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.
Office Action Summary

Application No. 11/872,320

Applicant(s) CHO ET AL.

Examiner YASSIN ALATA

Art Unit 2427

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply to the final office action will result in ABANDONMENT of the application. Any reply received by the Office later than three months after the mailing date of this communication could result in the application being treated as abandoned under 37 CFR 1.133(a).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☑ Responsive to communication(s) filed on 26 January 2011.
2a) ☐ This action is FINAL.
2b) ☑ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☑ Claim(s) 1-5,7-12,14,15 and 17-19 is/are pending in the application.
4a) Of the above claim(s) ______ is/are withdrawn from consideration.

5) ☐ Claim(s) ______ is/are allowed.
6) ☑ Claim(s) 1-5,7-12,14,15 and 17-19 is/are rejected.
7) ☐ Claim(s) ______ is/are objected to.
8) ☐ Claim(s) ______ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☑ The drawing(s) filed on 15 October 2007 is/are: a) ☑ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☑ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☑ Some * c) ☐ None of:
1. ☑ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. ______.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsman’s Patent Drawing Review (PTO-948)
3) ☑ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date ______.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date ______.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: ______.
DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/26/2011 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-5, 7-12, 14-15 and 17-19 have been considered but are moot in view of the new ground(s) of rejection.

3. Claims 1, 9 and 17 have been amended and claims 6, 13 and 16 have been previously cancelled.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-2, 4-5, 7-10, 12, 14-15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein (US 6,323,911) in view of Inoue (US 7,065,777).
Regarding claim 1, Schein discloses a method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, comprising:

displaying, on a display, an EPG default mode screen that includes a channel field and an event field according to a manipulation of keys by a user (see at least Figs. 4A-4B, 6A-7A, col. 8, lines 45-67, col. 9, lines 19-45, col. 10, line 66-col. 11, line 50);

adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key (see at least Fig. 7B and col. 11, lines 18-50); and

displaying, on a display, an EPG addition mode screen that displays event information corresponding to a preselected channel and a selected value of the added first field (see at least Figs. 7C-8A),

and event information corresponding to the preselected channel and the added first field are displayed on the display (as above), and

wherein the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen (see at least Figs. 7C-8A).

Schein is not clear about an EPG mode execution command key, i.e. EPG button or key and also Schein is not clear about repeatedly pressing a key to add a second field of item according to a predetermined order.

Inoue discloses a program guide apparatus wherein the above limitations is disclosed in Fig. 5, Fig. 9, col. 8, lines 30-col. 9, line 6 and col. 11 lines 8-27.

Therefore, the claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art.
Furthermore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Schein by the teachings of Inoue by the above limitation so to be able to display the next day in the EPG and further to save the number of buttons on the remote control and use one key instead of several dedicated keys.

Regarding claim 2, Schein in view of Inoue disclose the method of Claim 1, wherein the predetermined item is a day of a week (Schein; see at least Figs. 7C-8A).

Regarding claim 4, Schein in view of Inoue disclose the method of claim 1, further comprising moving a cursor to any one of the channel field and the added first field or to any one of the values of the fields in accordance with an input from the user (Schein; see at least col. 4, line 66-col. 6, line 27, col. 9, lines 18-45 and col. 11, lines 18-50),

wherein the event information selected by the cursor or corresponding to predetermined values of the fields is displayed on the event field (Schein; see at least the rejection of claim 1. Furthermore, see Inoue; at least Figs. 5-8).

Regarding claim 5, Schein in view of Inoue disclose the method of Claim 1, wherein when a field of the item is added, an EPG screen is displayed (as in claim 1 rejection) such that a cursor is located on the preselected channel of the channel field (Schein; see at least Figs. 7C-8A).
Regarding claim 7, Schein in view of Inoue disclose the method of Claim 1, wherein the predetermined order is configured by an operation of the user (Inoue; see at least the rejection of claim 1).

Regarding claim 8, Schein in view of Inoue disclose the method of Claim 1, wherein the EPG mode execution command key and the display mode change key are embodied in a single key (such as the day change key of Inoue; as in claim 1).

Regarding claim 9, Schein discloses an Electronic Program Guide (EPG) display device, comprising:

an input device having command key and a display mode change key (see at least the rejection of claim 1);

a controller, generating an EPG default mode screen having a channel field and an event field according to a user's manipulation of the EPG mode execution command key (see at least the rejection of claim 1), adding a first field of a predetermined item in accordance with an input signal corresponding to the display mode change key (see at least the rejection of claim 1), and generating an EPG addition mode screen displayed with a specific value of the added first field and event information to a preselected channel (see at least the rejection of claim 1) and a selected value of the added first field (see at least the rejection of claim 1); and
a display, displaying the generated EPG screens (see at least the rejection of claim 1),

and the controller controls the display to display event information corresponding to the newly added first field (see at least the rejection of claim 1).

Schein is not clear about an EPG mode execution command key, i.e. EPG button or key and also Schein is not clear about repeatedly pressing a key to add a second filed of item in a predetermined order and display event information to the newly added second field.

Inoue discloses a program guide apparatus wherein the above limitations is disclosed in Fig. 5, Fig. 9, col. 8, lines 30-col. 9, line 6 and col. 11 lines 8-27.

Therefore, the claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art.

Furthermore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Schein by the teachings of Inoue by the above limitation so to be able to display the next day with event information in the EPG and further to save the number of buttons on the remote control and use one key instead of several dedicated keys.

Claim 10 is rejected on the same grounds as claim 2.

Claim 12 is rejected on the same grounds as claim 4.
Regarding claim 14, Schein in view of Inoue disclose the EPG display device of Claim 9, wherein the controller controls the display to display a user interface (UI) screen for the user to determine the order (Inoue; see at least col. 7, line 40-col. 9, line 5).

Claim 15 is rejected on the same grounds as claim 8.
Claim 17 is rejected on the same grounds as claim 1 and 9.
Claim 18 is rejected on the same grounds as claim 4.
Claim 19 is rejected on the same grounds as claim 8.

6. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of Inoue and further in view of an Examiner Official Notice.

Regarding claim 3, Schein in view of Inoue disclose the method of Claim 2, wherein the specific value of the added first field of the day is initialized to a day of the week.

The Examiner takes an official notice that it is well known in the art to replace a day of the week by “today” as in Inoue; see at least Fig. 5.

Therefore, the claim would have been obvious because the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Furthermore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Schein in view of Inoue by the above limitations for the convenience of the user.
Claim 11 is rejected on the same grounds as claim 3.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YASSIN ALATA whose telephone number is (571)270-5683. The examiner can normally be reached on Mon-Fri 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Scott Beliveau can be reached on 571-272-7343. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Y. A./  
Examiner, Art Unit 2427
Application/Control Number: 11/872,320
Art Unit: 2427

/Scott Beliveau/
Supervisory Patent Examiner, Art Unit 2427
**Notice of References Cited**

**U.S. PATENT DOCUMENTS**

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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)

Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

U.S. Patent and Trademark Office
PTO-892 (Rev. 01-2001)  Notice of References Cited  Part of Paper No. 20110211
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☐ T.D.
☐ R.1.47

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**Examiner**

YASSIN ALATA

**Art Unit**

2427

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REQUEST FOR CONTINUED EXAMINATION (RCE) 
TRANSMITTAL UNDER 37 C.F.R. §1.114

DOCKET NUMBER: EZ-0006
Prior Appln Serial No.: 11/872,320
Filed: October 15, 2007
Inventor(s): Min-Haeng CHO et al.
Confirmation No.: 8623
Group Art Unit: 2427
Examiner: Yassine ALATA

U.S. Patent and Trademark Office
Customer Service Window, Mail Stop RCE
Randolph Building
401 Dulany Street
Alexandria, Virginia 22314

Sir:


1. Submission required under 37 C.F.R. §1.114
a. ☐ Previously submitted
   i. ☐ Consider the amendment(s)/reply under 37 C.F.R. §1.116 previously filed on ______
      (Any unentered amendment(s) referred to above will be entered).
   ii. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on ______
   iii. ☐ Other: ______

b. ☒ Enclosed
   i. ☒ Amendment/Reply
   ii. ☐ Affidavit(s)/Declaration(s)
   iii. ☐ Information Disclosure Statement (IDS)
   iv. ☐ Other: ______

2. Miscellaneous
a. ☐ Suspension of action on the above-identified application is requested under 37 C.F.R. §1.103(c) for a period of ______ months. Fee amount $130.00 under 37 C.F.R. §1.17(i) enclosed. (Period of suspension shall not exceed 3 months; Fee under 37 C.F.R. §1.17(i) required).

b. ☐ Other: ______

3. Fees ☒ RCE fee required under 37 C.F.R. §1.17(e); Small Entity $405.00, other than small entity $810.00. The RCE fee under 37 C.F.R. §1.17(e) is required by 37 C.F.R. §1.114 when the RCE is filed.
   ☐ Extension of time fee (37 C.F.R. §§1.136 and 1.17)
Payment by:
   ☒ Please charge my Credit Card.

The Commissioner is hereby authorized to charge payment of any deficiency in the above fees associated with this communication or credit any overpayment to Deposit Account No. 16-0607.

Respectfully submitted,
KID & ASSOCIATES, LLP

[Signature]
David C. Oren
Registration No. 38,694

Correspondence Address:
P.O. Box 8638
Reston, VA 20195
(703) 766-3777 DCO/kah
Date: January 26, 2011
Please direct all correspondence to Customer Number 34610
Docket No.: **EZ-0006**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In Re Application of: **Min-Haeng CHO et al.**

Serial No.: **11/872,320**

Confirmation No.: **8623**

Group Art Unit: **2427**

Examiner: **Yassin ALATA**

Filed: **October 15, 2007**

Customer No.: **34610**

For: **METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING**

**AMENDMENT AND/OR SUBMISSION UNDER 37 C.F.R. §1.114**

U.S. Patent and Trademark Office
Customer Window, Mail Stop AF
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

In reply to the Office Action dated October 26, 2010, please amend the above-identified application as follows:

**Amendments to the Claims** are reflected in the listing of claims.

**Remarks** begin after the listing of the claims.
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, comprising:

   displaying, on a display, an EPG default mode screen that includes a channel field and an event field according to a manipulation of an EPG mode execution command key by a user,

   adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key; and

   displaying, on the display, an EPG addition mode screen that displays event information corresponding to a preselected channel and a selected value of the added first field, wherein when the input signal corresponding to the display mode change key is detected again, a second field of another item according to a predetermined order is newly added, and event information corresponding to the preselected channel and the added first field and the added second field are displayed on the display, and

   wherein the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen.
2. (Previously Presented) The method of Claim 1, wherein the predetermined item is a day of a week.

3. (Previously Presented) The method of Claim 2, wherein the specific value of the added first field of the day is initialized to “today”.

4. (Previously Presented) The method of claim 1, further comprising moving a cursor to any one of the channel field and the added first field or to any one of the values of the fields in accordance with an input from the user, wherein the event information selected by a cursor or corresponding to predetermined values of the fields is displayed in the event field.

5. (Previously Presented) The method of Claim 1, wherein when a field of the item is added, an EPG screen is displayed such that a cursor is located on the preselected channel of the channel field.

6. (Canceled)

7. (Previously Presented) The method of Claim 1, wherein the predetermined order is configured by an operation of the user.
8. (Previously Presented) The method of Claim 1, wherein the EPG mode execution command key and the display mode change key are embodied as a single key.

9. (Currently Amended) An Electronic Program Guide (EPG) display device, comprising:

   an input device having an EPG mode execution command key and a display mode change key;

   a controller, generating an EPG default mode screen having a channel field and an event field according to a user's manipulation of the EPG mode execution command key, adding a first field of a predetermined item in accordance with an input signal corresponding to the display mode change key, and generating an EPG addition mode screen displayed with a specific value of the added first field and event information to a preselected channel and a selected value of the added first field; and

   a display, displaying the generated EPG screens,

   wherein the controller adds a second field of another item in a predetermined order when the input signal corresponding to the display mode change key is again detected and the controller controls the display to display event information corresponding to the newly added second field, and

   wherein the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen.
10. (Original) The EPG display device of Claim 9, wherein the item is a day of a week.

11. (Previously Presented) The EPG display device of Claim 10, wherein the specific value of the added first field of the day is initialized to "today."

12. (Previously Presented) The EPG display device of Claim 9, wherein the controller moves a cursor to any one of the channel field and the added first field or to any one of the values of the fields in accordance with an input from the user, and the event information selected by the cursor or corresponding to predetermined values of the fields is displayed on the event field of the display.

13. (Canceled)

14. (Previously Presented) The EPG display device of Claim 9, wherein the controller controls the display to display a user interface (UI) screen for the user to determine the order.

15. (Previously Presented) The EPG display device of Claim 9, wherein the EPG mode execution command key and the display mode change key are embodied as a single key.

16. (Canceled)
17. (Currently Amended) A method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, the method comprising:

displaying an EPG default mode screen on a display in response to an EPG mode execution command key input by a user, the EPG default mode screen including a channel field and an event field;

adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key; and

displaying an EPG addition mode screen on a display, the EPG addition mode screen displaying event information corresponding to a preselected channel and a selected value of the added first field,

wherein when the input signal in accordance with the display mode change key is received again, a second field of another item according to a predetermined order is added, and the displayed EPG addition mode screen displays event information corresponding to the preselected channel, the added first field and the added second field, and

wherein the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen.

18. (Previously Presented) The method of claim 17, further comprising moving a cursor to one of the channel field and the added first field or to one of the values of the fields in accordance with an input from the user,
wherein the event information selected by a cursor or corresponding to predetermined values of the fields is displayed in the event field.

19. (Previously Presented) The method of Claim 17, wherein the EPG mode execution command key and the display mode change key are a single key.
REMARKS

This Amendment is being filed simultaneously with a Request for Continued Examination (RCE). This Amendment serves as a Submission under 37 C.F.R. §1.114.

Claims 1-5, 7-12, 14-15 and 17-19 are pending in this application. By this Amendment, claims 1, 9 and 17 are amended. Various amendments may be made for clarity and are unrelated to issues of patentability.

The Office Action rejects claims 1, 2, 4, 5, 7-10, 12, 14, 15 and 17-19 under 35 U.S.C. §103(a) over newly-cited U.S. Patent Publication 2007/0083891 to Moon in view of U.S. Patent 7,065,777 to Inoue. The Office Action also rejects claims 3 and 11 under 35 U.S.C. §103(a) over Moon in view of Inoue and Official Notice. The rejections are respectfully traversed with respect to the pending claims.

Independent claim 1 recites displaying, on a display, an EPG default mode screen that includes a channel field and an event field according to a manipulation of an EPG mode execution command key by a user, adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key, and displaying, on a display, an EPG addition mode screen that displays event information corresponding to a preselected channel and a selected value of the added first field. Independent claim 1 also recites that when the input signal corresponding to the display mode change key is detected again, a second field of another item according to a predetermined order is newly added, and event information corresponding to the preselected channel and the added first field and the added second field are
displayed on the screen. Independent claim 1 also recites that the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen.

The applied references do not teach or suggest all the features of independent claim 1. Moon’s FIG. 4A shows that a list of broadcast programs for each day of the week is displayed for a particular channel. Moon’s FIG. 5 shows that a list of broadcast programs is displayed for each channel.

The Office Action appears to state that the FIG. 5 screen is changed to the FIG. 4A screen. However, FIG. 4A and FIG. 5 are merely two examples of a default screen. The FIG. 5 screen 5 does not change to the FIG. 4A screen when “day” category is added. FIG. 4A and FIG. 5 are default screens illustrating different examples.

Moon does not teach that a particular field is newly added to a default screen. Moon does not teach or suggest that the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen, as recited in independent claim 1.

Inoue does not teach or suggest the missing features of independent claim 1. Inoue’s FIG. 19 shows that a “channel” and its corresponding “broadcast program” are displayed in the 658 field, and a “day” is displayed in the 706 field. If a user clicks a particular day in the 706 field, the “channel” and “broadcast program” corresponding to the particular day are reflected and displayed in the 658 field.

Inoue discloses that information in a particular field on the screen is updated and is displayed on the screen according to the day clicked by the user. This does not teach that a “new field” is added and displayed on a screen. More specifically, Inoue does not teach or suggest that
the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen, as recited in independent claim 1.

Moon and Inoue do not suggest changing an EPG default mode screen to an EPG addition mode screen, in which the new “day field” is added according to a user’s selection (i.e., clicking of the display mode change key). More specifically, Moon and Inoue do not teach or suggest that the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen, as recited in independent claim 1.

For at least these reasons, Moon and Inoue do not teach or suggest all the features of independent claim 1. Independent claim 1 therefore defines patentable subject matter.

Independent claim 9 recites an input device having an EPG mode execution command key and a display mode change key, a controller, generating an EPG default mode screen having a channel field and an event field according to a user’s manipulation of the EPG mode execution command key, adding a first field of a predetermined item in accordance with an input signal corresponding to the display mode change key, and generating an EPG addition mode screen displayed with a specific value of the added first field and event information to a preselected channel and a selected value of the added first field, and a display, displaying the generated EPG screens. Independent claim 9 also recites that the controller adds a second field of another item in a predetermined order when the input signal corresponding to the display mode change key is again detected and the controller controls the display to display event information corresponding to the newly added second field. Independent claim 9 also recites that the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen.
For at least similar reasons as set forth above, Moon and Inoue do not teach or suggest all the features of independent claim 9. More specifically, Moon and Inoue do not teach or suggest generating an EPG addition mode screen, and wherein the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen, as recited in independent claim 9. Accordingly, independent claim 9 defines patentable subject matter.

Independent claim 17 recites displaying an EPG default mode screen on a display in response to an EPG mode execution command key input by a user, the EPG default mode screen including a channel field and an event field, adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key, and displaying an EPG addition mode screen on a display, the EPG addition mode screen displaying event information corresponding to a preselected channel and a selected value of the added first field, wherein when the input signal in accordance with the display mode change key is received again, a second field of another item according to a predetermined order is added, and the displayed EPG addition mode screen displays event information corresponding to the preselected channel, the added first field and the added second field. Independent claim 17 also recites that the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen.

For at least similar reasons as set forth above, Moon and Inoue do not teach or suggest all the features of independent claim 17. More specifically, Moon and Inoue do not teach or suggest displaying an EPG default mode screen, adding a first field of a predetermined item, displaying an EPG addition mode screen on a display, the EPG addition mode screen displaying
event information corresponding to a preselected channel and a selected value of the added first field, and wherein the EPG addition mode screen is a display screen that includes the first field added to the EPG default mode screen, as recited in independent claim 17. Accordingly, independent claim 17 defines patentable subject matter.

For at least the reasons set forth above, each of independent claims 1, 9 and 17 defines patentable subject matter. Each of the dependent claims depends from one of the independent claims and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims recite features that further and independently distinguish over the applied references.

**CONCLUSION**

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-5, 7-12, 14-15 and 17-19 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this,
concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
KED & ASSOCIATES, LLP

[Signature]

David C. Oren
Registration No. 38,694

Correspondence Address:
P.O. Box 8638
Reston, VA 20195
703 766-3777 DCO/laH

Date: January 26, 2011
Please direct all correspondence to Customer Number 34610
**Electronic Patent Application Fee Transmittal**

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<td>Filer:</td>
<td>Joanna K. Mason/Kathy Humphries</td>
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**Total in USD ($)** 810
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| **Application Number:** | 11872320 |
| **International Application Number:** | |
| **Confirmation Number:** | 8623 |

**Title of Invention:** METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

| **First Named Inventor/Applicant Name:** | Min-Haeng Cho |
| **Customer Number:** | 34610 |
| **Filer:** | Joanna K. Mason/Kathy Humphries |
| **Filer Authorized By:** | Joanna K. Mason |
| **Attorney Docket Number:** | EZ-0006 |
| **Receipt Date:** | 26-JAN-2011 |
| **Filing Date:** | 15-OCT-2007 |
| **Time Stamp:** | 15:41:52 |
| **Application Type:** | Utility under 35 USC 111(a) |

**Payment information:**

- Submitted with Payment: yes
- Payment Type: Credit Card
- Payment was successfully received in RAM: $810
- RAM confirmation Number: 3078

**File Listing:**

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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/OE/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.
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* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" in THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" in THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.
Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.
Office Action Summary

Application No. 11/872,320
Applicant(s) CHO ET AL.
Examiner YASSIN ALATA
Art Unit 2427

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If an extension is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☑ Responsive to communication(s) filed on 09 August 2010
2a) ☑ This action is FINAL. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex Parte Quayle, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☑ Claim(s) 1-5,7-12,14,15 and 17-19 is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
   5) ☐ Claim(s) _____ is/are allowed.
   6) ☑ Claim(s) 1-5,7-12,14,15 and 17-19 is/are rejected.
   7) ☐ Claim(s) _____ is/are objected to.
   8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☑ The drawing(s) filed on 15 October 2007 is/are: a) ☑ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☑ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All  b) ☑ Some  c) ☐ None of:
    1. ☑ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. _____.
    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.
DETAILED ACTION

Response to Arguments

1) Applicant's arguments with respect to claims 1-5, 7-12, 14-15 and 17-19 have been considered but are moot in view of the new ground(s) of rejection.

2) The Applicant filed amendments on 07/15/2010 in which claims 1-5, 7-9, 11, 14-15 were amended, claims 6, 13 and 16 were canceled, and claims 17-19 were added.

3) The Applicant filed a supplemental amendments on 08/09/2010 in which claims 1, 3-4, 9, 11-12 and 17-18 were amended.

4) Claims 1-5, 7-12, 14-15 and 17-19 stand rejected.

Claim Rejections - 35 USC § 103

1) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2) Claims 1-2, 4-5, 7-10, 12, 14-15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon (US 2007/0083891) in view of Inoue (US 7,065,777).

Regarding claim 1, Moon discloses a method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, comprising:

displaying, on a display, an EPG default mode screen that includes a channel field and an event field according to a manipulation of an EPG mode execution command key by a user (see at least Fig.5 and paragraph 0058);
adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key (see at least Fig. 4A and paragraph 0057); and

displaying, on a display, an EPG addition mode screen (weekly mode; see at least Fig. 4A and paragraph 0057) that displays event information corresponding to a preselected channel (i.e. Program W-1) and a selected value of the added first field (Wednesday or any other DAY. For example, by selecting Program W-1, Wednesday is selected. The claim doesn't require that a day is selected then a channel is selected and so on),

and event information corresponding to the preselected channel and the added first field are displayed on the display (as above).

Moon is not clear about repeatedly pressing a key to add a second field of item according to a predetermined order.

Inoue discloses a program guide apparatus wherein the above limitations is disclosed in Fig. 5, Fig. 9, col. 8, lines 30-col. 9, line 6 and col. 11 lines 8-27.

Therefore, the claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art.

Furthermore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Moon by the teachings of Inoue by the above limitation so to be able to display the next day in the EPG and further to save the number of buttons on the remote control and use one key instead of several dedicated keys.
Regarding claim 2, Moon in view of Inoue disclose the method of Claim 1, wherein the predetermined item is a day of a week (see at least Moon Fig. 4A).

Regarding claim 4, Moon in view of Inoue disclose the method of claim 1, further comprising moving a cursor to any one of the channel field and the added first field or to any one of the values of the fields in accordance with an input from the user (Moon; see at least paragraphs 0052, 0057-0058, 0069-0077 and 0094-0095), wherein the event information selected by the cursor or corresponding to predetermined values of the fields is displayed on the event field (Moon; see at least paragraphs 0052, 0057-0058, 0069-0077, 0094-0095 and the rejection of claim 1. Furthermore, see Inoue; at least Figs. 5--8).

Regarding claim 5, Moon in view of Inoue disclose the method of Claim 1, wherein when a field of the item is added, an EPG screen is displayed (as in claim 1 rejection) such that a cursor is located on the preselected channel of the channel field (see at least Fig. 4A).

Regarding claim 7, Moon in view of Inoue disclose the method of Claim 1, wherein the predetermined order is configured by an operation of the user (Inoue; see at least the rejection of claim 1).
Regarding claim 8, Moon in view of Inoue disclose the method of Claim 1, wherein the EPG mode execution command key and the display mode change key are embodied in a single key (such as the day change key of Inoue; as in claim 1).

Regarding claim 9, Moon discloses an Electronic Program Guide (EPG) display device, comprising:

- an input device having an EPG mode execution command key and a display mode change key (see at least the rejection of claim 1);
- a controller, generating an EPG default mode screen having a channel field and an event field according to a user's manipulation of the EPG mode execution command key (see at least the rejection of claim 1), adding a first field of a predetermined item in accordance with an input signal corresponding to the display mode change key (see at least the rejection of claim 1), and generating an EPG addition mode screen displayed with a specific value of the added first field and event information to a preselected channel (see at least the rejection of claim 1) and a selected value of the added first field (see at least the rejection of claim 1); and
- a display, displaying the generated EPG screens (see at least the rejection of claim 1),

and the controller controls the display to display event information corresponding to the newly added first field (see at least the rejection of claim 1).

Moon is not clear about repeatedly pressing a key to add a second filed of item in a predetermined order and display event information to the newly added second field.
Inoue discloses a program guide apparatus wherein the above limitations is disclosed in Fig. 5, Fig. 9, col. 8, lines 30-col. 9, line 6 and col. 11 lines 8-27.

Therefore, the claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art.

Furthermore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Moon by the teachings of Inoue by the above limitation so to be able to display the next day with event information in the EPG and further to save the number of buttons on the remote control and use one key instead of several dedicated keys.

Claim 10 is rejected on the same grounds as claim 2.
Claim 12 is rejected on the same grounds as claim 4.

Regarding claim 14, Moon in view of Inoue disclose the EPG display device of Claim 9, wherein the controller controls the display to display a user interface (UI) screen for the user to determine the order (Inoue; see at least col. 7, line 40-col. 9, line 5. Furthermore, see Figs. 10-14).

Claim 15 is rejected on the same grounds as claim 8.
Claim 17 is rejected on the same grounds as claim 1 and 9.
Claim 18 is rejected on the same grounds as claim 4.
Claim 19 is rejected on the same grounds as claim 8.
3) Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon in view of Inoue and further in view of an Examiner Official Notice.

Regarding claim 3, Moon in view of Inoue disclose the method of Claim 2, wherein the specific value of the added first field of the day is initialized to a day of the week.

The Examiner takes an official notice that it is well known in the art to replace a day of the week by “today” as in Inoue; see at least Fig. 5.

Therefore, the claim would have been obvious because the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Furthermore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Moon in view of Inoue by the above limitations for the convenience of the user.

Claim 11 is rejected on the same grounds as claim 3.

**Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not
mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YASSIN ALATA whose telephone number is (571)270-5683. The examiner can normally be reached on Mon-Fri 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Scott Beliveau can be reached on 571-272-7343. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Y. A./
Examiner, Art Unit 2427

/Scott Beliveau/
Supervisory Patent Examiner, Art Unit 2427
**Notice of References Cited**

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**U.S. PATENT DOCUMENTS**

**FOREIGN PATENT DOCUMENTS**

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**NON-PATENT DOCUMENTS**

Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.07(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.*
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- I: Interference
- A: Appeal
- O: Objected

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- ☐: T.D.
- ☐: R.1.47

U.S. Patent and Trademark Office
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Search Notes

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10/21/2010 3:27:41 PM
C:\Documents and Settings\yalata\My Documents\EAST\Workspaces\11872320.wsp
In further reply to the Office Action dated April 15, 2010 and after entry of the July 15 amendments, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims.

Remarks begin after the listing of the claims.
AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, comprising:

   displaying, on a display, an EPG default mode screen that includes a channel field and an event field according to a manipulation of an EPG mode execution command key by a user;

   adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key; and

   displaying, on the display, an EPG addition mode screen that displays event information corresponding to a preselected channel and a selected value of the added first field, wherein when the input signal in accordance with corresponding to the display mode change key is detected again, a second field of another item according to a predetermined order is newly added, and event information corresponding to the preselected channel and all of the added fields first field and the added second field are displayed on the display.

2. (Previously Presented) The method of Claim 1, wherein the predetermined item is a day of a week.
3. (Currently Amended) The method of Claim 2, wherein the specific value of the added field of the day is initialized to "today".

4. (Currently Amended) The method of claim 1, further comprising moving a cursor to any one of the channel field and the added field or to any one of the values of the fields in accordance with an input from the user,

   wherein the event information selected by a cursor or corresponding to predetermined values of the fields is displayed in the event field.

5. (Previously Presented) The method of Claim 1, wherein when a field of the item is added, an EPG screen is displayed such that a cursor is located on the preselected channel of the channel field.

6. (Canceled)

7. (Previously Presented) The method of Claim 1, wherein the predetermined order is configured by an operation of the user.

8. (Previously Presented) The method of Claim 1, wherein the EPG mode execution command key and the display mode change key are embodied as a single key.
9. (Currently Amended) An Electronic Program Guide (EPG) display device, comprising:

an input device having an EPG mode execution command key and a display mode change key;

a controller, generating an EPG default mode screen having a channel field and an event field according to a user’s manipulation of the EPG mode execution command key, adding a first field of a predetermined item in accordance with an input signal corresponding to the display mode change key, and generating an EPG addition mode screen displayed with a specific value of the added first field and event information to a preselected channel and a selected value of the added first field; and

a display, displaying the generated EPG screens,

wherein the controller adds a second field of another item in a predetermined order when the input signal corresponding to the display mode change key is again detected and the controller controls the display to display event information corresponding to the newly added second field.

10. (Original) The EPG display device of Claim 9, wherein the item is a day of a week.

11. (Currently Amended) The EPG display device of Claim 10, wherein the specific value of the added first field of the day is initialized to “today.”
12. (Currently Amended) The EPG display device of Claim 9, wherein the controller moves a cursor to any one of the channel field and the added first field or to any one of the values of the fields in accordance with an input from the user, and the event information selected by the cursor or corresponding to predetermined values of the fields is displayed on the event field of the display.

13. (Canceled)

14. (Previously Presented) The EPG display device of Claim 9, wherein the controller controls the display to display a user interface (UI) screen for the user to determine the order.

15. (Previously Presented) The EPG display device of Claim 9, wherein the EPG mode execution command key and the display mode change key are embodied as a single key.

16. (Canceled)
17. (Currently Amended) A method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, the method comprising:

   displaying an EPG default mode screen on a display in response to an EPG mode execution command key input by a user, the EPG default mode screen including a channel field and an event field;

   adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key; and

   displaying an EPG addition mode screen on a display, the EPG addition mode screen displaying event information corresponding to a preselected channel and a selected value of the added first field,

   wherein when the input signal in accordance with the display mode change key is received again, a second field of another item according to a predetermined order is added, and the displayed EPG addition mode screen displays event information corresponding to the preselected channel, the selected value added first field and the added second field.

18. (Currently Amended) The method of claim 17, further comprising moving a cursor to one of the channel field and the first-added first field or to one of the values of the fields in accordance with an input from the user,

   wherein the event information selected by a cursor or corresponding to predetermined values of the fields is displayed in the event field.
19. (Previously Presented) The method of Claim 17, wherein the EPG mode execution command key and the display mode change key are a single key.
REMARKS

Claims 1-5, 7-12, 14-15 and 17-19 are pending in this application. By this Amendment, claims 1, 3-4, 9, 11, 12, 17 and 18 are amended. Various amendments may be made for clarity and are unrelated to issues of patentability.

Applicants gratefully acknowledge the courtesies extended by Examiner Yassin Alata during the telephone interview on August 4, 2010 with applicants’ representative, Mr. Oren. The substance of the interview is incorporated in the following remarks. For example, during the interview, applicants asserted that Nishikawa does not teach or suggest that when the input signal in accordance with the display mode change key is detected again, a field of another item according to a predeterminated order is newly added, and event information corresponding to the preselected channel and all of the added fields are displayed on the display, as recited in independent claim 1 (and similarly in independent claims 9 and 17).

Applicants are filing the above amendments merely for clarity of the previously recited subject matter.

Applicants maintain all the arguments from the July 15 response.

The Office Action rejects claims 1-4, 8-12 and 15-16 under 35 U.S.C. §102(b) by U.S. Patent 6,481,010 to Nishikawa. The Office Action also rejects claim 5 under 35 U.S.C. §103(a) over Nishikawa. Still further, the Office Action rejects claims 6-7 and 13-14 under 35 U.S.C. §103(a) over Nishikawa in view of U.S. Patent 7,065,777 to Inoue. The rejections are respectfully traversed with respect to the pending claims.
Independent claim 1 recites displaying, on a display, an EPG default mode screen that includes a channel field and an event field according to a manipulation of an EPG mode execution command key by a user, adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key, and displaying, on a display, an EPG addition mode screen that displays event information corresponding to a preselected channel and a selected value of the added first field. Independent claim 1 also recites that when the input signal corresponding to the display mode change key is detected again, a second field of another item according to a predetermined order is newly added, and event information corresponding to the preselected channel and the added first field and the added second field are displayed on the screen.

The applied references do not teach or suggest all the features of independent claim 1. More specifically, the Office Action generally cites Nishikawa’s FIGs. 13-15 and 19 for features relating to adding a field of a predetermined item and displaying an EPG addition mode screen to display a specific value of the added field and event information.

Nishikawa does not teach or suggest adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key, and displaying, on a display, an EPG addition mode screen that displays event information corresponding to a preselected channel and a selected value of the added first field, in combination with when the input signal corresponding to the display mode change key is detected again, a second field of another item according to a predetermined order is newly added, and event information
corresponding to the preselected channel and the added first field and the added second field are displayed on the screen, as recited in independent claim 1.

Nishikawa's FIGs. 13-15 and 19 do not suggest adding a first field and "a second field of another item according to a predetermined order is newly added." FIG. 13 does not show new fields being added to channel table 658. The option palette 672 and category icons 682 are not added fields. Additionally, FIG. 19 shows a calendar 706 superimposed over option palette 672 and a portion of channel table 658. This does not teach or suggest when the input signal corresponding to the display mode change key is detected again, a second field of another item according to a predetermined order is newly added, and event information corresponding to the preselected channel and the added first field and the added second field are displayed on the screen, as recited in independent claim 1. Nishikawa does not suggest the claimed predetermined order, as recited in independent claim 1.

For at least these reasons, Nishikawa does not teach or suggest all the features of independent claim 1. Inoue does not teach or suggest the missing features of independent claim 1. Independent claim 1 therefore defines patentable subject matter.

Independent claim 9 recites an input device having an EPG mode execution command key and a display mode change key, a controller, generating an EPG default mode screen having a channel field and an event field according to a user's manipulation of the EPG mode execution command key, adding a first field of a predetermined item in accordance with an input signal corresponding to the display mode change key, and generating an EPG addition mode screen
displayed with a specific value of the added first field and event information to a preselected channel and a selected value of the added first field, and a display, displaying the generated EPG screens. Independent claim 9 also recites the controller adds a second field of another item in a predetermined order when the input signal corresponding to the display mode change key is again detected and the controller controls the display to display event information corresponding to the newly added second field.

For at least similar reasons as set forth above, Nishikawa and Inoue do not teach or suggest all the features of independent claim 9. More specifically, Nishikawa and Inoue do not teach or suggest generating an EPG addition mode screen displayed with a specific value of the added first field and event information to a preselected channel and a selected value of the added first field, wherein the controller adds a second field of another item in a predetermined order when the input signal corresponding to the display mode change key is again detected and the controller controls the display to display event information corresponding to the newly added second field, as recited in independent claim 9. Accordingly, independent claim 9 defines patentable subject matter.

Independent claim 17 recites displaying an EPG default mode screen on a display in response to an EPG mode execution command key input by a user, the EPG default mode screen including a channel field and an event field, adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key, and displaying an EPG addition mode screen on a display, the EPG addition mode screen displaying event
information corresponding to a preselected channel and a selected value of the added first field, wherein when the input signal in accordance with the display mode change key is received again, a second field of another item according to a predetermined order is added, and the displayed EPG addition mode screen displays event information corresponding to the preselected channel, the added first field and the added second field.

For at least similar reasons as set forth above, Nishikawa and Inoue do not teach or suggest at least these features of independent claim 17. More specifically, Nishikawa and Inoue do not teach or suggest adding a first field of a predetermined item, displaying an EPG addition mode screen on a display, the EPG addition mode screen displaying event information corresponding to a preselected channel and a selected value of the added field, in combination with when the input signal in accordance with the display mode change key is received again, a second field of another item according to a predetermined order is added, and the displayed EPG addition mode screen displays event information corresponding to the preselected channel, the added first field and the added second field, as recited in independent claim 17. Accordingly, independent claim 17 defines patentable subject matter.

For at least the reasons set forth above, each of independent claims 1, 9 and 17 defines patentable subject matter. Each of the dependent claims depends from one of the independent claims and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims recite features that further and independently distinguish over the applied references.
CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-5, 7-12, 14-15 and 17-19 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,

KED & ASSOCIATES, LLP

[Signature]

David C. Oren
Registration No. 38,694

P.O. Box 221200
Chantilly, Virginia 20153-1200
(703) 766-3777  DCO/kah

Date: August 9, 2010
Please direct all correspondence to Customer Number 34610.
**Electronic Acknowledgement Receipt**

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**Warnings:**

**Information:**

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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.
**PATENT APPLICATION FEE DETERMINATION RECORD**
Substitute for Form PTO-875

**APPLICATION AS FILED – PART I**

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**APPLICATION AS AMENDED – PART II**

**AMENDMENT**

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**LEGAL INSTRUMENT EXAMINER:**

VERLENE GREEN

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* If the entry in column 1 is less than the entry in column 2, write “0” in column 3.
** If the “Highest Number Previously Paid For” in this space is less than 20, enter “20”.
*** If the “Highest Number Previously Paid For” in this space is less than 3, enter “3”.

The “Highest Number Previously Paid For” (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22314-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22314-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.
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34610 7890 08/06/2010
KED & ASSOCIATES, LLP
P.O. Box 221200
Chantilly, VA 20153-1200

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.
**Interview Summary**

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<tr>
<td>YASSIN ALATA</td>
<td>2427</td>
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All participants (applicant, applicant’s representative, PTO personnel):

1. YASSIN ALATA.
2. SCOTT BELIEVAU.
3. DAVID C. OREN REG. # 38694.
4. 

Date of Interview: 03 August 2010.

Type: a) ☒ Telephonic  b) ☐ Video Conference  c) ☐ Personal [copy given to: 1) ☐ applicant  2) ☐ applicant’s representative]

Exhibit shown or demonstration conducted: d) ☐ Yes  e) ☒ No.

If Yes, brief description: 

Claim(s) discussed: Claim 1.

Identification of prior art discussed: Nishikawa of record.

Agreement with respect to the claims f) ☐ was reached.  g) ☐ was not reached.  h) ☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: The Examiners and the Attorney discussed the amendments of record to the claims. The amendments appear to overcome the prior art of record. Further search and/or consideration shall be provided.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/Scott Beliveau/
Supervisory Patent Examiner, Art Unit 2427
Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135, (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.
It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner’s responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No. placed in the right hand portion of the file, and listed on the “Contents” section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant’s correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbal or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant’s record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy
If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner’s version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, “Interview Record OK” on the paper recording the substance of the interview along with the date and the examiner’s initials.
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Min-Haeng CHO et al. Confirmation No.: 8623

Serial No.: 11/872,320 Group Art Unit: 2427

Filed: October 15, 2007 Examiner: Yassim ALATA

Customer No.: 34610 For: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

AMENDMENT

U.S. Patent and Trademark Office
Customer Window, Mail Stop Amendment
Randolph Building
401 Dulany Street
Alexandria, Virginia 22314

Sir:

In reply to the Office Action dated April 15, 2010, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims.

Remarks begin after the listing of the claims.
AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of displaying an EPG (Electronic Program Guide (EPG)) in a broadcasting electronic device, comprising:

   displaying, on a display, an EPG default mode screen comprising that includes a channel field and an event field according to a manipulation of an EPG mode execution command key by a user;

   adding a field of a predetermined item in accordance with an input signal corresponding to a display mode change key; and

   displaying, on the display, an EPG addition mode screen to display a specific value of the added field and that displays event information corresponding to a preselected channel and a selected value added field,

   wherein when the input signal in accordance with the display mode change key is detected again, a field of another item according to a predetermined order is newly added, and event information corresponding to the preselected channel and all of the added fields are displayed on the display.

2. (Currently Amended) The method of Claim 1, wherein the predetermined item is a day of a week.
3. (Currently Amended) The method of Claim 2, wherein [[the]]a specific value of the added field of the day is initialized to "today". 

4. (Currently Amended) The method of claim 1, further comprising moving a cursor to any one of the channel field and the added field or to any one of the values of the fields in accordance with an input from the user,

   whereas—wherein the event information selected by [[the]]a cursor or corresponding to predetermined values of the fields is displayed [[on]]in the event field.

5. (Currently Amended) The method of Claim 1, wherein[[i, if]] when a field of the item is added, an EPG screen is displayed in such a manner that the such that a cursor is located on the preselected channel of the channel field.

6. (Canceled)

7. (Currently Amended) The method of Claim [[6]]1, wherein the predetermined order can be configured by an operation of the user.

8. (Currently Amended) The method of Claim 1, wherein the EPG mode execution command key and the display mode change key are embodied [[in]]as a single key.
9. (Currently Amended) An Electronic Program Guide (EPG) display device, comprising:

an input device having an EPG mode execution command key and a display mode change key;

a controller, generating an EPG default mode screen having a channel field and an event field according to a user's manipulation of the EPG mode execution command key, adding a field of a predetermined item in accordance with an input signal corresponding to the display mode change key, and generating an EPG addition mode screen displayed with a specific value of the added field and event information corresponding to a preselected channel and a selected value of the added field; and

a display, displaying the generated EPG screens,

wherein the controller adds a field of another item in a predetermined order when the input signal corresponding to the display mode change key is again detected and the controller controls the display to display event information corresponding to the newly added field.

10. (Original) The EPG display device of Claim 9, wherein the item is a day of a week.

11. (Currently Amended) The EPG display device of Claim 10, wherein the specific value of the added field of the day is initialized to "today."
12. (Original) The EPG display device of Claim 9, wherein the controller moves a cursor to any one of the channel field and the added field or to any one of the values of the fields in accordance with an input from the user, and the event information selected by the cursor or corresponding to predetermined values of the fields is displayed on the event field of the display.

13. (Canceled)

14. (Currently Amended) The EPG display device of Claim [[13]]2, wherein the controller controls the display to display a user interface (UI) screen for the user to determine the order.

15. (Currently Amended) The EPG display device of Claim 9, wherein the EPG mode execution command key and the display mode change key are embodied [[in]] as a single key.

16. (Canceled)
17. (New) A method of displaying an Electronic Program Guide (EPG) in a broadcasting electronic device, the method comprising:

   displaying an EPG default mode screen on a display in response to an EPG mode execution command key input by a user, the EPG default mode screen including a channel field and an event field;

   adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key; and

   displaying an EPG addition mode screen on a display, the EPG addition mode screen displaying event information corresponding to a preselected channel and a selected value added field,

   wherein when the input signal in accordance with the display mode change key is received again, a second field of another item according to a predetermined order is added, and the displayed EPG addition mode screen displays event information corresponding to the preselected channel, the selected value added field and the added second field.

18. (New) The method of claim 17, further comprising moving a cursor to one of the channel field and the first added field or to one of the values of the fields in accordance with an input from the user,

   wherein the event information selected by a cursor or corresponding to predetermined values of the fields is displayed in the event field.
19. (New) The method of Claim 17, wherein the EPG mode execution command key and the display mode change key are a single key.
REMARKS

Claims 1-5, 7-12, 14-15 and 17-19 are pending in this application. By this Amendment, claims 1-5, 7-9, 11 and 14-15 are amended, claims 6, 13 and 16 are canceled without prejudice or disclaimer and new claims 17-19 are amended. Various amendments may be made for clarity and are unrelated to issues of patentability.

The Office Action objects to claims 2, 3 and 11. The Amendment amends the claims as suggested by the Office Action. Withdrawal of the objection is respectfully requested.

The Office Action rejects claim 16 under 35 U.S.C. §101. By this Amendment, claim 16 is canceled. Therefore, the rejection is moot.

The Office Action rejects claims 1-4, 8-12 and 15-16 under 35 U.S.C. §102(b) by U.S. Patent 6,481,010 to Nishikawa. The Office Action also rejects claim 5 under 35 U.S.C. §103(a) over Nishikawa. Still further, the Office Action rejects claims 6-7 and 13-14 under 35 U.S.C. §103(a) over Nishikawa in view of U.S. Patent 7,065,777 to Inoue. The rejections are respectfully traversed with respect to the pending claims.

Independent claim 1 recites displaying, on a display, an EPG default mode screen that includes a channel field and an event field according to a manipulation of an EPG mode execution command key by a user, adding a field of a predetermined item in accordance with an input signal corresponding to a display mode change key, and displaying, on a display, an EPG addition mode screen that displays event information corresponding to a preselected channel and a selected value added field. Independent claim 1 also recites that when the input signal in
accordance with the display mode change key is detected again, a field of another item according to a predetermined order is newly added, and event information corresponding to the preselected channel and all of the added fields are displayed on the screen.

The applied references do not teach or suggest all the features of independent claim 1. More specifically, the Office Action generally cites Nishikawa’s FIGs. 13-15 and 19 for features relating to adding a field of a predetermined item and displaying an EPG addition mode screen to display a specific value of the added field and event information.

Nishikawa does not teach or suggest adding a field of a predetermined item in accordance with an input signal corresponding to a display mode change key, and displaying, on a display, an EPG addition mode screen that displays event information corresponding to a preselected channel and a selected value added field, in combination with when the input signal in accordance with the display mode change key is detected again, a field of another item according to a predetermined order is newly added, and event information corresponding to the preselected channel and all of the added fields are displayed on the screen, as recited in independent claim 1. Nishikawa’s FIGs. 13-15 and 19 do not suggest adding a field and “a field of another item according to a predetermined order is newly added.” FIG. 13 does not show new fields being added to channel table 658. The option palette 672 and category icons 682 are not added fields. Additionally, FIG. 19 shows a calendar 706 superimposed over option palette 672 and a portion of channel table 658. This does not teach or suggest when the input signal in accordance with the display mode change key is detected again, a field of another item according
predetermined order is newly added, and event information corresponding to the preselected channel and all of the added fields are displayed on the screen, as recited in independent claim 1.

For at least these reasons, Nishikawa does not teach or suggest all the features of independent claim 1. Inoue does not teach or suggest the missing features of independent claim 1. Independent claim 1 therefore defines patentable subject matter.

Independent claim 9 recites an input device having an EPG mode execution command key and a display mode change key, a controller, generating an EPG default mode screen having a channel field and an event field according to a user's manipulation of the EPG mode execution command key, adding a field of a predetermined item in accordance with an input signal corresponding to the display mode change key, and generating an EPG addition mode screen displayed with a specific value of the added field and event information to a preselected channel and a selected value of the added field, and a display, displaying the generated EPG screens. Independent claim 9 also recites the controller adds a field of another item in a predetermined order when the input signal corresponding to the display mode change key is again detected and the controller controls the display to display event information corresponding to the newly added field.

For at least similar reasons as set forth above, Nishikawa and Inoue do not teach or suggest all the features of independent claim 9. More specifically, Nishikawa and Inoue do not teach or suggest generating an EPG addition mode screen displayed with a specific value of the added field and event information to a preselected channel and a selected value of the added
added field and event information to a preselected channel and a selected value of the added field, wherein the controller adds a field of another item in a predetermined order when the input signal corresponding to the display mode change key is again detected and the controller controls the display to display event information corresponding to the newly added field, as recited in independent claim 9. Accordingly, independent claim 9 defines patentable subject matter.

Independent claim 17 recites displaying an EPG default mode screen on a display in response to an EPG mode execution command key input by a user, the EPG default mode screen including a channel field and an event field, adding a first field of a predetermined item in accordance with an input signal corresponding to a display mode change key, and displaying an EPG addition mode screen on a display, the EPG addition mode screen displaying event information corresponding to a preselected channel and a selected value added field, wherein when the input signal in accordance with the display mode change key is received again, a second field of another item according to a predetermined order is added, and the displayed EPG addition mode screen displays event information corresponding to the preselected channel, the selected value added field and the added second field.

For at least similar reasons as set forth above, Nishikawa and Inoue do not teach or suggest at least these features of independent claim 17. More specifically, Nishikawa and Inoue do not teach or suggest adding a first field of a predetermined item, displaying an EPG addition mode screen on a display, the EPG addition mode screen displaying event information
corresponding to a preselected channel and a selected value added field, in combination with
when the input signal in accordance with the display mode change key is received again, a second
field of another item according to a predetermined order is added, and the displayed EPG
addition mode screen displays event information corresponding to the preselected channel, the
selected value added field and the added second field, as recited in independent claim 17.
Accordingly, independent claim 17 defines patentable subject matter.

For at least the reasons set forth above, each of independent claims 1, 9 and 17 defines
patentable subject matter. Each of the dependent claims depends from one of the independent
claims and therefore defines patentable subject matter at least for this reason. In addition, the
dependent claims recite features that further and independently distinguish over the applied
references.

CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition
for allowance. Favorable consideration and prompt allowance of claims 1-5, 7-12, 14-15 and 17-
19 are earnestly solicited. If the Examiner believes that any additional changes would place the
application in better condition for allowance, the Examiner is invited to contact the undersigned
attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is
hereby made. Please charge any shortage in fees due in connection with the filing of this,
concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
KED & ASSOCIATES, LLP

[Signature]

David C. Oren
Registration No. 38,694

P.O. Box 221200
Chantilly, Virginia 20153-1200
(703) 766-3777  DCO/kah

Date: July 15, 2010
Please direct all correspondence to Customer Number 34610.
**Electronic Acknowledgement Receipt**

| **EFS ID:** | 8026004 |
| **Application Number:** | 11872320 |
| **International Application Number:** | |
| **Confirmation Number:** | 8623 |
| **Title of Invention:** | METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING |
| **First Named Inventor/Applicant Name:** | Min-Haeng Cho |
| **Customer Number:** | 34610 |
| **Filer:** | David Carlton Oren/Kathy Humphries |
| **Filer Authorized By:** | David Carlton Oren |
| **Attorney Docket Number:** | EZ-0006 |
| **Receipt Date:** | 15-JUL-2010 |
| **Filing Date:** | 15-OCT-2007 |
| **Time Stamp:** | 16:44:51 |
| **Application Type:** | Utility under 35 USC 111(a) |

**Payment information:**
- Submitted with Payment: no

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**Warnings:**

**Information:**

Total Files Size (in bytes): 1032100

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Min-Haeng CHO et al.  
Confirmation No.: 8623  
Group Art Unit: 2427  
Serial No: 11/872,320  
Examiner: Yassim ALATA  
Filed: October 15, 2007  
Customer No.: 34610

For: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

U.S. Patent and Trademark Office
Customer Window, Mail Stop Amendment
Randolph Building
401 Dulany Street
Alexandria, Virginia 22314

Dear Sir:

Transmitted herewith is an Amendment and/or Reply in the above identified application.

[ ] No additional fee is required.
[ ] Also attached:

The fee has been calculated as shown below:

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If multiple claims newly presented, add $390.00 $0.00
Fee for extension of time $0.00

TOTAL FEE DUE $0.00

[ ] The Commissioner is hereby authorized to charge payment of any fees associated with this communication or credit any overpayment, to Deposit Account No. 16-0607, including any filing fees under 37 C.F.R. 1.16 for presentation of extra claims and any patent application processing fees under 37 C.F.R. 1.17.

Respectfully submitted,
KED & ASSOCIATES, LLP

[Signature]
David C. Oren
Registration No. 38,694

Correspondence Address:
P.O. Box 221200
Chantilly, VA 20153-1200
(703) 766-3777 DCO/kah

Date: July 15, 2010

Please direct all correspondence to Customer Number 34610
### Patent Application Fee Determination Record

**Application as Filed – Part I**

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**For**

- Basic Fee (37 CFR 1.16(b), (c))
- Search Fee (37 CFR 1.16(l), (m))
- Examination Fee (37 CFR 1.16(o), (p), or (g))
- Total Claims (37 CFR 1.16(u))
- Independent Claims (37 CFR 1.16(h))
- Application Size Fee (37 CFR 1.16(e))

**Total**

*If the difference in column 1 is less than zero, enter “0” in column 2.

### Patent Application as Amended – Part II

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**Amendment**

- 07/15/2010
- Claims Remaining after Amendment
- Highest Number Previously Paid For
- Present Extra
- Application Size Fee (37 CFR 1.16(e))
- First Presentation of Multiple Dependent Claim (37 CFR 1.16(j))

### Amendment

- Claims Remaining after Amendment
- Highest Number Previously Paid For
- Present Extra
- Application Size Fee (37 CFR 1.16(e))
- First Presentation of Multiple Dependent Claim (37 CFR 1.16(j))

*If the entry in column 1 is less than the entry in column 2, write “0” in column 3.

**If the “Highest Number Previously Paid For” in this space is less than 20, enter “20.”

**If the “Highest Number Previously Paid For” in this space is less than 3, enter “3.”

The “Highest Number Previously Paid For” (Total or Independent) is the highest number found in the appropriate box in column 1.

---

Legal Instrument Examiner: 
/Debra R. Wyatt/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-600-PTO-9199 and select option 2.
Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.
Office Action Summary

Application No. 11/872,320
Applicant(s) CHO ET AL.
Examiner YASSIN ALATA
Art Unit 2427

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply to the finality notification will result in abandonment of the application. See 37 CFR 1.135(a).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) [✓] Responsive to communication(s) filed on 15 October 2007.
2a) [ ] This action is FINAL.
2b) [X] This action is non-final.
3) [ ] Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) [✓] Claim(s) 1-16 is/are pending in the application.
   4a) Of the above claim(s) ______ is/are withdrawn from consideration.
5) [ ] Claim(s) ______ is/are allowed.
6) [X] Claim(s) 1-16 is/are rejected.
7) [ ] Claim(s) ______ is/are objected to.
8) [ ] Claim(s) ______ are subject to restriction and/or election requirement.

Application Papers

9) [ ] The specification is objected to by the Examiner.
10) [X] The drawing(s) filed on 15 October 2007 is/are: a) [X] accepted or b) [ ] objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) [ ] The oath or declaration is objected to by the Examiner. Note the attached Office action or form PTO-152.

Priority under 35 U.S.C. § 119

12) [ ] Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) [ ] All
   b) [ ] Some
   c) [ ] None of:
      1. [ ] Certified copies of the priority documents have been received.
      2. [ ] Certified copies of the priority documents have been received in Application No. ______.
      3. [ ] Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) [✓] Notice of References Cited (PTO-892)
2) [ ] Notice of Draftsperson’s Patent Drawing Review (PTO-948)
3) [X] Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date ______.
   Paper No(s)/Mail Date ______.
4) [ ] Interview Summary (PTO-413)
   Paper No(s)/Mail Date ______.
5) [ ] Notice of Informal Patent Application
6) [ ] Other: ______.
DETAILED ACTION

Claim Objections

1. Claims 2-3 and 11 are objected to because of the following informalities:

   Claim 2 recites “the item is a day of a week”. The Examiner suggests keeping the language consistent by amending the above to recite -- the predetermined item is a day of a week --.

   Claim 3 recites "today.". The Examiner suggests amending it to read --"today".--.

   Claim 11 recites “specific value”. The Examiner suggest fixing it to read -- specific value--.

   Appropriate correction is required.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

   Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 16 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 16 sets forth a “A recorded medium tangibly embodying a program…” However, the specification as originally filed does not explicitly define the recorded medium by stating that it ‘. . . includes, but is not limited to’ a number of various mediums (page 14, line 20-page 15, line1). The United States Patent and Trademark Office (USPTO) is obliged to give claims their broadest reasonable interpretation consistent with the specification during proceedings before the
USPTO. See In re Zletz, 893 F.2d 319 (Fed. Cir. 1989) (during patent examination the pending claims must be interpreted as broadly as their terms reasonably allow). The broadest reasonable interpretation of a claim drawn to a recorded medium (also called machine readable medium and other such variations) typically covers forms of non-transitory tangible media and transitory propagating signals per se in view of the ordinary and customary meaning of computer readable media, particularly when the specification is absent an explicit definition or is silent. See MPEP 2111.01. When the broadest reasonable interpretation of a claim covers a signal per se, the claim must be rejected under 35 U.S.C. § 101 as covering non-statutory subject matter. See In re Nuijten, 500 F.3d 1346, 1356-57 (Fed. Cir. 2007) (transitory embodiments are not directed to statutory subject matter) and Interim Examination Instructions for Evaluating Subject Matter Eligibility Under 35 U.S.C. § 101, Aug. 24, 2009; p. 2.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4, 8, 9-12 and 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishikawa (US 6,481,010).
Regarding claim 1, Nishikawa discloses a method of displaying an EPG (Electronic Program Guide) in a broadcasting electronic device, comprising:

- displaying an EPG default mode screen comprising a channel field and an event field according to a manipulation of an EPG mode execution command key by a user (see at least Fig. 13, col. 9, lines 16-39 and col. 14, lines 15-40);

- adding a field of a predetermined item in accordance with an input signal corresponding to a display mode change key (see at least Figs. 14-15, 19, col. 14, lines 53-67, col. 15, lines 10-33 and col. 15, lines 64-col. 16, line 20); and

- displaying an EPG addition mode screen to display a specific value of the added field and event information corresponding to a preselected channel (see at least Figs. 13-15, and 19).

Regarding claim 2, Nishikawa discloses the method of Claim 1, wherein the item is a day of a week (see at least Fig. 19 and col. 15, lines 64-col. 16, line 20).

Regarding claim 3, Nishikawa discloses the method of Claim 2, wherein the specific value of the added field of the day is initialized to "today" (see at least Fig. 19 and col. 15, lines 64-col. 16, line 20).

Regarding claim 4, Nishikawa discloses the method of claim 1 further comprising moving a cursor to any one of the channel field and the added field or to any one of the values of the fields in accordance with an input from the user, whereas the event
information selected by the cursor or corresponding to predetermined values of the
fields is displayed on the event field (see at least col. 15, lines 58-col. 16, line 19).

Regarding claim 8, Nishikawa discloses the method of Claim 1, wherein the EPG
mode execution command key and the display mode change key are embodied in a
single key (see at least Fig. 13 and col. 14, lines 15-39 and col. 15, lines 9-33).

Regarding claim 9, Nishikawa discloses an EPC display device, comprising:

an input device having an EPG mode execution command key and a display
mode change key (see at least Figs 1 and 3);

a controller, generating an EPG default mode screen having a channel field and
an event field according to a user's manipulation of the EPG mode execution command
key (see at least Fig. 2, 13, and col. 9, lines 17-40 and col. 15, lines 15-40), adding a
field of a predetermined item in accordance with an input signal corresponding to the
display mode change key (as in claim 1), and generating an EPG addition mode
screen displayed with a specific value of the added field and event information
corresponding to a preselected channel (as in claim 1; col. 14, lines 53-67, col. 15, lines
9-33, and col. 15, lines 64-col. 16, line 20); and

a display, displaying the generated EPG screens (see at least Figs. 14-15 and
19).

Claim 10 is rejected on the same grounds as claim 2.
Claim 11 is rejected on the same grounds as claim 3.

Claim 12 is rejected on the same grounds as claim 4.

Claim 15 is rejected on the same grounds as claim 8.

Claim 16 is rejected on the same grounds as claims 1 and 9.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa.

Regarding claim 5, Nishikawa discloses the method of Claim 1, wherein, if a field of the item is added (as in claim 1 rejection), an EPG screen is displayed in such a manner that the cursor is located on a preselected field (see at least col. 14, lines 40-col. 15, line 9).

The Examiner takes an official notice that it is well known in the art to use the same technique to have the cursor located on a preselected channel field.

Therefore, the claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art. Furthermore, it would have been obvious to one of ordinary skills in the art at the time
the invention was made to modify Nishikawa by locating the cursor on a preslected channel filed for the convenience of the user.

8. Claims 6-7 and 13-14 rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa in view of Inoue (US 7,065,777).

   Regarding claim 6, Nishikawa discloses the method of Claim 1, wherein, a field of another item according to a predetermined order is newly added, and event information corresponding to the newly-added field is displayed (see at least claim 1 rejection), but Nishikawa is not clear about repeatedly pressing a key.

   Inoue discloses a program guide apparatus wherein the above limitations is disclosed in Fig. 5, Fig. 9, col. 8, lines 30-col. 9, line 6 and col. 11 lines 8-27.

   Therefore, the claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art.

   Furthermore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Nishikawa by the teachings of Inoue by so to be able to save the number of buttons on the remote control and use one key instead of several dedicated keys.

   Regarding claim 7, Nishikawa in view of Inoue disclose the method of Claim 6, wherein the predetermined order can be configured by an operation of the user (see at least Inoue; Fig. 5, Fig. 9, col. 8, lines 30-col. 9, line 6 and col. 11 lines 8-27).
Claim 13 is rejected on the same grounds as claim 6.

Regarding claim 14, Nishikawa in view of Inoue disclose the EPG display device of Claim 13, wherein the controller controls the display to display a user interface (UI) screen for the user to determine the order (see at least Nishikawa; Figs. 13-15 and 19. Also see Inoue; Fig. 5-14).

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YASSIN ALATA whose telephone number is (571)270-5683. The examiner can normally be reached on Mon-Fri 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Scott Beliveau can be reached on 571-272-7343. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.
/Y. A./
Examiner, Art Unit 2427

/Scott Beliveau/
Supervisory Patent Examiner, Art Unit 2427
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**PTO-1449**

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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered a secondary reference or inclusion in the basis of��. Y.Y.

DATE CONSIDERED: 04/07/2010

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Y.A./
**BIB DATA SHEET**

**SERIAL NUMBER**
11/872,320

**FILING or 371(c) DATE**
10/15/2007

**CLASS**
725

**GROUP ART UNIT**
2427

**ATTORNEY DOCKET NO.**
EZ-0006

**APPLICANTS**
Min-Haeng Cho, Seongnam-si, KOREA, REPUBLIC OF;
Chang-Woo Lee, Seoul, KOREA, REPUBLIC OF;
Eun-Kyung Chang, Seongnam-si, KOREA, REPUBLIC OF;

**CONTINUING DATA *************************
No YA

**FOREIGN APPLICATIONS ***********************
Yes YA

**REPUBLIC OF KOREA 10-2006-0109478 11/07/2006**

**IF REQUIRED, FOREIGN FILING LICENSE GRANTED **
10/30/2007

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Foreign Priority claimed

SS USC 119(a-d) conditions met

Yes ☐ No ☐

Met after Allowance ☐

Verified and Acknowledged /YASSIN ALATA/ Examiner’s Signature

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| TITLE |
| METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING |

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| Filing Fee: Authority has been given in Paper No. _________ to charge/credit DEPOSIT ACCOUNT No. _________ for following: |
| All Fees ☐ |
| 1.16 Fees (Filing) ☐ |
| 1.17 Fees (Processing Ext. of time) ☐ |
| 1.18 Fees (Issue) ☐ |
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# LIST OF ART CITED BY APPLICANT

**PTO-1449**

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/Yassin Alata/

DATE CONSIDERED

04/07/2010
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**FOREIGN PATENT DOCUMENTS**

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**OTHER ART (Including Author, Title, Date, Pertinent Pages, Publisher, Place of Publication, Etc.)**

System, method and apparatus for remotely controlling a media computing device

According to an aspect of the present invention, a remote control device for interfacing with a Media Computing Device is provided. Included on the remote control are a plurality of audio/video buttons, numeric keypad buttons, transport buttons, and navigation buttons. In particular, one of the buttons, which is part of the navigation buttons is a START button.
Description

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of U.S. Provisional Application No. 60/597,246, filed September 30, 2003, which is incorporated by reference herein.

FIELD OF THE INVENTION

[0002] In general, the present invention relates to remote controls and remote control methodologies, and in particular, to a system, method and apparatus for remotely controlling media-based computing devices.

BACKGROUND OF THE INVENTION

[0003] Historically computing devices and entertainment centers have been separate and distinct devices. Typically computing devices were used for business purposes, such as word processing and database management, and to play computer specific games. Likewise, computing devices are typically designed for user interaction from a nearby position, such as seated at a desk where there computing device is located. Interaction with a computing device generally occurs through the use of a keyboard and some form of a pointing device, such as a mouse.

[0004] In contrast, entertainment systems typically provide audio and/or video interaction for a user. In addition, interaction with an entertainment center is generally designed to allow the user to be at a more remote location than that of a computing device. For example, a typical entertainment center may be designed to provide user interaction with the entertainment center being located at one end of a room and the user at the other, possibly resting on a couch. Interaction between the user and the entertainment center often occurs via a remote control. An entertainment center remote control generally allows a user to press buttons on the remote control which in turn, generate a signal from the remote control that is received by the entertainment center. Signals received by the entertainment center provide instructions to the entertainment center as to the interaction desired by the user, such as turning on the television.

[0005] In recent years, entertainment centers have become more integrated and sophisticated, providing users with a multitude of choices. For example, a typical entertainment center may include any combination of an AM/FM receiver, a Compact-Disk (CD) player, a Digital Video Disk (DVD) player, and a Television. Other audio/visual components may also be included in the typical entertainment center. Attempts have been made to provide a user of an entertainment center with a "universal" remote control for interfacing with each of the devices that make up the entertainment center. However, as entertainment centers have become more complex, the universal remote controls have become difficult to operate and confusing to the user.

[0006] In addition to the drawbacks of universal remote controls, current systems do not allow a user to interact with both an entertainment center and a computing device from the same remote location.

SUMMARY OF THE INVENTION

[0007] Accordingly, a need exists for a system, method and apparatus for allowing a user to interact with a computing device and an entertainment center from a remote viewing position.

[0008] According to an aspect of the present invention, a remote control device for interfacing with a Media Computing Device is provided. Included on the remote control is a plurality of audio/video buttons, numeric keypad buttons, transport buttons, and navigation buttons. In particular, one of the buttons, which is part of the navigation buttons, is a START button.

[0009] According to another aspect of the present invention, a remote control device for interacting and interfacing with a Media Computing Device is provided. The remote control device includes a plurality of navigation buttons, including a START button. Also included on the remote control device are several transport buttons, a plurality of audio/video buttons, and a plurality of numeric keypad buttons.

[0010] According to still another aspect of the present invention, a remote control device is provided. Disposed on the remote control device is a START button and a plurality of shortcut buttons.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The foregoing aspects and many of the attendant advantages of this invention will become more readily appreciated as the same become better understood by reference to the following detailed description, when taken in conjunction with the accompanying drawings, wherein:

FIGURE 1 is a block diagram of one example of a Media Computing Device Remote Control, according to an embodiment of the present invention;
FIGURE 2 illustrates a block diagram of a START button, according to an embodiment of the present invention;
FIGURE 3 illustrates a block diagram of the navigation control buttons of a Media Computing Device Remote Control, according to an embodiment of the present invention;
FIGURE 4 illustrates a block diagram of four optional buttons that may also be included with the navigation control buttons, according to an embodiment of the present invention;
FIGURE 5 illustrates a block diagram of the transport control buttons of a Media Computing Device,
according to an embodiment of the present invention;

FIGURE 6 illustrates a block diagram of the audio/video control buttons, according to an embodiment of the present invention;

FIGURE 7 is a block diagram of a numeric keypad button of a Media Computing Device Remote Control, according to an embodiment of the present invention;

FIGURES 8A-8C illustrate block diagrams of a side view, front view, and back view of a Media Computing Device Remote Control, according to an embodiment of the present invention; FIGURES 9A & 9B illustrate a block diagram of a Media Computing Device Remote Control configuration, according to an embodiment of the present invention;

FIGURES 10A and 10B are block diagrams illustrating other configurations of a Media Computing Device Remote Control, according to an embodiment of the present invention;

FIGURES 11A and 11B illustrate yet another configuration of the Media Computing Device Remote Control, according to an embodiment of the present invention;

FIGURES 12A-12K illustrate different block views of a Media Computing Device Remote Control, according to an embodiment of the present invention;

FIGURE 13A is a block diagram of one example of a Media Computing Device, according to an embodiment of the present invention; and

FIGURE 13B is a block diagram of a Media Computing Device Remote Control, according to an embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0012] A device that integrates both computing devices and any form of entertainment center has been developed that provides a user with total computing/entertainment from a central location. The integration of these devices, as referred to herein is a "Media Computing Device." A Media Computing Device may include a computing device integrated with any combination of audio/video devices. For example, a Media Computing Device may include a computing device, a DVD player, a CD player, and a visual interface, such as a plasma monitor, all integrated for operation and control via the computing device.

[0013] FIGURE 13A is a block diagram of one example of a Media Computing Device 1300, according to an embodiment of the present invention. Included in the Media Computing Device 1300 is an interface display 1309, a computing device 1305, a DVD player 1307, a CD player 1309, and a TV tuner 1311. As will be appreciated, the Media Computing Device 1300 may include any combination of devices desired by a user.

[0014] Illustrated in FIGURE 13B is a block diagram of a remote control 1301 designed to provide a user with the ability to manipulate and interact with the Media Computing Device 1300 (FIGURE 13A) from a remote location, according to an embodiment of the present invention. A remote control, such as remote control 1301, for interfacing with a Media Computing Device will be referred to herein as a "Media Computing Device Remote Control." The Media Computing Device Remote Control 1301 is configured to provide interaction between a user and the Media Computing Device 1300 by providing buttons for selection by a user which in response to actuation by the user generate within the Media Computing Device Remote Control 1301 a signal that is transmitted from the Media Computing Device Remote Control 1301 and received by the Media Computing Device 1300. Transmission of signals for interfacing with electronic devices is known in the art and will not be described in detail herein. For example, the signal that is generated by the Media Computing Device Remote Control 1301 may be transmitted wirelessly and/or via an infrared signal.

[0015] The Media Computing Device 1300, in response to receiving a signal from the Media Computing Device Remote Control 1301, generates an appropriate response. As described herein the appropriate response may be any variety of responses from displaying a user-defined shortcut screen on the interface display 1303 to placing the Media Computing Device 1300 in standby.

[0016] FIGURE 1 is a block diagram of one example of a Media Computing Device Remote Control 100, according to an embodiment of the present invention. The Media Computing Device Remote Control 100 includes a plurality of buttons for allowing a user to generate a signal from the Media Computing Device Remote Control 100 for controlling an interfacing with a Media Computing Device. In general, the buttons on the Media Computing Device Remote Control 100 are separated into four major functional areas, including navigation buttons 300, transport control buttons 500, audio/video control buttons 600, and numeric keypad buttons 700. The buttons in each of those four groups are presented on the Media Computing Device Remote Control 100 in the context of a virtual design. The design applies usability feedback and presents button grouping and placement for allowing a user ease of manipulation of the Media Computing Device Remote Control 100.

[0017] The description provided herein of the buttons of the Media Computing Device Remote Control 100 being mechanical buttons that are pressed or actuated by a user is for explanation purposes only and is not intended to limit the invention to a single embodiment. In alternative embodiments, the buttons may be displayed electronically for interaction by a user. For example, buttons may be displayed on a touch sensitive display and actuated by a user interacting with the touch sensitive display.

[0018] Included in the navigation control buttons
group 300 is a START button 301. Referring now to Figure 2, the START button 301, in an actual embodiment of the present invention, is the shape of a rounded rectangle. The width of the START button 301 is approximately 12 mm, and the height of the START button 301 is approximately 9 mm. With a corner radius on each corner of the rounded rectangle of approximately 7 mm. In an actual embodiment, the START button 301 includes a Windows® flag depicted on the button itself. Additionally, the START button may also be the color of a green "jewel" with the Windows® flag enscribed within the jewel. The above description of the START button is illustrative in nature and is not intended to limit the configuration of the START button to only this example. In alternative embodiments, the START button may be a different size, shape, color etc. For example, the START button may be a round button containing a Windows® flag.

[0019] As described herein, there are two classes of buttons that make up the buttons of the button groups of the Media Computing Device Remote Control 100. These classes include buttons that are required to fully interact with a Media Computing Device and optional control buttons. Optional control buttons are those buttons that are supported by Media Computing Device software but are not required on the Media Computing Device Remote Control 100 for interaction with a Media Computing Device.

[0020] Figure 3 illustrates a block diagram of the navigation control buttons 300 of a Media Computing Device Remote Control 100, according to an embodiment of the present invention. The navigation control buttons 300 form the main interaction point with a Media Computing Device. The navigation control buttons 300 enable a user to easily invoke and interact with the interface display of a Media Computing Device. This interface may be based on a focus point that can be moved around the interface display and activated. This so-called "tab interface" provides a natural navigation method when a user is farther away from the display device than in typical computing device scenarios.

[0021] Included in the navigation control buttons 300 are a START button 301, up button 303, down button 305, back button 307, forward button 309, OK button 311, backspace button 313, more information button 315, guide button 317, and a live TV button 319. As described below, there may be more or fewer buttons included in the navigation control buttons 300.

[0022] A first actuation by a user of the START button 301 generates a signal that instructs the Media Computing Device to display a Media Computing Device home page, and if the Media Computing Device is not currently running, to start the Media Computing Device. Actuation of the START button 301 results in the display of the Media Computing Device home page regardless of what interaction is currently being provided to the user. For example, if a user is watching a movie stored on a DVD, actuation of the START button will display on the interface the home page of the Media Computing Device.

[0023] Actuation of the up button 303 by a user generates from the Media Computing Device Remote Control 100 a signal that instructs the Media Computing Device to move the focus point on the interface up one location from its previous position, and if at the top of a interface display to take no action. Alternatively, if the focus point is at the top of the interface display, the Media Computing Device may move the focus point to the bottom of the interface display. This button may also be programmed to "auto-repeat" the action of moving the focus point up one location on an interface display. "Auto-repeat," as used herein, is the generation of the same signal numerous times in response to a user holding down a particular button.

[0024] The down button 305, upon actuation, moves the focus point on an interface display down one location. If the focus point is at the bottom of the interface display, actuation of the down button 305 will result in no action. In an alternative embodiment, if the focus point is at the bottom of the interface display, selection of the down button 305 may generate a signal to instruct the media device to move the focus point to the top of the interface display. The down button 305 may also include an auto-repeat feature. The left button 307, upon actuation, generates a signal to move the focus point on the interface display left one position. If the focus point on the interface display is at the leftmost position, selection of left button 307 generates a signal instructing the Media Computing Device to go back one page in the interface display stack. The interface display stack tracks the information displayed on the interface display. This button may also be programmed to auto-repeat the signal. The right button 309, upon actuation, generates a signal to the Media Computing Device to move the focus point one position to the right, and if at the rightmost position to take no action. This button may also be programmed for auto-repeat.

[0025] The OK button 311, upon actuation, generates a signal instructing the Media Computing Device to perform the action indicated on the interface display by the focus point. The back button 313, upon actuation by a user, generates a signal from the Media Computing Device Remote Control 100 to instruct the Media Computing Device to go back one location in the interface display stack. The more information button 315, upon actuation by a user, generates a signal instructing the Media Computing Device to provide information on the interface display, if available, for the current focus point displayed on the interface display. A second press of this button generated a signal to the Media Computing Device to dismiss the information provided on the interface display.

[0026] The guide button 317, upon actuation by a user, generates a signal from the Media Computing Device Remote Control 100 to Instruct the Media Computing Device to display an Electronic Program Guide ("EPG").
Additionally, upon a second actuation by a user of the guide button 317, a signal is generated instructing the Media Computing Device Remote Control 100 to cycle through the guide options presented on the interface display. The live TV button 319, upon actuation by a user, generates a signal from the Media Computing Device Remote Control 100 instructing the Media Computing Device to bring live TV to the front of the interface display and display the last channel the user was watching.

[0027] FIGURE 4 illustrates a block diagram of four optional buttons that may also be included with the navigation control buttons 300, according to an embodiment of the present invention. In particular, FIGURE 4 illustrates a block diagram of four shortcut buttons 400 that may be included in the navigation control buttons group 300. Included in the shortcut buttons 400 are a My Videos button 407, a My Music button 403, a My TV button 401, and a My Pictures button 405.

[0028] Upon actuation of the My TV button 401, a signal is generated from the Media Computing Device Remote Control 100 instructing the Media Computing Device to display on the interface a "TV Home" page. The TV Home page is a predefined TV home page that may be created and/or selected by a user as their home page for selection of TV channels. The My Music button 403, upon actuation by a user, generates a signal from the Media Computing Device Remote Control 100 instructing a Media Computing Device to display on the interface display a "Music" page. The My Music button 403 thereby acts as a shortcut to a predefined Music page that is created by a user. The My Pictures button 405, upon actuation by a user, generates a signal from the Media Computing Device Remote Control 100 instructing a Media Computing Device to display on the interface display a "My Pictures" page. The My Pictures button 405 acts as a shortcut to a user's predefined Pictures page. The My Videos button 407, upon actuation by a user, instructs the Media Computing Device Remote Control 100 to generate a signal instructing the Media Computing Device to display on the interface a "My Videos" page. In general, the My Videos button 407 acts as a shortcut to a user's My Videos page.

[0029] In addition to the optional shortcut buttons 400 illustrated in FIGURE 4, a Media Computing Device Remote Control may also include additional option buttons. For example, additional option buttons may include a record TV button 801 (FIGURE 8B). A record TV button 801, upon actuation by a user, may generate a signal from the Media Computing Device Remote Control 100 to instruct a Media Computing Device to display on the interface a "Recorded TV" page. In general, the recorded TV button 801 acts as a shortcut to a user-created recorded TV page. Additionally, the shortcut buttons 400 may also include a radio button (not shown). Actuation of a radio button generates a signal from the Media Computing Device Remote Control 100 instructing a Media Computing Device to display on the interface a "Radio" page. In general, the Radio button acts as a shortcut instructing the Media Computing Device to display on an interface a user's predesignated radio page.

[0030] FIGURE 5 illustrates a block diagram of the transport control buttons 500 of a Media Computing Device 100, according to an embodiment of the present invention. Included in the transport control buttons 500 is a play button 501, a pause button 503, a stop button 505, a record button 507, a fast forward button 509, a rewind button 511, a skip button 513, and a replay button 515.

[0031] Actuation by a user of play button 501 generates a signal from the Media Computing Device Remote Control 100 instructing the Media Computing Device to start (if paused, continue) playback of media at a present position pointer. Actuation by a user of the pause button 503 generates a signal from the Media Computing Device Remote Control 100 instructing the Media Computing Device to pause the playback of media at a present position. Continued actuation of pause button 503 generates signals to the Media Computing Device to toggle the pause state between pause and continue playback at a present position pointer. Actuation of the stop button 505 generates a signal from the Media Computing Device Remote Control 100 instructing a Media Computing Device to stop media playback.

[0032] In one embodiment of the present invention, actuation of stop button 505 generates a signal instructing the Media Computing Device to stop media playback and to return the position pointer to the start of the media. Alternatively, the Media Computing Device may leave the position pointer at the location in the media where the stop signal was received. Actuation of record button 507 generates a signal from the Media Computing Device Remote Control 100 instructing a Media Computing Device to record media to a disc. Actuation of the fast forward button 509 generates a signal from the Media Computing Device Remote Control 100 instructing a Media Computing Device to speed up the time base of a media stream to a fast forward value. If the media is a slide show, actuation of the fast forward button 509 instructs the Media Computing Device to skip to the next picture in the slide show.

[0033] The first fast forward value may be any multiple of the normal playback speed. For example, the first fast forward value may be three times the normal playback speed of the media. Continued actuation of the fast forward button 509 generates signals instructing the Media Computing Device to cycle through the fast forward speed values loop through a normal speed, a first fast forward value, and to any additional fast forward values that are predetermined for the Media Computing Device. The predetermined fast forward values may be any multiple of the normal playback speed for media. Additionally, when media being presented to a user's slide show, continued actuation by a user of fast forward button 509 generates signals instructing the Media Computing Device to continue to skip to the next picture in the series of pictures of the slide show.

[0034] Actuation of the rewind button 511 on the Me-
dia Computing Device Remote Control 100 generates a signal from the Media Computing Device Remote Control 100 instructing a Media Computing Device to speed up the time base and reverse direction of the media stream to a first rewind value. If the media stream is a slide show, actuation of the rewind button 511 instructs the Media Computing Device to skip to the previous picture in the slide show. A first rewind value may be any multiple of the normal playback speed of a media stream in a reverse direction. For example, the first rewind value may be three times the normal playback speed of a media stream in a reverse direction. Additional actuation by a user of rewind button 511 generates signals instructing a Media Computing Device to cycle through the various rewind speed values looping through the normal speed value, the first rewind speed value, and any additional predetermined rewind speed values. Likewise, if the media is a slide show, continued actuation results in the Media Computing Device continuing to skip to the previous picture in the slide show. Predetermined rewind values may be any multiple of the normal playback speed of a media stream in the reverse direction.

[0035] Actuation by a user of a skip button 513 generates a signal from the Media Computing Device Remote Control 100 instructing a Media Computing Device to skip ahead an increment in the media. For example, if the media being played is music from a CD, actuation of the skip button 513 results in the Media Computing Device skipping ahead one song in the play list. If the media is a movie on a DVD, actuation of the skip button 513 results in the Media Computing Device skipping to the next chapter. If the media is a slide show, the Media Computing Device will skip to the next picture in response to a user pressing the skip button 513.

[0036] Actuation by a user of a replay button 515 generates a signal from the Media Computing Device Remote Control 100 instructing a Media Computing Device to rewind the position pointer one increment and replay that portion of the media. For example, if the media being played is a song from a CD, actuation of the replay button 515 will result in the Media Computing Device returning to the beginning of the song. If the media is a movie from a DVD, actuation of the replay button 515 results in the movie returning to the beginning of the chapter being viewed. Likewise, if the media is a slide show, the previous picture is provided in response to actuation of the replay button 515.

[0037] FIGURE 8 illustrates a block diagram of the audio/video control buttons 600, according to an embodiment of the present invention. In particular, the audio/video control buttons 600 may include a volume up button 601A, a volume down button 601B, a channel/page up button 603A, a channel/page down button 603B, a mute button 605, and a DVD menu button 607.

[0038] Actuation by a user of the volume up button 601A generates a signal from the Media Computing Device Remote Control 100 instructing a Media Computing Device to increment the current volume by 1 unit and if muted to unmute the volume. The volume up button 601A may be configured to auto-repeat. Actuation of the volume down button 601B generates a signal from the Media Computing Device Remote Control 100 instructing a Media Computing Device to decrement the current volume by 1 unit in the negative direction and if muted, to unmute the volume. Volume down button 601B may be programmed to auto-repeat.

[0039] Actuation of the channel/page up button 603A generates a signal from the Media Computing Device Remote Control 100 to increment the current channel displayed on an interface to a user by 1. Additionally, if the interface display is in a list view mode, the signal instructs the Media Computing Device to move forward a page in the list. The channel/page up button 603A may be programmed to auto-repeat. Actuation of the channel/page down button 603B generates a signal from the Media Computing Device Remote Control 100 instructing a Media Computing Device to decrement the current channel displayed on an interface by 1. Additionally, if a list view is currently being displayed on the interface display, the signal instructs a Media Computing Device to move back a page in the list being displayed. The channel/page down button 603B may be configured to auto-repeat.

[0040] Actuation by a user of mute button 605 generates a signal from the Media Computing Device Remote Control 100 instructing a Media Computing Device to mute the volume being provided by the Media Computing Device. Continuous actuation of the mute button 605 generates signals instructing the Media Computing Device to toggle between a mute and a non-mute state.

[0041] Actuation of the DVD menu button 607 generates a signal from the Media Computing Device Remote Control 100 instructing a Media Computing Device to provide on the interface display a DVD menu. Also included in the navigation control buttons 300 is a standby button 609 (FIGURE 1). Actuation of the standby button 609 generates a signal from the Media Computing Device Remote Control 100 instructing a Media Computing Device to either transfer into a standby mode or to transfer into a wakeup mode. In particular, if a Media Computing Device is currently in a standby mode, actuation of standby button 609 generates a signal instructing the Media Computing Device to wake up and provide an interface to a user. Alternatively, if a Media Computing Device is currently awake and providing an interface to a user, actuation of the standby button 609 generates a signal instructing the Media Computing Device to go into a standby mode.

[0042] FIGURE 7 is a block diagram of a numeric keypad button 700 of a Media Computing Device Remote Control 100, according to an embodiment of the present invention. Included in the numeric keypad button 700 or numeric buttons "1" 701, "2" 702, "3" 703, "4" 704, "5" 705, "6" 706, "7" 707, "8" 708, "9" 709, "0" 710. As is well known to those skilled in the relevant art, numeric
keypad buttons 701-710 operate to generate a signal for the respective numeric buttons. Additionally, numeric keypad buttons 702-710 may be operated to provide alphanumeric input to a Media Computing Device. Also included in the numeric keypad 700, in an embodiment of the present invention, may be a clear button 711, an enter button 713, a pound button 803 (FIGURE 8B), and a star button 805 (FIGURE 8B).

[0043] FIGURES 8A-8C illustrate block diagrams of a side view 800L, front view 800F, and back view 800B of a Media Computing Device Remote Control, according to an embodiment of the present invention. As can be seen from the block diagrams illustrated in FIGURES 8A-8C of the Media Computing Device Remote Control, the device is ergonomically designed to provide ease of use and comfort for a user. Also, as shown in the back view 800B of the Media Computing Device Remote Control 100, is a battery door 811 for providing batteries to the Media Computing Device Remote Control. Additionally, referring to the front view 800F of the Media Computing Device Remote Control, an alternative configuration of the button groupings 300, 500, 600, 700 is provided. As shown in the front view 800F, the buttons contained within the button groups 300, 500, 600, 700 are arranged differently and include additional optional buttons than those illustrated in the Media Computing Device Remote Control 100 of FIGURE 1.

[0044] FIGURES 9A and 9B illustrate yet another alternative embodiment of the layout and design of a Media Computing Device Remote Control, according to an embodiment of the present invention. In particular, FIGURE 9A illustrates a block diagram of a Media Computing Device Remote Control configuration 900, according to an embodiment of the present invention. As can be seen from the ergonomically designed Media Computing Device Remote Control 900, the navigation control buttons 903 are designed and configured differently than the navigation control buttons 300 illustrated in FIGURE 1. In addition to design layout, the navigation control buttons 903 include optional buttons not included in the Media Computing Device 100 (FIGURE 1). In particular, navigation control buttons 903 include a recorded TV button 903A, a guide button 903B, and a live TV button 903C.

[0045] The transport control buttons 905 are also designed and displayed differently than the transport control buttons 500 illustrated in FIGURE 1. Likewise, the audio/video control buttons 906 are designed and implemented differently than the audio/video control buttons 500 illustrated in FIGURE 1. Still further, the numeric keypad buttons 807 are designed and configured differently than the numeric keypad buttons 700 and include additional option buttons. The optional buttons included in the numeric keypad buttons 700 are a star button 907A, a pound button 907B, a clear button 913, and an enter button 915.

[0046] However, as is consistent with the Media Computing Device Remote Control 100 illustrated in FIGURE 1, and as with each of the other Media Computing Device Remote Controls illustrated in the figures of the present application, each include a START button 301. In one example, the START button 301 is positioned toward the center of the Media Computing Device Remote Control 900 and is of the particular shape, size and color. FIGURE 9B is a block diagram of yet another alternative embodiment of the Media Computing Device Remote Control, according to an embodiment of the present invention. In particular, in addition to the buttons and design layout described with respect to FIGURE 9A, the Media Computing Device Remote Control 920 illustrated in FIGURE 9B includes an additional option buttons 909 and 911 that may be configured by a user and/or by a manufacturer to generate signals for controlling a Media Computing Device.

[0048] FIGURES 10A and 10B are block diagrams illustrating other configurations of a Media Computing Device Remote Control 1000 and 1020, respectively, according to an embodiment of the present invention. The Media Computing Device Remote Control 1000, includes shortcut buttons 1004, including My TV, My Music, My Pictures, and My Video buttons. Also included in the Media Computing Device Remote Control 1000 are the transport controls buttons 1005, navigation control buttons 1003, audio/video control buttons 1006 and numeric keypad buttons 1007. Referring to the navigation control buttons 1003, as with all the other embodiments of the Media Computing Device Remote Control described herein, a START button 301 is included. In addition to the START button 301, the navigation control buttons 1003 include a recorded TV button 1003A, a guide button 1003B and a live TV button 1003C.

[0049] Referring now to FIGURE 10B included in the Media Computing Device Remote Control 1020, in addition to the buttons described in respect to FIGURE 10A are the additional option buttons 1009 and 1011 that may be configured by a user and/or manufacturer of the Media Computing Device Remote Control to generate particular signals for interfacing with a Media Computing Device.

[0050] FIGURES 11A and 11B illustrate yet another configuration of the Media Computing Device Remote Control 1100 (FIGURE 11A) and 1120 (FIGURE 11B), according to embodiments of the present invention. In particular, Media Computing Device Remote Controls 1100 and 1120 include a standby button 1106, shortcut buttons 1104, including My TV button, My Music button, My Pictures button, and My Videos button. Additionally, included in the Media Computing Device Remote Controls 1100 and 1120 are a unique arrangement of the transport control buttons 1105, the navigation control buttons 1103, the audio/video control buttons 1106, and the numeric keypad buttons 1107. As described above, the navigation control buttons 1103 include a START button 301. Also included in the navigation control buttons are a recorded TV button, a guide button, and a live TV button.
Referring now to FIGURE 11B, included in the Media Computing Device Remote Control 1120 may be additional user-definable/manufacture-definable option buttons 1109 and 1111. Additionally, according to an embodiment of the present invention, optional user-definable color buttons may also be included. In particular, Media Computing Device Remote Control 1120 includes a solid color red button 1113, a solid color green button 1115, a solid color yellow button 1117, and a solid color blue button 1119. Also included is a teletext button 1121, for transferring the numeric keypad buttons 1107 from numeric keypad buttons to teletext buttons. Teletext input is known to those of skill in the relevant art and will not be described herein.

The solid color buttons 1113-1119 may be configured to interface in a different manner depending on whether the Media Computing Device Remote Control 1120 is in teletext mode or not. For example, if the Media Computing Device Remote Control 1120 is in teletext mode, the solid color red button may be configured to jump to a red shortcut. A red shortcut link may be a link that is defined by a user. Similarly, teletext mode actuation of the solid color green button 1115 may generate a signal instructing a Media Computing Device to display a green shortcut link. Likewise, actuation of a solid yellow color button 1117, when the Media Computing Device Remote Control 1120 is in teletext mode, generates a signal from the Media Computing Device Remote Control 1120 instructing a Media Computing Device to provide on the interface display a display associated with a red shortcut link. Finally, actuation of the solid color blue button 1119, when the Media Computing Device Remote Control 1120 is in teletext mode, generates a signal from the Media Computing Device Remote Control 1120 instructing a Media Computing Device to generate on the interface display a display associated with a red shortcut link.

Alternatively, when the Media Computing Device Remote Control 1120 is not in teletext mode, the solid color buttons 1113-1119 may be configured to generate user-defined signals for interfacing with a Media Computing Device.

In addition to the buttons described with respect to the embodiments illustrated in FIGURES 1-11B, embodiments of a Media Computing Device Remote Control may include a print button, an aspect button, and an eject button. Actuation of the print button may generate a signal from the Media Computing Device Remote Control to instruct a Media Computing Device to print an item that is the focus point of an interface. Alternatively, it may instruct the Media Computing Device to instruct an application operating within the Media Computing Device to print a particular item. Actuation of an aspect button by a user may generate a signal from the Media Computing Device Remote Control to toggle between various aspect modes of a video display. For example, an aspect mode may be 16 x 9. Finally, actuation of an eject button may generate a signal from the Media Computing Device Remote Control instructing a Media Computing Device to eject a media drive, such as a DVD or CD drive.

FIGURES 12A-12K illustrate different block views of a Media Computing Device Remote Control, according to an embodiment of the present invention. In particular, the views of a Media Computing Device Remote Control illustrated in FIGURES 12A-12K further illustrate the ergonomic design of Media Computing Device Remote Controls, according to an embodiment of the present invention. FIGURE 12A illustrates a front view 1200F of a Media Computing Device Remote Control. As can be seen from the front view 1200F, the Media Computing Device Remote Control is designed to ergonomically fit a user's hand by curving the center portions of the Media Computing Device Remote Control. FIGURE 12B illustrates a left view 1200L of a Media Computing Device Remote Control, according to an embodiment of the present invention. FIGURE 12C illustrates a sectional left view of a Media Computing Device Remote Control, according to an embodiment of the present invention. In particular, the sectional view of FIGURE 12C is a section 1201-1201 illustrated from FIGURE 12A. FIGURE 12D illustrates a back view 1200B of a Media Computing Device Remote Control, according to an embodiment of the present invention. FIGURE 12E illustrates an angled front view 1200A of a Media Computing Device Remote Control, according to an embodiment of the present invention. FIGURE 12F shows yet another angled back view 1200B of a Media Computing Device Remote Control, according to an embodiment of the present invention. FIGURE 12G illustrates a top view 1200T of a Media Computing Device Remote Control according to an embodiment of the present invention. As can be seen from the top view 1200T, the Media Computing Device Remote Control has a curved bottom and is ergonomically designed to fit comfortably within a user's hand.

FIGURE 12H illustrates a block diagram of a sectional view 1203-1203 of a Media Computing Device illustrated in FIGURE 12A. As can be seen from the sectional view 1203-1203 of FIGURE 12H, the Media Computing Device, according to an embodiment of the present invention, is ergonomically designed. Likewise, FIGURE 12I and FIGURE 12J illustrate sectional views 1205-1205, and sectional view 1207-1207, respectively, of the Media Computing Device Remote Control illustrated in FIGURE 12A. Finally, FIGURE 12K illustrates an end view 1200E of a Media Computing Device Remote Control, according to an embodiment of the present invention.

As is apparent from the above description, the four function groups of the Media Computing Device Remote Control may contain any combination of required and optional buttons and be arranged and presented in
numerous ways on the Media Computing Device Remote Control. However, as discussed above, the START button of the Media Computing Device Remote Control provides a user with the ability to easily access and interface with any part of a Media Computing Device.

[0059] While embodiments of the invention have been illustrated and described, it will be appreciated that various changes can be made therein without departing from the spirit and scope of the invention.

[0060] The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

Claims

1. A remote control device, comprising:

   a plurality of audio/video buttons disposed on the remote control device;
   a plurality of numeric keypad buttons disposed on the remote control device;
   a plurality of transport buttons disposed on the remote control device; and
   a plurality of navigation buttons disposed on the remote control device, wherein a START button is included in the plurality of navigation buttons.

2. The remote control device of Claim 1, further comprising a shortcut button disposed on the remote control device.

3. The remote control device of Claim 2, wherein the shortcut button is a My TV button.

4. The remote control device of Claim 2, wherein the shortcut button is a My Music button.

5. The remote control device of Claim 2, wherein the shortcut button is a My Videos button.

6. The remote control device of Claim 2, wherein the shortcut button is a My Pictures button.

7. The remote control device of Claim 2, wherein the shortcut button is a Recorded TV button.

8. The remote control device of Claim 2, wherein the shortcut button is a Radio button.

9. The remote control device of Claim 1, further having disposed on the remote control device a grouping of My TV, My Music, My Pictures, and My Videos buttons.

10. The remote control device of Claim 1, further comprising:

   a standby button disposed on the remote control.

11. The remote control device of Claim 1, further comprising:

   a print button disposed on the remote control device.

12. The remote control device of Claim 1, further comprising:

   an aspect button disposed on the remote control device.

13. The remote control device of Claim 1, further comprising:

   an eject button disposed on the remote control device.

14. The remote control device of Claim 1, further comprising:

   a teletext button disposed on the remote control device, wherein the teletext control enables the numeric keypad for teletext input.

15. The remote control device of Claim 1, wherein the START button has a width of approximately 12 millimeters and a height of approximately 9 millimeters.

16. The remote control device of Claim 1, wherein the START button is a shape of a rounded rectangle.

17. The remote control device of Claim 1, wherein the START button is green.

18. The remote control device of Claim 1, wherein the START button includes a Windows flag logo displayed on the START button.

19. The remote control device of Claim 1, wherein the remote control device is an ergonomically shaped remote control device.

20. The remote control device of Claim 1, wherein the plurality of navigation buttons provide a user with an ability to interact with a Media Computing Device.

21. The remote control device of Claim 1, wherein actuation of at least one of the navigation buttons generates a signal from the remote control device to instruct a Media Computing Device to alter a focal point displayed on an Interface display.
22. The remote control device of Claim 21, wherein the interface display is a tab-based interface display.

23. The remote control device of Claim 21, wherein the interface display allows a user to interact with the Media Computing Device from a remote distance.

24. The remote control device of Claim 1, wherein actuation of the START button generates a signal from the remote control device to instruct a Media Computing Device to display a Media Computing Device home page.

25. The remote control device of Claim 24, wherein the Media Computing Device home page is presented on an interface display.

26. A remote control device for interacting and interfacing with a Media Computing Device, comprising:

   a plurality of navigation buttons disposed on the remote control device, wherein the plurality of navigation buttons include a START button;
   a plurality of transport buttons disposed on the remote control device;
   a plurality of audio/video buttons disposed on the remote control device; and
   a plurality of numeric keypad buttons disposed on the remote control device.

27. The remote control device of Claim 26, wherein the plurality of navigation buttons are configured to initiate a transmission of signals from the remote control device to control navigation within a Media Computing Device interface.

28. The remote control device of Claim 27, wherein the Media Computing Device interface is a tab interface.

29. The remote control device of Claim 26, wherein the plurality of transport buttons are configured to initiate a transmission of signals from the remote control device to manage playback of media stored on the Media Computing Device.

30. The remote control device of Claim 26, wherein the plurality of audio/video buttons includes a standby button configured to initiate a transmission of a signal to place the Media Computing Device in a standby mode.

31. A remote control device, comprising:

   a START button disposed on the remote control device; and
   a plurality of shortcut buttons disposed on the remote control device.

32. The remote control device of Claim 31, wherein the START button is configured to initiate a transmission of a signal from the remote control device to activate a Media Computing Device.

33. The remote control device of Claim 31, wherein the START button is configured to initiate a transmission of a signal from the remote control device to generate a display of a Media Computing Device Home page.

34. The remote control device of Claim 31, wherein the shortcut button is a My TV button, and wherein the My TV button is configured to initiate a transmission of a signal from the remote control device to generate a display of a TV Home page.

35. The remote control device of Claim 31, wherein the shortcut button is a My Music button, and wherein the My Music button is configured to initiate a transmission of a signal from the remote control device to generate a display of a Music page.

36. The remote control device of Claim 31, wherein the shortcut button is a Recorded TV button, and wherein the Recorded TV button is configured to initiate a transmission of a signal from the remote control device to generate a display of a Recorded TV page.

37. The remote control device of Claim 31, wherein the shortcut button is a My Pictures button, and wherein the My Pictures button is configured to initiate a transmission of a signal from the remote control device to generate a display of a My Pictures page.

38. The remote control device of Claim 31, wherein the shortcut button is a My Videos button, and wherein the My Videos button is configured to initiate a transmission of a signal from the remote control device to generate a display of a My Videos page.

39. The remote control device of Claim 31, wherein the shortcut button is a Radio button, and wherein the radio button is configured to initiate a transmission of a signal from the remote control device to generate a display of a Radio page.

40. The remote control device of Claim 31, further comprising:

   at least one programmable button.

41. The remote control device of Claim 31, further comprising:

   a print button, wherein the print button is configured to initiate a transmission of a signal from
the remote control device to print an item.

42. The remote control device of Claim 31, further comprising:
   an aspect button, wherein the aspect button is configured to initiate a transmission of a signal from the remote control device to change an aspect of an image.

43. The remote control device of Claim 31, further comprising:
   an eject button, wherein the eject button is configured to initiate a transmission of a signal from the remote control device to eject a media drive.

44. The remote control device of Claim 31, further comprising:
   a teletext button, wherein the teletext button is configured to allow teletext input via a numeric keypad.

45. The remote control device of Claim 31, further comprising:
   a display button, wherein the display button is configured to initiate a transmission of a signal from the remote control device to turn on or off a display.
Fig. 2.

Fig. 3.
System, method and apparatus for remotely controlling a media computing device

According to an aspect of the present invention, a remote control device for interfacing with a Media Computing Device is provided. Included on the remote control are a plurality of audio/video buttons, numeric keypad buttons, transport buttons, and navigation buttons. In particular, one of the buttons, which is part of the navigation buttons is a START button.
## DOCUMENTS CONSIDERED TO BE RELEVANT

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<tr>
<th>Category</th>
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<td></td>
<td>* abstract; figures 4,16 *</td>
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<td></td>
</tr>
<tr>
<td>X</td>
<td>US 6 130 726 A (DARBE PAUL V [US] ET AL) 10 October 2000 (2000-10-10)</td>
<td>1,26</td>
<td></td>
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<td>2-25, 27-44</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>WO 02/085004 A (DIGEO INC [US]) 24 October 2002 (2002-10-24)</td>
<td>1-9,31</td>
<td>H04N</td>
</tr>
<tr>
<td>A</td>
<td>* abstract; figure 1 *</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>WO 03/044625 A (UNIVERSAL ELECTRONICS INC [US]) 30 May 2003 (2003-05-30)</td>
<td>1-44</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* the whole document *</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>* figure 3b *</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>WO 02/30116 A (DIGEO INC [US]) 11 April 2002 (2002-04-11)</td>
<td>1-44</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* figure 7 *</td>
<td></td>
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The present search report has been drawn up for all claims.

Place of search: The Hague
Date of completion of the search: 8 May 2007
Examiner: Bardella, Xavier
**ANNEX TO THE EUROPEAN SEARCH REPORT**

ON EUROPEAN PATENT APPLICATION NO. EP 04 01 8141

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDOC file on 08/05/2007. The European Patent Office is in no way liable for those particulars which are merely given for the purpose of information.

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<th>Publication date</th>
<th>Patent family member(s)</th>
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</thead>
<tbody>
<tr>
<td>WO 0058967 A</td>
<td>05-10-2000</td>
<td>AU 4185800 A</td>
<td>16-10-2000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CN 1353851 A</td>
<td>12-06-2002</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EP 1166269 A1</td>
<td>02-01-2002</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US 6668225 B1</td>
<td>15-03-2005</td>
</tr>
<tr>
<td>US 2002149704 A1</td>
<td>17-10-2002</td>
<td>CN 1352517 A</td>
<td>05-06-2002</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US 2006620355 A1</td>
<td>26-01-2006</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US 2002680154 A1</td>
<td>27-06-2002</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US 2002885042 A1</td>
<td>04-07-2002</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US 200287571 A1</td>
<td>07-03-2002</td>
</tr>
<tr>
<td>US 6130725 A</td>
<td>10-10-2000</td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td>WO 029850994 A</td>
<td>24-10-2002</td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CA 2467630 A1</td>
<td>30-05-2003</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CN 1613100 A</td>
<td>04-05-2005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EP 1458827 A1</td>
<td>15-09-2004</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JP 2005510161 T</td>
<td>14-04-2005</td>
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<tr>
<td></td>
<td></td>
<td>WO 03044755 A1</td>
<td>30-05-2003</td>
</tr>
<tr>
<td>US 5410325 A</td>
<td>25-04-1995</td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>US 6489986 B1</td>
<td>03-12-2002</td>
</tr>
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For more details about this annex: see Official Journal of the European Patent Office, No. 12/02
## Electronic Acknowledgement Receipt

| EFS ID: | 6274363 |
| Application Number: | 11872320 |
| International Application Number: | |
| Confirmation Number: | 8623 |

| Title of Invention: | METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING |

| First Named Inventor/Applicant Name: | Min-Haeng Cho |
| Customer Number: | 34610 |
| Filer: | Daniel Y.J. Kim/Deborah Kimberlin |
| Filer Authorized By: | Daniel Y.J. Kim |
| Attorney Docket Number: | EZ-0006 |
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| Application Type: | Utility under 35 USC 111(a) |

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**New Applications Under 35 U.S.C. 111**
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/E0/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Min-Haeng CHO; Chang-Woo LEE and Eun-Kyung CHANG

Configuration No.: 8623

Group Art Unit: 2423

Serial No.: 11/872,320

Examiner: Andrew Y. KOENIG

Filed: October 15, 2007

Customer No.: 34610

For: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

INFORMATION DISCLOSURE STATEMENT

U.S. Patent and Trademark Office
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Randolph Building
401 Dulany Street
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Sir:

Pursuant to 37 C.F.R. § 1.56, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO-1449. One copy of each non-U.S. reference is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the reference(s) be made of record therein and appear among the “References Cited” on any patent to issue therefrom. Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the indicated date. Applicant reserves the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered. This statement should not be construed as a representation that a search has been made, that information cited in the statement is considered to be and/or is material to patentability, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the materials submitted herewith. It is further understood that the Examiner will consider information that was cited or submitted to the U.S. Patent and Trademark Office in a prior application relied on under 35 U.S.C. § 120, 1138 OG 37, 38 (May 19, 1992).

☒ 1. This Information Disclosure Statement is being filed (i) within three months of the U.S. filing date of a U.S. application other than a CPA continued prosecution application under §1.53(d) OR (ii) within three months of the date of entry of the national stage as set forth in §1.491 in an international application OR (iii) before the mailing date of a first Office Action on the merits OR (iv) before the mailing of a first Office Action after the filing of a Request for continued examination under §1.114. No certification or fee is required. 37 C.F.R. §1.97(b).

☐ 2. This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection OR Notice of Allowance OR an action that otherwise closes prosecution in the application. 37 C.F.R. §1.97(c).

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Respectfully submitted,
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Date: October 16, 2009

Please direct all correspondence to Customer Number 34610
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Min-Haeng CHO; Chang-Woo LEE and Eun-Kyung CHANG

Confirmation No.: 8623
Group Art Unit: 2623

Serial No.: 11/872,320
Examiner: Christopher C. GRANT

Filed: October 15, 2007
Customer No.: 34610

For: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

INFORMATION DISCLOSURE STATEMENT

U.S. Patent and Trademark Office
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, Virginia 22314

Sir:

Pursuant to 37 C.F.R. § 1.56, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO-1449. One copy of each reference is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the reference(s) be made of record therein and appear among the “References Cited” on any patent to issue therefrom.

Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the indicated date. Applicant reserves the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered. This statement should not be construed as a representation that a search has been made, that information cited in the statement is considered to be and/or is material to patentability, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith. It is further understood that the Examiner will consider information that was cited or submitted to the U.S. Patent and Trademark Office in a prior application relied on under 35 U.S.C. §120. 1138 OG 37, 38 (May 19, 1992).

1. This Information Disclosure Statement is being filed (i) within three months of the U.S. filing date of a U.S. application other than a CPA continued prosecution application under §1.53(d) OR (ii) within three months of the date of entry of the national stage as set forth in §1.491 in an international application OR (iii) before the mailing date of a first Office Action on the merits OR (iv) before the mailing of a first Office Action after the filing of a Request for continued examination under §1.114. No certification or fee is required. 37 C.F.R. §1.97(b).

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Respectfully submitted,
KED & ASSOCIATES, LLP

Daniel Y.J. Kim
Registration No. 36,186
# LIST OF ART CITED BY APPLICANT

**PTO-1449**

## U.S. PATENT DOCUMENTS

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<tr>
<th>EXAMINER'S INITIALS</th>
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<th>*INVENTOR NAME</th>
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<td>Vallone et al.</td>
<td>345</td>
<td>721</td>
<td>03/30/2000</td>
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## U.S. PATENT APPLICATION PUBLICATIONS

### U.S. PATENT APPLICATIONS

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<td>EP 1 199 887 A2</td>
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## OTHER ART (Including Author, Title, Date, Pertinent Pages, Publisher, Place of Publication, Etc.)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention of the grant of the patent:
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H04N 7/173

(21) Application number: 97401803.8

(22) Date of filing: 28.07.1997

(54) Process for selecting programmes, especially television programmes, and device and graphical interface implementing this process
Programmauswahlverfahren, besonders für Fernsehprogramme, Anordnung und graphische Schnittstelle zur Durchführung dieses Verfahrens
Procédé de sélection de programmes, notamment de programmes de télévision, dispositif et interface graphique mettant en œuvre ce procédé

(84) Designated Contracting States:
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(60) Divisional application:
02003315.5 / 1 211 893

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(56) References cited:
EP-A-0 721 253
WO-A-95/32583

• BRUGLIERA V: "DIGITAL ON-SCREEN DISPLAY
A NEW TECHNOLOGY FOR THE CONSUMER INTERFACE" CABLE TV SESSIONS,
MONTREUX, JUNE 10 - 15, 1993, no. SYMP. 18,
11 June 1993, POSTES;TELEPHONES ET TELEGRAPHES SUISSES, pages 571-586,
XP000379382

Note: Within nine months from the publication of the mention of the grant of the European patent, any person may give notice to the European Patent Office of opposition to the European patent granted. Notice of opposition shall be filed in a written reasoned statement. It shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).
Description

[0001] The invention relates to a process for selecting programmes in a television system including a transmission of service data. The invention also relates to a device and a graphical interface of a programme guide implementing this process. The invention applies in particular in the field of the transmission of television programmes and service information within the framework of the DVB ("Digital Video Broadcast") standard.

[0002] The availability of information on the content of programmes ("events") transmitted multiplexed with the programmes themselves requires the implementation of a programme guide, that is to say a textual and graphical interface through which the user can access this information.

[0003] Now, while there are numerous examples of tools for harnessing a computerized database, such tools applied to television are rare. Thus, the constraints within the context of television are rather particular: the user is relatively far from the screen, thus implying diminished legibility of the information on the screen, and generally has available only a relatively simple browsing tool such as a remote control which is less flexible than a mouse within the framework of a graphical-area application.

[0004] WO - A - 95 32 583 discloses an apparatus for displaying a television program schedule using scrolling menus with a hierarchical structure. Different lists of items are displayed in parallel, the selection of one item from a list of a high hierarchical level allowing to change the items of the list of a lower hierarchical level. The apparatus is remote controlled and also allows to perform an automatic activation of a selected item and the corresponding tuning. A similar apparatus is also disclosed in EP - A 0 721 253.

[0005] The purpose of the invention is to propose a process for selecting programmes and a device for implementation having innovative characteristics which take into account in particular the constraints mentioned above.

[0006] The invention is set out in the appended claims.

[0007] In accordance with the invention, a graphical recall of the browsing "route" through a menu is given to the user. The menus are organized in such a way as to present lists of functions or of events. Each list possesses a so-called selected item which corresponds to the last item of the list which bore the single cursor. When passing from one list to another (for example with the aid of the left/right keys of a remote control if the lists are vertical), an item remains selected from each list, without the user having to employ keys other than the direction keys. In particular, it is not necessary, as regards the selection of an item, to confirm this selection with the help of an additional enter key, this selection being automatically maintained when the cursor is moved to another list. The enter key is employed only when activating an item.

[0008] According to a variant embodiment, a graphical link is displayed between two selected items from two adjacent lists.

[0009] According to a variant embodiment, the movement of the cursor from a start list to a destination list brings about the positioning by default of this cursor over the most recently selected event from the destination list.

[0010] It is thus assumed that the most recently selected item of a list is that which a priori presents the greatest immediate interest to the user. Therefore, the cursor is automatically positioned over the selected item from a list when this cursor is moved to this list. This allows, as the case may be, immediate activation of this item by the user.

[0011] According to a variant embodiment, an item is activated with the help of an enter key.

[0012] According to a particular embodiment, the event on which a function capable of acting on an event acts following a step of activation of this function is the event selected from the first list.

[0013] According to the example embodiment described below, two lists are displayed, a first of functions and a second of events. The user selects an event from the list of events, then moves the cursor to the list of functions so as to select therefrom and then to activate a function therefrom. This function, in the case involving a function which can act directly on an event (such as the "Record" function or the "Display complementary information" function) is then applied to the event selected earlier. Activation of the event not being necessary, the application of the function to this event requires fewer actions on the part of the user.

[0014] The invention is of course not limited to two lists.

[0015] According to a variant embodiment, the process in accordance with the invention also comprises the step of activation of an event, this activation triggering the displaying of a menu of functions capable of acting on said event.

[0016] According to a variant embodiment, the function or functions capable of acting on the events comprise one or more from among the following functions: Record, Display complementary information, Turn-on, Storage in a recall list.

[0017] According to a variant embodiment, an active state of a function of toggle type is recalled by the displaying of an icon near the event.

[0018] According to a variant embodiment, the label displayed on screen of a function of toggle type varies as a function of its state.

[0019] According to a variant embodiment, the events with which a function of toggle type in the active state is associated are stored in a third list.
According to a variant embodiment, only the value of a filtering function is displayed, with the exception of its generic denomination.

The various functions can be accessed either through the menu displayed on the screen, or through specific keys of the remote control, when they exist: it is thus possible to adapt more or less complex remote controls to the device and process in accordance with the invention.

According to a variant embodiment, the lists are one-dimensional and arranged in parallel.

According to a variant embodiment, the cursor is symbolized graphically by a token displayed near the corresponding item.

Other characteristics and advantages of the invention will emerge through the description of a particular non-limiting example embodiment. The appended figures illustrate this example embodiment. Among these figures:

- Figure 1 represents diagrammatically the various zones of a television screen displaying a programme guide in accordance with the present example embodiment,
- Figure 2 represents the screen of Figure 1 such as it appears when the user activates the programme guide (main menu or "Contents" menu),
- Figure 3 represents diagrammatically the appearance of the screen corresponding to a first sub-menu of the main menu (preferred list function),
- Figure 4 represents diagrammatically the appearance of the screen corresponding to a second sub-menu of the main menu ("More Information" function),
- Figure 5 represents diagrammatically the appearance of the screen corresponding to a third sub-menu of the main menu ("Stored List" function),
- Figure 6 represents a block diagram of a decoder in accordance with the present example embodiment.

The remote control used to implement the programme guide according to the present example embodiment of the invention includes the following keys:

- four direction keys (Up, Down, Left, Right) (↑↓←→)
- an Enter key ("OK")
- a Guide key
- a Menu key
- an Information key ("Info")
- an Exit key
- two keys for programme incrementation, respectively decrementation P+ and P-
- a numeric pad containing the keys from 0 to 9

According to a variant embodiment, the remote control also includes a Return key which makes it possible to go back up one level in the tree of menus.

According to the present example embodiment, the programme guide is used in a DVB (standing for "Digital Video Broadcast") digital television transmission environment. The DVB standard associated with the MPEG II Systems standard defines the format of the so-called "Information Service" data which may be transmitted. Reference may be made to these documents for further details on the packeting and multiplexing of data relating to the programme guide.

The physical support for the programme guide in accordance with the present example embodiment is a DVB digital decoder such as that manufactured and sold by the Applicant at the date of the present Patent Application. The character generator used for the present example is an ST3S20 circuit manufactured by SGS Thomson.

Figure 6 is a block diagram of a decoder implementing the programme guide described below. The items described in relation with Figure 6 should not be taken as limiting the invention as claimed.

The decoder 10 is connected to a television receiver 11 through a TV peripheral socket (also termed SCART socket), to a video recorder 12 likewise through a TV peripheral socket and to the switched telephone network through a modem 24.

The decoder comprises a tuner 13 linked to a frequency converter of an antenna 14. The tuner 13 is connected to an error correction circuit 16 through a demodulator 15. The output of the error correction circuit is linked to a demultiplexer 17. This demultiplexer separates the various data packets according to their content and transmits them to the relevant facilities via a buffer memory 18. The relevant facilities include among other things an access control module comprising a microchip card 19 inserted into a connector 20, an audio decoder 21, a video decoder 22 and a teletext management circuit 23.

The access control module also includes a descrambler 25, through which any encrypted packet must pass before being stored in the buffer memory 18. The descrambler is managed by a verifier circuit 26 which allows or disallows descrambling depending on the user's access entitlements.
The decoder also comprises a microprocessor 27 linked to an infrared interface 28 capable of receiving signals from a remote control 29. The microprocessor 27 is moreover linked to a memory 30 and to a character generator 31. The memory 30 contains the programmes and the data managing the master process of the programme guide described above. The output from the character generator is multiplexed with the output from the video decoder. The multiplexing is controlled by the microprocessor 27.

The microprocessor 27 reads the demultiplexed service data (also known as Service Information) from the buffer memory. These service data correspond to the information on the events described above and such as specified in the corresponding part of the DVB standard.

Figure 1 represents the organization of the screen of the programme guide. It is quite obvious that the indications of the coordinates do not limit the scope of the invention. According to the present example embodiment, the screen contains 26 lines and 52 columns, the character with coordinates (1,1) being situated at the top left of the screen. The screen contains seven distinct zones:

- The exit zone (zone 1) borders the left part of the screen, where it occupies the rectangles with respective coordinates [(1;5);(1;24)] and [(1;3);(11;4)]. The first rectangle corresponds to a large part of the first column of the screen. The second rectangle contains the tag "Exit", identifying this zone as the exit zone. The two rectangles possess the same background colour. Their tie-up at the level of characters (1;4) and (1;5) signifies clearly to the user that the same zone is involved.

- The two rectangles of the exit zone are displayed only in Figure 1. In the other figures it is assumed that the exit zone is incorporated entirely into the second zone (control zone) as an additional function.

According to a variant embodiment, when the menu displayed on the screen is not the "Contents" menu, the "Exit" tag is replaced by the "Return" tag, indicating that by activating this function one goes back up a level in the tree of menus. This modification is not illustrated in the diagrams.

The exit zone, once activated, makes it possible to quit the programme guide when in the main menu, or to go back up a level in the tree of menus.

The control zone (zone 2) adjoins the right side of the exit zone. It occupies the rectangle with coordinates [(2;5);(14;24)].

According to the present example embodiment, the control zone contains eight control functions, which will be seen in detail later. These control functions can be classed into two categories: event search functions, such as filters, and functions acting on events.

The organization of the control functions inside this zone is vertical, in the form of a stack. Once the cursor has been positioned in this zone, with the aid of the sideways arrows of the remote control, the user selects a function with the help of the "Up" and "Down" keys. The process for moving the cursor and its graphical echo on the screen will be described later. A selected function is displayed highlighted. To activate a selected function, the user must press the enter key of the remote control. The state of activation of a function is recalled either by displaying a submenu (going down one level in the menu tree), or by a change of colour or of appearance of the scroll arrows situated on either side of the event search functions.

The part of the exit zone situated above the control zone 2 forms a ninth function. It can be selected like one of the other eight functions. The exit zone can also be selected by pressing the "Left" key when the cursor is in the control zone. According to a preferred variant embodiment, the exit zone is represented only by said ninth function of the control zone.

The display zone (zone 3) occupies the larger part of the screen, namely the rectangle with coordinates [(18;2);(52;25)]. This rectangle borders the right side of the screen. It contains the list of events proper, such as defined or filtered by the control functions of zone 2.

The top two lines of the display zone can be reserved under certain conditions for displaying the values of the filters. The bottom eight lines of this zone are reserved for displaying complementary information concerning one of the events displayed in the central part of the display zone.

The central part of this zone can display up to seven events, each event occupying two lines. The organization of the events on the screen is vertical, mirroring the control functions of the control zone.

The selection and activation concepts referred to above in respect of the functions of the control zone are also valid in respect of the events displayed in the display zone 3.

It will be noted that the command zone 2 and display zone 3 are arranged horizontally from left to right. The cursor is moved between these zones with the help of the "Left" and "Right" keys of the remote control. The two zones are displayed simultaneously.

According to the present example, a part of the exit zone is also aligned with the command and display zones.

The recall zone (zone 4) occupies the rectangle [(18;1);(36;2)]. It contains information such as the title of the menu or sub-menu displayed, the date and also the current time, so that the user can get his bearings easily within the menu tree and when using the various filters.

A help zone (zone 5) occupies the whole of the last line of the screen. It is in this zone that aids regarding

4
the use of the various functions available are displayed. The help is contextual, in the sense that the help message displayed depends on the position of the cursor on the screen and on the actions of the user.

[0053] A title zone (zone 6) occupies the rectangle [(1;1);(16;2)]. The title displayed is that of the application currently under use, namely "TV Guide" according to the present example embodiment.

[0054] A last zone, the browsing link zone (zone 7), is interposed between the control zone 2 and the display zone 3. Via a graphical link it indicates the control function selected on the control zone side, and the event selected from the display zone. When the cursor is not in one of the two zones, the function or event over which it was last placed remains selected.

[0055] The operation and the role of each zone will be seen in greater detail in what follows, along with the description of the various functions.

[0056] Browsing within the programme guide is done at two levels, depending on whether a function or an event is or is not activated.

[0057] The first level of browsing, corresponding to the movement within the screen of the "Contents" main menu, is used when no function or event is activated. The "Left" and "Right" direction arrows make it possible to move the cursor to one of the zones 1, 2 or 3. The "Up" and "Down" direction arrows make it possible to select a function or an event inside the zone in which the cursor is located. A selected function or event appears highlighted.

[0058] Browsing according to this first level is therefore done essentially with the help of the four direction keys. The vertical organization of the content of the zones and the horizontal organization of the zones among themselves contributes to simple and very user-friendly browsing.

[0059] The second level of browsing is used when a function or an event is activated, this generally being done by pressing the "OK" key of the remote control in respect of the selected functions or events, or by pressing one of the function-specific keys (for example the "Info" key to activate the "More Info" function).

[0060] Two cases may arise while activating an event or a function: either a sub-menu is displayed, or the menu remains the same but the keys of the remote control take another function in part. For example, the horizontal scrolling of a list of values of a filter is performed with the help of the left and right arrows, whereas these arrows serve to change zone at the first level of browsing.

[0061] The principles of browsing at this level are very similar to those of the first level when the activation triggers the display of a sub-menu. The differences will be seen when describing the corresponding sub-menus.

[0062] Figure 2 illustrates the screen displayed by default when the user runs the programme guide by pressing the "Guide" key of the remote control.

Contents Menu

[0063] The menu displayed in the control zone 2 is the "Contents" menu, this being the first-level menu in the menu tree. The title of this menu is recalled in the recall zone 4.

[0064] The "Contents" menu comprises the following eight functions: Channel, Day, Period, Topic, More Info, Preferred List, Stored List and Record.

[0065] This menu comprises all the options serving to search for events, which will be displayed in the display zone 3. Once the desired events have been obtained, the activating of an event grants access to functions acting on this event. Certain often employed functions acting on the events which are simply selected but not activated are however made available at the same level as the event search functions.

[0066] The first four functions in the "Contents" menu are information search functions or else filters. Generally, each filter can be programmed by choosing a value from a list associated with the filter. To programme a filter, the user selects the filter, activates it with the help of the enter key, and scrolls the various values with the help of the "Left" and "Right" keys. The choice of a value is entered by pressing the enter key a second time, or by pressing one of the "Up" or "Down" keys, and the function immediately above or below is selected.

[0067] The possibility of scrolling the various values associated with a function is recalled graphically with the help of left and right scrolling arrows placed around the active value of each function. The colour (or the appearance, according to a variant) of these arrows changes if a function is activated. The scrolling of the values is looped.

[0068] According to a variant embodiment, the name of the filtering functions is not displayed; the term "day" for example never appearing on the screen. It is directly by way of the filtering value itself that its function is identified. On seeing the terms "Monday" or "Sunday" or else "Midday", the function is nevertheless easily identified.

[0069] This process therefore allows a saving of space at screen level. The legibility of the characters, involving in particular their size, prevents too large a density on the screen.

Contents Menu - "Channel" Function

[0070] The "Channel" search function allows filtering by the name or number of the channel. It is the function chosen
by default when the programme guide is run. The default value is the "Multichannel" value. No filter is then applied and all the events corresponding to the other three filters are displayed, without differentiating according to channel.

[0071] Each channel possesses a number and a title. The channels are scrolled in ascending or descending numerical order.

[0072] When this function is activated, the user can also choose a channel by inputting just the channel number.

[0073] According to a variant embodiment, the keys pressed by the user are displayed on the screen, in the help zone, for the purpose of avoiding typing errors.

Contents Menu - "Day" Function

[0074] The "Day" search function allows filtering according to the day of programming of an event. The operation of this filter is very similar to what has been stated concerning the "Channel" function.

[0075] Seven values are possible, corresponding to each day of the week. The choice displayed by default is the current day.

[0076] According to a variant embodiment, a day can also be chosen by giving a digit from 1 to 7, where 1 represents Monday. This possibility is less important than for the channels, given the restricted number of values. Nevertheless, a proficient user will save time by using this variant.

Contents Menu - "Period" function

[0077] The "Period" search function makes it possible to refine the by-day search by specifying the time of day. Once again, horizontal scrolling of the values is performed. These values are four in number: Morning (from 6h00 to 12h59), Afternoon (from 13h00 to 19h49), Evening (from 20h00 to 23h59) and Night (from 6h00 to 5h59).

[0078] The default period is the current period.

Contents Menu - "Topic" Function

[0079] The last search function according to the present example embodiment is the filter based on event topic. The default value is "multitopic" (no filtering by topic). The other values are: Films, Information, Sport, Younger viewers, Music, Arts and Culture and lastly Shows.

[0080] When the topic of an event is not defined by its broadcaster, or when this topic does not come within any of the categories, it then appears only if the "Multitopic" value is selected.

[0081] According to a variant, a special "Unclassified" category makes it possible to filter all the events not coming within any of the predefined categories.

[0082] When the value of a filter is modified and entered, the display zone is updated as quickly as possible.

[0083] It is quite obvious that the invention is not limited to the use of the four search functions explicitly referred to above: a larger (or smaller) number of search functions may be used. However, the number of search functions should not increase to the detriment of simplicity of use.

Contents Menu - "Preferred List" sub-menu

[0084] The "Preferred List" function is also a search function, but activating it, unlike in the case of the four functions presented above, grants access to a sub-menu (second level of the menu tree) illustrated by Figure 3.

[0085] This function makes it possible to define and apply filters associated with different users or with different interests.

[0086] The sub-menu contains two options ("None" and "Setup") as well as a certain number of "lists" in the form of predefined filters. The options and the lists are organized vertically, in a similar manner to the contents menu. The exit zone takes the same form as before.

[0087] Activation of the exit zone in one of the ways already explained makes it possible to return to the contents menu without modifying the value of the filters.

[0088] Activation of the "None" option, which is the option selected by default when this sub-menu is open, makes it possible to return to the contents menu of Figure 2, the four filters of this menu having been reset to their default state. On reverting to the contents menu, the "Preferred List" function is selected by default.

[0089] Activation of one of the lists ("TATA", "NICOLAS", "PAPY", "SPORT CINE" in Figure 3) also makes it possible to return to the contents menu, the filters being programmed as defined by these lists.

[0090] Activation of the "Setup" option grants access to the list creation menu (third level in the menu tree). This list creation menu is not illustrated. It makes it possible to choose the values corresponding to each of the first four filters and to associate a list name with this choice. According to a variant of the present example embodiment, unlike in the
case of the contents menu, it is possible to combine several values, such as for example several topics, subtopics, or several channels.

Display of events

[0091] Before seeing in detail the other functions of the control zone of the "Contents" menu (Figure 2), we shall describe the operation of the display zone 3. Thus, as mentioned previously, the other functions make it possible to act on the events displayed in the display zone. Functions which are less often employed and can be reached through the events themselves will be dealt with immediately afterwards.

[0092] What follows still refers to Figure 2.

[0093] The display zone 3 contains six events if the first two lines are occupied by the double-height display of the values of the filters. Otherwise, seven events are displayed.

[0094] The values of the filters are displayed on modifying one of the values, when reverting to the contents menu from one of the sub-menus or when the programme guide is activated by the user. In the last case, the current day and period are what are displayed.

[0095] When "Multichannel" and "Multiopic" values are chosen, the above are not displayed.

[0096] According to a variant embodiment, when a preferred list is used for filtering, an identifier (name or icon) of the list is displayed.

[0097] Two lines of 35 characters are earmarked for each event.

[0098] The first five characters of the first line indicate the start time of the event. They are followed by a space, and then by a title on 29 characters. If the title exceeds 27 characters it is truncated and the twenty-ninth and thirtieth characters are replaced by two dots.

[0099] The second line contains the channel number, the channel name, the date of the event and also, according to a variant embodiment, one or more icons from the following: a "Store" icon, a "Current Event" icon, a "Record" icon, a "Turn-on" icon, a "Topic" icon, a "Pay Event" icon and a "Purchased Event" icon.

[0100] The "Store" icon indicates whether the event has previously been selected by the user to appear in the storage list (see below).

[0101] The "Current Event" icon identifies an event which has started at the present time.

[0102] The "Record" icon indicates that the recording of this event, for example by video recorder, was programmed beforehand by the user.

[0103] The "Turn-on" icon indicates that this event has been chosen by the user under the "Turn-on" option (see below).

[0104] The "Topic" icon, of which there are as many varieties as there are particular topics, indicates the topic of the event.

[0105] The "Pay Event" icon indicates that this is an event for which duty must be paid beforehand.

[0106] The "Purchased Event" icon replaces the "Pay Event" icon in the case of payment of duty.

[0107] The use of icons makes it possible to reduce the number of characters required to provide the user with information concerning the event.

[0108] According to a variant embodiment a current event is identified by a special icon.

[0109] When there are more than six (or seven) events to be displayed, a downwards pointing arrow situated at the bottom left of the central part of the display zone indicates that scrolling of the list is possible. This scrolling is implemented by pressing the "Down" key of the remote control when the last event of the zone is selected. Similarly, reverse scrolling is implemented.

[0110] According to the present example embodiment, the events are catalogued in chronological order.

[0111] The last eight lines of the display zone furthermore include the following information relating to the selected event, which is by default the first event in the list:

- the topic (in plaintext)
- the "Topic" icon (according to the variant mentioned above)
- a summary of the event (on 256 characters)

[0112] The three functions acting on the events and available after the "Contents" menu are "More Info", "Stored list" and "Record".

Contents menu - "More Info" sub-menu

[0113] The "More Info" function is activated either by pressing the "Info" key of the remote control, or by activating an event (by way of the enter key), or by invoking the function of the same name from the "Contents" menu.
0114 The corresponding menu is illustrated by the screen represented in Figure 4. The arrangement of the zones is once again identical to that of Figure 1, a control menu appearing in zone 2, whilst the information per se is displayed in the display zone 3.

0115 In this context the display zone 3 comprises a zone for recalling three lines of information already presented at the "Contents" menu level. It will be noted that an additional line has been provided for the title, given that the space available at the level of this sub-menu is greater. The presence will also be noted of the icons mentioned above: an eye for storage, a cassette for recording, a hook for storage and a clock for turn-on.

0116 The remainder of the display zone comprises the following information: the finish time, the duration, the selected audio language, the language of the subtitles as the case may be, the topic in full, the sub-topic, the audience for which the event is intended (adults, adolecents, children, everyone etc.), as well as a summary of the event.

0117 The last line indicates the page index if several pages are required to display the information, and especially the summary of the event.

0118 In this sub-menu the display zone is used solely to present information. It is not possible to select therefrom or to activate therein any information item, since none of these items is a function or an event.

0119 All the functions for acting on the event displayed are grouped together in the control zone. They are manipulated in a similar way to the functions of the "Contents" menu.

0120 The "Language" function grants access to an additional sub-menu for choosing the audio language and subtitles. This sub-menu is not illustrated.

0121 Lastly, the "Info" function makes it possible to scroll the various pages available in the display screen. This scrolling can also be done with the help of the "P+" and "P-" keys of the remote control.

0122 The "Store", "Record" and "Turn-On" functions, each of which is preceded by its associated icon, are simply toggle functions whose state is reflected by virtue of the icons of the display zone.

0123 A "Purchase" function appears for pay events, the duty for which has not been paid.

0124 The "Store" function makes it possible to warn the user of the start of an event when the television set is on.

0125 If a stored event starts, the corresponding icon appears on the screen, for a duration of five minutes, overlaid on the programme being watched by the user. Actuation of any key of the remove control will cause the icon to disappear.

0126 The "Record" function programmes the recording of the event.

0127 The "Turn-On" function makes it possible to switch on the television set when the relevant event starts. The "Turn-On" function does not appear if the selected event is in progress.

0128 A stored event intended to be recorded or programmed in order to wake the user will appear in the list of stored events (see below). Once an event has concluded, this event is deleted from the list.

0129 When the event is a current event, the "Store" function is replaced by a "Watch" function, which when it is activated, reverts directly to the screening of the selected programme.

0130 According to a variant embodiment, the naming of the toggle functions changes depending on the abovementioned state. For example, when the event is stored, the function "Store" becomes "Cancel".

Contents Menu - "Stored list" sub-menu

0131 The "Stored list" function is activated from the "Contents" menu. The corresponding sub-menu is illustrated by Figure 5. Each name of the sub-menu is as for each of the previous sub-menus displayed in the recall zone 4.

0132 Apart from this, the organization of this sub-menu is strictly identical to that of the "Contents" menu. Only the functions of the control zone change. The display zone contains only the events which have previously been selected by means of at least one of the functions "Store", "Record", "Purchase" or "Turn-On" of another menu.

0133 According to a variant, the naming of the functions in the control zone changes according to the state of toggle of these functions at the level of each event as defined by Table 1:

...
TABLE 1

<table>
<thead>
<tr>
<th>Function</th>
<th>State</th>
<th>Activated</th>
<th>Deactivated</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Handkerchief Icon) Store</td>
<td>(Icon) Store</td>
<td>(Icon) Store</td>
<td>(Icon) Cancel</td>
</tr>
<tr>
<td>(Cassette Icon) Record</td>
<td>(Icon) Record</td>
<td>(Icon) Record</td>
<td>(Icon) Cancel</td>
</tr>
<tr>
<td>(Clock Icon) Turn-On</td>
<td>(Icon) Turn-On</td>
<td>(Icon) Turn-On</td>
<td>(Icon) Cancel</td>
</tr>
<tr>
<td>(Purchase Icon) Purchase</td>
<td>(Icon) Purchase</td>
<td>(Icon) Purchase</td>
<td>(Icon) Cancel</td>
</tr>
</tbody>
</table>

[0134] The "More Info" function, already present in the "Contents" menu, is also available in the "Stored list" submenu, so that the user can make his decision to remove an event while having all the necessary information at his disposal, without having to go back up the menu tree.

Contents Menu - Record function

[0135] This function, already presented within the framework of the "More Info" function is, according to the present example embodiment, available directly at the "Contents" menu level. This is in fact one of the most used functions. For the purpose of sparing the user fruitless manipulations, such functions acting on an event can be accessed at this level.

[0136] According to a variant embodiment, one or more among the following functions are directly available from the "Contents" menu: Record, Turn-On, Store. It is quite obvious that this direct access can be permitted only if the control zone can accommodate these additional functions.

Browsing link zone

[0137] The browsing link zone 7 is situated between the control zone 2 and the display zone 3. Although in what follows the description thereof is tied up particularly with the "Contents" menu (Figure 2), this zone is employed in identical fashion each time a list of events is placed opposite a list of functions.

[0138] The usefulness of this zone is especially manifest when the two adjacent zones contain items organized vertically, as is the case in the present example embodiment.

[0139] Coming back to Figure 2, it may be observed that there is a graphical link, in the form of a dash B, between the selected function of the control zone and the selected event of the display zone.

[0140] At the first level of browsing, the "Left" and "Right" direction arrows make it possible to go from the control zone to the display zone and vice versa, whereas the "Up" and "Down" arrows make it possible to select a function or an event. The graphical link linking the selected function and event indicates at the level of which event or of which function each zone is entered. The graphical link also indicates the event to which a function will be applied in the case in which this function acts on an event. The user may move back and forth between the control zone and the display zone, selecting an item in a given zone, while always being aware of the selected item in the other zone, since both zones are displayed simultaneously.

[0141] Within the framework of the present example, the selected event and function are already distinguished graphically from the other items by altering their colour or luminance. The graphical link function is therefore redundant in this specific case. According to a variant embodiment, the graphical link of the browsing link zone 7 is alone used to designate the selected function/selected event.

[0142] It is quite evident that this graphical link can be generalized to more than two adjacent zones. The graphical link disappears for the screens in which browsing towards the display zone is not possible. This is the case for example when a filter is activated.

[0143] There is therefore always a selected event and, at the same time, a selected function. In this case, it is again necessary to be able to determine in which of the two zones, control or display, the cursor operated by the user is located at a given time.

[0144] Within the framework of the present example, this distinguishing function is fulfilled by a "token" 9 which is allocated graphically to one or other selected item. In the case of Figure 2, the token is allocated to the "Channel" function. According to the present example embodiment, the token is placed beside the function or the event, in the browsing link zone. The graphical link always starts from this token.
[0145] According to a variant of the present example embodiment, two different levels of highlighting are used to distinguish on the one hand the selected event and function from the other events and functions, and to distinguish the activated item out of the two selected items.

[0146] More generally, an item (function or event) can be selected in each display zone. An additional graphical item will identify, out of these selected items, that over which the cursor is located, in this instance the item which would be activated if the enter key of the remote control were depressed.

[0147] If according to the present example embodiment, this graphical item is a graphical symbol appended to one of the selected items, the distinction is made, according to a variant embodiment, by varying the colour, typeface or luminance of this item.

[0148] According to a variant embodiment, when a change occurs in the events displayed following a modification of the values of the filters, the event selected by default is the first event in chronological order, and then in the order of the channels.

[0149] If according to the present example embodiment, the filtering functions and the functions acting on the events (information function, function for programming an action) appear in the same list of the main menu, the separating of the functions according to their nature into several lists is not excluded. For example, more than two lists can be arranged in parallel: a list of filtering functions, followed by a list of functions acting on the events, followed by the list of events themselves.

[0150] Moreover, if according to the example embodiment described above, the service data are extracted from a digital multiplex, the invention is not limited to such a form of transmission. For example, the transmission of service data by way of an analog television signal modulated appropriately (especially as regards the lines of the frame flyback interval) by said data is another form of transmission envisaged for the application of the invention.

Claims

1. Process for selecting events in a television system including a transmission of service information, comprising a step of displaying a first one-dimensional list of items (3) containing events, and characterized in that it comprises the steps:

- of displaying a second one-dimensional list of items (2) containing functions in parallel with the first list (3) and containing at least one function capable of acting on said events,
- of picking out a single so-called selected item from each list and thereby establishing a link between the selected items, another item being selectable from a list simply by placing a single cursor over said other item, a selected item remaining selected when said cursor is moved off the list containing this selected item.

2. Process according to Claim 1, characterized in that the second list also contains functions for filtering events.

3. Process according to one of Claim 1 or 2, characterized in that a graphical link (6) is displayed between two selected items from two adjacent lists (2, 3).

4. Process according to one of Claims 1 or 3, characterized in that the movement of the cursor from a start list (2, resp. 3) to a destination list (3, resp. 2) brings about the positioning by default of this cursor over the most recently selected item from the destination list.

5. Process according to one of Claims 1 to 4, characterized in that an item is activated with the help of an enter key.

6. Process according to Claim 5, characterized in that the event on which a function capable of acting on an event acts following a step of activation of this function is the event selected from the first list (3).

7. Process according to one of Claims 5 or 6, characterized in that it also comprises the step of activation of an event, this activation triggering the displaying of a menu of functions capable of acting on said event.

8. Process according to one of the preceding claims, characterized in that the function or functions capable of acting on the events comprise one or more from among the following functions: Record, Display complementary information, Turn-on, Storage in a recall list.

9. Process according to Claim 8, characterized in that an active state of a function of toggle type is recalled by the displaying of an icon near the event.
10. Process according to one of Claims 8 or 9, characterized in that the label displayed on screen of a function of toggle type varies as a function of its state.

11. Process according to one of the preceding claims, characterized in that the events with which a function of toggle type in the active state is associated are stored in a third list.

12. Process according to one of the preceding claims, characterized in that only the value of a filtering function is displayed, with the exception of its generic denomination.

13. Device for reception in a television system including the transmission of service information and comprising:

   - means of reception (13 to 18) of service information, especially information relating to events, from a data stream,
   - means of displaying (11, 31) a programme guide containing a first one-dimensional list of items (3) containing events and a second one-dimensional list of items (2) containing functions, in parallel with the first list (3) and containing at least one function capable of acting on said events,
   - means of control (29) of a single cursor for the selection of items by placing said cursor over an item, each list containing a single so-called selected item, thereby establishing a link between the selected items,
   - means of displaying (11, 31) a signalling (8) of the selected items, the selection of an item from a given list being maintained when said cursor is moved off this given list.

14. Device according to claim 13, wherein the second list also contains functions for filtering events.

15. Graphical interface for programme guide in a television system including the transmission of service information, said interface being displayed on a viewing screen, the interface comprising a graphical work area containing a zone for displaying a first one-dimensional list of items (3) containing events, a zone for displaying a second one-dimensional list of items (2) containing functions, in parallel with the first list (3) and containing at least one function capable of acting on said events, said interface furthermore comprising a single cursor able to select a function or an event on positioning said cursor thereon with the help of direction keys, and means of displaying (11, 31) a signalling (8) of a single selected item from each list of items, thereby establishing a link between the selected items, the selection of an item from a given list being maintained when said cursor is moved off this given list.

16. Interface according to claim 15, wherein the second list also contains functions for filtering events.

**Patentansprüche**

1. Verfahren zur Wahl von Ereignissen in einem Fernsehsystem mit einer Übertragung von Serviceinformationen mit einem Schritt der Wiedergabe einer ersten eindimensionalen Liste von Datenfeldern (3) mit Ereignissen, gekennzeichnet durch folgende Schritte:

   - Wiedergabe einer zweiten eindimensionalen Liste von Datenfeldern (2), die Funktionen parallel zu der ersten Liste (3) und wenigstens eine Funktion enthalten, die in der Lage ist, auf die Ereignisse einzuwirken,

2. Verfahren nach Anspruch 1, dadurch gekennzeichnet, daß die zweite Liste außerdem Funktionen für Filtererignisse enthält.

3. Verfahren nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß eine graphische Verknüpfung (8) zwischen den beiden gewählten Datenfeldern aus den beiden nebeneinanderliegenden Listen (2, 3) wiedergegeben wird.

4. Verfahren nach einem der Ansprüche 1 oder 3, dadurch gekennzeichnet, daß die Bewegung des Cursors von einer Startliste (2 bzw. 3) zu einer Bestimmungsziste (3 bzw. 2) die übliche Positionierung dieses Cursors über dem zuletzt aus der Bestimmungsziste gewählten Datenfeld erbringt.
5. Verfahren nach einem der Ansprüche 1 bis 4, dadurch gekennzeichnet, daß ein Datenfeld mittels einer Enter-Taste aktiviert wird.

6. Verfahren nach Anspruch 5, dadurch gekennzeichnet, daß das Ereignis, auf das eine Funktion, die in der Lage ist, auf ein Ereignis einzuwirken, das auf den Schritt der Aktivierung dieser Funktion folgt, das aus der ersten Liste (3) gewählte Ereignis ist.

7. Verfahren nach einem der Ansprüche 5 oder 6, dadurch gekennzeichnet, daß es außerdem den Schritt der Aktivierung eines Ereignisses enthält, wobei diese Aktivierung die Wiedergabe eines Menüs von Funktionen auslöst, die in der Lage sind, auf das Ereignis einzuwirken.

8. Verfahren nach einem der vorangehenden Ansprüche, dadurch gekennzeichnet, daß die Funktion oder die Funktionen, die auf die Ereignisse einwirken können, eine oder mehrere unter den folgenden Funktionen enthalten: Aufzeichnung, Wiedergabe ergänzender Informationen, Einschalten, Speicherung in einer Rückholliste.

9. Verfahren nach Anspruch 8, dadurch gekennzeichnet, daß ein aktiver Zustand einer Funktion vom Toggle-Typ durch die Wiedergabe eines Icons in der Nähe des Ereignisses zurückgehalten wird.

10. Verfahren nach einem der Ansprüche 8 oder 9, dadurch gekennzeichnet, daß das auf dem Schirm wiedergegebene Label einer Funktion vom Toggle-Typ sich in Abhängigkeit von seinem Zustand ändert.


13. Vorrichtung zum Empfang in einem Fernsehsystem mit der Übertragung von Serviceinformationen mit:

   - Mitteln (13 bis 18) zum Empfang von Serviceinformationen, insbesondere von Informationen für Ereignisse, aus einem Datenstrom,
   - Mitteln zur Wiedergabe (11, 31) eines Programmführers mit einer ersten eindimensionalen Liste von Datenfeldern (3) mit Ereignissen und einer zweiten eindimensionalen Liste von Datenfeldern (2) mit Funktionen parallel mit der ersten Liste (3) und wenigstens einer Funktion, die auf die Ereignisse einwirken kann,
   - Mitteln zur Steuerung (29) eines einzigen Cursors für die Wahl von Datenfeldern durch Anordnung des Cursors über einem Datenfeld, wobei jede Liste ein einziges, sogenanntes gewähltes Datenfeld enthält, wodurch eine Verknüpfung zwischen den gewählten Datenfeldern gebildet wird,
   - Mitteln zur Wiedergabe (11, 31) einer Signalisierung (8) der gewählten Datenfelder, wobei die Wahl eines Datenfeldes aus einer bestimmten Liste aufrechterhalten bleibt, wenn der Cursor von dieser bestimmten Liste entfernt wird.

14. Vorrichtung nach Anspruch 13, wobei die zweite Liste außerdem Funktionen für Filterereignisse enthält.

15. Graphische Schnittstelle für einen Programmführer in einem Fernsehsystem mit der Übertragung von Serviceinformationen, wobei die Schnittstelle auf einem Bildschirm wiedergegeben wird, die Schnittstelle einen graphischen Arbeitsbereich mit einem Bereich zur Wiedergabe einer ersten eindimensionalen Liste von Ereignissen enthaltenden Datenfeldern (3) einen Bereich zur Wiedergabe einer zweiten eindimensionalen Liste von Datenfeldern (2) mit Funktionen parallel zu der ersten Liste (3) und mit wenigstens einer Funktion, die auf die Ereignisse einwirken kann enthält, wobei die Schnittstelle außerdem einen einzigen Cursor enthält, der eine Funktion oder ein Ereignis durch Positionierung des Cursors mit Hilfe von Richtungstasten, und Mittel (11, 31) wählen kann, zur Signalisierung (8) eines einzigen gewählten Datenfeldes aus jeder Liste von Datenfeldern, wodurch eine Verknüpfung zwischen den gewählten Datenfeldern erfolgt, und die Wahl eines Datenfelds auf einer bestimmten Liste aufrechterhalten bleibt, wenn der Cursor von dieser bestimmten Liste entfernt wird.

16. Schnittstelle nach Anspruch 15, wobei die zweite Liste außerdem Funktionen für Filterereignisse enthält.
Revendications

1. Procédé de sélection d'événements dans un système de télévision comportant une transmission d'informations de service, comprenant une étape d'affichage d'une première liste unidimensionnelle d'éléments (3) contenant des événements, et caractérisé en ce qu'il comprend les étapes :
   - d'affichage d'une deuxième liste unidimensionnelle d'éléments (2) contenant des fonctions, en parallèle avec la première liste (3) et contenant au moins une fonction capable d'agir sur lesdits événements,
   - de mise en évidence d'un seul élément dit sélectionné de chaque liste, pour établir ainsi un lien entre les éléments sélectionnés, un autre élément pouvant être sélectionné dans une liste par simple positionnement d'un curseur unique sur ledit autre élément, un élément sélectionné restant sélectionné lorsque ledit curseur est déplacé en dehors de la liste contenant cet élément sélectionné.

2. Procédé selon la revendication 1, caractérisé en ce que la deuxième liste contient également des fonctions de filtrage d'événements.

3. Procédé selon l'une des revendications 1 ou 2, caractérisé en ce qu'un lien graphique (8) est affiché entre deux éléments sélectionnés dans deux listes adjacentes (2,3).

4. Procédé selon l'une des revendications 1 ou 3, caractérisé en ce que le déplacement du curseur d'une liste de départ (2, respectivement 3) à une liste de destination (3, respectivement 2) donne lieu au positionnement par défaut de ce curseur sur l'élément le plus récemment sélectionné dans la liste de destination.

5. Procédé selon l'une des revendications 1 à 4, caractérisé en ce qu'un élément est activé à l'aide d'une touche de validation.

6. Procédé selon la revendication 5, caractérisé en ce que l'événement sur lequel agit une fonction capable d'agir sur un événement suite à une étape d'activation de cette fonction est l'événement sélectionné dans la première liste (3).

7. Procédé selon l'une des revendications 5 ou 6, caractérisé en ce qu'il comprend également l'étape d'activation d'un événement, cette activation déclenchant l'affichage d'un menu de fonctions capables d'agir sur ledit événement.

8. Procédé selon l'une des revendications précédentes, caractérisé en ce que la ou les fonctions capables d'agir sur les événements comprennent une ou plusieurs parmi les fonctions suivantes : Enregistrement, Affichage d'informations complémentaires, Mise en marche, Mémorisation dans une liste de rappel.

9. Procédé selon la revendication 8, caractérisé en ce qu'un état actif d'une fonction de type bascule est rappelé par l'affichage d'une icône près de l'événement.

10. Procédé selon l'une des revendications 8 ou 9, caractérisé en ce que l'étiquette affichée à l'écran d'une fonction de type bascule varie en fonction de son état.

11. Procédé selon l'une des revendications précédentes, caractérisé en ce que les événements auxquels est associée une fonction de type bascule dans l'état actif sont mémorisés dans une troisième liste.

12. Procédé selon l'une des revendications précédentes, caractérisé en ce que seule la valeur d'une fonction de filtrage est affichée, à l'exception de sa dénomination générique.

13. Dispositif de réception dans un système de télévision comportant la transmission d'informations de service, et comprenant :
   - des moyens de réception (13 à 18) d'informations de service, notamment d'informations relatives à des événements, à partir d'un flux de données,
   - des moyens d'affichage (11, 31) d'un guide de programmes contenant une première liste unidimensionnelle d'éléments (3) contenant des événements et une deuxième liste unidimensionnelle d'éléments (2) contenant des fonctions, en parallèle avec la première liste (3), et contenant au moins une fonction capable d'agir sur
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lesdits événements,
- des moyens de commande (29) d’un unique curseur pour la sélection d’éléments par positionnement dudit curseur sur un élément, chaque liste contenant un seul élément dit sélectionné, pour établir ainsi un lien entre les éléments sélectionnés,
- des moyens d’affichage (11, 31) d’une signalisation (8) des éléments sélectionnés, la sélection d’un élément dans une liste donnée étant maintenue lorsque le dit curseur est déplacé en dehors de cette liste donnée.

14. Dispositif selon la revendication 13, dans lequel la deuxième liste contient également des fonctions de filtrage d’événements.

15. Interface graphique de guide de programmes dans un système de télévision comportant la transmission d’informations de service, ladite interface étant affichée sur un écran de visualisation, l’interface comprenant une surface de travail graphique contenant une zone d’affichage d’une première liste unidimensionnelle d’éléments (3) contenant des événements, une zone d’affichage d’une deuxième liste unidimensionnelle d’éléments (2) contenant des fonctions, en parallèle avec la première liste (3) et contenant au moins une fonction capable d’agir sur lesdits événements, ladite interface comprenant en outre un unique curseur apte à sélectionner une fonction ou un événement en y positionnant ledit curseur à l’aide de touches de direction, et des moyens d’affichage (11, 31) d’une signalisation (8) d’un seul élément sélectionné dans chaque liste d’éléments, pour établir ainsi un lien entre les éléments sélectionnés, la sélection d’un élément dans une liste donnée étant maintenue lorsque le dit curseur est déplacé en dehors de cette liste donnée.

16. Interface selon la revendication 15, dans laquelle la deuxième liste contient également des fonctions de filtrage d’événements.
FIG. 2
FIG. 3
### SUMMARY

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### FIG. 4
Television program guiding apparatus and method

A program guide (40) is generated, in which a plurality of program cells (44) are arranged two-dimensionally based on a display priority level (45) set corresponding to each of categories, a display mode corresponding to each of the categories, and program information. Thus, a user can identify a category via the corresponding display mode for displaying the corresponding program cells, in the program guide. The user can also view program cells in the display modes corresponding to respective categories, in the program guide, whereby the user can quickly locate an area or areas crowded with programs belonging to favorite categories.

FIG. 1.
Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to electronic program guides.

2. Description of Related Art

[0002] Digital broadcasting systems are operated in recent years, which transmit digitized television signals via satellites, as well as broadcasting satellites and communication satellites, for reception by viewers so that they can watch television programs at home. A system of this type can provide so many channels that a multitude of programs can be aired.

[0003] Such a system transmits, from a satellite to a receiver at each viewer's home, information about an electronic program guide (EPG) indicative of contents of these many programs together with their video/audio data. At home, the user operates the receiver to display the EPG on a TV display. Over the EPG displayed on the TV display, the user can search for programs, tune to programs to view/record them, and schedule programs for viewing/recording.

[0004] However, the EPG provides well over 100 programs, and all of them cannot be displayed within a single program guide screen.

[0005] Thus, the user cannot browse through a large EPG page at once, and hence encounters difficulty quickly locating particular channels and time slots associated with programs which fall into his/her favorite categories.

SUMMARY OF THE INVENTION

[0006] The present invention has been made in view of the above circumstances, and an object of the present invention is, therefore, to provide a program guiding apparatus and method capable of displaying as many programs as possible on a single screen, whereby a user can locate an area or areas packed with programs which belong to his/her favorite categories.

[0007] The above object of the present invention can be achieved by the following program guiding apparatus. The program guiding apparatus is provided with: a device for storing program information including a category to which a program belongs; a device for setting a display priority level for displaying a program corresponding to said category; a device for setting a display mode for displaying said program corresponding to said category; and a device for generating a program guide in which a plurality of program cells are arranged two-dimensionally based on said display priority level, said display mode, and said program information.

[0008] According to the present invention, a program guide is generated, in which a plurality of program cells are arranged two-dimensionally based on a display priority level set corresponding to each of categories, a display mode corresponding to each of the categories, and program information. Thus, a user can identify a category via the corresponding display mode for displaying the corresponding program cells, in the program guide. The user can also view program cells in the display modes corresponding to respective categories, in the program guide, whereby the user can quickly locate an area or areas crowded with programs belonging to his/her favorite categories. Further, the user can set the display priority level for each category, and hence can rank the categories which he/she wishes to display in the program guide, and can display the program cells based on the rankings in the program guide, whereby the user can create his/her own program guide.

[0009] Further, the program guide allows the user to identify a category via the corresponding display mode for displaying the corresponding program cells, and hence, there is no need to enter a lot of textual information in each program cell as in conventional equivalents, whereby a greater number of program cells can be displayed within a single screen.

[0010] In one aspect of the program guiding apparatus of the present invention, the program guiding apparatus is provided with: a device for displaying said generated program guide on a two-dimensional screen; a device for accepting a selection of one of said plurality of program cells arranged on said displayed program guide; and a device for generating an information display screen in a display mode related to said display mode for displaying said selected program cell and displaying predetermined information related to said selected program cell in said information display screen.

[0011] According to this aspect, a user can select program cell and check the program cell information.

[0012] In another aspect of the program guiding apparatus of the present invention, the program guiding apparatus is provided with: a device for displaying said generated program guide on a two-dimensional screen; a device for accepting a selection of one of said plurality of program cells arranged on said displayed program guide; and a device for generating an information display screen in a display mode related to said display mode for displaying said selected program cell and displaying predetermined information related to said selected program cell in said information display screen; wherein said predetermined information includes program information corresponding to said program cell.

[0013] According to this aspect, the user can check program information, which he/she cannot check with the program guide, in the information display screen corresponding to the program cell.

[0014] In further aspect of the program guiding apparatus of the present invention, the program guiding apparatus is provided with: a device for displaying said generated program guide on a two-dimensional screen;
a device for accepting a designation of an area including at least one program cell on said displayed program guide; and a device for displaying information based on a predetermined attribute related to at least one program corresponding to at least one program cell included in said designated predetermined area.

[0015] According to this aspect, the user can check information based on a predetermined attribute related to programs, in the program guide easily.

[0016] In further aspect of the program guiding apparatus of the present invention, the program guiding apparatus is provided with: a device for displaying said generated program guide on a two-dimensional screen; a device for accepting a designation of an area including at least one program cell on said displayed program guide; and a device for collecting statistics on a predetermined program attribute for at least one program corresponding to said at least one program cell included in said designated predetermined area.

[0017] According to this aspect, the user can collect statistics on a predetermined attribute as to programs within a user-designated area. For example, the user can collect statistics regarding programs in which a particular entertainer appears.

[0018] In further aspect of the program guiding apparatus of the present invention, the program guiding apparatus is provided with: a device for displaying said generated program guide on a two-dimensional screen; a device for accepting a designation of an area including at least one program cell on said displayed program guide; and a device for collecting statistics on a predetermined program attribute for at least one program corresponding to said at least one program cell included in said designated predetermined area; wherein said collected statistics are displayed on said program guide.

[0019] According to this aspect, the user can check the statistical result.

[0020] In further aspect of the program guiding apparatus of the present invention, the program guiding apparatus is provided with: a device for displaying said generated program guide on a two-dimensional screen; and a search device for searching for an area in which a predetermined program attribute satisfies a predetermined condition, in said program guide, and indicating said searched area in said program guide.

[0021] According to this aspect, the user can search for an area in which a predetermined program attribute satisfies a predetermined condition, for example, an area having five or more programs falling into a category or categories added to a table as favorites.

[0022] In further aspect of the program guiding apparatus of the present invention, the program guiding apparatus is provided with: a device for displaying said generated program guide on a two-dimensional screen; a search device for searching for an area in which a predetermined program attribute satisfies a predetermined condition, in said program guide, and indicating said searched area in said program guide; and a device for accepting a direction to move said searched area, wherein said search device searches for another area in which said predetermined program attribute satisfies said predetermined condition, other than said previously searched area, every time said search device accepts said direction to move the area.

[0023] According to this aspect, the user can search for and check areas in which a predetermined program attribute satisfies a predetermined condition one after another.

[0024] In further aspect of the program guiding apparatus of the present invention, said display priority level is automatically set based on a history by a user.

[0025] According to this aspect, the time and labor, setting a display priority level, on the part of the user can be reduced.

[0026] In further aspect of the program guiding apparatus of the present invention, said display priority level is set by a user.

[0027] According to this aspect, the user can set the display priority level as he/she likes.

[0028] In further aspect of the program guiding apparatus of the present invention, said display mode includes a shape, a pattern, and a color of a program cell, or combinations thereof.

[0029] According to this aspect, a user can check a program cell information easily.

[0030] In further aspect of the program guiding apparatus of the present invention, there are a plurality of categories, and wherein said display priority level and said display mode are set for each of said plurality of categories to display program cells corresponding to said each of said plurality of categories.

[0031] According to this aspect, a user can check a program cell easily.

[0032] The above object of the present invention can be achieved by the following program guiding method of the present invention. The program guiding method is provided with the steps of: storing program information including a category to which a program belongs; setting a display priority level for displaying a program cell corresponding to said category; setting a display mode for displaying said program cell corresponding to said category; and generating a program guide in which a plurality of program cells are arranged two-dimensionally based on said display priority level, said display mode, and said program information.

[0033] According to this aspect, a program guide is generated, in which a plurality of program cells are arranged two-dimensionally based on a display priority level set corresponding to each of categories, a display mode corresponding to each of the categories, and program information. Thus, a user can identify a category via the corresponding display mode for displaying the corresponding program cells, in the program guide. The user can also view program cells in the display modes corresponding to respective categories, in the program guide, whereby the user can quickly locate an area or
areas crowded with programs belonging to his/her favorite categories. Further, the user can set the display priority level for each category, and hence can rank the categories which he/she wishes to display in the program guide, and can display the program cells based on the rankings in the program guide, whereby the user can create his/her own program guide.

[0034] Further, the program guide allows the user to identify a category via the corresponding display mode for displaying the corresponding program cells, and hence, there is no need to enter a lot of textual information in each program cell as in conventional equivalents, whereby a greater number of program cells can be displayed within a single screen.

BRIEF DESCRIPTION OF THE DRAWINGS

[0035]

FIG. 1 is a block diagram showing the configuration of a satellite digital broadcast receiver according to an embodiment of the present invention;
FIG. 2 is a diagram showing a data transmission method in digital broadcasting;
FIG. 3 shows an example of information included in SI stored in a RAM;
FIG. 4 shows an example of information managed by a program cell display management table;
FIG. 5 shows an example of a screen displaying a Day EPG;
FIG. 6 shows an example of a screen displaying an All-at-a-Glance EPG;
FIG. 7 shows an example of a statistical result regarding programs belonging to a Display Priority Level "A" category;
FIG. 8 shows an example of the result of a search for an area having 5 or more programs belonging to a Display Priority Level "A" category;
FIG. 9 shows the appearance of a remote control used together with the receiver of FIG. 1;
FIG. 10 shows an example of a Display Priority Level/Display Mode Setting screen;
FIG. 11 shows an example of a Statistics Setting screen;
FIG. 12 shows an example of another Statistics Setting screen;
FIG. 13 shows an example of a Search Setting screen;
FIG. 14 shows an example of another Search Setting screen;
FIG. 15 shows an example of the result of a search for another area under the same condition as in FIG. 8;
FIG. 16 is a flowchart showing a process executed by CPU17 while a program is viewed;
FIG. 17 is a flowchart showing a Day EPG displaying process executed in step S6 of FIG. 16;
FIG. 18 is a flowchart showing a display priority level setting process executed in step S8 of FIG. 16;
FIG. 19 is a flowchart showing an All-at-a-Glance EPG displaying process executed in step S10 of FIG. 16;
FIG. 20 is a flowchart showing a statistical process executed in step S59 of FIG. 19;
FIG. 21 is a flowchart showing a continuation of the statistical process executed in step S59 of FIG. 19;
FIG. 22 is a flowchart showing a search process executed in step S61 of FIG. 19; and
FIG. 23 is a flowchart showing a continuation of the search process executed in step S61 of FIG. 19.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0036] The present invention will now be described with reference to a preferred embodiment shown in the drawings.

[0037] FIG. 1 shows the configuration of a satellite digital broadcast receiver according to an embodiment of the present invention. The satellite digital broadcast receiver 1 shown in FIG. 1, installed in the home of a viewer, receives digital broadcast signals (broadcast waves) from a satellite to display a television (TV) program on a home TV screen. At the same time, the receiver 1 receives information about an electronic program guide (EPG) sent from the satellite to display the information on the TV screen as instructed by the viewer.

[0038] As shown in FIG. 1, the receiver 1 has various components connected to a bus 2. The receiver 1 can also be operated by an attached remote control 12.

[0039] The broadcast waves (BS-RF signals) transmitted from the satellite are received by an antenna 3, and then sent to a tuner 4 within the receiver 1. The broadcast waves include TV video/audio information (hereinafter referred to as "TV program information"), and SI or "service information" used to display the EPG. The tuner 4 tunes to a user-selected band, and converts the received signal waves to intermediate frequency (IF) signals for application to a demodulation processing section 5. The section 5 demodulates the input digital signals, subjects the demodulated signals to data frame reformatting, error correction and other processes, and supplies the resulting signals to a demultiplexer 6 in an MPEG-2 transport stream (TS) format through a descrambler 20.

[0040] The demultiplexer 6 separates the audio and video data of a specified service from the input MPEG-2 TS format data for application to an audio decoder 10 and a video decoder 8, respectively. Here, the audio data is coded in an MPEG-2 AAC format and the video data in an MPEG-2 video format. The audio decoder 10 decodes the input audio data to generate program audio data for application to an audio processing section 11. The section 11, including amplifiers, performs predeter-
minded audio signal processes to generate an audio output to audio speakers 23.

[0041] On the other hand, the video decoder 8 decodes the input video data to generate program video data for application to a display processor 9. The processor 9 subjects the input program video data to predetermined processes to generate a video output to a display 22. The display processor 9 also superimposes textual information, etc., on program pictures displayed on the display 22. EPG display data to be described below is superimposed on or replaced with the program video data by the display processor 9, for output to the display 22.

[0042] Here, a large storage-capacity recorder 24 (e.g., a VTR 24a) receives audio signals from the audio processing section 11, video signals from the display processor 9, and all or part of the TS data from the demultiplexer 8 for recording into a recording medium.

[0043] The demultiplexer 6 further separates SI-containing data (other than the TV program information) from the input MPEG-2 TS data. The SI provides the basic for the EPG display data, and is thus utilized for EPG display processes. The SI and other data separated by the demultiplexer 6 is stored in a RAM 16. A nonvolatile RAM is used as the RAM 16.

[0044] A flash memory 14 stores various graphic data (program grids, and predetermined symbols including channel logos) needed for EPG display, and a ROM 15 stores font data, etc. for use as EPG text.

[0045] A conditional access processing section 7 performs the following processes. Conditional access, which is available only to those who have made a subscription contract with a broadcasting business, provides information on a service or program basis, and the relevant encrypted MPEG-2 TS data is transmitted to the subscribers. The conditional access processing section 7 is comprised of a decryption processing section or descrambler 20, and an IC card 21 in which contract information is recorded. A service center jointly operated by the broadcasting businesses sends an IC card 21 to each subscribing user. The contract information recorded in each card 21, which includes subscription terms as to whether the user is permitted or prohibited to view programs, generally differs from one user to another. The subscription terms define subscribable channels and programs on a monthly or yearly basis, for example. If the user selects a conditional access program, the conditional access processing section 7, using both the terms of contract and the decryption-related information obtained from the broadcast waves, decrypts the MPEG-2 TS data, if the user is a subscriber to this service, so that the user can view that conditional access program. If the user is not a subscriber, however, the MPEG-2 TS data is not decrypted, so that the user cannot view that program. In the latter case, text informing that the user cannot view the program, which is stored in the ROM 15, etc., is displayed on an EPG display screen.

[0046] For pay-per-view programs, purchases are recorded in the IC card 21 every time the user purchases a program, and the user's pay-per-view program purchase information is periodically transmitted from the receiver 1 to a program distributor via a modem 18 and a public network 19.

[0047] Instructions input by the user using the remote control 12 is transferred to a CPU 17 via an interface 13. The CPU 17, recognizing the user's instructions, controls the components of the receiver 1 accordingly. For example, the CPU 17 directs the tuner 4 to tune to a user-designated channel.

[0048] To display EPG data, the CPU 17 prepares EPG text data by referencing the SI, etc. stored in the RAM 16. The CPU 17 then prepares EPG display data, using the graphic data such as the EPG grid data stored in the flash memory 14, the font data in the ROM 15, and the EPG text data in the RAM 16, for application to the display processor 9. The processor 9, based on a switching instruction from the CPU 17, either switches the program video data from the video decoder 8 to the EPG display data, or superimposes the EPG display data upon the program video data, for output to the display 22 as the video signals.

[0049] Further, the public network 19 is connected to the bus 2 through the modem 18 to which a user's telephone or personal computer is connected, for necessary communication between broadcast stations and the user's home.

[0050] The receiver 1, which is configured as described above, functions as a program guiding apparatus of the present invention.

[0051] Next, digital signals transmitted from the satellite as original data for the EPG display data will be described. FIG. 2 schematically shows a digital signal data format. As shown in the figure, multiple BS channels (bands) are arranged in a satellite digital broadcasting system, enabling each BS channel to transmit up to eight MPEG-2 TSs and each TS to include up to thirty-two services. In the following description, the term "BS channel" is used to mean a frequency band in satellite broadcasting, as distinguished from a channel through which the receiver 1 receives broadcast programs.

[0052] Each TS includes comprehensive SI which is multiplexed with video/audio information. The term "comprehensive SI" means the SI of all broadcasting stations, including program schedule information of all their channels. That is, a single version of the comprehensive SI is transmitted while multiplexed information of all the BS channels. With this arrangement, no matter which channel the viewer is tuned to, the viewer can acquire the comprehensive SI included in any TS of that tuned channel to prepare EPG data for all the channels. Specifically, the CPU 17 shown in FIG. 1 controls the demultiplexer 6 to acquire the comprehensive SI from the currently received TS for preparation of the EPG text data based on the acquired SI.

[0053] FIG. 2 also shows, in its lower part, a video/
audio data format for each TS. As mentioned above, each TS can transmit a maximum of 32 services, and these 32 services are time-division-multiplexed in the form of packets. In the example shown in FIG. 2, in the lowermost TS, services provided by multiple broadcast stations (services A, B, etc.) are time-division-multiplexed. To receive the service A, for example, the CPU 17 causes the tuner 4 of FIG. 1 to tune to a BS channel including a particular TS. Then, the demodulator processing section 5 of FIG. 1 specifies and extracts the particular TS from the plurality of TSs included in that BS channel, and further the demultiplexer 6 extracts the service A, which is time-division-multiplexed in the particular TS, by referencing its identifier.

[0054] Here, as shown in FIG. 2, individual station data (indicated by the services A, B, etc.) includes individual SI describing each service. In the example of FIG. 2, each individual SI precedes the service data for convenience sake. The individual SI is similar to the comprehensive SI, but is different in that the individual SI includes information unique to itself which is not included in the comprehensive SI. That is, the comprehensive SI includes information needed to display an EPG for all the channels, while the individual SI includes, for example, detailed information about each program. Thus, the CPU 17 of FIG. 1 acquires individual SI as instructed by the user to display the detailed information about a specific program.

[0055] Next, information including SI which is stored in the RAM 16 and referenced by the CPU 17 for display of the EPG will be described in detail. FIG. 3 shows an example of information included in the SI stored in the RAM 16. As shown in the figure, the SI includes category information, in addition to the channel number, date, start time, end time, etc. of each program. A maximum of three main categories is set per program. For example, for "sports news", two main categories, "sports" and "news", are set, as for program 3 shown in FIG. 3. Further, each main category includes a maximum of three subcategories, so that each program can have a maximum of nine subcategories. For example, for the program 3 shown in FIG. 3, three subcategories, "baseball", "soccer", and "tennis", are set. Such categorization is provided by broadcast stations in advance.

[0056] The RAM 16 also stores a program cell display management table that manages information about the display priority level and the display mode which are set for each category in order to display the cells of programs belonging to the corresponding category. FIG. 4 shows an example of information to be managed by a program cell display management table 25. Here, the term "display priority level" means how each category is ranked in a group of categories. That is, the higher a category is ranked, the more the user likes that category. The table 25 shown in FIG. 4 lists the display priority levels in alphabetical order with "A" being the highest. The user can select which and how program cells are to be displayed, in an All-at-a-Glance EPG which will be described below. That is, the user can narrow the categories to those ranked at a particular display level or higher (e.g., "B" or higher) to display program cells for only such programs as belonging to the thus narrowed categories. In the example of FIG. 4, the priority level "A" is given to a category "variety", meaning that the user wishes to display the cells of programs categorized into "variety" in the All-at-a-Glance EPG first.

[0057] Further, the user can set the same display priority level ("D" in the example of FIG. 4) for a plurality of categories, such as for "music" and "news" in the same example.

[0058] Still further, as mentioned above, the user can set a total of 3 main categories and a total of 9 subcategories for each program, and thus there may be cases where a single program belongs to a plurality of categories. In such cases, the display priority level is set for a representative category. The user can select a representative category over an EPG screen, etc. If the user does not select a representative category, a category, which is "main 1" in the example of FIG. 3, is automatically selected, for example.

[0059] Further, display flags shown in FIG. 4 indicate that the cells of programs belonging to the flagged categories are to be displayed in the display modes corresponding to the respective categories. That is, the display flags function to narrow the categories to those ranked at a particular level or higher, in displaying program cells. In the example of FIG. 4, the display flags are set to "1" for the levels "A", "B", and "C", and this means that the cells of programs belonging to the narrowed categories ranked at the display priority level "C" or higher are to be displayed in their corresponding display modes.

[0060] Further, the display modes for displaying a program cell is set for each category, and includes the shape, pattern, and color of the program cell, and their combinations. FIG. 4 shows an example in which the display mode is set by color such that the cells of programs respectively belonging to different categories are colored differently. For example, red is assigned to "variety", meaning that the cells of programs categorized into "variety" are to be colored red in the All-at-a-Glance EPG which will be described below. Further, the user can select the same display mode (red in the example of FIG. 4) for a plurality of categories, such as for "variety" and "cartoon" in the same example.

[0061] Next, EPG display screens will be described. FIG. 5 shows an example of a basic EPG display screen. This EPG display screen displays a program guide for multiple channels on a day-of-the-week basis, and will hereinafter be called "Day, EPG". The Day EPG 30 is displayed by pressing an "EPG key" 91 (described below) on the remote control 12.

[0062] The Day EPG 30 displays current date/time information in its uppermost area. The Day EPG 30 includes program guides for eight days from the current day to the same day of the next week as shown in the
FIG. 5. The Day EPG 30 provides a program guide embracing all the channels for each day. When the user specifies a desired day with a Day tab 34, a program guide for that day appears on the screen. Every time the user presses a "Day Change key" 92 (described below) on the remote control 12, a program guide for the next day appears. Once the program guide for the seventh day has been displayed, the user is returned to the program guide for the current day.

[0063] The program guide is displayed in a program grid 32, in which program cells 31 are arranged. A time slot area 29 is arranged as a column to the left of the program grid 32. In the example of FIG. 5, a program guide is displayed, which lists programs from 9 to 12 in evening time slots on Saturday, May 13. Each cell 31 includes the tile, outline, and other information about a program to be aired in the relevant time slot displayed in the time slot area 29. Channels are listed in a row above the program grid 32.

[0064] Some program cells 31 include a continuation mark 36, indicating that the marked program, which is long, extends in the direction of time axis pointed by the arrow beyond the program grid 32. A scroll mark 28 allows the user to scroll through the screen in the pointed direction. In some other cells 31, displayed areFavorite Category icons 37. The Favorite Category icon 37 indicates that a category to which the marked program belongs is added as a favorite to the table 25 with its display priority level set to "A" (such a category will hereinafter be referred to as "level 'A' category" whenever applicable). The level "A" categories may be marked with their display priority level instead of Favorite Category icons 37, and the cells 31 of programs belonging to categories ranked "B", "C" and so on may similarly be marked with their display priority levels "B", "C" and so on.

[0065] The program highlighted by a cursor 33 is the program currently selected by the user. An outline of the currently selected program is displayed in an outline area 35 in the upper part of FIG. 5. The outline text is generated based on comprehensive SI included in each of the above-mentioned TSe.

[0066] FIG. 6 shows an example of a screen displaying the All-at-a-Glance EPG, which is a key feature of the present invention. The All-at-a-Glance EPG (hereinafter referred to simply as "All EPG") 40 shown in the figure appears when an "All-at-a-Glance key" 95 is pressed on the remote control 12. Likewise in the Day EPG 30, in the All EPG 40, a time slot area 42 is arranged as a column to the left of a program grid 41. In the example of FIG. 6, a program guide is displayed, which lists programs in time slots from 5 p.m. on Saturday, May 13 to 5 a.m. on the next day. A channel display area 43 is arranged in a row above the program grid 41. A field (denoted by reference numeral 49) surrounded by a broken line in the program grid 41 of the EPG 40 corresponds to the program grid 32 of the Day EPG 30. It should be noted that the program cells 46 other than those in the field 49 are depicted as having the same interval of time (one hour) for convenience sake. Thus, the size of the program grid 41 of the All EPG 40 is far larger than that of the program grid 32 of the Day EPG 30 in terms of the number of cells displayed. That is, a greater number of program cells 44 can be displayed over a single screen.

[0067] The program grid 41 is similar to that in the Day EPG 30 in that the grid 41 includes the cells 44 of programs corresponding to their time slots, but is different in that information including the title and outline of each program is not displayed in the corresponding cell 44. Each cell 44 is displayed based on the display priority level, display flag, and display mode managed by the program cell display management table 25. For example, the All EPG 40 shown in FIG. 6 is displayed based on the table 25 shown in FIG. 4; i.e., the cells 44 of programs belonging to the flagged categories ranked "A" to "C" are displayed in the display modes corresponding to the respective categories. Further, the display priority level denoted by reference numeral 45 indicates that the cells 44 of programs belonging to categories ranked at that display priority level or higher ("C" or higher in the example of FIG. 6) are to be displayed in the display modes corresponding to the respective categories, and the display priority level 45 corresponds to the display flags set in the program cell display management table 25.

[0068] Further, in the example of FIG. 6, the cells 44 of programs belonging to unflagged categories (ranked D", "E", "F" and so on) are not displayed in the respective display modes managed by the table 25, but are masked in white. Alternatively, the program cells 44 corresponding to unflagged categories may be masked in black, a translucent color (such that their pictures are seen through), or in other inconspicuous colors, or may not be displayed at all.

[0069] Still further, the program cells 44 colored red in the example of FIG. 6 correspond to the cells 31 marked with the Favorite Category icons 37 in the Day EPG 30 screen.

[0070] Further, the user can select a program cell 44 with a cursor 46 also in the All EPG 40. The selected program cell 44 pops up as shown in FIG. 6. A subscreen 47 displaying information about the selected program cell 44 pops up on the All EPG 40. The subscreen 47 displays the title, outline, and other information about the program corresponding to the selected cell 44. The subscreen 47 thus allows the user to look into the program information which he/she cannot check with the program cell 44. The information in the subscreen 47 is displayed in a mode related to the selected cell 44. For example, if the cell 44 is colored red, the corresponding subscreen 47 is also colored red. Further, the scroll marks 28 indicate that the display screen is scrollable in the directions pointed by the marks 28, likewise in the Day EPG 30.

[0071] The All EPG 40 screen also allows the user to
collect statistics on predetermined attributes for programs within a user-designated predetermined area, the predetermined attributes including display priority level, category, and performer. FIG. 7 shows an example in which the user collects statistics on the level "A" category for programs. In this example, the area for collection of statistics is demarcated as a field 50 which corresponds to the program grid 32 in the Day EPG 30. Further, in this example, the statistical result about the programs falling into the level "A" category, i.e., the number of program cells 44 colored red are displayed in a popped up information subscreen 51. It may also be configured such that the user can set the field 50 to a desired size.

[0072] The All EPG 40 screen also allows the user to search for an area satisfying a predetermined condition as to an attribute. FIG. 8 shows an example in which such an area including five or more programs belonging to the level "A" category is searched. In this example, the searched area is indicated by a field 52, together with a popped up subscreen 53 which informs the user of the search result. It may likewise be configured such that the user can set the field 52 to a desired size.

[0073] Next, the remote control 12 will be described. FIG. 9 shows the appearance of the remote control 12 used together with the digital receiver 1 of the present invention. Cursor Movement keys 81 to 84 are arranged substantially in the middle of the remote control 12, allowing the user to move the cursor 33 over the Day EPG 30 screen, the cursor 46 over the All EPG 40 screen, and other cursors.

[0074] For example, when the user viewing the Day EPG 30 screen presses the left arrow key 81, the cursor 33 is moved leftward one program cell, while when the user presses the right arrow key 83, the cursor 33 is moved rightward one program cell. Further, when the up arrow key 82 is pressed, the cursor 33 is moved up, while when the down arrow key 84 is pressed, the cursor 33 is moved down.

[0075] However, when the user places the cursor 33 or 46 over a program on the Day EPG 30 or All EPG 40 screen using the Cursor Movement keys 81 to 84, that program is selected, but the selection is not yet confirmed by the receiver 1 for subsequent processing. To confirm the selection of the program after placing the cursor 33 or 46 over the program, the user must press an "OK key" 80.

[0076] For example, when the user places the cursor 33 or 46 over the currently broadcast program cell in the Day EPG 30 or All EPG 40 screen by operating the relevant keys 81 to 84 and then presses the OK key 80, the receiver 1 tunes to the channel broadcasting the program in question for output of the picture and sound of the program to the display 22 and the audio speakers 23. When the OK key 80 is pressed again, a Record screen appears together with the picture of the program. By following instructions given on the Record screen, the user can record the program. This is how the user can view and/or record the program.

[0077] Further, when the user places the cursor 33 or 46 in the Day EPG 30 or All EPG 40 screen over the cell of a program to be aired at a future time using the Cursor Movement keys 81 to 84 and then presses the OK key 80, a Schedule screen appears for that program. By following instructions given on the Schedule screen, the user can schedule that program for viewing/recording.

[0078] Of the function keys provided on the upper part of the remote control 12, the "EPG key" 91 is used to display a regular Day EPG screen. When pressing the EPG key 91 while watching a program, the user can switch the display 22 screen from the program to the Day EPG 30 such as shown in FIG. 5. To return to the program from the Day EPG 30, the key 91 is pressed again. The "Day Change key" 92 to the right of the EPG key 91 is used to change the day of the week in the displayed program guide. The "Favorite Category key" 93 below the EPG key 91, when pressed, allows the user viewing the Day EPG 30 to add a category for a program selected by the cursor 33 to the program cell display management table 25 by setting the display priority level of that category to "A". This automatically marks all program cells 31 corresponding to the level "A" category in the Day EPG 30 with the Favorite Category icons 37. In one embodiment, a query screen through which the user determines categories ranked at a particular level or higher may be displayed upon pressing the Favorite Category key 93 to allow the user to set priority levels other than "A".

[0079] A "Display key" 94 to the right of the Favorite Category key 93, when pressed, allows the user watching a program or browsing one of the EPG screens to switch to a screen for setting the display priority level/display mode for program cells, such as, a Display Priority Level/Display Mode Setting screen 55 shown in FIG. 10, for example. The screen 55 is provided with setting areas 57 through which the user can enter desired display priority level/display mode settings by category. The entered settings are reflected in the program cell display management table 25. A mark 58 shown in the lower part of the screen 55 indicates that the user can scroll down the screen 55 to see more categories by moving a cursor 56 downward. In one embodiment, the Display Priority Level/Display Mode Setting screen 55 may be superimposed on the Day EPG and All EPG screens.

[0080] An "All-at-a-Glance key" 95 below the Favorite Category key 93 allows the user viewing a program to switch to an All EPG screen, such as the screen 40 shown in FIG. 6, for example, when pressed. To return to the program from the All EPG screen, the key 95 is pressed again.

[0081] A "Statistics key" 96 to the right of the All-at-a-Glance key 95 allows the user browsing the All EPG screen to display the field 50 such as shown on the All EPG 40 screen in FIG. 7, when pressed. The user can move this field 50 using the Cursor Movement keys 81
to 84. When the user places the field 50 over a desired area and presses the OK key 80, a Statistics Setting screen 60 such as shown in FIG. 11 appears. This screen 60 allows the user to select an attribute on which to collect statistics for programs within the field 50 shown in FIG. 7. The above-mentioned statistical process (see FIG. 7) is performed based on the attribute selected over the Statistics Setting screen 60. In one embodiment, the screen 60 may be superimposed on the All EPG screen.

[0082] A "Search key" 97 below the All-at-a-Glance key 95 allows the user viewing the All EPG screen to switch to a Search Setting screen 61 such as shown in FIG. 13, when pressed. The screen 61 asks the user to select an attribute through which to search for an area satisfying a predetermined condition. The above-mentioned search process (see FIG. 8) is performed based on the attribute selected over the Search Setting screen 61. In one embodiment, the screen 61 may be superimposed on the All EPG screen.

[0083] An "Information key" 98 to the right of the Search key 97 allows the user viewing the Day EPG or All EPG screen to display a Detailed Information screen for a program selected by the cursor 33 or 48, when pressed. The Detailed Information screen (not shown) displays an in-depth description of the selected program, including, for example, details of the program (e.g., a synopsis of the program), information about whether the program is a conditional access program or not, information about the fact that the user cannot view the program due to the terms of contract, etc., together with the information displayed in the outline area 35 on the Day EPG screen or the Information displayed in the sub-screen 47 on the All EPG screen. The detailed program information is generated based on the corresponding individual SI in each of the above-mentioned TSs. The Detailed Information screen is associated with each of all the programs listed in each EPG on a one-to-one basis.

[0084] An "ESC key" 99, which is below the Search key 97, is pressed to return to the program screen from an EPG screen. A "BACK key" 100 to the right of the ESC key 99 is used to undo the last action.

[0085] It should be noted that the other keys on the remote control 12 will not be described because they are used to receive ordinary TV programs and the like and hence have no direct bearing on the present invention.

[0086] Next, the operation of the satellite digital broadcast receiver 1 according to the embodiment will be described with reference to the flowcharts shown in FIGS. 16 through 23. It should be understood that the following processes are performed mainly by the CPU 17 of FIG. 1 that executes predetermined processing programs stored in the ROM 15 while controlling the RAM 16, the display processor 9, and other related components.

[0087] FIG. 16 shows a main routine executed by the CPU 17 while the user is viewing a program. Let it be supposed that the user is receiving a desired channel by controlling the receiver 1 to view the program (step S1). First, the CPU 17 extracts the comprehensive SI from a TS of the tuned channel to acquire the date/time data included therein (step S2). In this system, the date/time data is managed by the broadcasting station transmitting the broadcast waves, and the current date/time data is included in the comprehensive SI. Thus, the CPU 17 acquires the date/time data from the transmitted waves. Then, the CPU 17 calculates the day of the week of "Today" or the current day from the acquired date/time data (step S3). Since day-of-the-week information is not usually included in the date/time data from the satellite, the CPU 17 specifies the day from the date/time data through a predetermined calendar-based computation. Then, EPG display data for 8 days from the current day is acquired as day cell data for the Day EPG based on the thus specified date/time and day data (step S4).

[0088] Next, when the user presses the EPG key 91, the CPU 17 detects this (step S5) to start a Day EPG displaying subroutine (step S6). When the user presses the Display key 94, the CPU 17 detects this (step S7) to start a display priority level/display mode setting subroutine (step S8). Further, when the user presses the All-at-a-Glance key 95, the CPU 17 detects this (step S9) to start an All EPG displaying subroutine (step S10).

[0089] FIG. 17 shows the Day EPG displaying subroutine executed in step S6 of FIG. 16. First, in the subroutine, the CPU 17 sets the day of a Day EPG for display to the current day, whereby "Today" is selected on the Day tab 34. Then, the CPU 17 sets the time axis of the Day EPG for display (step S21), by arranging the time slot area 29 such that the area 29 starts with a unit time including the current time.

[0090] Next, the CPU 17 sets the channel axis of the Day EPG for display (step S22); i.e., the channel axis displayed when the user pressed the EPG key 91 is maintained. Then, the CPU 17 determines the size of the program grid 32 and acquires EPG display data fit for the determined display range, from the SI (step S23). For example, if a program grid as large as m hours and n channels can be arranged by a receiver setting, then the CPU 17 determines the size as large as m hours from the starting time set in step S21 and n channels from the starting channel set in step S22, and acquires the EPG display data fit for the determined display range. Next, the CPU 17 references the program cell display management table 25 to specify programs belonging to a favorite category or categories from among programs listed in the program grid determined in step S23 (step S24).

[0091] Using the thus obtained EPG display data, the CPU 17 and the display processor 9 configure the program guide to display the Day EPG on the display 22, and at the same time, display the Favorite Category icons 37 in the cells of the programs specified in step S24 (step S25). This is how the Day EPG 30 such as
shown in FIG. 5 is displayed. When the user presses the Cursor Movement keys 81 to 84 while viewing the Day EPG 30, the CPU 17 detects this (step S26) to move the cursor 33 in the directions corresponding to the pressed keys (step S27). If the user then presses the Favorite Category key 93, the CPU 17 detects this (step S28) to add the category for the program in the cell 31 selected by the cursor 33 as a level "A" category to the program cell display management table 25 (step S29).

Further, in step S30 of FIG. 17, the CPU 17 executes processes corresponding to various key operations performed over the remote control 12. For example, when the Information key 98 is pressed with the Day EPG 30 displayed, the Detailed Information screen for the program selected by the cursor 33 is displayed. Further, the user can schedule programs for viewing/recording with the Day EPG 30 displayed, as mentioned above. When the EPG key 91 is pressed again (step S31), the CPU 17 returns to the process of FIG. 16, allowing the user to view the program.

[0092] FIG. 18 shows the display priority level/display mode setting subroutine executed in step S8 of FIG. 16. In the subroutine, first, a Display Priority Level/Display Mode Setting screen 55 as shown in FIG. 10 is displayed (step S41). When the user presses the Cursor Movement keys 81 to 84 with this screen 55 displayed, the CPU 17 detects this (step S42) to move the cursor 56 in the directions corresponding to the pressed keys (step S43). When the user selects a desired setting area 57 with the cursor 56 and presses the OK key 80, the CPU 17 detects this (step S44) to prompt the user to enter a setting in the selected area 57 (step S45). When the user presses a desired numerical key 85 under this condition, the CPU 17 detects this (step S46) to enter (display) the display priority level or display mode corresponding to the pressed key 85 (step S47).

[0093] For example, a table in which display priority levels/display modes are associated with numbers is stored in the RAM 16 in advance, so that when the numerical key 85 corresponding to a display priority level or mode is pressed, such a display priority level or mode is entered (displayed) in the setting area 57.

[0094] When the display priority levels and modes are entered for all the categories in this way and the OK key is then pressed, the CPU 17 detects this (step S48) to add these settings entered in the setting areas 57 to the program cell display management table 25 stored in the RAM 16 (step S49). At the same time, the CPU 17 removes the Display Priority Level/Display Mode Setting screen 55, and returns to the process of FIG. 16, allowing the user to view the program. In one embodiment, instead of entering a display priority level and a display mode for each category one by one, a recommended display priority level and a recommended display mode are stored for each category in the program cell display management table 25 in advance such that the user can change such recommended priority levels/modes stored in the table 25 as to some of the categories only when he/she wishes to do so through the Display Priority Level/Display Mode Setting screen 55.

[0095] FIG. 19 shows the All EPG displaying subroutine executed in step S10 of FIG. 16. Similarly, in the All EPG displaying subroutine, first, the CPU 17 sets the day of an All EPG for display to the current day, whereby "Today" is selected on the Day tab 34. Then, the CPU 17 sets the time axis of the Day EPG for display (step S51).

[0096] Next, the CPU 17 sets the channel axis of the Day EPG for display (step S52), i.e., the channel axis displayed when the user pressed the Alt key 95 is maintained. Then, the CPU 17 determines the size of the program grid and acquires EPG display data fit for the determined display range, from the SI (step S53). Although these steps S51 to S53 are similar to those performed to display the Day EPG screen, the display range of the All EPG for display is far larger than that of the Day EPG in terms of the number of cells displayed, as mentioned above.

[0097] Next, the CPU 17 and the display processor 9, using the thus obtained EPG display data and referencing the program cell display management table 25, configure the program guide to display the All EPG on the display 22 (step S54). That is, the cells of programs which are included in the determined display range for display are displayed on the All EPG according to the display priority levels, display flags, and display modes corresponding to the categories to which the programs belong, respectively. This is how the All EPG 40 such as shown in FIG. 6 is displayed. Although the time slot area starts at 5 p.m. in the example of FIG. 6, the same area may start at 7 p.m. so as to match with that of the Day EPG 30 of FIG. 6. When the user presses the Cursor Movement keys 81 to 84 with the All EPG 30 displayed, the CPU 17 detects this (step S55) to move the cursor 46 in the directions corresponding to the pressed keys (step S56). Further, as to a program cell 44 selected by the cursor 46, the subscreen 47 appears in a mode related to the display mode specified for that program cell 44, and its program information is displayed in the subscreen 47 (step S57). If the user then presses the Statistics key 96, the CPU 17 detects this (step S58) to start the statistics collecting subroutine (step S59). If, on the other hand, the Search key 97 is pressed, the CPU 17 detects this (step S60) to start the searching subroutine (step S61). In step S62 of FIG. 19, processes corresponding to various key operations performed on the remote control 12 are executed similarly to step S30 of FIG. 17. Further, when one of the numerical keys 85 is pressed in step S62, the display priority level corresponding to the pressed key is displayed in FIG. 6 as denoted by reference numeral 45, which is reflected in the program cell display management table 25 by setting the corresponding display flag to "1", and the cells 44 of programs falling into the categories ranked at that display priority level or higher are displayed on the All EPG 40 screen in the display modes specified for the
respective categories. Further, when the All-at-a-Glance key 95 is pressed again (step S63), the CPU 17 returns to the process of FIG. 16, allowing the user to view the program.

[0098] FIGS. 20 and 21 show the statistics collecting subroutine executed in step S59 of FIG. 19. In the subroutine, the field 50 defining an area for a statistical process is displayed on the All EPG 40 screen (step S81). When the user presses the Cursor Movement keys 81 to 84 while viewing the same screen, the CPU 17 detects this (step S82) to move the field 50 in the directions corresponding to the pressed keys (step S83), whereby the user selects a desired area with the field 50. When the user then presses the OK key 80, the CPU 17 detects this (step S84) to display the Statistics Setting screen 60 such as shown in FIG. 11, in place of or while superimposed on the All EPG 40 screen (step S85).

[0099] Then, when the user presses the Cursor Movement key 82 or 84 over the Statistics Setting screen 60 of FIG. 11, the CPU 17 detects this (step S86) to move a cursor 70 in the direction corresponding to the pressed key (step S87), whereby the user selects an attribute (the display priority level in the example of FIG. 11) on which to collect statistics. When the user then presses the OK key 80, the CPU 17 detects this (step S88) to store the selected attribute in the RAM 16 (step S89). Then, the CPU 17 switches to another Statistics Setting screen 60 such as shown in FIG. 12 (step S90).

[0100] Next, as shown in FIG. 21, when the user presses the Cursor Movement key 82 or 84 over the Statistics Setting screen 60 of FIG. 12, the CPU 17 detects this (step S91) to move the cursor 70 in the direction corresponding to the pressed key (step S92), whereby the user selects an item on which to collect statistics (the display priority level "A" in the example of FIG. 12) with the cursor 70. When the user presses the OK key 80, the CPU 17 detects this (step S93) to store the selected item in the RAM 16, and at the same time, removes the Statistics Setting screen 60 to display the All EPG 40 on the display 22 (step S94). Then, the CPU 17 collects statistics on the selected item of the selected attribute for the programs included in the field 50 (step S95), and displays the statistical result in the sub-screen 51 (step S96). Thus, the statistics are collected on the level "A" category for the relevant programs, and the result that there are seven such programs is displayed on the sub-screen 51. When the Statistics key 95 is pressed again, the CPU 17 returns to the process of FIG. 19.

[0101] FIG. 22 shows the searching subroutine executed in step S61 of FIG. 19. In the subroutine, first, the Search Setting screen 61 such as shown in FIG. 13 is displayed in place of or while superimposed on the All EPG 40 screen (step S101).

[0102] Then, when the user presses the Cursor Movement key 82 or 84 over the Search Setting screen 61 of FIG. 13, the CPU 17 detects this (step S102) to move a cursor 71 in the direction corresponding to the pressed key (step S103), whereby the user selects an attribute for search (the display priority level in the example of FIG. 13) with the cursor 71. When the user then presses the OK key 80, the CPU 17 detects this (step S104) to store the selected attribute in the RAM 16 (step S105). Then, the CPU 17 switches to another Search Setting screen 61 such as shown in FIG. 14 (step S106).

[0103] Next, when the user presses the Cursor Movement keys 81 to 84 over the Search Setting screen 61 of FIG. 14, the CPU 17 detects this (step S107) to move the cursor 71 in the directions corresponding to the pressed keys (step S108), whereby the user selects an item for search (the display priority level "A" in the example of FIG. 14) with the cursor 71, as well as a search condition ("five or more programs" in the same example). When the user presses the OK key 80 thereafter, the CPU 17 detects this (step S109) to store the selected item and search condition of the selected attribute in the RAM 16 (step S110).

[0104] Thereafter, the CPU 17 removes the Search Setting screen 61, as shown in FIG. 23 (step S111). Next, the CPU 17 searches for such an area as satisfying the selected search condition for the selected attribute item (step S112) to display the searched area defined by the field 52 and also the search result in the sub-screen 53 (step S113). Thus, the area including 5 or more programs belonging to the level "A" category is displayed as the field 52, and the information that there are 8 such programs in the searched area is displayed in the sub-screen 53.

[0105] Thereafter, the user presses the OK key 80 again under the same display condition, the CPU 17 detects this (step S114) to search for such an area as satisfying the search condition other than the one searched in step S109 (i.e., to cause the field 52 to jump to another area) and define the newly searched area with the field 52 and also indicate the search result in the associated sub-screen 53. That is, pressing the OK key 80 again means accepting the instruction to move an area for search. Thus, the field 52 and the sub-screen 53 move or "jump" to the next searched area, as shown in FIG. 15. The field 52 and the sub-screen 53 similarly jump thereafter every time the OK key 80 is pressed. When the Search key 96 is pressed again (step S115), the CPU 17 returns to the process of FIG. 19.

[0106] As described above, the All EPG according to the above embodiments allows a far greater number of program cells to be displayed within a single screen than the regular Day EPG, etc., and further allows the program cells to be displayed in different modes by category, whereby the user can locate time slots and channels which are crowded with broadcast programs belonging to a particular category or categories, at a glance through a screen displaying a larger number of program cells.

[0107] Further, the user can rank his/her favorite categories by setting display priority levels, and display the cells of only programs belonging to such categories as being ranked at a particular level or higher in user-se-
lected display modes, whereby the user can check time slots and channels which are packed with programs belonging to his/her favorite categories quickly. Additionally, by setting uninteresting categories to low priority levels, the cells of programs belonging to such low level categories can be displayed less conspicuously in the All EPG, whereby the user can create his/her own program guide.

[0108] In the above embodiments, the user is allowed to set the display priority level arbitrarily. In other embodiments, the priority level may be set automatically according to a history of user performed operations. For example, a View history, a Record history, a To-View history, and a To-Record history may be stored in the RAM such that the display priority level can be set automatically according to frequency.

[0109] Further, in another embodiment, in the searching subroutine described with reference to FIG. 22, the CPU 17 may search for an area having the cells of programs frequently viewed according to the View history, for display as the field 52 together with the search result in the associated sub-screen 53, and may additionally cause the field 52 to jump.

[0110] Further, in still another embodiment, the user may be allowed to select favorite channels and time slots in the All EPG, and display a program guide showing only those channels and time slots selected as his/her favorites.

[0111] In yet another embodiment, only a program grid having a number of programs equal to or greater than a specified number are present with respect to a certain channel and time slot is displayed, and the user may specify that number arbitrarily.

[0112] In some other embodiments, channels, time slots, etc. which are frequently tuned to by the user may be determined by investigating the View history, and added to a database, and only an area or areas which are crowded with programs which it is thought the user likes may be displayed based on the result of the investigation.

[0113] While the above embodiments are applied to satellite broadcast programs, the present invention is not limited to them, but can be applied to, for example, systems for airing programs with dedicated cables and systems for airing programs via public networks, such as the Internet. Further, while the EPG screens are displayed on the TV display in the above embodiments, the present invention is not limited to them. The EPG screens may be displayed on a personal computer monitor, etc.

[0114] As described in the foregoing, the present invention enables a greater number of program cells to be displayed within a single screen, and hence allows the user to recognize an area or areas crowded with programs belonging to his/her favorite categories quickly.

Claims

1. A program guiding apparatus(1) characterized in that the apparatus comprises:

   a storing device(16) for storing program information including a category to which a program belongs;
   a display priority setting device(17) for setting a display priority level for displaying a program cell corresponding to said category;
   a display mode setting device(17) for setting a display mode for displaying said program cell corresponding to said category; and
   a generating device(9) for generating a program guide in which a plurality of program cells are arranged two-dimensionally based on said display priority level, said display mode, and said program information.

2. The program guiding apparatus(1) according to claim 1, further characterized in that the apparatus comprises:

   a displaying device(22) for displaying said generated program guide on a two-dimensional screen;
   an accepting device(17) for accepting a selection of one of said plurality of program cells arranged on said displayed program guide; and
   a generating device(9) for generating an information display screen in a display mode related to said display mode for displaying said selected program cell and displaying predetermined information related to said selected program cell in said information display screen.

3. The program guiding apparatus(1) according to claim 2, wherein said predetermined information includes program information corresponding to said program cell.

4. The program guiding apparatus(1) according to any of claims 1 to 3, further characterized in that the apparatus comprises:

   a displaying device(22) for displaying said generated program guide on a two-dimensional screen;
   an accepting device(17) for accepting a designation of an area including at least one program cell on said displayed program guide; and
   a displaying device(22) for displaying information based on a predetermined attribute related to at least one program corresponding to at least one program cell included in said designated predetermined area.
5. The program guiding apparatus(1) according to any of claims 1 to 4, further characterized in that the apparatus comprises:

- a displaying device(22) for displaying said generated program guide on a two-dimensional screen;
- an accepting device(17) for accepting a designation of an area including at least one program cell on said displayed program guide; and
- a collecting device(17) for collecting statistics on a predetermined program attribute for at least one program corresponding to said at least one program cell included in said designated area.

6. The program guiding apparatus(1) according to claim 5, wherein said collected statistics are displayed on said program guide.

7. The program guiding apparatus(1) according to any of claims 1 to 6, further characterized in that the apparatus comprises:

- a displaying device(22) for displaying said generated program guide on a two-dimensional screen; and
- a search device(17) for searching for an area in which a predetermined program attribute satisfies a predetermined condition, in said program guide, and indicating said searched area in said program guide.

8. The program guiding apparatus(1) according to claim 7, further characterized in that the apparatus comprises:

- an accepting device(17) for accepting a direction to move said searched area, wherein said search device(17) searches for another area in which said predetermined program attribute satisfies said predetermined condition, other than said previously searched area, every time said search device accepts said direction to move the area.

9. The program guiding apparatus(1) according to any of claims 1 to 8, wherein said display priority level is automatically set based on a history by a user.

10. The program guiding apparatus(1) according to any of claims 1 to 9, wherein said display priority level is set by a user.

11. The program guiding apparatus(1) according to any of claims 1 to 10, wherein said display mode includes a shape, a pattern, or a color of a program cell, or combinations thereof.

12. The program guiding apparatus(1) according to any of claims 1 to 11, wherein there are a plurality of categories, and wherein further said display priority level and said display mode are set for each of said plurality of categories to display program cells corresponding to said each of said plurality of categories.

13. A program guiding method characterized in that the method comprises:

- a storing process of storing program information including a category to which a program belongs;
- a setting process of setting a display priority level for displaying a program cell corresponding to said category;
- a setting process of setting a display mode for displaying said program cell corresponding to said category; and
- a generating process of generating a program guide in which a plurality of program cells are arranged two-dimensionally based on said display priority level, said display mode, and said program information.
FIG. 2

COMPREHENSIVE SI IS TRANSMITTED IN ALL TSs FOR ALL CHANNELS.

VIDEO/AUDIO DATA  COMPREHENSIVE SI  VIDEO/AUDIO DATA

VIDEO/AUDIO DATA  COMPREHENSIVE SI  VIDEO/AUDIO DATA

COMPREHENSIVE SI  VIDEO/AUDIO DATA  COMPREHENSIVE SI

INDIVIDUAL SI (A)  SERVICE A  INDIVIDUAL SI (B)  SERVICE B  INDIVIDUAL SI (C)  ...

INDIVIDUAL SI IS TRANSMITTED ONLY IN TS CONTAINING THE SERVICES.

FOR EACH CHANNEL, MAXIMUM OF 8 MPEG-2 TSs ARE TRANSMITTABLE.
MAXIMUM OF 32 SERVICES ARE TRANSMITTABLE PER TS.
(UP TO 8 FOR TV, UP TO 16 FOR RADIO, UP TO 24 ITEMS OF DATA)
<table>
<thead>
<tr>
<th>PROGRAM NUMBER</th>
<th>CHANNEL NUMBER</th>
<th>PROGRAM TITLE</th>
<th>DATE</th>
<th>START TIME</th>
<th>END TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>10000</td>
<td>130ch</td>
<td>PROGRAM 1</td>
<td>MAY 13</td>
<td>13:00</td>
<td>13:15</td>
</tr>
<tr>
<td>10001</td>
<td>130ch</td>
<td>PROGRAM 2</td>
<td>MAY 13</td>
<td>13:15</td>
<td>13:30</td>
</tr>
<tr>
<td>10002</td>
<td>56ch</td>
<td>PROGRAM 3</td>
<td>MAY 13</td>
<td>13:30</td>
<td>13:45</td>
</tr>
<tr>
<td>10003</td>
<td>56ch</td>
<td>PROGRAM 4</td>
<td>MAY 13</td>
<td>13:45</td>
<td>13:00</td>
</tr>
<tr>
<td>10004</td>
<td>56ch</td>
<td>PROGRAM 5</td>
<td>MAY 13</td>
<td>13:00</td>
<td>13:15</td>
</tr>
<tr>
<td>10005</td>
<td>56ch</td>
<td>PROGRAM 6</td>
<td>MAY 13</td>
<td>13:15</td>
<td>13:30</td>
</tr>
<tr>
<td>10006</td>
<td>56ch</td>
<td>PROGRAM 7</td>
<td>MAY 13</td>
<td>13:30</td>
<td>13:45</td>
</tr>
<tr>
<td>10007</td>
<td>56ch</td>
<td>PROGRAM 8</td>
<td>MAY 13</td>
<td>13:45</td>
<td>13:00</td>
</tr>
</tbody>
</table>

**Category:**
- MA: MAIN 1
- MA1: SUB 1
- MA1: SUB2
- MA1: SUB3
- MA1: SUB4
- MA2: SUB5
- MA2: SUB6
- MA2: SUB7
- MA2: SUB8
- MA3: SUB9
- MA3: SUB10

**Main Categories:**
- EDUCATION
- ENGLISH
- SPORTS BASEBALL
- MOVIE ACTION
- COOKING
- MUSIC
- TRAVEL AFRICA

**Sub Categories:**
- BASEBALL SOCCER TENNIS NEWS
- ACTION
- CARTOON
- DOCUMENTARY
- MOVIE
- MUSIC
- TRAVEL
- TV SHOWS
<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>DISPLAY PRIORITY LEVEL</th>
<th>DISPLAY FLAG</th>
<th>DISPLAY MODE</th>
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</thead>
<tbody>
<tr>
<td>VARIETY</td>
<td>A</td>
<td>1</td>
<td>RED</td>
</tr>
<tr>
<td>SPORTS</td>
<td>B</td>
<td>1</td>
<td>YELLOW</td>
</tr>
<tr>
<td>MOVIE</td>
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<td></td>
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<td>DRAMA</td>
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<td>ORANGE</td>
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<tr>
<td>NEWS</td>
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<td></td>
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<tr>
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<td>F</td>
<td></td>
<td>RED</td>
</tr>
<tr>
<td>DOCUMENTARY</td>
<td>G</td>
<td></td>
<td>BLUISH GREEN</td>
</tr>
</tbody>
</table>

...
YOU HAVE 7 PROGRAMS BELONGING TO YOUR FAVORITE CATEGORY/CATEGORIES IN THIS FIELD.
FIG. 9
**FIG. 10**

**Display Priority Level/Display Mode Setting Screen**

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>DISPLAY PRIORITY LEVEL</th>
<th>DISPLAY MODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>VARIETY</td>
<td>A</td>
<td>RED</td>
</tr>
<tr>
<td>SPORTS</td>
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<td>YELLOW</td>
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<td>MOVIE</td>
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<td>BLUE</td>
</tr>
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<td>NEWS</td>
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<td>REDDISH PURPLE</td>
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<tr>
<td>CARTOON</td>
<td>F</td>
<td>RED</td>
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<td>DOCUMENTARY</td>
<td>G</td>
<td>BLUISH GREEN</td>
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<tr>
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<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>

**Correspondence Table**

<table>
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<th>DISPLAY PRIORITY LEVEL</th>
<th>DISPLAY MODE</th>
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</thead>
<tbody>
<tr>
<td>1: A</td>
<td>1: YELLOW</td>
</tr>
<tr>
<td>2: B</td>
<td>2: RED</td>
</tr>
<tr>
<td>3: C</td>
<td>3: ORANGE</td>
</tr>
<tr>
<td>4: D</td>
<td>4: BLUE</td>
</tr>
<tr>
<td>5: E</td>
<td>5: GREEN</td>
</tr>
<tr>
<td>6: F</td>
<td>6: PURPLE</td>
</tr>
<tr>
<td>7: G</td>
<td>7: BLUISH GREEN</td>
</tr>
<tr>
<td>8: H</td>
<td>8: REDDISH PURPLE</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>

23
FIG. 11

STATISTICS SETTING SCREEN

SELECT ATTRIBUTE

1. CATEGORY
2. PERFORMER
3. DISPLAY PRIORITY LEVEL
4. · · · · ·
5. · · · · ·
FIG. 12

STATISTICS SETTING SCREEN

SELECT DISPLAY PRIORITY LEVEL

A
B
C
D
E
F
G
H
FIG. 13

SEARCH SETTING SCREEN

SELECT ATTRIBUTE

1. CATEGORY
2. PERFORMER
3. DISPLAY PRIORITY LEVEL
4. •••••
5. •••••
FIG. 14

SEARCH SETTING SCREEN

SELECT DISPLAY
PRIORITY LEVEL

A  71
B
C
D
E
F
G
H

SELECT CONDITION
ONE OR MORE PROGRAMS
TWO OR MORE PROGRAMS
THREE OR MORE PROGRAMS
FOUR OR MORE PROGRAMS
FIVE OR MORE PROGRAMS
SIX OR MORE PROGRAMS
SEVEN OR MORE PROGRAMS
EIGHT OR MORE PROGRAMS
FIG. 16

START

USER IS VIEWING PROGRAM

ACQUIRE DATE/TIME DATA

CALCULATE DAY OF WEEK

ACQUIRE EPG DISPLAY DATA

S5

EPG KEY PRESSED?

S6

DAY EPG DISPLAY SUBROUTINE

S8

PRIORITY/MODE KEY PRESSED

PRIORITY/MODE SETTING SUBROUTINE

S7

S9

ALL KEY PRESSED?

ALL-AT-A-GLANCE EPG DISPLAY SUBROUTINE

S10

N

N
FIG. 17

DAY EPG DISPLAY SUBROUTINE

DAY EPG SET TIME AXIS

DAY EPG SET CHANNEL AXIS

DAY EPG DETERMINE DISPLAY RANGE/ACQUIRE EPG DISPLAY DATA

SPECIFY PROGRAMS BELONGING TO FAVORITE CATEGORY/CATEGORIES

DISPLAY DAY EPG SCREEN

CURSOR MOVEMENT KEYS Pressed

MOVE CURSOR

FAVORITE CATEGORY KEY Pressed

ADD AS FAVORITE CATEGORY

PROCESS WITH OTHER KEYS

EPG KEY Pressed?

RETURN
FIG. 18

DISPLAY PRIORITY LEVEL/DISPLAY MODE SETTING SUBROUTINE

DISPLAY PRIORITY LEVEL/DISPLAY MODE SETTING SCREEN

CURSOR MOVEMENT KEYS PRESSED?

Y
MOVE CURSOR

N
CURSOR MOVEMENT KEYS PRESSED?

OK KEY PRESSED?

Y
PROMPT USER TO ENTER NUMBERS IN SETTING AREAS

N
OK KEY PRESSED?

NUMERIC KEYS PRESSED?

Y
ENTER PRIORITY/MODE IN SETTING AREAS

N
ADD ENTERED INFORMATION TO PROGRAM CELL DISPLAY MANAGEMENT TABLE

RETURN

RETURN

RETURN
FIG. 19

ALL-AT-A-GLANCE EPG DISPLAY SUBROUTINE

ALL-AT-A-GLANCE EPG SET TIME AXIS

ALL-AT-A-GLANCE EPG SET CHANNEL AXIS

ALL-AT-A-GLANCE EPG DETERMINE DISPLAY RANGE/ACQUIRE EPG DISPLAY DATA

DISPLAY ALL-AT-A-GLANCE EPG SCREEN

CURSOR MOVEMENT KEYS Pressed?

Y

MOVE CURSOR

N

DISPLAY SUBSCREEN FOR SELECTED PROGRAM

STATISTICS KEY Pressed?

Y

STATISTICS COLLECTING SUBROUTINE

N

SEARCH KEY Pressed?

Y

SEARCHING SUBROUTINE

N

PROCESS WITH OTHER KEYS

N

ALL KEY Pressed?

Y

RETURN
FIG. 20

STATISTICS COLLECTING SUBROUTINE

DISPLAY FIELD DEFINING AREA FOR COLLECTING STATISTICS

B

Y

CURSOR MOVEMENT KEYS PRESS?

S82

N

OK KEY PRESSED?

S84

N

Y

DISPLAY STATISTICS SETTING SCREEN

S85

N

CURSOR MOVEMENT KEY PRESS?

S86

N

S88

OK KEY PRESSED?

N

Y

STORE SELECTED ATTRIBUTE

S89

SWITCH TO ANOTHER STATISTICS SETTING SCREEN

S90

A
FIG. 21

A

CURSOR MOVEMENT KEY Pressed?

Y

MOVE CURSOR

S92

N

OK KEY Pressed?

S93

N

STORE SELECTED ATTRIBUTE ITEM/REMOVE STATISTICS SETTING SCREEN

S94

Y

COLLECT STATISTICS ON SELECTED ATTRIBUTE ITEM FOR PROGRAMS IN FIELD

S95

DISPLAY RESULT IN SUBSCREEN

S96

STATISTICS KEY Pressed?

N

B

RETURN

S97

Y
FIG. 23

C

REMOVE SEARCH SETTING SCREEN

SEARCH FOR AREA HAVING PROGRAMS SATISFYING SEARCH CONDITION OF SELECTED ITEM

DEFINE SEARCHED AREA WITH FRAME AND DISPLAY SEARCH RESULT IN SUBSCREEN

OK KEY PRESSED?

SEARCH KEY PRESSED?

RETURN
Method for implementing a digital electronic program guide (EPG)

A method for implementing an Electronic Program Guide (EPG) includes the steps of: displaying a date/time selection image including a plurality of cells; and providing a user with an EPG associated with a date and time corresponding to a specific cell if the user designates the specific cell contained in the date/time selection image. The method allows the user to select EPG information corresponding to desired date and time using an additional window, such that the user can directly recognize EPG information associated with a desired date and time zone, and can conveniently search for the EPG information.
Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to a digital Electronic Program Guide (EPG), and more particularly to a method for implementing a digital EPG to provide a user with an additional window during an EPG display time, such that the user can select EPG information corresponding to desired date and time using the additional window.

Description of the Related Art

[0002] Typically, a digital broadcast method includes not only a digital satellite broadcast method but also a digital cable broadcast method and a digital terrestrial broadcast method. A digital broadcast receiver such as a Set Top Box (STB) receives a digital broadcast signal in the form of an MPEG transport stream, decodes original video and audio signals, performs signal processing of the decoded resultant signals, and outputs the signal-processed result to a general TV, such that a user can view a desired broadcast program.

[0003] The EPG is indicative of a broadcast program schedule displayed on a digital TV monitor, and is transmitted to the TV via a data broadcast method for use in an empty frequency band or a redundant channel. The EPG includes a variety of information, for example, a program channel, a transponder number, a broadcast time, a title, and a category, etc., such that a user can readily recognize not only today's broadcast program information, but also future broadcast program information to be transmitted from individual broadcast stations after the lapse of a predetermined time (e.g., seven days), by manipulating the EPG using a remote-controller.

[0004] If a desired broadcast program title is determined, the user can acquire more detailed information than the above-mentioned schedule, can select a desired broadcast program title from among a program guide information image including a variety of broadcast program titles according to service categories, and can also perform a reserved recording function.

[0005] As terrestrial and cable digital broadcast methods are widely used throughout the world, the number of viewable channels in the digital broadcast is higher than that of a conventional analog broadcast, and channels are more flexibly used than those of the analog broadcast. Therefore, due to the increasing number of channels and channel allocation variation, the EPG is necessary for the user to properly select a desired broadcast program, and is considered to be important characteristics of digital TVs.

[0006] For example, a representative EPG system capable of generating the above-mentioned EPG is a digital satellite broadcast system. The digital satellite broadcast system converts original image data and EPG data into binary data, and converts the binary-formatted EPG data into packet data for data transmission. A reception end of the digital satellite broadcast system stores the EPG data in a memory, and display-associated data is generated from the EPG data stored in the memory, such that the resultant data is displayed on a monitor.

[0007] Fig. 1 is a table illustrating standard EPG - associated information for use in terrestrial and cable digital broadcast standards.

[0008] Referring to Fig. 1, an Event Information Table (EIT) is provided to individual source IDs (source_id). In other words, the EIT is provided in virtual channel units viewed by a real viewer, instead of physical channel units. The EIT transmits a variety of information (e.g., the number of real broadcast programs contained in 3 hours, and start times, lengths, and titles of individual programs, etc.) to individual virtual channels, such that an EPG capable of providing the viewer with broadcast program guide information can be configured on the condition that a database is formed by collecting EITs associated with all broadcast channels.

[0009] A basic configuration of a conventional EPG screen is displayed as shown in Fig. 2. As can be seen from Fig. 2, in order to allow a user to recognize when a desired program is broadcast in the conventional EPG, the user must search for date and time information from among EPG data displayed on a monitor.

[0010] The conventional EPG screen image has a limited screen size, such that information of three to four hours is displayed on a single screen image.

[0011] Therefore, in order to view future EPG information of the next date or time, the user must change current information to another information associated with the next date or time using an additional key. For example, in order to view specific channel EPG information after seven days, the user must repeatedly press a date conversion key several times. Also, in order to view information associated with another time zone of the next date, the user must directly move a scroll bar along a time axis, resulting in greater inconvenience of use.

SUMMARY OF THE INVENTION

[0012] Therefore, the present invention has been made in view of the above problems, and it is an object of the present invention to provide a method for allowing a user to directly recognize EPG information associated with a desired date and time zone.

[0013] In accordance with the present invention, the above and other objects can be accomplished by a method for implementing a digital Electronic Program guide (EPG) comprising the steps of: displaying a date/time selection image including a plurality of cells; and providing a user with an EPG associated with a date and
time corresponding to a specific cell if the user designates the specific cell contained in the date/time selection image.

[0014] Preferably, the plurality of cells are arranged in a plane formed by a date axis and a time axis, the date axis includes as many days as provided via Event Information Tables (EITs), and the time axis is formed by dividing one day (i.e., 24 hours) into a predetermined number of time intervals.

[0015] Preferably, the date/time selection image is displayed on a single image including the EPG, or is displayed on another image separated from the image including the EPG.

[0016] Preferably, a selection item for activating the date/time selection image is assigned in some images, or a button for activating the date/time selection image is assigned to a remote-controller.

[0017] Preferably, the cell is selected by a direction button operation, and date, time, and/or day information corresponding to a selected cell are displayed at a lower part of the date/time selection image whenever a cell selection operation is performed.

[0018] The present invention provides an additional window using which a user can select a date and a specific time before a general EPG image is displayed, such that the user can select EPG information associated with desired date and time information.

[0019] In this case, the user can select desired date and time information using arrow keys (also called direction keys) in the additional window, i.e., the date/time selection image.

[0020] Generally, EPG information corresponding to three hours is transmitted via a single EIT, and EPG information corresponding to totally eight days is transmitted, such that 84 cells, denoted by “8 (24 hours / 3) x 8”, are displayed on the date/time selection image. The user moves a current position of a cursor to another position using arrow keys, such that the user can quickly select desired date and time information, and general EPG information is displayed on the basis of the selected date and time information.

BRIEF DESCRIPTION OF THE DRAWINGS

[0021] The above and other objects, features and other advantages of the present invention will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings, in which:

Fig. 1 is a table illustrating standard EPG - associated information for use in current terrestrial and cable digital broadcast standards;

Fig. 2 is a basic configuration of a conventional EPG screen image;

Fig. 3 is an exemplary display image for allowing a user to select desired date and time information in accordance with the present invention;

Fig. 4 is an exemplary display image of EPG information displayed when a specific cell is selected in Fig. 3;

Fig. 5 is an exemplary display image in which a date and time selection image and an EPG information image are integrated in accordance with a preferred embodiment of the present invention;

Fig. 6 is a block diagram illustrating a digital broadcast receiver to which a digital EPG implementation method can be readily applied in accordance with a preferred embodiment of the present invention;

and

Fig. 7 is a flow chart illustrating a digital EPG implementation method in accordance with the present invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0022] Now, preferred embodiments of the present invention will be described in detail with reference to the annexed drawings.

[0023] Fig. 3 is an exemplary display image for allowing a user to select desired date and time information in accordance with the present invention.

[0024] Referring to Fig. 3, if a user activates an EPG, a date and time selection image 300 is first displayed before displaying a conventional EPG image.

[0025] Due to the problem of the above-mentioned conventional EPG image, i.e., a spatial limitation of the conventional EPG image, only information corresponding to three to four hours is displayed on a single EPG image, such that a user must use an additional key to view EPG information associated with the next date or time, resulting in greater inconvenience of use. In order to solve the above-mentioned problem of the conventional EPG image, the present invention implements the date and time selection image 300 shown in Fig. 3.

[0026] The date and time selection image 300 includes a date axis 320, a time axis 330, and a plurality of cells contained in a plane formed by the date axis 320 and the time axis 330. The date and time selection image is characterized in that the date axis 320 on which as many days as provided via EITs are indicated and the time axis 330 on which one day (i.e., 24 hours) is divided into predetermined units and the divided units are displayed are formed as one image.

[0027] For example, the date and time selection image 300 includes 64 cells 310 as shown in Fig. 3, and is designed to be activated by a user command.

[0028] Current date and time information 340 is displayed at an upper part of the date and time selection image 300. Time information is divided into a plurality of subtime data in 3-hour units, and the divided subtime data in 3-hour units are sequentially arranged at the leftmost column of the above-mentioned 64 cells 310. A plurality of dates from the current date to 8 days in the further are sequentially arranged at the uppermost row.
of the above-mentioned 64 cells.

[0029] In other words, the above-mentioned 64 cells 310 are configured by combination of individual points contained in the time axis 330 and the date axis 320. A user can select a specific cell corresponding to a desired date contained in the date axis 320 and a desired time contained in the time axis 330 from among a plurality of cells, and can acquire EPG information corresponding to the desired date and time.

[0030] For example, in order to recognize EPG information originated from a specific time (e.g., 9:00 AM on January 19), the user must select a specific cell 312 as shown in Fig. 3. The specific cell 312 is indicative of a single cell, which is positioned at a fourth cell contained in a column composed of a plurality of third cells originated from the left end of the date axis 320.

[0031] If the cell 312 is selected, date and time information 350 of the selected cell is displayed at the lower part of the above-mentioned date and time selection image 300.

[0032] The reason why an entire image is composed of 64 cells is that EPG information corresponding to three hours is transmitted via a single EIT, and EPG information corresponding to totally eight days are transmitted.

[0033] 64 cells, denoted by "8 (24 hours / 3) x 8", are displayed on the date and time selection image 300 shown in Fig. 3 such that time information generated during 8 days is displayed in 3-hour units.

[0034] However, the above-mentioned example is indicative of only one embodiment of the present invention, and the above-mentioned cell configuration of the date and time selection image is not limited to the above-mentioned example and is also applicable to a variety of modifications.

[0035] If a specific cell is selected using the above-mentioned date and time selection image, EPG information corresponding to the selected cell can be acquired, and its detailed description will hereinafter be described with reference to Fig. 4.

[0036] Fig. 4 is an exemplary display image of EPG information displayed when a specific cell is selected and activated in Fig. 3.

[0037] As can be seen from Fig. 4, if a user selects a desired cell, it can be recognized that EPG information originated from a specific date and time designated by the selected cell is displayed.

[0038] In this manner, the present invention allows the user to select EPG information associated with a desired date and time using a date and time selection image, instead of immediately activating and displaying the EPG information, such that the user can conveniently search for desired EPG information.

[0039] The present invention discloses a preferred embodiment in which the date and time selection image and the EPG information display image are separated from each other so that they are configured in the form of different windows. In other words, although the date and time selection image is implemented with different OSD images in the present invention, it should be noted that the date and time selection image and the EPG information display image may be integrated in only one image.

[0040] In more detail, the above-mentioned date and time selection image may be designed to occupy a predetermined part contained in an upper part of the EPG information display image. If a specific cell contained in the date and time selection image is selected, the EPG information display image may be designed to display EPG information originated from a specific date and time designated by the specific cell.

[0041] In this case, the present invention allows a user to select EPG information associated with a desired date and time using the date and time selection image in the same manner as in the above-mentioned case, such that the user can conveniently search for desired EPG information.

[0042] Fig. 6 is a block diagram illustrating a digital broadcast receiver to which a digital EPG implementation method can be readily applied in accordance with a preferred embodiment of the present invention. It should be noted that the digital broadcast receiver shown in Fig. 6 is indicative of only one preferred embodiment of the present invention.

[0043] The digital broadcast receiver includes a key entry unit 110, a microprocessor 120, a tuner/demodulator unit 130, a memory 140, an MPEG decoder 150, a video encoder 160, an OSD unit 170, and an image synthesizer 180.

[0044] The key entry unit 110 is comprised of a remote-controller or a key matrix mounted to its own panel, generates a key signal corresponding to a user command, and transmits the key signal to the microprocessor 120. The microprocessor 120 receives the key signal from the key entry unit 110, and generates a variety of control signals capable of performing a specific function corresponding to the received key signal. For example, the microprocessor 120 includes a processor capable of controlling overall operations of a satellite broadcast receiver, and generates a tuning control signal corresponding to a broadcast channel selection signal received from the key entry unit 110, and transmits the tuning control signal to the tuner/demodulator unit 130.

[0045] The microprocessor 120 allows a user to select a specific cell associated with the date and time selection image using the key entry unit 110 on the condition that the date and time selection image is displayed. If a specific button is pressed on the condition that a cursor is positioned on the specific cell, the microprocessor 120 reads various menu image information stored in the memory 140, activates EPG information originated from a date and time field corresponding to the selected cell, and displays the activated EPG information on a screen.

[0046] Fig. 7 is a flow chart illustrating a digital EPG implementation method in accordance with the present
invention.

[0047] Referring to Fig. 7, a date and time selection image 300 of Fig. 3 is displayed at step S700.

[0048] In order to activate the date and time selection image, a selection item may be assigned in some images, or a button may also be assigned to a remote-controller.

[0049] If a user enters the button or selects the selection items capable of activating the above-mentioned date and time selection image, the date and time selection image can be displayed on a screen.

[0050] Although the above-mentioned example configures the date and time selection image and the EPG information display image in the form of different windows, it should be noted that the date and time selection image may be designed to occupy a predetermined part of an upper part of the EPG information display image as previously described in Fig. 5.

[0051] If the date and time selection image is activated and displayed, the user selects a specific cell corresponding to date and time information of desired EPG information to be searched for at step S710.

[0052] If the user selects a specific cell in the date and time selection image, an EPG information image corresponding to the selected cell is displayed at step S720.

[0053] That is, if the user selects a desired cell contained in the date and time selection image, EPG information originated from a specific date and time designated by the selected cell is displayed as shown in Fig. 4.

[0054] As apparent from the above description, the present invention allows a user to directly recognize EPG information associated with a desired date and time zone, such that the user can conveniently search for the EPG information.

[0055] Although the preferred embodiments of the present invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims.

Claims

1. A method for implementing a digital Electronic Program guide (EPG) comprising the steps of:

   displaying a date/time selection image including a plurality of cells; and

   providing a user with an EPG associated with a date and time corresponding to a specific cell if the user designates the specific cell contained in the date/time selection image.

2. The method according to claim 1, wherein the plurality of cells are arranged in a plane formed by a date axis and a time axis.

3. The method according to claim 2, wherein the date axis includes as many days as provided via Event Information Tables, and the time axis is formed by dividing 24 hours into a predetermined number of time intervals.

4. The method according to claim 3, wherein the time axis of the 24 hours is divided into a plurality of time zones, each of which is 3 hours.

5. The method according to claim 1, wherein a selection item for activating the date/time selection image is assigned in some images.

6. The method according to claim 1, wherein a button for activating the date/time selection image is assigned to a remote-controller.

7. The method according to claim 1, wherein the date/time selection image is displayed on a single image including the EPG.

8. The method according to claim 1, wherein the date/time selection image is displayed on another image separated from the image including the EPG.

9. The method according to claim 1, wherein the cell is selected by a direction button operation.

10. The method according to claim 9, wherein date, time, and/or day information corresponding to a selected cell are displayed at a lower part of the date/time selection image whenever a cell selection operation is performed.
FIG. 1
(Prior Art)

<table>
<thead>
<tr>
<th>Syntax</th>
<th>No. of Bits</th>
<th>Identifier</th>
</tr>
</thead>
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<td></td>
</tr>
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<td>1</td>
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### FIG. 4

**PROGRAM GUIDE**

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### FIG. 5

**PROGRAM GUIDE**

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<td>18 ESPN</td>
<td>9:00 MLB &quot;LA : TEXAS&quot;</td>
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<td>10:30 Titanic 2</td>
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FIG. 6

Tuner/Demodulator Unit → MPEG Decoder → Video Encoder → Image Synthesizer

Key Entry Unit → Microprocessor

Memory → Microprocessor

Audio Signal → To Display

FIG. 7

Start

Display date/time selection image → S700

Specific cell selected from among date/time selection image by user → S710

Provide corresponding EPG on the basis of date and schedule information corresponding to selected cell → S720

End
# EUROPEAN SEARCH REPORT

## DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document with indication, where appropriate, of relevant passages</th>
<th>Relevant to claim</th>
<th>CLASSIFICATION OF THE APPLICATION (INT.CI.7)</th>
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## TECHNICAL FIELD

SEARCHED (INT.CI.7)

H04N

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The present search report has been drawn up for all claims.

Place of search: Munich

Date of completion of the search: 29 June 2005

Examiner: Brod, R

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**CATEGORY OF CITED DOCUMENTS**

- T: theory or principle underlying the invention
- E: earlier patent document, but published on, or after the filing date
- D: document cited in the application
- L: document cited for other reasons
- A: technical background
- O: non-witten disclosure
- P: intermediate document

** indicator**

- member of the same patent family, corresponding document
ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO. EP 05 09 5749

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are contained in the European Patent Office EDP file on 29-06-2005.

The European Patent Office is in no way liable for those particulars which are merely given for the purpose of information.

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For more details about this annex: see Official Journal of the European Patent Office, No. 12/82
This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on 29-06-2005. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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| US 5880768 A | JP 2004112816 A | 08-04-2004 |
| WO 9631980 A1 | 10-10-1996 |
| US 2003115603 A1 | 19-06-2003 |
| US 6266814 B1 | 24-07-2001 |
| US 2004049783 A1 | 22-04-2004 |
| US 2004078815 A1 | 09-08-2001 |
| US 2004216160 A1 | 28-10-2004 |

| WO 03055197 A2 | 03-07-2003 |

For more details about this annex: see Official Journal of the European Patent Office, No. 12/02
Title: TV PLANNER FOR DSS

An integrated DSS/Web TV receiver is communicatively connected to an Internet service provider, a DSS service provider, and optionally a local broadcast station to provide a display of DSS programs, Internet web sites, and local broadcast channels in a seamless fashion. The DSS/Web TV receiver generates a graphical user interface (GUI), displayed on a television screen, for facilitating a user's navigation through the DSS, Internet, and local broadcast data. The GUI includes a TV Planner icon which, if selected by the user, causes the television to display a monthly calendar (or recording/reminder list) that indicates which programs are purchased and/or selected for recording by a VCR. A "Purchase" icon appears adjacent to purchased programs and a "Record" icon appears adjacent to programs to be recorded. If the user selects "Purchase" icon, the user is visually presented (e.g., via a pull-down screen) with the cost, date, and time of the program purchased or to be purchased. If the user selects "Record" icon, the user is virtually presented (e.g., via a pull-down screen) title, date, and time of the program to be recorded. The TV Planner screen also includes a "Timer and Rec." icon and a "Review Purchases" icon.
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TV PLANNER FOR DSS

Background of the Invention

Field of the Invention

The present invention relates generally to the presentation of Internet and
DSS data, and more specifically to displaying a graphic user interface that
facilitates a user's ability to access DSS programming, Internet information, or a
combination thereof.

Related Art

Over the last few years there has been a growing demand for
entertainment systems that facilitate a user's ability to access multiple broadcast,
information, and entertainment mediums. One type of broadcast medium is a
broadcast satellite system such as a digital satellite system (DSS). DSS typically
includes an antenna, an integrated receiver decoder (IRD), a television receiver
(TV), and a remote controller. DSS may additionally include an analog video

In operation, the antenna receives digital bit streams from a satellite and
routes the bit streams to the IRD. Typically, the digital bit streams include
sensory data (e.g., video and/or audio) and programming data for one or more
shows. The IRD receives the bit streams from the antenna and decodes the bit

One type of information and entertainment medium is the Internet. The
Internet may be accessed by a user through an Internet terminal system such as a
WebTV Plus system. The WebTV Plus system typically includes a TV, an Internet
terminal interconnecting the TV to the user's phone line and the user's cable line,
and a remote controller that can be actuated by the user to control what
information is presented on the TV by the Internet terminal. In addition, the
WebTV Plus system may also include a wireless keyboard and a printer.

In operation, the Internet terminal receives cable-based broadcasts from the
user's cable service provider via the user's cable line and receives Internet data
from the user's Internet service provider via the user's phone line. The user
selects how the received information is displayed on the TV through actuation of the remote controller.

Currently there exists a need for an integrated DSS/Internet system that permits a user to view DSS channels, local cable-based and/or terrestrial-based channels, and Internet data in a seamless fashion. Furthermore, there is a need for an integrated DSS/Internet system having a graphical user interface that facilitates the user’s ability to access and/or simultaneously view DSS programming and Internet Web sites.

Summary of the Invention

To address the shortcomings of the available art, the present invention includes an integrated DSS/WebTV receiver that is communicatively connected to an Internet service provider, a DSS service provider, and (optionally) a local broadcast station to provide a display of DSS programs, Internet web sites, and local broadcast channels in a seamless fashion. The DSS/WebTV receiver generates a graphical user interface (GUI), displayed on a television screen, for facilitating a user’s navigation through the DSS, Internet, and local broadcast data. The GUI includes a TV Planner icon which, if selected by the user, causes the television to display a monthly calendar (or recording/reminder list) that indicates which programs are purchased and/or selected for recording by a VCR.

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month) within TV Planner screen by selecting "forward" and "backward" arrow icons.

**Brief Description of the Drawings**

The aforementioned features and advantages of the present invention as well as additional advantages thereof will be more readily understood upon consideration of the following detailed description of a preferred embodiment of the invention when taken in conjunction with the following drawings.

FIG. 1 is a diagrammatic view of an entertainment system utilizing the present invention.

FIGS. 2A-2C are diagrammatic views of one embodiment of the integrated DSS/WebTV receiver used in the entertainment system of FIG. 1.

FIG. 2D is an exemplary flowchart illustrative of the operation of the integrated DSS/WebTV receiver's circuitry.

FIG. 3 is a representation of a remote controller utilized in the entertainment system of FIG. 1.

FIG. 4 is a simplified block diagram of the circuitry utilized in the remote controller of FIG. 3.

FIG. 5 illustrates the DSS data received and stored by the DSS/WebTV receiver of the present invention.

FIG. 6 illustrates the pointers to the DSS data of FIG. 5 that are utilized to generate the user interface in accordance with the teachings of the present invention.

FIG. 7 illustrates a Home screen of the GUI of the present invention.

FIG. 8 is an exemplary flowchart illustrative of a user turning on the DSS/WebTV system and accessing the GUI Home screen of FIG. 7.

FIG. 9 is a block diagram illustrating GUI screens, pull-down menus, and features that can be accessed via the GUI Home screen of FIG. 7.

FIG. 10 illustrates a Favorite screen of the GUI of the present invention.

FIG. 11 illustrates a TV Planner screen of the GUI of the present invention.

FIG. 12 illustrates the GUI Home screen of FIG. 7 having a Guides pull-down menu opened in accordance with the teachings of the present invention.

FIG. 13 illustrates an EPG of the GUI of the present invention.
FIG. 14 illustrates an option palette displayed in the EPG of the GUI of the present invention.

FIG. 15 illustrates the EPG of FIG 14 after the "Category" icon is selected from the option palette in accordance with the teachings of the present invention.

FIG. 16 illustrates the EPG of FIG 15 after the "Movie" icon is selected in accordance with the teachings of the present invention.

FIG. 17 illustrates the EPG of FIG. 14 after the search icon is selected in accordance with the teachings of the present invention.

FIG. 18 illustrates the GUI home screen having a pull-up search keyboard overlaid thereon in accordance with the teachings of the present invention.

FIG. 19 illustrates the EPG of FIG. 14 after the "Calendar" icon is selected from the option palette in accordance with the teachings of the present invention.

FIG. 20 illustrates an alternative embodiment of the calendar feature of the present invention.

**Detailed Description of the Preferred Embodiments**

In the method and apparatus of the present invention the satellite broadcast system is described as a direct broadcast satellite system (DSS) and the Internet terminal system is described as WebTV. However, it is readily apparent to one skilled in the art that other integrated systems that can receive and display satellite and Internet data may utilize the method and apparatus of the present invention. Furthermore, in the following description, for purposes of explanation, numerous details are set forth, such as menus, flowcharts and system configurations, in order to provide a thorough understanding of the present invention. However, it will be apparent to one skilled in the art that these specific details are not required in order to practice the invention. In other instances, well known electrical structures and circuits are shown in block diagram form in order not to unnecessarily obscure the present invention.

Referring now to FIG. 1, an exemplary embodiment of an entertainment system 10 utilizing the present invention is shown. Entertainment system 10 includes an integrated DSS/WebTV receiver 12, a remote controller 14, and a display monitor such as a television receiver (TV) 16. Integrated receiver 12 includes an input port 18 that receives broadcast signals from a DSS antenna 20, an I/O port 22 that receives Internet data over a telephone line 23 from an
Internet service provider 24, an input port 26 that receives broadcast signals from a local programming station 28 (e.g., a local cable station), and an infrared receiver 13 for receiving infrared signals from the remote controller 14. Integrated receiver 12 also includes peripheral I/O ports 30 that communicate with a plurality of peripheral devices 32. Peripheral devices 32 include, but are not limited to, a scanner 34, a printer 36, a keyboard 38, a microphone 40, and a recording device 42 such as video cassette recorder (VCR).

In operation, integrated receiver 12 receives a broadcast signal (e.g., a digital bit stream from DSS antenna 20 or analog data from local programming station 28) and performs operations (e.g., demodulating and/or decoding routines) on the broadcast signal to produce video and audio information to be displayed to the user via TV 16. Integrated receiver 12 also receives Internet signals from Internet service provider 24 and performs operations (e.g., decompressing and/or decoding routines) on the Internet signals to produce video and audio information to be displayed to the user via TV 16. The user controls the display of the Internet-derived and broadcast-derived audio and video information using remote controller 14, as discussed in further detail below.

Referring now to FIGS. 2A-2D, simplified block diagrams of the DSS/WebTV receiver's circuitry are illustrated. Turning now to FIG. 2A, DSS/WebTV receiver 12 includes a DSS processing element 200 (e.g., an AV7100 chip manufactured by Texas Instruments, Inc.), an Internet processing element 202 (e.g., a QED central processing unit (CPU), manufactured by Quantum Effect Design, Inc., operably connected to an application specific integrated circuit (ASIC) such as a Solo ASIC manufactured by WebTV Networks Inc.), and buffer logic 204 (e.g., a GOM logic ASIC manufactured by Sony Corp./Sony Electronics Inc.) interconnecting DSS processing element 200 and Internet processing element 202. DSS processing element 200 converts signals received from the DSS service provider into digital signals that are transmitted to Internet processing element 202 via Buffer logic 204. Internet processing element 202 converts digital signals received from Internet service provider 24 and Buffer logic 204 into data that can be displayed on TV 16 (FIG. 1), as discussed in further detail below. Buffer logic 204 acts as a buffer that shields the processor and internal bus of DSS processing element 200 from the processor and internal.
bus of Internet processing element 202. Buffer logic 204 also receives signals from local programming stations 28 (e.g., local cable or broadcast stations) and transmits the signals, in original or decimated form, to Internet processing element 202, as discussed below.

DSS processing element 200 is connected to DSS antenna 20 via a low noise block down converter 206 (LNB) and a front end unit 208 (FE). LNB 206 converts a Ku-Band signal received from a satellite to an L-Band signal. The L-Band signal is then transmitted to FE 208. FE 208 is a tuning device that amplifies, demodulates, and converts the signal received from LNB 206. The converted signal emerges as a data bit stream that is in an encrypted, encoded, and compressed form. FE 208 also performs error correction on the data bit stream. DSS processing element 200 examines and filters the data bit stream received from FE 208 based on user-selected and DSS service authorized criteria. It should be noted that the data bit stream carries video and audio data representing various DSS channels, programming data corresponding to the video and audio data, and Internet data that is transmitted over DSS, as discussed in further detail below.

An SDRAM 210 and an IEEE 1394 (Standard for High Performance Serial Bus) interface 212 are connected to DSS processing element 200. SDRAM 210 acts as an intermediate buffer for the storage of data as DSS processing element 200 performs various processing steps such as decoding, decryption, and decompression routines. Interface 212 interconnects DSS processing element 200 to peripheral devices 32 (FIG. 1) thereby permitting DSS processing element 200 to interact with peripheral devices 32.

A smart card 214 is connected to DSS processing element 200 via a card interface (not shown). Smart card 214 includes a central processing unit (CPU), a read only memory (ROM), and a random access memory (RAM). Smart card 214 determines whether the user has the authorization to receive certain data (e.g., audio/video data from a pay TV station) using the authorization information stored in its memory. If smart card 214 determines that the user is authorized, smart card 214 provides a decryption key to the DSS processing element 200 which, in turn, decrypts the audio/video data via the decryption key. It should be noted that
although a smart card has been shown, other conditional access modules known by those skilled in the art are deemed within the scope of the present invention.

A ROM 216 is connected to DSS processing element 200 and Buffer logic 204 via a data bus 218 and an address bus 220. ROM 216 stores fundamental operating routines to be executed by DSS processing element 200. The operating routines include, but are not limited to, initializing routines, downloading routines, and upgrading routines.

Buffer logic 204 receives audio data, video data, Internet/DSS data, and peripheral generated data from DSS processing element 200. Buffer logic 204 processes and/or relays the received data to Internet processing element 202, as discussed in further detail below. Buffer logic 204 also receives input from a user via a remote controller input 242 and/or a remote keyboard input 244. Buffer logic 204 relays the user input to Internet processing element 202 and, if needed, adjusts the LED display on a front panel 246 of the integrated DSS/WEBTV receiver 12. Buffer logic 204 may also receive local broadcast signals via a terrestrial tuner 236 (attached to an antenna or cable line) and analog to digital processing elements 238 and 240. The particular local broadcasting channel received is selected by the user via remote controller 14 and Internet processing element 202. Buffer logic 204 processes and/or relays the digitized local broadcast to Internet processing element 202, as discussed in further detail below.

Internet processing element 202 includes a QED microprocessor and a Solo chip. The QED microprocessor processes routines stored in internal and external memories (e.g., ROM 224) and the Solo chip provides the QED microprocessor with peripheral functions such as, but not limited to, audio processing, remote control signal processing, memory assignment, graphics processing, and discrete I/O functions. Internet processing element 202 also includes an internal soft modem 222 that communicates with the Internet service provider 24 via a subscriber line interface coder/decoder (SLIC/Codec) interface 222. SLIC/Codec interface 222 acts as a digital to analog converter between Internet processing element 202 and phone line 23. Information processed by soft modem 226 is either stored in a memory (e.g., Hard Disk Dive (HDD) 228) or is further processed.
by a graphics engine of the Solo chip such that the information from the Internet can be displayed on TV 16 (FIG. 1).

ROM 224, HDD 228, and Flash memory 230 are connected to Internet processing element 202 via a data bus 233. ROM 224 stores the fundamental operating routines of Internet processing element 202. The fundamental operating routines include, but are not limited to, initializing routines, downloading routines, upgrading routines, and the like. Flash memory 230 stores all semi-volatile applications such as, but not limited to, icon generation, GUI generation, and the like. HDD 228 stores the volatile information that is the most likely to be modified. Such volatile information includes, but is not limited to, Internet data or DSS/Internet data that is to be displayed on TV 16, as discussed in further detail below. A SDRAM 232 is connected to Internet processing element 202 and acts as an intermediate buffer for the storage of data as Internet processing element 202 performs various processing steps such as decoding, decryption, and decompression routines.

A smart card 234 is connected to Internet processing element 202 via a card interface (not shown). Smart card 234 includes a central processing unit (CPU), a read only memory (ROM), and a random access memory (RAM). Smart card 234 determines whether the user has the authorization to access certain web sites (e.g., web sites displaying or discussing mature subject matters) using the authorization information stored in its memory. If smart card 234 determines that the user is authorized, smart card 234 provides a decryption key to the Internet processing element 202 which, in turn, decrypts the received Internet data via the decryption key. It should be noted that although a smart card has been shown, other conditional access modules known by those skilled in the art are deemed within the scope of the present invention.

Internet processing element 202 receives DSS data and local broadcast data from Buffer logic 204 and blends the received data with data received from the Internet service provider 24. Afterwards, Internet processing element 202 transmits the blended data to DAC (digital to analog converters) for displaying the blended data on TV 16. It should be noted that the video portion of the data may be output in an S-Video, composite, or RF format.
Internet processing element 202 also receives DSS/Internet data from Buffer logic 204 and stores the DSS/Internet data on HDD 228. The DSS/Internet data represents, e.g., web sites that the user can access via the "Best of Web" feature of the GUI, as discussed in further detail below. Storing DSS/Internet data on HDD 228 enables a user to access predetermined web sites in real time, thereby, removing the access and interconnection delays traditionally encountered when communicating with web sites over a phone line.

Turning now to FIG. 2B, a simplified block diagram of Buffer logic 204 is shown. In general, Buffer logic 204 carries three types of information between DSS processing element 200 and Internet processing element 202: basic command signals (e.g., tune to channel 100), basic status signals (e.g., tuning complete), and large bandwidth signals (e.g., program guide information, web sites for caching in HDD 228, firmware updates, and the like). It should be noted that the internal routing of video signals from DSS processing element 200 and terrestrial tuner 236 is illustrated in FIG. 2C and discussed below.

Buffer logic 204 includes two narrowband (e.g., 2 K bytes) FIFO buffers 250 and 252 and one wideband (e.g., 64K bytes) FIFO buffer 254. FIFO buffers 250-254 are connected to DSS processing element 200 via a multiplexer 256, an address decoder 258, and an interrupt controller 260. FIFO buffers 250-254 are connected to Internet processing element 202 via a multiplexer 262, a DMA controller 264, an address decoder 266, and an interrupt controller 268.

In operation, DSS processing element 200 periodically downloads large amounts of data (e.g., program guide information, web sites for caching in HDD 228, firmware updates) to FIFO buffer 254 by signaling address decoder 258 and downloading the data to multiplexer 256. Multiplexer 256 receives the address of FIFO buffer 254 from address decoder 258 and relays the data from DSS processing element 200 to FIFO buffer 254. Interrupt controller 268 is, preferably, programmed to transmit an interrupt signal to Internet processing element 202 when the amount of data stored in FIFO buffer 254 reaches a predetermined level (e.g., 30K bytes). In response to the reception of the interrupt signal, the QED microprocessor (not shown) downloads the data stored in FIFO buffer 254 by signaling address decoder 266 and instructing DMA controller 264 to transport the incoming data to a selected memory location (e.g., HDD 228,
flash memory 230, or SDRAM 232). Address decoder 266, in turn, transmits the address of FIFO buffer 254 to multiplexer 262 and DMA controller directs the incoming data from multiplexer 262 to the selected memory.

In addition to routing large amounts of data from DSS processing element 200 to Internet processing element 202, Buffer logic 204 facilitates the transfer of commands and responses between DSS processing element 200 and Internet processing element 202. For example, when the user requests, via remote controller 14, a new DSS channel, the signal from remote controller 14 is received by Buffer logic 204 and routed to Internet processing element 202. Internet processing element 202, in turn, transmits a high level “tune to new channel” command to FIFO buffer 252 by signaling address decoder 266 and transmitting the command to multiplexer 262. Afterwards, address decoder 266 supplies multiplexer 262 with the address of FIFO buffer 252 and multiplexer 262 routes the “tune to new channel” command to FIFO buffer 252. After the “tune to new channel” command is received, interrupt controller 260 detects the reception of the command by FIFO buffer 252 and transmits an interrupt signal to DSS processing element 200. The interrupt signal notifies DSS processing element 200 that a pending command/request is stored in FIFO buffer 252. Upon receipt of the interrupt signal, DSS processing element signals address decoder 258.

Address decoder 258, in turn, transmits the address of FIFO buffer 252 to multiplexer 256 and multiplexer 256 downloads the “tune to new channel” command from FIFO buffer 252 to DSS processing element 200.

Upon receipt of the “tune to new channel” command, DSS processing element 200 executes a “tune to new channel” routine that is stored on ROM 216. The routine includes a complex sequence of instructions that are required to enable DSS processing element 200 to tune to the new channel. The instructions include, but are not limited to, determining the identity of the new channel, determining which DSS satellite carries the new channel, the bit stream location of information transmitted on the new channel (e.g., every fifth time slot), determining if the user is authorized to view the new channel (via smart card 214), and decryption instructions for decrypting the data carried on the new channel.
Once DSS processing element 200 completes executing the "tune to new channel" routine, DSS processing element transmits a status message to Internet processing element 202. The status message indicates whether the requested command has been executed. Some exemplary status messages include "channel tuned," "channel not authorized," "system inoperative," and the like. To transmit the status message to Internet processing element 202, DSS processing element 200 transmits the status message to multiplexer 256 and signals address decoder 258. Address decoder 258, in response, transmits the address of FIFO buffer 250 to multiplexer 256 which, in turn, relays the status message to FIFO buffer 250. Afterwards, interrupt controller 268 detects the reception of the status message by FIFO buffer 250 and transmits an interrupt signal to Internet processing element 202. In response to the reception of the interrupt signal, Internet processing element 202 downloads the status message stored in FIFO buffer 250 by signaling address decoder 266 and instructing DMA controller 264 to transport the incoming data to a selected memory location (e.g., internal memory, HDD 228, flash memory 230, or SDRAM 232). Address decoder 266, in turn, transmits the address of FIFO buffer 250 to multiplexer 262 and DMA controller directs the status message from multiplexer 262 to the selected memory. Finally, Internet processing element 202 examines the stored status message and transmits the appropriate response to the user. Some exemplary responses include displaying the new channel on TV 16, displaying an "unauthorized" message, displaying an "error" message, and the like.

Turning now to FIG. 2C, a simplified block diagram of the internal routing of video signals in integrated DSS/WebTV receiver 12 is illustrated. There are three sources for the video signals input to integrated DSS/WebTV receiver 12: video signals received via DSS antenna 20, video signals received from a peripheral device (e.g., a camcorder or other video recording device) via peripheral bus interface 212, and video signals received from terrestrial tuner 236. The DSS and peripheral device video signals are processed (decoded, decompressed, etc.) by DSS processing element 200 and relayed to Buffer logic 204. The terrestrial video signals are converted to a digital format by digital to analog converter 240 and relayed to Buffer logic 204.
Upon reception of the video signals, Buffer logic 204 routes the video signals through a 3x2 multiplexer 270. One output of multiplexer 270 is connected to a video processor 272 located within Buffer logic 204 and the other output of multiplexer 270 is connected to a video processor 274 located within Internet processing element 202. Each video processor 272 and 274 either performs a decimation process on the video signals or allows the video signals to pass there through. If the video signals undergo the decimation process, the decimated video signals will produce a decimated video frame on TV 16. If the video signals do not undergo the decimation process, the video signals will produce a full-screen video frame on TV 16. The decimation process is discussed in further detail below.

Video processors 272 and 274 transmit the video signal (decimated or unprocessed) to a blending function 278 of Internet processing element 202. Signals received from the Internet (via the phone line or DSS transmission) are also transmitted to blending function 278 after being processed by a web graphics engine 276. As discussed above, web graphics engine 276 processes the Internet signals into a form that can be displayed on TV 16. Blending function 278 is a software program stored in memory (e.g., internal memory, ROM 224, or flash memory 230) that Internet processing element 202 executes to integrate the received signals into a form that can be displayed on TV 16. After undergoing the blending function, the blended signals are transmitted to video encoders and digital to analog converters 280 which, as discussed above, display the blended signals on TV 16. It should be noted that the blending function and decimating procedure are only executed in response to a request from a user. For example, if a user is merely watching a TV show, the blending function and the decimating procedure are not executed. However, if the user requests a GUI (as discussed below), both the blending function and the decimation process may be executed.

Referring now to FIG. 2D, an exemplary flowchart 282 illustrative of a user accessing Internet and/or DSS data via the GUI generated by the DSS/WebTV receiver 12 is shown. Initially, at step 284, the GUI is displayed on TV 16 by DSS/WebTV receiver 12. As discussed above, the GUI is stored in flash memory 230 and displayed on TV 16 by Internet processing element 202. Next, at step 286, Internet processing element 202 determines if the user has selected an
Internet-related icon in the GUI, as described in further detail below. If the user has selected an Internet-related icon, Internet processing element 202, at step 294, displays the Internet data (e.g., a web site) that corresponds to the selected icon. If the user has not selected an Internet-related icon, Internet processing element 202, at step 288, determines if the user has selected a DSS-related icon. If the user has selected a DSS-related icon, Internet processing element 202 relays the user's request to DSS processing element 200 and displays, at step 296, the DSS data corresponding to the selected icon as provided by DSS processing element 200. If the user has not selected a DSS-related icon, Internet processing element 202, at step 290, determines if the user has selected an exit key (preferably located on remote controller 14). If the user has selected the exit key, Internet processing element 202, at step 292, discontinues the display of the GUI. If the user has not selected the exit key, Internet processing element 202 returns to step 286 and continues to monitor for the selection of Internet-related icons and/or DSS-related icons.

Referring now to FIG. 3, one embodiment of remote controller 14 is shown. As discussed above, remote controller 14 is utilized by a user to transmit commands and make program selections in accordance with the teachings of the present invention. In operation, the user may actuate a plurality of operation keys of remote controller 14 to control how the integrated receiver 12 displays video and audio information on TV 16. The plurality of operation keys include, but are not limited to, a direction pad 302 having a plurality of direction keys 318-324 and an enter key 326, a "GUIDE" key 304 for prompting integrated receiver 12 to display an electronic program guide on TV 16, a "FAVORITE" key 306 for prompting integrated receiver 12 to display a user-customized favorite channel screen on TV 16, a "HOME" key 308 for prompting integrated receiver 12 to display a Home screen on TV 16, a "CATEGORY" key 310 for prompting integrated receiver 12 to display a category guide on TV 16, an "OPTIONS" key 312 for prompting integrated receiver 12 to display an option palette on TV 16, a "SELECT" key 314 for prompting integrated receiver 12 to display a feature selected by the user on TV 16, and an "EXIT" key 316 for prompting integrated receiver 12 to discontinue displaying a selected menu or feature.
Referring now to FIG. 4, a simplified block diagram of the remote controller circuitry is illustrated. Remote controller 14 has an infrared originating device 400, a set of operation keys 402 (corresponding to the operation keys of FIG. 3), a CPU 404, a ROM 406 and a RAM 408. CPU 404 receives a signal sent from an operation key 402 through an input port 410. The signal is processed according to a program stored in ROM 406. RAM 408 is used as a working space for generating a transmitting code. The transmitting code is sent to the infrared originating device 400 through an output port 412 and converted into an infrared signal. The infrared signal is transmitted to infrared receiver 13 of integrated DSS/WebTV receiver 12.

Referring now to FIG. 5, a block diagram of data 500 stored in a portion of HDD 228 and/or flash memory 230 (FIG. 2A) is illustrated. As discussed above, HDD 228 and/or flash memory 230 store guide data 502, channel data 504, and program data 506. Guide data 502 includes, but is not limited to, date information 508, time information 510, a segment number identifier 512 that identifies the data segment, a transponder list 514 that identifies the transponder transmitting the data segment, and a channel list 516 that identifies a channel number associated with a portion of data.

Channel data 504 includes a channel number 518, a channel name 520 (e.g., the call sign of a broadcast station), a logo ID 522 (e.g., an identification of the channel logo), a data ID 524 that identifies a channel of MPEG video data or MPEG audio data, a number of programs 526 that identifies the number of programs to be transmitted on a channel during a predetermined time frame, and a first program offset 528 that identifies the offset from the header to the first channel data in a segment.

Program data 506 includes a program title 530, a program start time 532, a time length 534 indicating the duration of the program, a program category 536 (e.g., movies, news, sports, etc.), a program subcategory 538 (e.g., subcategories of sports such as baseball, basketball, football), a program rating 540 (e.g., “R”, “PG”, “G”) and a program description 542 that provides a detailed description of the program (e.g., story line, actors).

Referring now to FIG. 6, DSS processing element 200 generates a pointer table 544 in response to the reception of data 500. DSS processing element 200
stores the pointer table 544 in HDD 228 and/or flash memory 230. Pointer table 544 contains the location of channel data 546 and program data 548 in HDD 228 and/or flash memory 230. In operation, when the user selects a program for viewing (via controller 14), Internet processing element 202 transmits a “tune to new channel” request to DSS processing element 200. In response, DSS processing element 200 executes a channel locating routine (stored in ROM 216) and determines the location of the channel data and program data corresponding to the selected program by accessing pointer table 544. After the location determination is completed, DSS processing element 200 tunes to the new channel and transmits a status message to Internet processing element 202 via Buffer logic 204. If the user is authorized to receive the new channel (and no errors have occurred), Internet processing element 202 receives the video and audio signals from DSS processing element 200 and Buffer logic 204, performs any necessary blending and/or decimating techniques, and displays the requested program on TV 16.

Referring now to FIG. 7, a Home screen 550 of a Graphical User Interface (GUI) of the present invention is shown. The GUI, generated by DSS processing element 200 and Internet processing element 202, is displayed on TV 16 and permits a user to select a channel for viewing and to access the Internet. GUI home screen 550 includes, but is not limited to, a “Guide” icon 552, a “WebTV” icon 554, a “Favorites” icon 556, a “TV Planner” icon 558, a “Mail” icon 560, a “Setting” icon 562, a “How To” icon 564, and a movable highlight box (or pointer) 568. Icons 552-564 represent accessible screens, pull-down menus, and features that a user can display on TV 16, as discussed below. GUI Home screen 550 also includes a scrolling ticker region that displays information about upcoming events (e.g., upcoming pay-per-view movies and sporting events) and a decimated video region 569 that displays, in reduced form, the current DSS channel (including channel name, channel number, and program title) being viewed by the user.

In operation, the user positions highlight box 568 on icons 552-564 by pressing direction keys 318-324 of remote controller 14 in the appropriate direction. Once the user has positioned the highlight box 568 on a desired icon, the user can display the menu corresponding to the highlighted icon by pressing
enter key 326 of controller 14. It should be noted that some menus (e.g., "Guides", "Favorites") can be displayed by highlighting a corresponding icon in GUI Home screen 550 or by pressing a corresponding key of remote controller 14. Selection of a particular icon by the user by means of highlight box 568 and enter
key 326 is noted by either Internet processing element 202 or DSS processing element 200, depending on the icon. In response to the user's selection of Internet-related icons, Internet processing element 202 displays Internet web page data from storage device HDD 228, or flash memory 230, or carries out functions which correspond to the selected icon from routines stored in ROM 224. It should be noted that some of the data stored in HDD 228 or flash memory 230 is downloaded by DSS processing element 200, as described above, from a DSS service provider. In response to the user's selection of DSS-related icons, DSS processing element 200 displays sensory data (audio and video data) received from the DSS service provider, displays the GUI received from storage device HDD 228 or flash memory 230, or carries out functions which correspond to the selected icon from routines stored in ROM 216.

Referring now to FIG. 8, an exemplary flowchart 570 illustrative of a user turning on entertainment system 10 and accessing GUI Home screen 550 is shown. Initially, at step 572, the user powers up entertainment system 10 by pressing the power button(s) on remote controller 14. Upon power up, at step 574, the channel that was previously displayed when entertainment system 10 powered down is displayed on TV 16. Afterwards, at step 576, integrated DSS/Web TV receiver 12 monitors signals from remote controller 14 to determine if the user has pressed "HOME" key 308. If "HOME" key 308 has not been pressed, integrated DSS/Web TV receiver 12 continues to display the previously displayed channel and monitor signals from remote controller 14. If "HOME" key 308 has been pressed, integrated DSS/Web TV receiver 12, at step 578, displays GUI Home screen 550 on TV 16.

As discussed above, GUI Home screen 550 contains a decimated video region 569 that displays the current channel selected by the user. A full-screen video frame is reduced to a decimated video frame by a decimation process. The decimation process is a down-conversion filtering process that reduces the definition or resolution of the full-screen video frame to a frame size convenient
for display in the GUI. Decimating the full-screen video frame results in a decimated video frame having pixel dimensions that are a fraction of the dimensions of the full-screen video frame. The decimation process of the present invention uses known filtering and digital signal processing techniques to eliminate a number of pixels from the full-screen video frame. For example, one exemplary decimation technique might drop every other pixel in the vertical and horizontal directions (X,Y) from the full-screen video frame, thereby providing a decimated video frame having pixel dimensions that are one-half of the X,Y pixel dimensions of the full-screen video frame, i.e., a window 1/16 of actual size. The number of pixels eliminated from the full-screen video frame is determined by the size of the decimated video frame to be displayed in the GUI. In one embodiment, the decimated video frame has, but is not limited to, pixel height and width that are one-fourth of the pixel dimensions of the full-screen video frame. As discussed above, decimated video is stored in a memory (e.g., HDD 228 and/or flash memory 230) for later display.

Referring now to FIG. 9, a plurality of features and/or menus that the user can access via GUI Home screen 550 are shown. As discussed above, GUI Home screen 550 includes a decimated video region, a so-called picture-in-picture (PIP) region 569 that displays a reduced frame size video 580 of a currently selected program and a scrolling ticker region 566 that displays information about upcoming events, stocks, sport scores, and the like. The user can access an “Article Summary” icon 567 or a “Web Page” icon 571 associated with the information displayed on ticker region 566 by selecting the ticker region 566 via the highlight box (or pointer) 568 (shown in FIG. 7). “Article Summary” icon 567, if selected, provides the user with additional information about the upcoming event that is not otherwise displayed on ticker region 566. “Web Page” icon 571, if selected, provides the user with an interactive setting for receiving additional information about the upcoming event. For example, ticker region 566 may display a message that states that an upcoming football game will be shown on channel 4 at 2 PM on November 24, 1999. If the user desires to have further information about the game, the user may select “Article Summary” icon 567 to receive information such as the football team’s records, conferences, and the like. The user may also select “Web Page” icon 571 to access each team’s web page.
and/or the football portion of the web page of channel 4. As discussed above, these web pages are downloaded from the DSS network, stored on HDD 228, and retrieved from the HDD 228 by the Internet processing element 202 in response to selection of an icon by the user.

GUI Home screen 550 also includes a plurality of icons that permit the user to access screens, pull-down menus, and/or features that facilitate the user’s navigation through DSS channels and the Internet, as discussed below. In general, the user can access a menu or feature by selecting an icon (i.e., positioning highlight box 568 over the icon) and pressing enter key 236. The following descriptions describe the screens, pull-down menus, or features that the user can access by selecting the various icons in GUI Home screen 550. As discussed above, the selection of a particular icon by the user by means of highlight box 568 and enter key 326 is noted by either Internet processing element 202 or DSS processing element 200, depending on the icon. In response to the user’s selection of Internet-related icons, Internet processing element 202 displays Internet web page data from storage device HDD 228, or flash memory 230, or carries out functions which correspond to the selected icon from routines stored in ROM 224. It should be noted that some of the data stored in HDD 228 or flash memory 230 is downloaded by DSS processing element 200, as described above, from a DSS service provider. In response to the user’s selection of DSS-related icons, DSS processing element 200 displays sensory data (audio and video data) received from the DSS service provider, displays the GUI received from storage device HDD 228 or flash memory 230, or carries out functions which correspond to the selected icon from routines stored in ROM 216.

If “How To” icon 564 is selected, DSS processing element 200 generates a global help manual 582 that provides the user with information regarding how the user can utilize various features of entertainment system 10.

If “Guide” icon 552 is selected, DSS processing element 200 generates a pull-down menu having the following options: an Electronic Program Guide (EPG) 584, a Station Index 586, a Category 588, an alphabetical Listing 590, and Others 592. As discussed below (FIGS. 12-19), the user can select from one or more of options 584-590 to display programming information in a predetermined manner.
If "WebTV" icon 554 is selected, Internet processing element 202 generates a WebTV home page 594 that provides the user with access to the Internet. In addition, DSS processing element 200 generates a "Best Of Web" icon 596 that, if selected, displays a list of preferred Web sites that are downloaded from the Internet or, preferably, from the user's DSS provider.

If "Mail" icon 560 is selected, Internet processing element 202 generates an electronic mail list 598 that includes public mail 600 received from the user's DSS provider and personal mail 602 that is provided by the user's Internet service provider. Public mail 600 is distinguished from personal mail 602 by differentiation indicia such as a difference in color, font style, associated icons, or the like. In operation, public mail 600 can only be read by the user and is typically utilized by the DSS service provider to provide the user with promotions, advertisements and the like. Personal mail 602, however, allows the user to transmit and receive e-mail via the Internet.

If "Favorites" icon 556 is selected, DSS processing element 200 generates a favorite channel screen 630, as shown in FIG. 10. Favorite channel screen 630 includes a list of favorite channels 604, a "user" icon 606 and an "edit" icon 608. The user selects "user" icon 606 if the user desires to view a list of favorite channels associated with another user ID (e.g., a parent viewing a child's list of favorite channels). The user selects "edit" icon 608 if the user desires to alter channel list 604 by removing or adding channels.

If "TV Planner" icon 558 is selected, DSS processing element 200 generates a full screen display of a TV Planner screen 632, as shown in FIG. 11. TV Planner screen 632 includes a monthly calendar (or recording/reminder list) 610 that indicates which programs are purchased and/or selected for recording by VCR 42 (FIG. 1). A "Purchase" icon 634 appears adjacent purchased programs and a "Record" icon 636 appears adjacent programs to be recorded. If the user selects "Purchase" icon 634, the user is visually presented (e.g., via a pull-down menu) with the cost, date, and time of the purchased program. If the user selects "Record" icon 636, the user is visually presented (e.g., via a pull-down menu) with the title, date, and time of the program to be recorded. TV Planner screen 632 also includes a "Timer & Rec." icon 612 and a "Review Purchases" icon 614. If the user selects "Timer & Rec." icon 612, the user is presented with a "Timer &
Rec.” screen (not shown) that lists the programs that the user selected to view or record. If the user selects “Review Purchases” icon 614, the user is presented with a “Review Purchases” screen (not shown) that lists all the programs purchased (e.g., PPV programs) by the user in a given time period (e.g., one month). It should be noted that the user can modify selected data (e.g., delete or add programs) when the user is in the “Timer &Rec” or “Review Purchases” screens. The user may also scroll from time period to time period (e.g., month to month) within TV Planner screen 632 by selecting an arrow 638.

If “Settings” icon 562 is selected, DSS processing element 200 and/or Internet processing element 202 generate a “Settings” screen that includes a “System” icon 616, an “Alternate Audio” icon 618, a “Locks & Limits” icon 620, a “Guide Preferences” icon 622, a “Service” icon 624, and a “View” icon 626. If the user selects “System” icon 616, the user is presented with a number of system configuration options such as antenna alignment, color adjustment, and the like. If the user selects “Alternate Audio” icon 618, the user is presented with an Audio screen (not shown) that provides the user with a plurality of audio options. If the user selects “Locks & Limits” icon 620, the user is presented with a “Locks and Limits” screen (not shown) that allows the user to select a spending limit (e.g., $200 per month for Pay Per View (PPV)), select a rating limit (e.g., only “PG” shows can be viewed on PPV), and enter a password for entering the selected limits or overriding earlier selected limits. If “Guide Preferences” icon 622 is selected, the user is presented with a number of guide configuration options such as displaying channels in numerical order, displaying channels in alphabetical order, displaying all received channels, displaying only pre-selected channels, and the like. If the user selects “Service” icon 624, the user is presented with a menu (not shown) that instructs the user to call a service representative and initiate a self-diagnostic test on the DSS/WebTV receiver. The user receives further instruction from the called service representative. If the user selects “View” icon 626, the user is presented with a plurality of sizing options for displaying the video on the TV screen.

New services or features may be added to entertainment system 10 via DSS, cable, and/or Internet communications. It is considered within the scope of the invention to provide icons 628 in GUI Home screen 550 to permit the user to
access the new service or features. For example, a "Game" icon may be added to
GUI Home screen 550 to facilitate a user's ability to download games from the
Internet.

Referring now to FIG. 12, GUI Home screen 550 is shown as having
"Guide" icon 552 selected by the user. As previously discussed, when the user
selects "Guide" icon 552, DSS processing element 200 generates a pull-down
menu having the following options: EPG 584, Station Index 586, Category 588,
Alpha List 590, and Others 592. Turning now to FIG. 13, an EPG screen 650 is
generated by DSS processing element 200 if the user selects EPG option 584
from the pull-down menu of FIG. 12. EPG screen 650 includes a decimated video
region 652 that displays the currently selected program, an information region
654 that displays the channel number, channel ID, program name, program rating,
and program length of the program being displayed in decimated video region 652,
and a Display Information Packet (DIP) region 656 that displays detailed
information (e.g., story line, actor names, etc. ...) about the currently selected
program. EPG screen 650 also includes a channel table 658 that identifies each
channel by channel number 660 and channel name 662. Channel table 658 also
includes a program list 664 that displays the programs being shown on each
channel. Program list 664 is preferably divided into three time periods 666-670.

As shown, the time periods may be half-hour intervals, however, longer or shorter
time intervals are deemed within the scope of the invention. Preferably, highlight
box (or cursor) 568 is positioned in the upper left corner of program list 664 when
EPG screen 650 is first displayed. In operation, the user navigates through EPG
screen 650 by actuating direction keys 318-324 and enter key 326 on remote
controller 14. For example, the user would view a program on channel 119 by
pressing "down" key 320 until channel 119 appeared in channel list 664,
positioning highlight box (or cursor) 568 on the desired program, and pressing
"enter" key 326. In response, DSS processing element 200 detects the selection
of channel 119, executes a related routine stored in ROM 216, and displays
channel 119 on television 16, as discussed above in FIGS. 2A-2D.

Referring now to FIG. 14, DSS processing element 200 generates an
option palette 672 in EPG screen 650 if the user presses options key 312 on
remote controller 14. Option palette 672 includes, but is not limited to, a
"Search" icon 674, a "Category" icon 676, a "Calendar" icon 678, and a "Guide Settings" icon 680. Preferably, highlight box (or cursor) 568 is positioned over "Search" icon 674 when option palette 672 is first displayed. If the user selects "Search" icon 674, DSS processing element 200 generates an on-screen keyboard, as discussed below (FIGS. 17-18). If the user selects "Category" icon 676, DSS processing element 200 generates a plurality of category icons, as discussed below (FIGS. 15-16). If the user selects "Calendar" icon 678, DSS processing element 200 generates a calendar screen, as discussed below (FIGS. 19-20). If the user selects "Guide Settings" icon 680, DSS processing element 200 generates a Guide Setting screen (not shown) that permits the user to alter how the EPG screen 650 operates. For example, the user can select the number of channels (and associated programs) shown in channel table 658. In addition, the user can select whether decimated video region 652 should either display a previously selected channel until the user selects a new channel or display each channel that highlight box (or cursor) 568 travels over.

Referring now to FIG. 15, a plurality of category icons 682 are generated by DSS processing element 200 if the user selects "category" icon 676 in option palette 672. Category icons 682 facilitate the user’s navigation through DSS channels by filtering programs into preselected categories for presentation to the user in channel table 658. Category icons 682 include, but are not limited to, a "Movies" icon 684, a "Sports" icon 686, a "Specials" icon 688, an "Attractions" icon 690, a "Drama" icon 692, and an "Education" icon 694. Preferably, highlight box (or cursor) 568 is positioned over "Movie" icon 684 when the plurality of icons 682 are first displayed. If the user selects "Movies" icon 684, the channels that carry movies are displayed in channel table 658 (FIG. 16). If the user selects "Sports" icon 686, the channels that carry sport programs are displayed in channel table 658. If the user selects "Specials" icon 688, the channels that carry special features are displayed in channel table 658. If the user selects "Attractions" icon 690, the channels that carry upcoming attractions are displayed in channel table 658. If the user selects "Drama" icon 692, the channels that carry drama programs are displayed in channel table 658. If the user selects "Education" icon 694, the channels that carry educational programs are displayed in channel table 658.
Referring now to FIG. 16, EPG 650 is shown as having movie carrying channels displayed in channel table 658. It should be noted that when channel table 658 is only displaying a user-selected category of programs, the DSS processing element 200 causes a category identifier 696 to be presented to the user in EPG 650. Category identifier 696 reminds the user that channel table 658 is only displaying a category filtered portion of the programs offered by the DSS service provider.

Referring now to FIG. 17, an on-screen keyboard 700, generated by DSS processing element 200 and or Internet processing element 202, slides upwardly over option palette 672 and channel table 658 if the user selects “Search” icon 674 in option palette 672. On-screen keyboard 700 allows the user to search for a desired program by entering a search term (e.g., actor’s name, sport team’s name, movie director’s name). On-screen keyboard 700 includes a plurality of keys 702 and a window 704 for displaying search terms entered by the user via keys 702. In operation, the user manipulates keys 702 of on-screen keyboard 700 via directional keys 318-324 and enter key 326 of remote controller 14. It should be noted that the user may enter search terms via keyboard peripheral 38 (FIG. 1) if keyboard peripheral 38 is connected to integrated DSS/WebTV receiver 12.

Referring now to FIG. 18, on-screen keyboard 700 can also be accessed by the user in GUI Home screen 550. If the user accesses on-screen keyboard 700 in GUI Home screen 550, the user can enter Internet search terms via on-screen keyboard 700 in the same manner as described with respect to FIG. 17.

Referring now to FIG. 19, a calendar 706, generated by DSS processing element 200, is superimposed over option palette 672 and a portion of channel table 658 if the user selects “Calendar” icon 678 in option palette 672. Calendar 706 includes a plurality of days 708 within a predetermined time period (e.g., one month). Calendar 706 permits the user to filter programs displayed in channel table 658 on a daily basis. Preferably, highlight box (or cursor) 568 is positioned over the current date in calendar 706 when calendar 706 is first displayed to the user. In operation, the user positions, via remote controller 14, highlight box (or cursor) 568 over a day in which the user desires to view a program listing. Afterwards, the user selects the highlighted day by pressing enter key 326 on

- 23 -
remote controller 14. In response, the DSS processing element 200 causes a
portion of the programs (e.g., three channels of programs over an hour and a half
time period) shown on the selected day to be displayed in channel table 658. The
user can then navigate through the selected day’s programs via channel table
658, as described above. It should be noted that the user can move from
predetermined time period to predetermined time period (e.g., month-to-month) by
actuating arrow keys 710 via remote controller 14.

Referring now to FIG. 20, an alternative embodiment of the calendar
feature of the present invention is illustrated. In the alternative embodiment, a
calendar 712, generated by DSS processing element 200, is presented to the user
when the user accesses EPG 650. Calendar 712 is positioned above channel
table 658 and below decimated video and DIP regions 652 and 656. Calendar
712 includes a horizontal date list 714 and a horizontal time list 716. In
operation, the user, via remote controller 14, selects a date from date list 714 and
a time from time list 716 in order to view programs for a given date and time in
program table 658. The user then navigates through the programs in program
table 658, as discussed above. It should be noted that the user can horizontally
scroll through calendar 712 in order to display a desired date and/or time within a
given time period (e.g., one month). Preferably, highlight box (or cursor) 568 is
positioned over the current date in calendar 712 when EPG 650 is first displayed
to the user.

Although the present invention has been shown and described with respect
to preferred embodiments, various changes and modifications are deemed to lie
within the spirit and scope of the invention as claimed. The corresponding
structures, materials, acts, and equivalents of all means or step plus function
elements in the claims which follow are intended to include any structure,
material, or acts for performing the functions in combination with other claimed
elements as specifically claimed.
What is claimed is:

1. An apparatus for displaying information on a television, comprising:
   a first circuit that receives wireless television communication signals, the wireless television communication signals including channels of informational content data, that includes video data and audio data, and program content data related to the informational content data, wherein the first circuit causes to be displayed on the television, in addition to the received wireless television communication signals, a graphic user interface (GUI) that includes a TV planner display icon;
   a second circuit that receives computer network communication signals; and wherein
   the first circuit and the second circuit together process the received wireless television communication signals and the received computer network communication signals such that the received wireless television communication signals and the received computer network communication signals can be selectively displayed on the television.

2. The apparatus of claim 1, wherein the first circuit includes a circuit that activates the display of selected video signals on the television corresponding to the information content data in response to a user's selection of an icon displayed in the graphic user interface.

3. The apparatus of claim 1, wherein the first circuit, in response to the user's selection of TV planner icon, generates a full screen display on the television of a monthly calendar, that serves as a recording reminder list, that indicates that programs are purchased and/or selected for recording.

4. The apparatus of claim 3, wherein the first circuit, in response to the user's selection of the TV planner display icon, additionally causes the television to display a plurality of additional user selectable icons, including one or more of a purchase icon, a record icon, a review purchases icon, and a timer and recording icon.

5. The apparatus of claim 4, wherein purchase icon appears adjacent purchased programs and a record icon appears adjacent programs to be recorded.

6. The apparatus of claim 4, wherein the first circuit, in response to the user's selection of the purchase icon, causes the television to display a pop-up screen that lists the cost, date, and time of the purchased program.
7. The apparatus of claim 4, wherein the first circuit, in response to the user’s selection of the record icon, causes the television to display a pop-up record screen that lists the title, date, and time of the program to be recorded.

8. The apparatus of claim 4, wherein the first circuit, in response to the user’s selection of the record icon, causes the television to display a pop-up screen that lists the title, date, and time of one or more programs already recorded.

9. The apparatus of claim 4, wherein the first circuit, in response to the user’s selection of the timer and recording icon, causes the television to display a pull-down timer and recording screen that lists the programs that the user has selected to view and/or record.

10. The apparatus of claim 9, wherein the user can modify selected data in the timer and recording screen.

11. The apparatus of claim 4, wherein the first circuit, in response to the user’s selection of the review purchases icon, causes the television to display a pull-down review purchases screen that lists all the programs, including any pay per view (PPV) programs, purchased by the user in a given time period.

12. The apparatus of claim 11, wherein the user can modify selected data in the review purchases screen.

13. The apparatus of claim 3, wherein the monthly calendar display further includes user selectable forward and backward icons for causing the first circuit to scroll from time period to time period within TV planner screen.

14. The apparatus of claim 1, wherein the first circuit, in response to the user’s selection of the TV planner display icon, causes the television to display a plurality of user selectable icons, including one or more of a purchase icon, a record icon, a review purchases icon, and a timer and recording icon.

15. The apparatus of claim 14, wherein purchase icon appears adjacent purchased programs and a record icon appears adjacent programs to be recorded.

16. The apparatus of claim 14, wherein the first circuit, in response to the user’s selection of the purchase icon, causes the television to display a pop-up screen that lists the cost, date, and time of the purchased program.

17. The apparatus of claim 14, wherein the first circuit, in response to the user’s selection of the record icon, causes the television to display a pop-up record screen that lists the title, date, and time of the program to be recorded.
18. The apparatus of claim 14, wherein the first circuit, in response to the user’s selection of the record icon, causes the television to display a pop-up screen that lists the title, date, and time of one or more programs already recorded.

19. The apparatus of claim 14, wherein the first circuit, in response to the user’s selection of the timer and recording icon, causes the television to display a pull-down timer and recording screen that lists the programs that the user has selected to view and/or record.

20. The apparatus of claim 19, wherein the user can modify selected data in the timer and recording screen.

21. The apparatus of claim 14, wherein the first circuit, in response to the user’s selection of the review purchases icon, causes the television to display a pull-down review purchases screen that lists all the programs, including any pay per view (PPV) programs, purchased by the user in a given time period.

22. The apparatus of claim 21, wherein the user can modify selected data in the review purchases screen.

23. An method for displaying information on a television, comprising the steps of:

   receiving wireless television communication signals, the wireless television communication signals including channels of informational content data, that includes video data and audio data, and program content data related to the informational content data, causing to be displayed on the television, in addition to the received wireless television communication signals, a graphic user interface (GUI) that includes a TV planner display icon;

   receiving computer network communication signals; and

   processing the received wireless television communication signals and the received computer network communication signals such that the received wireless television communication signals and the received computer network communication signals can be selectively displayed on the television.

24. The method of claim 23, further comprising the step of displaying selected video signals on the television corresponding to the information content data in response to a user’s selection of an icon displayed in the graphic user interface.

25. The method of claim 23, further comprising the step, in response to the user’s selection of TV planner icon, of generating a full screen display on the television
of a monthly calendar, that serves as a recording reminder list, that indicates that programs are purchased and/or selected for recording.

26. The method of claim 25, further comprising the step, in response to the user’s selection of the TV planner display icon, of additionally causing the television to display a plurality of additional user selectable icons, including one or more of a purchase icon, a record icon, a review purchases icon, and a timer and recording icon.

27. The method of claim 26, wherein the purchase icon appears adjacent purchased programs and a record icon appears adjacent programs to be recorded.

28. The method of claim 26, further comprising the step, in response to the user’s selection of the purchase icon, of causing the television to display a pop-up screen that lists the cost, date, and time of the purchased program.

29. The method of claim 26, further comprising the step, in response to the user’s selection of the record icon, of causing the television to display a pop-up record screen that lists the title, date, and time of the program to be recorded.

30. The method of claim 26, further comprising the step, in response to the user’s selection of the record icon, of causing the television to display a pop-up screen that lists the title, date, and time of one or more programs already recorded.

31. The method of claim 26, further comprising the step, in response to the user’s selection of the timer and recording icon, of causing the television to display a pull-down timer and recording screen that lists the programs that the user has selected to view and/or record.

32. The method of claim 31, wherein the user can modify selected data in the timer and recording screen.

33. The method of claim 26, further comprising the step, in response to the user’s selection of the review purchases icon, of causing the television to display a pull-down review purchases screen that lists all the programs, including any pay per view (PPV) programs, purchased by the user in a given time period.

34. The method of claim 33, wherein the user can modify selected data in the review purchases screen.

35. The method of claim 25, wherein the monthly calendar display further includes user selectable forward and backward icons and further comprising the step of causing the first circuit to scroll from time period to time period within TV planner screen in response to the user’s selection of the forward or backward icons.
36. The method of claim 23, further comprising the step, in response to the user's selection of the TV planner display icon, of causing the television to display a plurality of user selectable icons, including one or more of a purchase icon, a record icon, a review purchases icon, and a timer and recording icon.

37. The method of claim 36, wherein purchase icon appears adjacent purchased programs and a record icon appears adjacent programs to be recorded.

38. The method of claim 36, further comprising the step, in response to the user's selection of the purchase icon, of causing the television to display a pop-up screen that lists the cost, date, and time of the purchased program.

39. The method of claim 36, further comprising the step, in response to the user's selection of the record icon, of causing the television to display a pop-up record screen that lists the title, date, and time of the program to be recorded.

40. The method of claim 36, further comprising the step, in response to the user's selection of the record icon, of causing the television to display a pop-up screen that lists the title, date, and time of one or more programs already recorded.

41. The method of claim 36, further comprising the step, in response to the user's selection of the timer and recording icon, of causing the television to display a pull-down timer and recording screen that lists the programs that the user has selected to view and/or record.

42. The method of claim 41, wherein the user can modify selected data in the timer and recording screen.

43. The method of claim 36, further comprising the step, in response to the user's selection of the review purchases icon, of causing the television to display a pull-down review purchases screen that lists all the programs, including any pay per view (PPV) programs, purchased by the user in a given time period.

44. The method of claim 43, wherein the user can modify selected data in the review purchases screen.
Display GUI on TV 284

Selection of Internet-related icon? 286
  Yes: Display Internet data corresponding to selected icon 294
  No: Selection of DSS-related icon? 288
    Yes: Display DSS data corresponding to selected icon 296
    No: Selection of exit key? 290
      No: 
      Yes: Discontinue display of GUI 292

FIG. 2D
FIG. 5
10/19

Power up system

Display previously displayed channel

Has "Home" key been pressed on remote controller?

Yes

Display GUI on TV

No

FIG. 8

TV planner

MON JUN 5  3:30pm

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<tr>
<th>Sun</th>
<th>Mon</th>
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Space Jam
5:00pm - 7:30pm
$2.99

Program title
Start time

Review purchases

Press Select

Review Purchase screen.

Timer & Rec.

Press Select

Timer & Rec. screen.

FIG. 11
This is the area for the DIP. It will accommodate 256 characters. Smooth scrolling displays additional text, which will not fit in the space allocated. This is the scrolling to display additional text, which will not fit in the space allocated.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04N5/445

According to international Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic database consulted during the international search (name of database and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
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<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
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<td>X</td>
<td>WO 99 04561 A (SCHOAFF P CHRISTOPHER; ALEXANDER RON (US); GUIDE INC E (US); HANCO) 28 January 1999 (1999-01-28) page 8, line 8 - page 10, line 32; figures 1,6</td>
<td>1,23, 3,25</td>
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<td>A</td>
<td>WO 98 12872 A (STARSIGHT TELECAST INC) 26 March 1998 (1998-03-26) figures 2,5,6</td>
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Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents:

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   "E" earlier document but published on or after the international filing date
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   "O" document referring to an oral disclosure, use, exhibition or other means
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Date of the actual completion of the international search

28 June 2000

Date of mailing of the international search report

04/07/2000

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Authorized officer

Yvonnet, J
<table>
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<tr>
<td></td>
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<td>AU 4483197 A</td>
<td>14-04-1998</td>
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<td>EP 0927490 A</td>
<td>07-07-1999</td>
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<tr>
<td></td>
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<td>EP 0945003 A</td>
<td>29-09-1999</td>
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<td>AU 8913098 A</td>
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<td></td>
<td>EP 1008260 A</td>
<td>14-06-2000</td>
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<td>AU 7827198 A</td>
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Title: IMPROVED ELECTRONIC TELEVISION PROGRAM SCHEDULE GUIDE SYSTEM AND METHOD

Abstract

An electronic program schedule system which includes a receiver for receiving broadcast, satellite or cablecast television programs for a plurality of television channels and a tuner for tuning a television receiver to a selected one of the plurality of channels. A data processor receives and stores in a memory television program schedule information for a plurality of television programs to appear on the plurality of television channels. A user control apparatus, such as a remote controller, is utilized by a viewer to choose user control commands and transmit signals in response to the data processor which receives the signals in response to user control commands. A television receiver is used to display the television programs and television program schedule information. A video display generator receives video control commands from the data processor and program schedule information from the memory and displays a portion of the program schedule information in overlaying relationship with a television program appearing on a television channel in at least one mode of operation of the television programming guide. The data processor controls the video display generator with video control commands, issued in response to the user control commands, to display program schedule information for any chosen one of the plurality of television programs in overlaying relationship with at least one television program then appearing on any chosen one of the plurality of channels on the television receiver.
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IMPROVED ELECTRONIC TELEVISION PROGRAM SCHEDULE GUIDE SYSTEM AND METHOD

Background of the Invention

This invention relates to an electronic program schedule system, which provides a user with schedule information for broadcast or cablecast programs viewed by the user on a television receiver. More particularly, it relates to an improved electronic program guide that provides the user with a more powerful and convenient operating environment, while, at the same time, increasing the efficiency of navigation by the user through the guide.

Electronic program guides for television systems are known in the art. For example, one prior system used an electronic character generator to display textual schedule information on the full screen of a television receiver. Other prior systems presented electronically stored program schedule information to a user for viewing while allowing the user to select display formats. Still other systems employed a data processor to input user-selection criteria, then stored only the program schedule information meeting these criteria, and subsequently used the stored information to automatically tune a programmable tuner or activate a recording device at the time of broadcast of the selected television programs. Such prior systems are generally discussed in "Stay Tuned for Smart TV," published in the November 1990 issue of Popular Science.

Collectively, the prior electronic program systems may be difficult to implement and cumbersome to use. They also fail to provide viewing capabilities that address in a more realistic manner the viewing habits of the users of these electronic program systems. Moreover, many of these systems are complex in their design and are expensive to implement. Ease of use and economy are primary concerns of television program distributors and viewers as they contemplate dramatic increases in the number and nature of program networks and other television-based services. And, as the number of television channels available to a user increases dramatically with the advent of new satellite and cable-
based technologies, the utility of these prior systems substantially diminishes.

These prior-art systems also fail to provide the user with sufficient information, for example pricing and the like, about pay-per-view events, premium services or other packaged programming to which the user does not subscribe, nor do they provide the user with the capability to automatically purchase such programming on demand or impulse. Moreover, these prior-art systems are deficient in that they fail to provide an efficient and automatic method of updating or replacing the application software programs that implement the electronic guide at the user sites, relying instead on manual or other cumbersome forms of revision or replacement or hardware-based systems that can not be updated without physical replacement of integrated circuits and/or other parts.

Nor do these prior electronic guide systems have the capability of linking the user to other applications or information systems which are not part of the electronic program guide application or data.

Nor do these prior electronic guide systems provide video promotion of television programs and services that are functionally linked and visually displayed in an integrated fashion. Program promotion is an important element of the effective marketing of television programming. The promotion of pay-per-view pay (i.e., "a la carte") programs and other unregulated program services is particularly important to cable television operators in the wake of re-regulation by the federal government. The current method of promoting such programming using video is through dedicated "barker" channels that use full screen continuous trailers (i.e., previews) which may or may not be accompanied by prices and ordering information. Recently, such promotional videos have been shown in split screens where part of the screen shows general schedule information for a time period roughly corresponding to the time period during which the general program being promoted is shown. Accordingly, there exists a need
for an electronic program guide which can provide improved display and linking of video promotions with program schedule information and order processing functions.

The prior electronic program guides also fail to provide the user with a simple and efficient method of controlling access to individual channels and individual programs. The amount of adult situations involving sex and violence has steadily increased during the last 40 years. The issue of how this affects children or other viewers has gained national attention. Providing a parent with the ability to lock-out a channel is a well known and widespread feature of certain television receivers and cable converter boxes. Despite this availability, the feature is seldom used by parents. The main impediments to its effective use are the cumbersome ways in which it is generally implemented, as well as the requirement that entire channels be blocked in order to block access to any objectional programming. A channel-oriented parental lock is unfair to other programmers on the blocked channel -- who, for example, offer adult-oriented programming in the evening and youth-oriented programming the following morning-- and inconvenient for viewers who want access to such programs. Thus, there is a particular need for a system which provides password control to individual programs and channels using a flexible and uncomplicated on-screen user interface.

The prior electronic program guides are also deficient in that they do not provide the user with the ability to view on demand current billing status and, thus, a need exists for a system which can provide the user with current billing information on the user's demand.

An additional problem with prior program guides is that when displaying schedule information in grid format, i.e., columns representing time slots and rows representing channels, program titles generally are width-wise truncated to fit into the cells of the grid. The width of a grid cell varies with the duration of the program. Since a 30 minute program is allotted only a small amount of space for the program title and description, titles
and/or descriptions for half and even full hour programs often must be truncated in order to fit into the allotted space. Some systems simply cut off the description of a program without abbreviating it in any way, such that the user is unable to determine the subject matter of the program. For example, a recent television program display included the following text in a grid cell: "Baseball: Yankees v." Although some systems partially alleviate this problem by providing two lines of text in each grid cell, this solution is not ideal because program descriptions may still be truncated.

A similar problem arises as the time slots change, either automatically or in response to a user control command. Typically, 90 minutes of schedule information is displayed at one time and the 90 minute window is shiftable in 30-minute increments. In the case where a 30 minute shift causes a 30 minute size grid cell to display, e.g., a two-hour movie, it is likely that the full title of the movie will not fit into the cell. Truncation of the title is thus required in this situation as well. In this case, while two lines of text may be desirable to fit the title in the 30 minute cell, the 60 and 90 minute cells may require only one line of text to display the title.

The prior electronic program guides also lack a method for creating a viewing itinerary electronically while still viewing a program currently appearing on the television receiver. Moreover, these prior program guides leave much guess work for the user as he navigates through a sequence of channels. When skimming through channels to ascertain the program then being displayed on any channel, commonly known as "channel surfing," the user needs to guess which program is currently being aired from the video encountered as the user surfs through the channels. Since much -- in some cases, up to 30% -- of the programming appearing on any given channel at any given time is advertising or other commercial programming, the user is not provided with any clues as to what program is appearing on a selected channel at a given time and must therefore wait until the advertisement or
commercial is over before ascertaining the program then appearing on the selected channel. Thus a need exists for a program guide which displays current program schedule information for each channel as the user surfs through the available channels.

Accordingly, there is a need in the art for a simplified electronic program schedule system that may be more easily implemented, and which is appealing and efficient in operation. There is also a need to provide the user with an electronic program schedule system that displays both broadcast programs and electronic schedule information in a manner not previously available with other electronic program schedule systems, particularly those using a remote controller.

For example, there is a particular need for a flexible program schedule system that allows a user to view selected broadcast programs on a portion of the screen of the television receiver while simultaneously viewing program schedule information for other channels and/or services on another portion of the screen. There is also a need for such a program schedule system that permits the user to select from a plurality of selectable display formats for viewing the program schedule information. It is also preferred to have a system that indicates to the user those keys on the remote controller that are active in any particular mode of operation. There also exists a need for such a system that will give a user the capability to set a programmable reminder for viewing a program scheduled to air at a future time.

There is also a need for an electronic guide system providing the user with comprehensive information about pay-per-view events, premium services or other packaged programming to which the user does not ordinarily subscribe, and which provides the user with the capability to automatically purchase such programming on demand or impulse. There is also a need for an electronic guide system providing a reliable and efficient method of updating or replacing the application software that implements the electronic guide at the user sites.
There also exists a need for an electronic program guide that operates as a shell or window to provide the user with the capability to access other applications or information systems that are not part of the electronic program guide application or data.

It is accordingly an object of the present invention to provide a system that will allow the user to view a broadcast program while, at the same time, interactively viewing program schedule information for other programs.

It is another object of the present invention to provide the user with the ability to select from among a plurality of display formats for the program schedule information.

It is yet another object of the present invention to indicate to the user of the program schedule system those keys on the remote controller active in the particular mode of operation of the system at the time of use.

It is a still further object of the present invention to provide the user of the electronic program schedule system with the capability of setting programmable reminder messages for any future program.

It is yet a further object of this invention to provide the system user with comprehensive information about pay-per-view events, premium services or other packaged programming to which the user does not subscribe and the capability to automatically purchase such programming on demand or impulse.

It is another object of the present invention to provide an electronic guide system that provides a reliable and efficient method of updating or replacing the application software programs that implement the electronic guide at the user sites.

It is still another object of the electronic program guide to operate as a shell or window to provide the user with the capability to access other applications or information systems which are not part of the electronic program guide application or data.
It is yet another object of the electronic program guide to provide a system whereby video promotion of television programs and services are functionally linked and visually displayed in an integrated fashion to facilitate the marketing and sale of such programs and services.

It is still a further object of the present invention to provide password control for access to individual programs, as well as channels, using a protected interactive flexible and uncomplicated on-screen interface.

Another object of the present invention is to provide the user with current programming information for all programs as the user surfs through the available channels.

It is yet a further object of the present invention to provide a system in which the user can access his current billing information on demand.

It is another object of the present invention to provide a system which overlays television program listings against varying background views.

It is yet another object of the present invention to provide an improved display of text in the grid cells comprising a page of television program listings.

These and other objects of the invention are achieved by an electronic program schedule system which includes a receiver for receiving broadcast, satellite or cablecast television programs for a plurality of television channels and a tuner for tuning a television receiver to a selected one of the plurality of channels. A data processor receives and stores in a memory television program schedule information for a plurality of television programs to appear on the plurality of television channels. A user control apparatus, such as a remote controller, is utilized by a viewer to choose user control commands and transmit signals in response to the data processor which receives the signals in response to user control commands. A television receiver is used to display the television programs and television program schedule and other information. A video display generator
receives video control commands from the data processor and
program schedule information from the memory and displays a
portion of the program schedule information in overlaying
relationship with a television program appearing on a television
channel in at least one mode of operation of the television
programming guide. The data processor controls the video display
generator with video control commands, issued in response to the
user control commands, to display program schedule information for
any chosen one of the plurality of television programs in
overlaying relationship with at least one television program then
appearing on any chosen one of the plurality of channels on the
television receiver.

Brief Description of the Drawings

Fig. 1 is a block diagram showing various components of
the preferred embodiment of the invention herein.

Fig. 2 is a block diagram showing the combination of
program and schedule information by the video overlay device
utilized in the preferred embodiment of the invention.

Fig. 3 depicts a remote controller that can be used in
connection with the preferred embodiment of the electronic program
guide system of the present application.

Fig. 4 depicts an alternative embodiment of the remote
controller shown in Fig. 3.

Fig. 5 shows an overlay appearing on a television screen
in one mode of operation of the preferred embodiment of the
present invention.

Fig. 6 is a menu that appears on a television screen in
a MENU mode of operation of the preferred embodiment of the
present invention.

Fig. 6A is yet another menu that appears on a television
screen in a MENU mode of operation of the preferred embodiment of
the present invention.
Fig. 7 depicts a Viewer Preference Menu that appears on a television screen in one aspect of the preferred embodiment of the present invention.

Fig. 8 shows a Preferred Channel selection submenu.

Fig. 9 shows an impulse ordering menu that appears on a television screen in one aspect of the preferred embodiment of the present invention.

Fig. 10 shows a Premium Services submenu that appears in one mode of operation of the preferred embodiment of the present invention.

Fig. 11 shows a graphic overlay appearing on a television screen in a BROWSE mode of operation of the preferred embodiment of the present invention.

Fig. 12 shows a graphic overlay appearing on a television screen in a BROWSE mode of operation of the preferred embodiment of the present invention having different information from that shown in Fig. 11.

Fig. 12A shows a graphic overlay appearing on a television screen in a BROWSE mode of operation in the present invention displaying schedule information for a time and channel other than that shown in Fig. 11.

Fig. 13 shows a graphic overlay appearing in a REMINDER mode of operation of the preferred embodiment of the present invention.

Fig. 14 shows yet another graphic overlay appearing in a REMINDER mode of operation of the preferred embodiment of the present invention.

Fig. 15 is yet another menu that appears on a television screen in a MENU mode of operation of the preferred embodiment of the present invention.

Fig. 16 is yet another menu that appears on a television screen in a MENU mode of operation of the preferred embodiment of the present invention.
Fig. 17 is yet another menu that appears on a television screen in a MENU mode of operation of the preferred embodiment of the present invention.

Fig. 18 shows a grid listing of schedule information displayed in an All Listings mode of operation of the preferred embodiment of the present invention.

Fig. 19 shows schedule information displayed in a Listings By Category mode of operation of the preferred embodiment of the present invention.

Fig. 20 shows schedule information displayed in a Listings By Channel mode of operation of the preferred embodiment of the present invention.

Fig. 21 shows information displayed in response to a user's request for supplemental programming information.

Fig. 22 shows programming, ordering and video promotional information displayed in a Pay-Per-View mode of operation of the preferred embodiment of the present invention.

Fig. 23 shows an ordering submenu used in conjunction with the mode of operation shown in Fig. 22.

Fig. 24 shows yet another ordering submenu used in conjunction with the mode of operation shown in Fig. 22.

Fig. 24A shows yet another ordering submenu used in conjunction with the mode of operation shown in Fig. 22.

Fig. 25 shows another grid listing of schedule information displayed in an All Listings mode of operation of the present invention.

Fig. 26 shows a Premium Services submenu that appears in one mode of operation of the preferred embodiment of the present invention.

Fig. 27 shows a Messages menu that appears in one mode of operation of the preferred embodiment of the present invention.

Fig. 28 shows exemplary messages used in connection with the menu of Fig. 27.

Fig. 28A is an alternative message menu.
Fig. 29 shows billing information used in connection with the menu of Fig. 27.

Fig. 30 shows a Key Lock Access menu that appears during one mode of operation of the preferred embodiment of the present invention.

Fig. 31 shows a menu appearing in connection with an Interactive Television mode of operation of the preferred embodiment of the present invention.

Fig. 32 shows information that appears in a Quote Watch menu in connection with the Interactive Television mode of operation shown in Fig. 31.

Fig. 33 shows other information that appears in connection with the Interactive Television mode of operation shown in Fig. 31.

Fig. 34 is a menu showing information that appears in a news display in the Interactive Television mode of operation of the preferred embodiment of the present invention.

Fig. 35 is a menu showing information that appears in a sports display in the Interactive Television mode of operation of the preferred embodiment of the present invention.

Fig. 36 is a flow chart showing the operation logic required for implementation of a computer program for the electronic program guide.

Fig. 37 is a menu showing a Locator screen for locating channel numbers and defining favorite channel lists.

Fig. 38 is an alternative menu that can be used in a MENU mode of operation of the electronic program guide.

Fig. 38A and 38B show, respectively, an alternative main menu screen and a listing-by-time screen accessible from the alternative main menu.

Fig. 39 is a Lockout menu that alternatively can be used for permitting or prohibiting access to certain programs.

Fig. 40 is a Setup menu that can be used to set text location and a purchase code for premium and pay-per-view programming.
Fig. 40A shows an exemplary menu for inputting a lockout code.

Figs. 40B through 40E show, respectively, exemplary menus for entering, confirming, clearing or changing a purchase code.

Fig. 41 is a Lockout Verify menu that is used in connection with the Lockout menu of Fig. 39.

Fig. 42 is a flow chart showing the operation of the preferred embodiment of the text fit system of the invention herein.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

System Configuration

Fig. 1 is a block diagram showing various components of the electronic program schedule system generally designated as 10. Physically, these system components can be located in a user's set-top cable converter box or other signal reception or processing device, such as a satellite receiver. Alternatively, the components can be mounted in a separate housing, or included as part of a television receiver, VCR, personal computer, or multimedia player; or reside as a distributed application in a broadband network architecture.

An input signal 11 is connected to a receiver 12, which receives a transmitted data stream from a data provider. The data stream may contain, for example, information about programs or services available in a particular market, geographical or otherwise. The input signal 11 can originate, for example, as part of a standard broadcast, cablecast or satellite transmission, or other form of data transmission. The data provider is a program information provider, the satellite uplink manager, a local cable operator, or a combination of these sources, and the data stream contains program schedule information for all television programs and other services available in the operator's geographical market.

The data stream may be modulated and then transmitted on the cable line in any number of ways, including as part of a
dedicated channel transmission operating at a frequency of, for example, 75 MHz. Those of skill in the art will understand that numerous other transmission schemes can be used to transmit the data stream, such as embedding it in the vertical blanking interval of a program broadcast signal. As will be discussed in greater detail below, according to the present invention, the transmitted data stream may additionally contain application software for implementing or updating the electronic program guide at the user site.

The transmitted program schedule data or application software is received by the receiver 12 on signal input line 11. The received signal is passed from the receiver to a data demodulator 13, such as a QPSK demodulator or a GI Info-Cipher 1000R, which demodulates the transmission and passes it to a buffer 15.

A microcontroller 16, such as a M68000EC, receives data passed to the buffer 15. Bootstrap operating software, which may be used for capturing electronic program guide application software updates, is stored in a read only memory (ROM) 17. The microcontroller 16 uses the received program schedule information to build a database by storing the data in appropriately organized records in dynamic random access memory (DRAM) 18. The stored schedule information can be updated on a periodic basis, such as hourly, daily or weekly, or at any time when changes in scheduling or other factors warrant an update. The system also includes a system clock 19.

Alternatively, the program schedule information could be supplied in a ROM, disk or other non-volatile memory, or it could be downloaded to a storage disk or other data storage device. The invention herein is not directed to the particular method of transmission or reception of the schedule information.

If the microcontroller 16 recognizes the received data as application software which controls the program schedule system, as opposed to program schedule information, it stores it in non-volatile memory, such as an electrically erasable
programmable ROM (EEPROM) 20 or battery-backed static RAM (SRAM). This configuration allows revised or replacement versions of the application software to be downloaded directly from the software developer to the user site through the cable or other transmission system.

In the case where an EEPROM is utilized, revised or replacement versions of the application software downloaded from the developer are first stored in DRAM 18 by the microcontroller 16, under direction of the downloading operating software stored in the ROM 17. The stored application software can then be checked for accuracy by, for example, a checksum analysis or other verification routine.

After the accuracy of the application software has been verified, the microcontroller 16 initiates a routine to re-program the EEPROM 20, where the application software is permanently stored. The microcontroller 16 will issue proper control commands to a reprogram circuit 21, which is adapted to supply the proper program voltage and logic control signals 22 required to erase and write to the EEPROM. It supplies this program voltage, Vprog, as well as any other required control signals, such as read or write enable, to the EEPROM 20 upon command from the microcontroller 16. After the EEPROM 20 has been electrically erased, the microcontroller 16 initiates transfer of the new application software from the DRAM 18 to the EEPROM 20 for storing.

When a battery-backed SRAM is utilized as non-volatile memory, the microcontroller stores the revised or replacement version of the application software downloaded from the developer directly in the SRAM, again under direction of the downloading operating software stored in the ROM. The stored application software can then be checked for accuracy by, for example, a checksum analysis or other verification routine.

When power is first applied to the system 10, the bootstrap operating software verifies that the program guide application software is resident in memory. If it is not resident, the bootstrap operating software waits for a download of
the software. Once the application software is resident, the microcontroller 16 executes the application program software from a dedicated portion of the DRAM 18. Alternatively, the application software can be executed directly from the non-volatile memory 20. Under control of the program guide application software, the microcontroller 16 first verifies that the program schedule information is resident in DRAM 18. If it is not resident, the microcontroller waits for a download of the program schedule information, as discussed above. Alternatively, if the application program is resident in memory, but the database records containing the program schedule information data are not yet available, the application software can be configured to carry out other tasks, such as allowing the user to carry out functions not requiring the program schedule information data, as well as displaying an appropriate message indicating the database data is not yet available.

When the schedule system is operating, as discussed in greater detail hereinbelow, the microcontroller 16 takes the program schedule information stored in the DRAM 18 and, in conjunction with other downloaded data types such as stored bit maps for the screen configuration and the graphic symbol or logo displays stored in non-volatile memory 20 or, alternatively, in DRAM 18, supplies it to a video display generator (VDG) 23, which in the present embodiment may be a commercially available VGA-type graphics card, such as a Rocgen card manufactured by Rocotec. The VDG includes a standard RGB video generator 24, which takes the digital program schedule information sent by the microcontroller 16 and converts it to an RGB format in accordance with the bit map for the particular screen display then being presented to the user on the television receiver 27. The configuration of each screen is shown and discussed in greater detail in the System Operation section below.

The VDG also includes a Video Overlay Device 25, which accepts the RGB video input, as well as an input from conventional television tuner 28, such as a conventional tuner
manufactured by General Instrument or a Jerrold DPBB tuner, which supplies a program signal in standard NTSC video format. The overlay device 25 converts and combines the RGB signal with the signal from the tuner 28, and produces a composite NTSC output signal containing both the program signal and the program schedule information, as shown in Fig. 2. This composite video signal is supplied to a modulator 26, shown in Fig. 1, which can be a modulator such as available from Radio Shack, and then to the television receiver 27, which the user keeps tuned to the modulated channel, for example, channel 3 or 4. The composite video signal can also be supplied directly to the television receiver 27 or other receiving device from the VDG through a video port 25A on the VDG.

The system components identified in connection with Fig. 1 can all be implemented in a preferred platform by, for example, an IBM personal computer equipped with a transmission link and a video graphics card, such as those manufactured by Rocotec. Other platforms, such as a cable converter box equipped with a microprocessor and memory, or a broadband network also could be used. Examples of the particular components are as follows: Microcontroller -- Motorola part no. MC68331-16; ROM -- Texas Instruments part no. TMS27PC512; DRAM -- Texas Instruments part no. TM4256; EEPROM -- Intel part no. 28F001BX-T. In any event, those of skill in the art will appreciate that the particular details of the hardware components and data storage are a function of the particular implementation of the system, and are not the subject of the present invention.

As discussed in detail below, the user may navigate through the program schedule system with a remote controller, such as that shown in Fig. 3, which operates on conventional principles of remote control transmitter-receiver logic, such as by infrared or other signalling, or other suitable user interface. The remote controller 31 communicates with the microcontroller 16 through the remote controller receiver 29, shown in Fig. 1, which can be a Silent Partner IR receiver and which receives signals transmitted
by the remote controller 31 and supplies the microcontroller 16 with a corresponding digital signal indicating the key depressed by the user.

A remote controller suitable for the present invention, such as shown in Fig. 3, which can be a remote controller manufactured by Universal Electronics or Presentation Electronics' Silent Partner, may include a power switch 32, volume 33 and mute 34 controls, an ENTER key 35, 0-9 digit keys 36, four direction arrow keys 37A and 37B, a MODE key 38 and an information key 39 that is designated with a lower case "i." The power 32, volume 33 and mute 34 keys operate in the same manner as conventional remote controllers typically used with present-day television receivers. The numeric digit keys 36 also function in much the same manner as conventional remote controllers. A brief description of the remaining keys follows.

The MODE key 38 takes the user through various layers of the electronic program schedule system 10 and generally allows the user to return to a previous screen when he is in a submenu. The up/down direction arrow keys 37A allow a user to navigate through the different TV program channels when the program schedule system is in a FLIP or BROWSE mode, as will be fully described below, and also allow the user to navigate through highlighted bars displayed on the TV screen when in a MENU mode. The left/right direction arrow keys 37B allow the user to navigate through selected time periods when the program schedule system is in the BROWSE mode, as will also be described below. They further allow the user to navigate across subject-matter categories while in the "Categories" submenu of the MENU mode, as well as to navigate across time periods when the program schedule system is in a pay-per-view ordering mode and, in general, navigate in left or right directions to select various icons and other objects. The information, or "i," key 39 allows the user to view supplemental program and other information during the various modes of the program schedule system. The ENTER 35 key fulfills and inputs a command once the user has made a selection from the remote
controller keys. The function and operation of these keys will be made more apparent in the detailed discussion of the FLIP, BROWSE and MENU modes below.

A second embodiment of the remote controller 40 is shown in Fig. 4. This embodiment of the remote controller also includes a power key 41, numeric digit keys 42, direction arrow keys 43A and 43B, information key 48, ENTER or SELECT or "OK" key 44, volume control 45, lockout key 45A, mute keys 46 and help key 48A. It also includes pound sign and star keys.

This embodiment of the remote controller further includes a number of icon keys 47A and 47B, which correspond to different submenus or modes of the program schedule system. The icons 47A and 47B may also be displayed on the TV screen when the program schedule system is operating. The icon keys essentially replace the MODE key 38 used in the embodiment of the remote controller shown in Fig. 3. Using these keys, the user can move from one mode to another simply by depressing the icon key corresponding to the desired mode of operation of the program schedule system. In the embodiment of Fig. 4, the icons 47A and 47B are shown as graphic symbols situated directly above a corresponding color-coded key. Alternatively, the color-coded keys could be eliminated and keys could be formed in the image of the icon itself.

The embodiment of the remote controller shown in Fig. 4 also includes three color-coded viewer preference or favorite channel keys, 48A, 48B and 48C that are situated directly above the icon keys. Each of these keys indicates to the program schedule system a distinct user-created "Channel Preference" or "Favorite Channel" list, which is a listing of a specific subset of channels for a particular user, arranged in the sequential order that the user wishes to view during operation of the program schedule system. The creation of the Channel Preference or Favorite Channel list is discussed in the following section. Thus, the system provides for at least three individual channel subsets for three individual users.
The remote controller of Fig. 4 also may be equipped with a "HELP" key 48A, which, when depressed, causes the microcontroller 16 to retrieve previously stored instruction messages from memory and cause them to be displayed on the television receiver 27. These messages offer help to the user in the form of instructions that guide the user through the operation of the various operating modes of the electronic television program guide. They may be text messages, or instructional video images, or audio programs, depending on the storage capacity of the system, or any combination of these. Moreover, these help messages may be created so that they are context-sensitive, i.e., the messages displayed depend entirely upon the precise point in the operation of the electronic program guide that the user depresses the help key 48A. For example, information could be supplied for operation of the remote controller, for operating the FLIP or BROWSE mode (discussed below), or any other mode of operation of the guide, for impulse ordering, for setting a lockout, etc. In order to accomplish this, each point of operation of the guide could be coded so that the microprocessor could track the current operating point, for example, by temporarily storing the code reflecting the present operating point as the user operated the guide. When the user pressed the help key 48A, the microcontroller 16 would retrieve an appropriate set of messages based on the presently stored operating point code. Additionally, the i key 39 could be used to carry out the function of the help key.

Additionally, each of the functions of the remote controllers can also be integrated into a keypad on the user's cable box or other hardware.

System Operation

In operation, the electronic program schedule system of the present invention functions as follows.
FLIP Mode

When the user is viewing a particular program channel on the television receiver, the program schedule system defaults to a FLIP mode, shown in Fig. 5. In this mode, a graphic overlay 51 containing programming information for the channel currently tuned on the tuner is superimposed in overlaying relationship with a received program signal 55 on the screen of the television receiver 27 whenever the viewer changes the program channel, for example, by using the up/down direction arrows on the remote controller. The video overlay device 25, such as shown in Fig. 1, combines the computer-generated RGB video-graphic overlay information with the NTSC-format program signal from the tuner 28, and supplies an NTSC-format output signal, which includes the program signal from the tuner and the program schedule overlay information for viewing on the television receiver 27.

The programming information contained in the graphic overlay 51 is supplied to the RGB video generator by the microcontroller. In FLIP mode, the microcontroller first searches the program schedule database in, for example, the DRAM 18 to retrieve the programming information for the currently tuned channel 52 corresponding to the current time; i.e., the time at which the user just turned on the television receiver for viewing. The microcontroller 16 then supplies the current channel and program information to the RGB video generator 24 which converts the digital data information to RGB format and supplies it to the video overlay device 25.

In normal operation, the microcontroller 16 defaults to displaying all channels offered by the cable company prioritized by numeric order, which is determined by the broadcast channel position in the radio spectrum or the marketing judgments of local cable operators. Using a "Channel Preference" submenu, or an alternative "Locator" screen, both of which are discussed below, the user can revise the content and/or sequential order of the channels presented to the television receiver 27.
In general, if the user does not issue a change-channel instruction, or other command, from the remote controller 40 within a predetermined time interval while in the FLIP mode, the microcontroller 16 instructs the VDG 23 to remove the graphic overlay 51 from the television receiver, thus presenting only a program signal 55 to the television receiver 27 for viewing. The duration of the predetermined time interval is such that it allows the user sufficient time to read the programming information contained in the overlay. The duration of the predetermined time interval during which the graphic 51 overlay appears is stored in a location in non-volatile memory 20 addressable by the microcontroller 16. The user can change the duration of the time interval, by first entering a Viewer Preference mode, and then selecting an "overlay interval" entry. The microcontroller 16 then causes a user prompt to be displayed on the screen which, for example, asks the user to select an appropriate time period for displaying in the graphic overlay on the screen. Using the numeric keys, the user can input an appropriate response, for example, a period between 5 and 60 seconds, and then depress ENTER. The new interval period is then read and stored by the microcontroller 16 in the overlay time interval location in memory.

If the user issues a change-channel command from the remote controller 40 before or after the predetermined overlay period has elapsed, either by using the up/down direction arrows 43A, or by entering a desired channel number using the numeric keys 42 and then depressing the ENTER key 44, the microcontroller 16 will cause the tuner 28 to tune to the desired channel -- either the channel immediately preceding or following the current channel when the up or down arrow 43A is used or the specific channel entered on the numeric key pad by the user -- and will also search for and immediately cause to be displayed the current program information for that channel. Thus, as the user flips through the channels, the program schedule information for any selected channel automatically appears in the graphic overlay 51.
while the actual program 55 appearing on the selected channel at the particular time occupies the remainder of the screen.

The system can also be configured to issue an error message, such as an audible beep or displayed text indicating an invalid key stroke, if the user depresses either the left or right direction arrow keys while in the FLIP mode.

**BROWSE Mode**

To initiate the BROWSE mode, the user depresses the MODE switch once while in the FLIP mode when using the first embodiment of the remote controller 31 shown in Fig. 3. Utilizing the second embodiment of the remote controller 40 shown in Fig. 4, the user would depress the button below the BROWSE icon 47A.

In the BROWSE mode, the user is provided with the ability to scan through program schedule information for any channel, including, but not limited to, the channel being viewed, while at the same time continuing to view the TV program previously selected. As shown in Fig. 11, in this mode the graphic overlay information that appears in the FLIP mode is replaced with programming information for the channel being browsed, which may or may not be the channel currently being viewed by the user. After the user issues the command from the remote controller 40 to enter the BROWSE mode, a graphic overlay 111 is generated, as in the FLIP mode, with program schedule information for the currently tuned channel 112 and a textual BROWSE indicator 113 to remind the user of the currently active mode, as shown in Fig. 11.

If the user depresses either the up or down direction arrow on the remote controller 40 while in the BROWSE mode, program schedule information for either the prior or next channel is displayed in the graphic overlay portion 111 of the television receiver screen 27, while the tuner remains tuned to the channel program that appeared on the television receiver at the time the user entered the BROWSE mode, as shown in Fig. 12, and continues to so appear. Each successive depression of the up or down
direction arrow key produces corresponding program schedule information for the selected channel. The graphic overlay may also include a small video window for showing the actual video signal of a currently aired program or a clip of a future program corresponding to the schedule information then appearing in the BROWSE overlay. In this way, the user can simultaneously scan program schedule information for all channels while continuously viewing at least one selected program on the television receiver. With the advent of sophisticated television receivers, it may also be possible to simultaneously display multiple broadcast programs on a single screen for viewing, or to split the screen to show, for example, broadcast programs in combination with advertisements. The BROWSE feature could be used in any of these situations.

If, at any time during scanning of the program schedule information in the BROWSE mode, the user desires to tune the television receiver 27 from the program channel currently being viewed to the program channel indicated in the schedule information in the graphic overlay, he simply depresses the ENTER button 44 and the tuner 28 will be tuned to that channel. If the user does not want to view another channel and wishes to exit the BROWSE mode, thus removing the graphic overlay 111 with the program schedule information, he must depress the MODE key twice in the first embodiment of the remote controller 31. The first depression of the MODE key takes the user to the MENU mode, discussed below, and the second depression will take the user to the FLIP mode. Once in the FLIP mode, the graphic overlay will be removed after the duration of the time-out interval has passed. In the second embodiment of the remote controller shown in Fig. 4, the user toggles the BROWSE icon key to deactivate the BROWSE mode.

When the user first enters the BROWSE mode and begins scanning channels, the schedule information appearing in the overlay portion 111 describes the programs currently playing on any particular channel. In order to view programming information
for later or earlier times, the user employs the left and right
direction arrows 43B. As a consequence, the system will display
future program schedule information for the particular channel
previously selected by the up and down direction arrows, whether
it is the channel currently being viewed or any other available
channel. The schedule information presented includes the name of
the program and program start/stop time. The instant embodiment
of the system, in order to conserve memory, will not allow the
user to view programming information for a time prior to the
current time. The system could be easily modified to provide such
information if adequate memory is made available. It may be
desirable, for example, to allow a user to view schedule
information for an earlier time to find a particular show and then
allow the user to command the microcontroller to find and display
future airing dates of the show, or the microcontroller could
simply do this automatically.

When viewing program schedule information for a future
time in the BROWSE mode, the displayed time of airing 121 of the
particular show 122 is highlighted, as well as the channel number
and service indicator 123, as shown in Fig. 12A. Such highlighted
information reminds the user that he is viewing program schedule
information for a future time. Also, when viewing program
schedule information for a future time on any particular channel
in the BROWSE mode, depression of the channel up direction arrow
key on the remote controller 40 causes programming schedule
information for the next channel to appear, which corresponds in
time to the future time that was being viewed before the up key
was depressed by the user. The channel down direction arrow key
43B functions identically in this mode.

If while viewing program schedule information for a
future time in BROWSE mode the user depresses the ENTER key on the
remote controller, the microcontroller 16 will instruct the VDG 23
to display a REMINDER overlay message 130 which, as shown in Fig.
13, is displayed as a second overlay 131 appearing above the
BROWSE overlay 132. The REMINDER message 130 queries the user as
to whether the system should remind the user, at a predetermined time before the start of the selected program, that he or she would like to view the selected program, as shown in Fig. 13. If the user responds affirmatively, the microcontroller 16 stores reminder data consisting of at least the channel, time and day of the selected program in a reminder buffer, which contains similar schedule information for all programs for which the user has set a reminder. At a pre-determined time before the selected program start time, for example, five minutes, the microcontroller 16 will retrieve schedule information, including title and service, based on the reminder data, and will instruct the VDG 23 to display a REMINDER overlay message 140 on the television receiver 27, as shown in Fig. 14, to remind the user that he or she previously set a reminder to watch the selected program. The REMINDER message 140 contains the channel, service and start time. It also displays the number of minutes before the time of airing of the particular show and updates the display every minute until the time of airing. The REMINDER message 140 also displays a "TUNE" inquiry, which asks the user if she would like to tune to the selected program. When the user sets multiple reminders, the reminder overlays are stacked, for example, in ascending order according to the time each reminder is scheduled to be displayed, and the next reminder message will appear on the television receiver after the user takes appropriate action to remove the reminder message then being displayed. The REMINDER message (140 could also be adapted to allow the user to display or modify a list of all reminders previously set by the user. As with the overlay display time period in the FLIP mode, the user can modify the time period before a selected program that the REMINDER message appears by entering the Viewer Preference mode and revising the time entry.
MENU Mode

Using the remote controller 31 shown in Fig. 3, the user can enter the MENU mode from the BROWSE mode or from the FLIP mode by toggling the MODE button 38 once or twice, respectively. Using the remote controller 40 of Fig. 4, the user would simply depress the key 47B corresponding to the MENU icon.

Referring to Fig. 6, in the MENU mode, the system displays a plurality of menu items and icons, which correspond to and allow user selection of distinct program schedule information display formats, local cable system message boards and other on-line information services. The MENU screen shown in Fig. 6 is a full-screen display. In the embodiment shown in Fig. 6, there are four vertically selectable horizontal bars 61-64, which are accessed using the up and down direction arrows 43A on the remote controller 31 or 40. At the extreme left of each bar, an identifying icon 61A-64A is displayed, which identifies the information contained in that bar. In the embodiment of Fig. 6, the "TV GUIDE" icon 61A in the first bar corresponds to program schedule information from TV Guide® magazine, the "NOW SHOWING" icon 62A in the second bar 62 corresponds to pay-per-view and premium service events, the "MSO Logo" icon 63A in the third bar 63 corresponds to Customer Service or local cable company information messages, and the circular icon 64A in the fourth bar 64 corresponds to other interactive services available to the user, or in the case of broadband networks, other venues, e.g., home shopping, banking or telephone use. As also shown in Figs. 6 and 6A, each bar also contains a textual description of its contents.

When the user first enters the MENU mode, the system defaults to selection of the program schedule bar. When a particular bar is selected, the textual description is removed and a plurality of icons or identifying windows are displayed adjacent the identifying icon. In Fig. 6, the program schedule bar 61 is selected. Using the up or down direction arrow key on the remote controller 40, the user selects a vertically adjacent bar. Figs.
15-17 show, respectively, selection of the Pay-Per-View bar 62, the Customer Service or Messages bar 63 and the Interactive TV services bar 64.

An alternative MAIN MENU screen 215 is shown in Fig. 38. Certain selection screens accessible from the menu shown in Fig. 38 are shown in Figs. 38A and 38B. It has three horizontally selectable bars: program schedule 205, Home Theater 206 and Customer Service 207. The MAIN MENU screen 215 also contains an additional "Locator" identifier, which is described below.

Once a particular bar in the MENU screen is selected, the user can select a particular icon from the plurality of horizontally selectable displayed icons 65A-65C by using the left or right direction arrow and the ENTER key on the remote controller 40. Each icon contains a graphical symbol appearing in a background window of a particular color. When a particular icon is selected, it is offset from its background window and the color of the window changes. In Fig. 6, the grid icon 65A immediately adjacent the "TV GUIDE" icon in the first bar 61 is selected.

The function corresponding to the selectable entries in the MAIN MENU screen will now be discussed with reference to Fig. 6. It will be appreciated by those of skill in the art that the same functionality applies in the categories shown in the MAIN MENU 215 shown in Fig. 38.

In the uppermost vertically selectable horizontal bar 61, the first grid icon 65A represents an "All Listings" mode in which the program schedule information is displayed in a grid listing, such as that shown in Fig. 18. Alternatively, a single column grid-like display could be used, as that shown in Fig. 25. In this format, the vertical y-axis identifies the channel number and service while the horizontal x-axis identifies the time. The screen display of Fig. 18 also contains in the upper left-hand corner a mode identifier 180, in this case the notation "All Listings," to remind the user of the current operating mode of the system. Directly underneath the mode display is a highlighted display 181 of the channel that the user was watching before
entering the MENU mode. In the upper right-hand corner, a logo icon 182 appears in a window directly above a date/time identifier 183, which alternatively displays the current date and time.

In the center of the screen display shown in Fig. 18 is a graphical Active Key Display (AKD) 184 which indicates to the user those keys on the remote controller that are active for that particular mode of the program guide display system. For example, in the screen display of Fig. 18, the cursor can only move up, down or to the right. If the user were to depress the left direction arrow key on the remote controller at that point, the system would not carry out any function since the cursor can not move to the left. Thus, the left arrow key is not active so its image is not displayed on the AKD 184. Similarly, since the system will only respond to a depression of the up, down or right direction arrow keys and the ENTER key, they are the only key images displayed on the graphical AKD 184. The MODE key, though not displayed, is always active to change from one mode to another. When the user first enters the All Listings guide, the time listing begins by default at the half-hour immediately preceding the current time unless the current time is on the hour or half-hour, in which case the display begins with the particular hour or half-hour, and the channel listing begins at the last channel being viewed by the user before entering the MENU mode. For example, in Fig. 18, the current time is displayed as 7:13 p.m., the time listing begins at 7:00 p.m. and the channel listing begins with channel 4.

In the All Listings mode, a moveable highlighted cursor 185 is used to indicate the currently selected program to the user. The user manipulates cursor movement using the direction arrow keys on the remote controller 40. Furthermore, the entire information display pages upward if the cursor is placed at the bottom of the screen and the down direction arrow is depressed, and similarly pages to the left if the cursor is at the extreme right side of the display and the right direction arrow is
depressed. In this way, the user can navigate through the entire program schedule.

The folder icon 65B immediately to the right of the All Listings icon in the top horizontal bar 61 of Fig. 6 identifies a "Category Listing" mode in which program schedule information is displayed and categorized by program content, as shown in Fig. 19. The particular listing shown in Fig. 19 includes the categories of Movies, Sports, News and Children 190A-190D. The database record stored for each listing contains a content-specific identifier so the microcontroller can search the database and categorize the information by content for purposes of displaying it in the Category Listing mode. As shown in Fig. 19, the user can manipulate the cursor left or right to highlight any one of the categories which appear at the head of the listing. In Fig. 19, the "Movies" category 190A is selected. As shown, the user is given a display of all movies, prioritized by time and then alphabetically by title of show, beginning with the half-hour immediately preceding the current time unless the current time is on the hour or half-hour, in which case the display begins with the particular hour or half-hour. The screen display shown in Fig. 19 also includes a textual description of the current operating mode of the program schedule system, as well as the graphic AKD 184, similar to that used in connection with the All Listings mode.

As with the All Listings mode, if the user highlights a show which is currently airing, he can immediately tune to that show by depressing the ENTER key on the remote controller 40. If the highlighted show is one that will appear at future time, the user is again given the option of setting a REMINDER message.

The triangular icon 65C at the far right of the TV GUIDE bar 61 in the display of Fig. 6 identifies a "Channel Listing" mode in which the program schedule information is categorized and displayed by channel, as shown in Fig. 20. The screen display shown in Fig. 20 again includes a textual mode identifier 201, the graphic AKD 184, and the window including the logo icon 182 and
alternating time/date display 183. At the head of the program listing is a list of several consecutive channels 202A-202C beginning with the last channel viewed by the user before entering the Channel Listing mode. The channel in the middle window 202B is highlighted and is the channel for which schedule information is displayed. The display identifies those programs appearing on the highlighted channel beginning with the half-hour immediately preceding the current time unless the current time is on the hour or half-hour, in which case the display begins with the particular hour or half-hour. The user can display further future listings by manipulating the cursor to the bottom of the screen and paging the display, as previously described. The user can also change the selected channel by manipulating the left or right direction arrow keys on the remote controller 40. When the user issues a change-channel command in this manner, the next consecutive channel will be displayed in the highlighted window 202B in the channel string at the head of the display, and schedule information for the newly selected channel will be displayed on the television receiver 27.

As with other modes, if a user wishes to tune to a highlighted program that is currently airing, he can do so by simply depressing the ENTER key on the remote controller 40, and if the user wishes to view a program that airs at a future time, the user is again given the option of setting a REMINDER message.

In each of the FLIP, BROWSE and MENU modes, a lower case "i" icon appears at a number of occasions in connection with certain program listings, such as movies, such as the "i" 203 shown in Fig. 20. Any time this icon appears, the user can view additional programming information, generally comprising a textual description of program content and/or other information related to the program, such as the names of cast members and the like, by depressing the "i" key 48 on the remote controller 40. An example of a display of such additional information is shown in Fig. 21.

The second horizontal bar 62 appearing on the screen in the MAIN MENU mode shown in Fig. 6 is the "Home Theater" Listing.
It corresponds to Pay-Per-View events or services, specialized programming, and Premium Service programs. When this category is chosen by the user, the television receiver displays information as shown in Fig. 15. The first theater-ticket icon 150 that appears in this Home Theater bar identifies a format in which the Pay-Per-View events and premium services are displayed, as shown in Fig. 22. As with other modes, the user can manipulate the cursor to highlight and select any particular show. Also, the user can obtain additional information about the Pay-Per-View event or service by depressing the "i" key 48 on the remote controller 40. The Pay-Per-View menu screen display shown in Fig. 22 also includes a video display section 220 in which short promotional clips of current and future events and services can be shown to the user while the user is viewing the Pay-Per-View scheduling information. The display of Fig. 22 is bit mapped such that the advertising clips may be shown in the lower left quadrant of the screen. The clips may be shown randomly in the video display section 120 or, alternatively, the clip shown could correspond to the particular selected entry on the list of events, and would change automatically as the user navigated through the list.

When a user highlights a Pay-Per-View event or service by manipulating the cursor to the desired event or service using the direction arrow keys on the remote controller 40, he can order the event or service by depressing the ENTER button on the remote controller, thus linking schedule, promotional and ordering functions. If the user selects a particular Pay-Per-View event or service in this manner, the programming schedule system will next present to the user a Pay-Per-View ordering screen such as that shown in Fig. 23. The display includes a figure representing the cost of the event or service. The display also asks the user to choose from among a plurality of scheduled airing times 230A-230C, as well as whether the user would like to see a REMINDER message prior to the start of the Pay-Per-View event or service. The user responds to these inquiries by using the direction keys on the
remote controller 40 to manipulate the cursor to the proper response and then depressing the ENTER key. After the user has ordered a Pay-Per-View event or service, the program schedule system will present the user with two ordering confirmation submenus, such as shown in Figs. 24 and 24A. In either of these submenus, the user can confirm or cancel the Pay-Per-View event or service.

If the user confirms the order, the microcontroller 16 stores the Pay-Per-View ordering information in a location in memory. The ordering information can then be transmitted to the cable operator by the microcontroller 16 either by phone line or on the cable line where the system has two-way communication or other such interactive capability. Alternatively, a computer at the cable operator location can interrogate the memory where the microcontroller stored the Pay-Per-View ordering information. At the appropriate time, the cable operator supplies the Pay-Per-View event or service and it is received by all users who have ordered the program.

The second icon 151 in the Pay-Per-View bar of Fig. 15 identifies a specialized broadcast, cable or satellite programming service to which the user has access via the electronic program guide. In this mode, the electronic program guide application software acts to connect the user, through an appropriate data transmission link, to the programming service, at which point the user interacts with the service. Alternatively, the electronic program guide provides the navigation software, including the menus and scheduling information, for the particular programming service. Such a service could be, for example, Your Choice TV ("YCTV"), a service offering reruns of highly rated broadcast and cable programs, in which case the icon may take a form suitable to identify YCTV. The programming available on YCTV is then supplied to the user via the program guide system.

The last icon 152 appearing in the Pay-Per-View bar of Fig. 15 identifies a display format which lists all Premium Services offered by the cable operator, as shown in Fig. 26. In
this mode, the user can select for impulse ordering any one of the premium services by manipulating the cursor using the direction arrow keys on the remote controller and depressing the ENTER key. Similar to Pay-Per-View ordering, the system will present the user with a series of ordering displays and, if a service is ordered by the user, it will confirm the user's request using another other submenu. If confirmed, the microcontroller 16 will store the ordering information or transmit it directly to the cable operator. Once the order has been confirmed, the microcontroller can immediately allow the user access to the ordered premium service. In this manner, the user can order premium events or services on demand.

If, during FLIP or BROWSE modes, a user views a channel or schedule information for a service not subscribed to by the user, the microcontroller 16 causes an ordering submenu to appear instead of displaying a program signal along with the graphic overlay, as shown in Fig. 9. This submenu indicates to the user that she does not currently subscribe to the selected service, and then asks the user if she would like to order the service. If the user responds affirmatively, the program schedule system takes the user to the ordering submenu discussed above. In this manner, the user can order premium events or services on impulse.

The third horizontal bar 63 in the MENU mode shown in Fig. 6 is the "Messages" or "Customer Service" listing. As shown in Fig. 16, the first envelope icon 160 represents message information available from the cable operator. When the user selects the message icon, he is presented with a screen display of currently available messages, as shown in Fig. 27. The display shown in Fig. 27 includes cable system messages 270 and billing information 271. If the user selects the cable system messages option 270, she is presented with a message pertaining to the local cable operator, such as that shown in Fig. 28. If the user selects the billing status option 271 shown in Fig. 27, she is presented with a display of current billing information, such as that shown in Fig. 29. This information may include a history of
purchases charged to the user, current balance information, pending orders, and, an indication of available credit, which can be an authorized debit limit previously arranged with the cable or other operator. Thus, a user could specify only a certain pre-set spending limit. Once the amount of charges from pay-per-view events reaches the limit, the microcontroller would not permit further ordering of events. An alternative messages menu is shown in Fig. 28A.

The next icon 161 in the Customer Service information bar 63 of Fig. 16 identifies a "Viewer Preference" mode, which allows the user to create or revise a number of program schedule system operating parameters. Once selected, this display presents the user with several preference options concerning certain operating parameters of the program schedule system, as well as the viewing of certain channels and/or certain content-specific programming, for example, those shown in Fig. 7.

The first option shown in Fig. 7 is the "Parental" option 70, which can also be expressed as a "Key Lock Access" option. Once this option is initially selected by the user, the system displays a "Key Lock Access" submenu such as that shown in Fig. 30.

The Key Lock Access menu shown in Fig. 30 allows the user to control access to individual channels and programs or events by requiring the user to enter an access code "key," consisting of a user-specified four digit code in the specific embodiment discussed herein, before ordering or viewing these pre-selected channels, programs or events. The menu display shown in Fig. 30 shows a series of subject categories that are entries in the vertical y-axis selectable by the user. A particular subject category is chosen by using the up or down direction arrow keys on the remote controller 40 to highlight the desired entry. Once the user selects a particular subject category, the left and right arrow keys are used to navigate within the chosen category.

The first subject entry shown in Fig. 30 is the "Parental Guidance" category 301. Once the user selects this
category by manipulating the cursor to highlight the entry, the
cursor can be then moved horizontally to an active window 302
which displays and selects one the five letter rating items in the
category. The letter items represent ratings of program content
as follows: "V" for violence, "N" for nudity, "L" for language,
"AS" for adult situations and "PD" for parental discretion. Once
the user selects a particular item, such as "L", by moving to the
active window 302 using the right direction arrow key, depressing
the ENTER key will indicate to the microcontroller 16 that a key
lock access has been selected for programs rated with a "L" rating
for violent or explicit language. The system indicates activation
of a key lock access by displaying a key icon directly below the
"L" category display. Once a key lock access is set, it can be
deactivated by selecting the category letter and then depressing
the ENTER key. This action causes the key icon to disappear. The
user can change the rating category in the active window 302 by
using the left or right direction arrow keys on the remote
controller 40, images of which are displayed on the screen
adjacent the active window as a reminder to the user. In this
manner, the user can select other rating categories for setting a
key lock access for any of the program content identifiers
appearing in the Parental Guidance category.

The key lock access code itself consists of a four digit
code, which the user can enter and modify at any time. To do so,
the user highlights the fourth vertically selectable entry "Change
Key Lock Access Code," 304 by manipulating the cursor to highlight
it using the direction arrow keys on the remote controller. Once
highlighted, the user enters a new four digit code or revises the
then existing code and depresses the ENTER key. The
microcontroller 16 then identifies the new four digit key lock
access code and stores it in memory. The user can clear the key
lock access code, as well as all other previously activated keys,
by moving to the last entry in Fig. 30, "Clear Key Lock Access
Code and All Keys," 305 which highlights the "OK" window, and then
depressing the ENTER key. This action clears and deactivates all previously set keys, as well as the key lock access code.

The schedule information database record for each program contains a field that corresponds to the program content identifiers in the Parental Guidance category. During operation, the microcontroller checks this field in response to a user command to tune to or order a program, or to display its corresponding schedule information before carrying out the tuning, ordering or displaying function. If the parental guide identifier in the program schedule information database record matches any one of the activated parental guidance identifiers shown in Fig. 30, the user will be prompted to enter the four digit key lock access code before the system takes any further action. If the entered code matches the key lock access code previously entered and stored by the user as described above, the system will carry out the user request to tune to the program, to order it, or to display its corresponding schedule information. If the code is not recognized by the system, no further action will be taken and the user's request will be denied.

By manipulating the cursor using the direction arrow keys to highlight the second entry, "MPAA ratings," 308 the user can also set a key lock access for programs based on their MPAA rating code, as also shown in Fig. 30.

As with the Parental Guidance category, once the MPAA rating category has been selected, the user can move horizontally within the category to the active window 306 to select one the five rating codes, i.e., "G" for general audiences, "PG" for parental guidance, "PG-13" for suggested parental guidance, no one under 13 admitted without an adult, "R" for restricted and "X" for x-rated. As with the Parental Guidance category, by selecting a particular rating --by using the left or right direction arrow keys until the particular rating code appears in the active window--and then depressing the ENTER key, the user sets a key lock access for the rating, in which case a key icon appears below the rating code. And, as with the Parental Guidance category,
once a key lock access is set, the system will prompt the user to enter the four digit key lock access code anytime a request is made to tune to, order or display schedule information for a particular program having a rating code which matches a rating code for which key lock access has been activated.

The Key Lock Access mode also includes a subject category 303 for controlling access to channels, which may be entitled, for example, "Channel Block" or "Channel Lock." As with the Parental Guidance 301 and MPAA 308 categories, the user navigates to the Channel Block category 303 by manipulating the cursor using the direction arrow keys on the remote controller and depressing the ENTER key. Once the Channel Block category 303 has been entered, the user can move horizontally to an active window 307, which in Fig. 30 indicates channel 2. Once the user highlights this window by manipulating the cursor using the direction arrow keys on the remote controller 40, a key lock access can be set for the channel appearing in the active window. This is done, as with the other subject categories in the Key Lock Access mode, by depressing the ENTER key, which again causes a key icon to appear below the channel number in the active window. The user can move to the prior channel or to the next channel in sequence by depressing either the left or right direction arrow key on the remote controller 40. In this manner, the user can activate a key lock access for any available channel.

As with the Parental Guidance 301 and MPAA 308 categories, once a key lock access is set for a particular channel, the system will prompt the user to input the key lock access code prior to carrying out an instruction to tune to or order that channel. If the input key lock access code matches the previously stored access code, the user's instruction is carried out. Otherwise, the user's instruction is ignored. Thus, the user can control access to the audio and video program content of any available channel. In this instance, the microcontroller 16 will not allow audio or video program signals to pass to the VDG, but it will allow schedule information to appear for the channel.
An alternative method for effecting lockout of programs is accomplished using a "Lockout" screen, as shown in Fig. 39. In addition to limiting access to programs based on the Parental Guidance, MPAA and channel criteria, as discussed above, access may be limited on the basis of program title. Fig. 39 shows an alternative Lockout screen 250 that can be used to permit or limit access to programs based on program title, in addition to the aforementioned criteria. Other parameters also may be included, such as time of day, day of week, credit limit, and content category (e.g., talk shows).

To enter the Lockout screen 250 shown in Fig. 39, the user must enter a multi-digit lockout code using the numeric digit keys 42 and the enter key 44 on the remote controller 40. The lockout code is set initially when the system is first used or installed. To set a lockout code in the first instance, the user accesses a Setup screen 260, such as that shown in Fig. 40. The Setup screen 260 will automatically appear the first time the electronic program guide is installed and initialized. For access during normal operation of the electronic program guide, a suitable access path to the Setup screen 260 may be provided, such as from an appropriate icon in the MAIN MENU 215.

In the Setup screen 260 of Fig. 40, the user can navigate to the Lockout Code category 265 and set a new lockout code using the appropriate navigation and selection keys on the remote controller 40. A suitable menu for inputting the lockout code is shown in Fig. 40A. Once enabled, the lockout code must be used to set or modify locks, to view a previously locked program, or to clear or change the lockout code. The memory location of the stored lockout code also should be remotely accessible, such as by the local cable company, in case the user forgets the lockout code and it must be erased.

Once the lockout code is entered and the Lockout screen 250 of Fig. 39 is displayed, navigation within the screen is controlled by the direction keys 43A and 43B on the remote controller 40. Using the up and down direction keys 43A to move
the selection cursor, either the Movie Rating 251, Parental Guidance 252, Channel 253, Locked Program 254 or Lockout Code 255 category can be selected. The left and right direction keys 43B are then used to navigate inside the selected category.

Clearing a previously set lockout code is accomplished by moving the selection cursor to the "Clear" entry 256 in the Lockout Code category 255 and depressing the enter key 44 on the remote controller 40. This causes the microcontroller to clear the lockout code stored in memory, as well as all locks previously set by the user. To change the current lockout code, the user navigates to the "Change" entry 257 in the Lockout Code category 255 and depresses the enter key 44 on the remote controller 40. The user is then prompted to enter a new lockout code, which is subsequently stored in memory by the microcontroller.

To set a lock in either the Movie Rating 251 or Parental Guidance 252 category, the user navigates to the selected entry in Fig. 39 by manipulating the selection cursor using the direction keys 43A and 43B on the remote controller 40, and then depresses a lockout key on the remote controller, such as the padlock key 45A shown in Fig. 4. The microcontroller will appropriately modify the display to indicate that a lock has been set, for example, by changing the color of the text or the background in the selected entry window, or by displaying an appropriate icon next to the text in the selected entry window. In Fig. 39, a padlock icon 258 appears in the window of the "PG" entry in the Movie Rating category 251. Toggling the lockout key while the selection cursor is positioned on a selected entry will alternately enable and disable the lockout function for that entry.

Similarly, to set a lock for a particular channel, the user selects the channel using the selection cursor and then depresses the lockout key. In Fig. 39, the channel "4 KCNC" entry in the Channel category 253 has been locked, which is indicated by the inverse video and padlock icon appearing in the window.
Program locks also may be set by title, which can be effected in several ways. For example, when the above-described FLIP or BROWSE mode of the electronic program guide is enabled, thereby causing the title of a program to be displayed along with 5 other program schedule information in a window superimposed on the actual program signal then being received, the user can limit access to the program corresponding to the displayed program information by depressing the lockout key 45A on the remote controller 40. The user also may limit access to the currently tuned program by depressing the lockout key 45A on the remote controller 40 while viewing the program, regardless whether the FLIP or BROWSE modes are enabled. In this instance, the microcontroller first removes the program signal from the display and then accesses the schedule information database record for the program then appearing and sets an appropriate flag to indicate the program has been locked. Also, when viewing program schedule information in the grid or category listings, as discussed above and shown, for example, in Figs. 18-20, the user also can tag a program for lockout by highlighting it with the selection cursor and then depressing the lockout key 45A on the remote controller 40.

In each of these instances, the microcontroller then stores the program title in a lockout title list stored in memory along with any other titles that previously have been locked out by the user. Individual items in the lockout title list are displayed in alphabetical order in the "Locked Program" window 259 shown in Fig. 39, and the user may scroll through the list by positioning the selection cursor on the Locked Program window 259 using the up and down direction keys 43A on the remote controller 30 in Fig. 40 and then using the left and right direction keys 43B to scroll through the list one item at a time. In order to save memory space, alternatively, the microcontroller may be programmed to set a flag or otherwise mark the particular database record containing the program schedule information for the program that is to be locked out, and to thereafter access the database to
retrieve the title information when it is to be displayed, such as when the viewer is reviewing the lockout title list in the Locked Program window 259.

Once an individual title has been locked out, the microcontroller can be programmed optionally to display an appropriate lockout icon, such as a padlock, whenever program schedule information for the locked program is to be displayed, such as in the window overlay of the FLIP or BROWSE mode, or in the various grid and category displays available in the MAIN-MENU displays. The system also may display an appropriate text message if someone tries to access the program signal of a previously-locked program. Of course, once a program is locked, in all instances the microcontroller prevents access to the actual program signal (including both the audio and video portions of the program signal) until an appropriate code is entered or the lockout is removed.

Several methods can be used to block programs at their time of airing. For example, in the case of the Movie Rating, Parental Guidance and Channel categories, the schedule information database record for each program is provided with a field that corresponds to the rating, program content identifier or channel appearing, respectively, in the Movie Rating 251, Parental Guidance 256 and Channel 253 category of the Lockout screen 250 shown in Fig. 39.

During operation, the microcontroller checks the appropriate field in the database record in response to a user command to tune to or order a program before carrying out the tuning or ordering function. Additionally, the lockout code also may be used to restrict access to program schedule information. In this instance, the microcontroller also would check the appropriate field in the schedule information database record before displaying schedule information for a program.

If the movie rating, parental guidance or channel identifier in the program schedule information database record matches any one of the locked-out entries indicated in the Lockout
screen 250, a Lockout Verify screen 300 is displayed in overlaying relationship with the video signal then being displayed on the television receiver, as shown in Fig. 41. The user will be prompted to enter the previously set lockout code before the system takes any further action. As an added security measure, asterisks will be displayed as the user enters the lockout code. If the entered code matches the lockout code previously entered and stored by the user as described above, the system will carry out the user request to tune to or order the program, or to display its corresponding schedule information. If the code is not recognized by the system, no further action will be taken and the user's request will be denied. In this case, the Lockout Verify screen 300 will remain displayed on the television receiver waiting for a correct code to be entered. If no action is taken by the user, the Lockout Verify screen 300 will be removed after a predetermined time-out period, such as one or two minutes.

Similarly, in the case of lockout by title, the microcontroller also could check the title field in the schedule information database record and compare it with the list of program titles for which the user previously set a lock. If, as described above, the microcontroller does not maintain a list of the actual titles of programs locked by title, a suitable identifier can be set in a field in the database record to indicate that a program has been locked by title when the user first sets the lock, and, thereafter, the microcontroller could check that field in response to a user request to tune to or order a program, or display schedule information.

An alternative method for effecting lockout involves the use of a portion of the real-time program signal being received by the television receiver. With this method, codes corresponding to a program's rating, parental guidance category, title or channel are inserted into and transmitted along with the program signal, such as in the vertical or horizontal blanking intervals, or on raster scan lines that are not visible on the television receiver. When the program signal is received, these codes are stripped from
the program signal and stored in memory. Methods and apparatus for the insertion transmission and reception of digital codes carried on a program signal are known in the art.

After the transmitted codes have been separated from the program signal and stored in memory, the microcontroller can compare them with the lockout criteria set by the user in the Lockout screen and take appropriate action, as described above.

The Setup screen 260 shown in Fig. 40 also contains a Purchase Code category 270, which allows the user to set a numeric purchase code that must be entered before any premium channels or pay-per-view programs can be ordered. The Setup screen 260 shown in Fig. 40 includes entries for setting a new purchase code and for clearing or changing a previously set password. Appropriate menus for setting, confirming, clearing or changing the purchase code are shown in Figs. 40B through 40E. Once a user sets a purchase code, the microcontroller thereafter will display a Purchase Code Verify screen in response to a user request to tune to or order a premium services channel or pay-per-view program. The Purchase Code Verify screen works in a manner similar to the Lockout Verify screen 300 in that the user is prompted to enter the previously set purchase code password before the microcontroller will tune to or order the requested program. If the correct purchase code is not entered, the microcontroller will take no further action and the Purchase Code Verify screen will remain displayed waiting for input of the correct code. If no action is taken within a predetermined time-out period, the Purchase Code Verify screen will be removed.

The next option shown in Fig. 7 is the Channel Preference or "Favorite Channel" list option 71. By highlighting this icon and depressing the ENTER key on the remote controller 40, the user is presented with a submenu on the screen such as that shown in Fig. 8.

In normal operation, the program guide system presents channels to the user in numerical order in response to an up or down change-channel command issued by the user using one of the
direction arrow keys on the remote controller. The channel number presentation sequence includes all channels offered by the cable company in the order of which they are modulated onto the channel by the operator.

The program guide system also provides the capability of selecting from among several user-defined channel presentation sequences, which are activated using one of the three "check mark" icon keys 48A, 48B or 48C on the remote controller 40 shown in Fig. 4. Each of these keys represents a preferred particular list of channels which a particular user selects and which the microcontroller stores in memory as a "Channel Preference" list, as discussed in detail below. To activate one of these preferred channel lists, the user depresses the corresponding check-mark icon key, in which case the microcontroller may display the chosen icon on the screen in the graphic overlays and full screen displays to remind the user that a particular channel preference list is being used by the system. Once a preference list is activated, the system will limit the tuning of the television receiver and the display of schedule information only to those channels that are designated in the activated viewer preference list.

To revise the content and/or sequential order of the channels in the Channel Preference list, the user enters the MENU mode of the programming guide system. To enter the MENU mode from the FLIP mode, the user twice depresses the MODE key 38 when using the remote controller 31 of Fig. 3. To enter the MENU mode when using the alternative embodiment of the remote controller 40 of Fig. 4, the user simply depresses the MENU icon key 47B.

When first entered, the MENU mode has a screen display such as shown in Fig. 6. To select the submenu for editing the Channel Preference list, the user first selects the third horizontal bar 63, which can be titled, for example, "Messages" or "Customer Service," by manipulating the cursor using the down direction arrow key, as shown in Fig. 7. The screen of Fig. 6A is thereby displayed. The user then selects the second icon 161
appearing in that bar, indicated with a check mark, which corresponds to a "Viewer Preference" mode, by highlighting the icon using the direction arrow keys and again depressing the ENTER key. This action will cause the microcontroller 16 to display a Viewer Preference submenu such as that shown in Fig. 7. By selecting the Channel Preference or "Favorite Channel" entry 71, the user enters the Channel Preference submenu, shown in Fig. 8. If the user has not already done so, he would then depress the particular check-mark icon key on the remote controller 40 of Fig.4 to create or revise the particular channel preference list.

In the Channel Preference menu shown in Fig. 8, a list 80 of all channels available on the particular cable system is displayed on the left side of the television receiver screen, labeled "Choices" in Fig. 8, and the viewer's preferred list 81, designated "Selected" in Fig. 8, is displayed on the right side. If a particular code, such as an END or "-1" symbol appears in the first (uppermost) position 82 of the viewer preference list 81, the system displays information for all channels in numerical order in all modes of operation. This is the default mode of the system.

By selecting channels in sequence from the available list 80 and placing them in the desired order in the preference list 81, the user can select a subset of channels and/or rearrange the default sequence in response to a channel up or channel down command from the user. This is accomplished by highlighting a channel in the available list 80 using the up and down direction arrow keys on the remote controller 40 and depressing the ENTER key 44, which stores the entry temporarily in a buffer.

The microcontroller 16 stores a list of all channels previously entered in the viewer preference list 81. As a particular channel is highlighted by the user when navigating through the available channel list 80 displayed on the left side of the television screen, a window 84 appears adjacent to the particular channel highlighted by the user. If the particular channel already appears in the viewer preference list 81, the
system displays a "DELETE" message in the window 84 as a reminder that the channel was previously selected from the available channel list 80 and can only be deleted from the list 81, which is accomplished by depressing the ENTER key 44. If the particular highlighted channel in the list 80 was not previously selected, the system displays a "SELECT" message in the window 84 as a reminder that the particular channel will be selected for addition to the viewer preference list 81 if the user depresses the ENTER key 44. The microcontroller 16 inserts a selected channel at the bottom of the list 81. In this manner, the user can select or delete channels from the viewer preference list in any desired order.

The available channel list 80 may also be provided with categorical entries 83, such as movies, news, sports or children's shows. The user may also highlight any of these entries and put them into the viewer preference list 81. If the user does include a category in his viewer preference list 81, when the user issues channel up or down commands, the system will display, in sequence, first the user's selected preferred channels in numerical order and then all channels having a program whose content corresponds to the selected category or categories at the time.

Once the user has revised the channel preference list 81 in the described manner, the microcontroller 16 will follow the stored user-specified channel sequence in response to a change-channel command made by the user employing one of the direction arrow keys. To activate the viewer preference list, the user depresses one of the three check-mark icon keys 48A, 48B or 48C on the top of the remote controller shown in Fig. 4. The viewer preference list can be used to selectively limit tuning of the television receiver or display of schedule information in any of the operating modes of the electronic program guide. In the present embodiment, once a preference list is activated, the system will limit the tuning of the television receiver and the display of schedule information in the FLIP, and BROWSE modes, as well as in the grid category and channel listings in the MENU
mode, only to those channels designated in the activated viewer preference list. The tuner can not be tuned to, and no corresponding schedule information can be displayed for, any channel not entered in the viewer preference list when it is activated. In this regard, it should be noted that setting a key lock access in the Parental Guidance 301, MPAA 308 or Channel Block 303 categories produces a different result than when using other display criteria, such as the Channel Preference List of preferred channels discussed above. Thus, while a key lock access will prevent audio and video program information, but not schedule information, from being displayed or ordered absent entry of an authorization code, if a particular channel is included in the Channel Preference list and also has a key lock access activated in the Channel Block category 303 of the Key Lock Access mode, that channel or its corresponding schedule information will not be displayed at any time.

To deactivate a previously selected viewer preference list, the user toggles the appropriate check-mark icon key on the remote controller 40 of Fig. 4. Once deactivated, the system defaults to displaying and tuning all available channels, as well as displaying schedule information for all available channels.

Alternatively, the viewer preference list 81, if activated, can be used to control tuning and display of schedule information only in selected modes, such as only in the FLIP mode, thus allowing the user to tune and view corresponding schedule information only for those channels entered in the preference list 81 in the FLIP mode, while viewing all channels and corresponding schedule information in all other modes.

In this latter configuration, as well as in the instance where no channel preference list is activated and the system is in default mode, if a channel appears in the viewer preference list 81 that corresponds to a service not subscribed to by the user, the microcontroller 16 causes an ordering submenu to appear instead of displaying a program signal along with the graphic overlay, as shown in Fig. 9. This submenu indicates to the user
that he does not currently subscribe to the selected service, and then asks the user if he would like to order the service. If the user responds affirmatively, the program schedule system takes the user to another ordering submenu to confirm the user's request, as with impulse ordering.

The program guide also may be configured with a Locator screen 201, as shown in Fig. 37, which aids the viewer in channel selection and definition of a favorite channel list. The Locator screen 201 displays all available channel numbers grouped according to the source of the program information appearing on any particular channel at any particular time, e.g., broadcast, cablecast, pay-per-view, near video on demand, satellite, or other source of program material. Thus, the Locator screen 101 can be used to locate any particular channel or service because the groupings provide a quick and efficient method for scrolling through the list of available channels. The channel numbers also may be grouped according to other criteria, such as program category, program content, program rating or other content-based standard, time of availability, numerical order, or other logical grouping.

In the example shown in Fig. 37, the user navigates within the Locator screen 201 using the direction keys 43A and 43B on the remote controller 40. The right and left direction keys 43B move the selection cursor within the category rows, while the up and down direction keys 43A are used to select a particular category. From the Locator screen 201, any particular channel can be selected for viewing by positioning the selection cursor on the desired channel and depressing either the enter key 44 or an optional tune key (not shown) on the remote controller 40.

In addition to aiding in channel selection, the Locator screen 201 also provides the user with the ability to conveniently define favorite channel lists. To do so, the user first moves the selection cursor to the desired channel by using the direction keys 43A and 43B or numeric digit keys 42 on the remote controller 40, and then depresses a favorite channel key 46A provided on the
remote controller 40, which causes the display to change in some manner or characteristic as an indication that the channel has been selected as a favorite channel, such as by changing the color of the channel identification text or the text background, by displaying an appropriate icon or by some other appropriate identification scheme. In the remote controller 40 shown in Fig. 4, the pound key "#" can function as the favorite channel key.

Also, if multiple favorite channel lists are being used, the user would depress the appropriate favorite channel key on the remote controller to select a particular list before depressing the favorite channel key. For example, as discussed above, the remote controller 40 shown in Fig. 4, has three color-coded check-mark favorite channel keys 48A, 48B and 48C, which provide for at least three individual favorite channel lists for three individual users. Different identification characteristics could be displayed on the Locator screen 201 to indicate that a particular favorite channel list is selected. For example, the icon or image used to enable a favorite channel list on the remote controller, such as the check mark key 48A used on the remote controller 40 shown in Fig. 4, could be displayed on the Locator screen 201, as well as other screens of the program guide, when a favorite channel list is enabled. Alternatively, the color of the displayed text or background could be changed to match the color of the selected favorite channel key.

The Locator screen 201 may be accessed via several paths. For example, it may be included as a virtual channel that is conveniently positioned in the channel-tuning sequence, such as between the highest and lowest available channel numbers -- for example, a virtual channel 0. To the user, such a virtual channel appears to be a conventional channel. However, it requires no additional bandwidth as a carrier. For example, it can be digitally produced at the subscriber station or included in an appropriate blanking interval in existing bandwidth frequencies. In this manner, the virtual channel is accessible either by entering the corresponding channel number using the numeric digit
keys 42 on the remote controller, or by using the up and down
direction keys 43A to wrap around from the highest to the lowest
channel number, or vice versa. As shown in Fig. 38, it also may
be desirable to provide a suitable identifier, such as an icon or
text message 210, in the MAIN MENU display 215, from which the
user could access the Locator screen 201 simply by highlighting
the identifier 210 with the selection cursor and depressing the
enter key 44 on the remote controller 40. Alternatively, the
remote controller may be provided with a key corresponding to the
Locator screen 201 which would cause the microcontroller to
display the Locator screen 201 when the user depressed it.

In addition to Channel Preference or Favorite Channel
keys, the remote controller 40 can also be supplied with a number
of user-activated category preference icon keys, e.g., movies,
sports, or children's programming. The system can be adapted to
present to the user only those programs meeting particular
preference category when it is activated by the user. As with the
Channel Preference icons, the microcontroller may display the icon
corresponding to the activated preference category to remind the
user of the currently activated mode of system operation.

The question mark icon 162 at the far right of the third
horizontal bar in the menu of Fig. 16 identifies a program guide
system "Help" mode in which information explaining the operation
of the system is displayed for the user. Again, by manipulating
the cursor using the appropriate keys on the remote controller,
the user can select this mode. Once selected, the next submenu
appearing in the Help mode asks the user to identify the
particular portion of the system about which the user would like
to view Help information.

The icons appearing in the last horizontal bar of the
MENU mode identify certain interactive and/or other types of
information services which the programming system, acting as a
gateway, makes available to the user as shown in Fig. 17. By
manipulating the cursor, the user can select any one of the
identified services, as shown in Figs. 31-35.
For example, if the user initially selects the "X*PRESS" icon appearing in the last horizontal bar, he is presented with a submenu such as that shown in Fig. 31. Using the direction arrow and enter keys on the remote controller, the user selects one of the three entries appearing in the display of Fig. 31. Once a particular entry is selected, the electronic program guide connects the user to the selected service and passes control to the particular service application software, as shown in Figs. 32-35.

Alternatively, the remote controller 40 can be supplied with a plurality of content-specific keys corresponding to a plurality of content-specific categories of programming, e.g., a Sports key, News key, Movie key, etc. When the user depresses a content-specific key, a content-specific mode is initiated. In Fig. 4, the remote controller is equipped with a Sports key 49. If the user depresses the Sports key 49, the microcontroller will limit the display of programs and/or program schedule information to those that are sports-related. The microcontroller will block all other programming or schedule information from appearing on the television receiver. The microcontroller can be adapted to distinguish programs and schedule information that are sports-related by examining an appropriate code associated with the program or schedule information.

As discussed above, coding can be accomplished using any number of methods, such as by including an appropriate code in the vertical blanking interval of the program signal, or in an appropriate memory location in the database record of the program schedule information, or if the schedule information is being received on a broadband network, by including it in an appropriate blanking interval. The user activates a content-specific mode by depressing the appropriate content-specific key in any mode of operation of the electronic programming guide, including the aforedescribed FLIP, BROWSE or MAIN MENU modes, as well as when no schedule information is being displayed and only a program signal is visible on the television receiver. Once a content-specific
mode is requested by the user, the microcontroller immediately and
directly enables the content-specific programming criteria, and
maintains it for all operating modes of the guide until disabled,
which can be accomplished, for example, by toggling the Sports key
49.

Instead of a dedicated content-specific key, such as
Sports key 49, the system may be configured with a single, generic
content-specific key, which, when activated, would cause the
microcontroller to display a content-specific menu containing a
list of all content-specific categories available to the user.
The user then could highlight a particular category by
manipulating the selection cursor using the direction arrow keys
on the remote controller and select it by depressing the ENTER or
OK key 44. As an alternative to using a content-specific key on
the remote controller, access to the content-specific menu can be
affected by providing an appropriate identifier in another menu
screen of the electronic guide, such as in the LOCATOR, SETUP or
MAIN MENU screens.

In addition to blocking all non-selected content-
specific programming when a particular content-specific category
has been selected, the microcontroller can be programmed to enable
all added-value programming or services that are specially related
to the selected content-specific category. For example, if the
user activates a Sports content-specific mode, the
microcontroller, in addition to allowing only sports programming
or schedule information related to sports programming to be
displayed, will proactively seek out and enable all sports related
added-value services, such as related trivia or video games,
up-to-date scores while a game is in progress, team schedules,
replays of prior games of the selected teams or players, ticket or
souvenir purchasing, etc. Thus, the information available from
the programming or service can be integrated into the environment
of the electronic program guide. Rather than simply passing
control to another service as described above, in this manner the
electronic program guide would function as a system integrator or
interface to combine the available added-value information into a package within the electronic guide environment, thus essentially creating a series of modular electronic program applications corresponding to a variety of available content-specific categories.

The Setup screen shown in Fig. 40 also includes a Text Location category 275, which contains the textual entries "Bottom of Screen" and "Top of Screen." By navigating to the Text Location category 275 using the up and down direction keys 43A on the remote controller 40, and to either the "Top" or "Bottom" entries in that category using the left and right direction keys 43B on the remote controller, and then depressing the enter or select key 44, the user can control the position of the overlay windows used to display information in various operating modes of the electronic program guide. The Setup screen of Fig. 40 provides the user with two positional choices: the top or bottom of the screen. Depending on the modes of operation of the program guide, it may be desirable to provide the user with more positional choices in viewing area of the television receiver, or to provide the user with the ability to choose a different position for information displayed different operating modes.

One of the novel features of the disclosed invention is the textfit system. The preferred embodiment of the text fit system includes an interactive computer program used to edit the program listings data before it is transmitted to the user and stored in memory. The interactive system operates as follows: unedited (or partially edited) program listings information is loaded into data a processor. The data includes program titles, program schedule times, duration, category, as well as additional descriptive information dependent on the type of program. For example, for movies the data includes the MPAA rating, year of the movie, whether it is in black and white, and a list of starring actors and actresses.

The data processor extracts only the program title data which includes television program titles as well as movie titles,
sporting events and titles for other special events. Based on the duration of the program, the data processor first analyzes the listings data to determine what grid size listings are needed for each title. Thus, a two hour movie could require four different edited titles to fit into each of the four different size grid cells (30, 60, 90, 120 minutes). The data processor then determines how much space is required to display the title based on its character length. If the title is to be displayed in the program schedule grid using a proportional font and character to character kerning, the data processor may also account for these factors in determining the space required to display a title. The determination would than be based on the number of pixels required for the particular combination of characters in the title. The amount of space available for display of a title depends on the size of the grid cell and the space required for display of icons, when activated.

If the data processor determines that a full title requires too much space to fit into one or more grid cells, the title is then presented to the editor using a suitable display device connected to the data processor, such as a CRT. The editor is then queried to alter the title so that it will fit in the allotted space. If the title must be edited for more than one cell size, the editor is queried to edit each of these separately. In the preferred embodiment of the interactive program, the editor is shown in real time whether the edited title will fit in the designated grid cell.

In the preferred embodiment, two lines of text are displayed in each grid cell of the program listings. The title, as edited, appears on the first line, and if necessary, continues onto the second line. The decision to wrap-around to the second line is based on whether natural breaks exist in the title such as spaces between words, commas, periods, hyphens, etc. These are standard techniques used in word processing software routines. The editor may also be queried to edit a title in the situation where the full title will fit on the allotted two lines, but a
hyphen is required because there are no natural breaks in the title.

Prior to querying the editor to shorten a title, the data processor compares the title with a stored library of shortened titles to determine if the title had previously been shortened while editing another listings database. Each time changes are made by the editor to a title, the shortened title is added to the library. It is apparent that this process of building a library of shortened titles greatly reduces the manual input required.

A flow chart illustrating the process by which the text fit system operates is shown in Fig. 42. The chart illustrates the operation of editing a listing for display in a program grid for a single platform, but operation is the same for all platforms.

Text editing may be necessary in other situations besides that where multiple size grid cells are used for display of the same title. For example, the disclosed program guide may run on several different platforms, with each one having different constraints and grid cell space availability. Some may not display the text in proportional fonts and some may have other limitations reducing the available space. Thus, in the preferred embodiment the interactive program would request edits for all platforms for which they required at the same time. In addition, editing of text may be required for display modes other than a grid of program listings. For example, in the "Listings by Channel" display of fig. 20, programs are listed on an entire, fixed-length line, but the length of the line may vary from platform to platform, so that the text fit system may be employed for the purpose of editing listings for the different platforms in this display mode as well. The space available for the display of text will also depend on how much space is reserved for icon display. The same process as that shown in fig. 42 would apply, except that there would be no need to determine what grid sizes
are needed because a fixed length line is used for display rather than multiple sized grid cells.

It will be apparent to those of skill in the art that the disclosed text fit system has applications beyond that of title editing alone. The system may be easily modified to provide editing of messages, "i" screen storylines, pay-per-view promotional copy, and similar text messages so that they will fit into the designated space available for display of the text. In fact, the system may be used to edit any text for display in the disclosed program schedule system.

The computer program for the microcontroller 16 may also include a schedule for the display of varying background views upon which the program schedule information is overlaid either partially or in a full screen display. The background views may be stored as bit maps in memory or in another storage medium, such as an optical storage device. For example, the microcontroller 16 may be programmed to issue a command to the VDG every morning at 6:00 AM to display a sunrise in the background. The background may then be changed accordingly throughout the day to, for example, a blue sky or a nighttime view. It also may vary, e.g., by time of day, day of week, month, year or season. The mood background also could change depending on the particular category of programming that the user is watching or to which selected schedule information pertains. The mood background also may be adapted to display scenes that reflect the particular viewing area in which the user is situated, like the Rocky Mountains, or Mt. Rainier, etc. It also may be possible to display standard scenes, such as an ocean or forest scene. Moreover, the audio background also could be adjusted to relate to the particular mood background then being displayed. In addition, different background views may be used for holidays and special events, such as Christmas, Fourth of July, Superbowl Sunday, etc. The purpose of the background views is to help ease the monotony of viewing program listings. The microcontroller 16 could be adapted automatically to coordinate the display of the mood background. The user also
could be given the ability to choose from among various mood background displays by adapting the microcontroller to display an appropriate mood option menu that lists the mood background options available to the user and allows the user to select one or more by manipulating the selection cursor. Access to such a mood option menu could be achieved by supplying an appropriate identifier, textual or visual, in an appropriate menu of the system, such as the LOCATOR or SETUP screen.

Additionally, the electronic program guide could be configured to store a unique digital identifier for each program along with its schedule information and later use the identifier — e.g., by transmitting it — to indicate to a recording or storage device, such as a video recorder, that the user wishes to record the program. The program guide could also use the identifier to automatically control operation of the video recorder. The electronic program guide could also be configured to use other stored schedule information for this purpose.

The form and content of a particular computer program to implement the invention disclosed herein will be readily apparent to those skilled in the art of video system programming and graphic display. A flow chart showing the operation logic of the system is shown in Fig. 36. It will also be appreciated by those skilled in the art that there can be departure from the specific embodiment of the invention described herein without departing from the true scope of the claims appended hereto.
We claim:

1. An electronic television programming guide for use in connection with a television receiver for displaying a plurality of television programs from a plurality of program sources on a plurality of user-selectable television channels comprising:

   user control means for issuing control commands, including channel-control commands;

   data processing means for receiving said control commands and for generating video control commands;

   a video display generator adapted to receive video control commands from said data processing means for generating and displaying a location menu on said television receiver, said location menu identifying for a user one of a plurality of program sources associated with each of said plurality of television channels; and

   selection means for allowing said user to select any one of said plurality of television channels identified in said location menu; said data processing means being responsive to said selection means and adapted to tune said television receiver to the television channel selected by the user in said location menu.

2. The programming guide according to claim 1 wherein said selection means comprises a moveable cursor.

3. The programming guide according to claims 1 or 2 wherein said location menu further comprises tuning-selection messages for allowing said user to define at least one preferred tuning sequence of said television receiver by issuing tuning-selection control commands, in response to said tuning-selection
messages, for arbitrarily choosing selected ones from said plurality of television channels;

said data processing means being adapted to receive said tuning-selection control commands defining each said sequence of tuning and to generate a channel-tuning sequence list for each said defined sequence of tuning in accordance with said tuning-selection control commands;

memory means for storing each said channel-tuning sequence list;

said data processing means being further adapted to use one of said channel-tuning sequence lists to control the sequence of tuning of said plurality of television channels on said television receiver such that said television channels are tuned in accordance with said one defined sequence of tuning and in response to channel-control commands from said user control means.

4. The programming guide according to claims 1 or 2 further comprising means for receiving television program schedule information for a plurality of television programs to appear on said plurality of television channels;

said video display generator being further adapted to receive video control commands from said data processing means and program schedule information from said receiving means for displaying portions of said schedule information on said television receiver in response to a user control-command to display said schedule information.

5. The programming guide according to claim 4 further comprising memory means for storing said television program schedule information and wherein said video display generator
receives said program schedule information from said memory means for displaying portions of said schedule information on said television receiver in response to a user control-command to display said schedule information.

6. The programming guide according to claim 3 further comprising means for receiving television program schedule information for a plurality of television programs to appear on said plurality of television channels;

said video display generator being further adapted to receive video control commands from said data processing means and program schedule information from said receiving means for displaying portions of said schedule information on said television receiver in response to a user control-command to display said schedule information.

7. The programming guide according to claim 6 wherein said data processing means is further adapted to use said one channel-tuning sequence list to control the display sequence of said program schedule information on said television receiver such that program schedule information is displayed in order of selected television channels and in response to a user control-command to display said schedule information.

8. The programming guide according to claim 7 further comprising memory means for storing said television program schedule information and wherein said video display generator receives said program schedule information from said memory means for displaying portions of said schedule information on said television receiver.

9. The programming guide according to claim 1 further comprising a virtual channel corresponding to one of said plurality of television channels; said data processing means being
further adapted to cause said location menu to be displayed in response to a user control command to tune said television receiver to said virtual channel.

10. The programming guide according to claim 9 wherein said one television channel corresponding to said virtual channel is located between the highest and lowest television channels.

11. The programming guide according to claims 9 or 10 wherein said one television channel corresponding to said virtual channel is channel zero.

12. The programming guide according to claim 3 further comprising a virtual channel corresponding to one of said plurality of television channels; said data processing means being further adapted to cause said location menu to be displayed in response to a user control command to tune said television receiver to said virtual channel.

13. The programming guide according to claim 12 wherein said one television channel corresponding to said virtual channel is located between the highest and lowest television channels contained in said one defined sequence of tuning.

14. The programming guide according to claim 13 wherein said one television channel corresponding to said virtual channel is channel zero.

15. The programming guide according to claim 4 further comprising a virtual channel corresponding to one of said plurality of television channels; said data processing means being further adapted to cause said location menu to be displayed in response to a user control command to tune said television receiver to said virtual channel.
16. The programming guide according to claim 6 wherein said one television channel corresponding to said virtual channel is located between the highest and lowest television channels contained in said one defined sequence of tuning.

17. The programming guide according to claim 16 wherein said one television channel corresponding to said virtual channel is channel zero.

18. An electronic television programming guide for use in connection with a television receiver for displaying a plurality of program sources on a plurality of user-selectable television channels comprising:

user control means for issuing control commands including program schedule display control commands;

storage means for electronically storing television program schedule information for a plurality of television programs, said program schedule information comprising program title information, said program title information comprising a predetermined abbreviated title for at least one of said plurality of television programs;

data processing means for receiving said user control commands, retrieving said program schedule information, and generating video display generator control commands, said data processing means being adapted to retrieve said predetermined abbreviated title in response to said user control commands;

a video display generator adapted to receive control commands from said data processing means for generating a display of television program schedule listings, said display of program listings comprising program schedule information for at least one
channel and at least one time period, said display further comprising said abbreviated title.

19. An electronic television programming guide for use in connection with a television receiver for displaying a plurality of program sources on a plurality of user-selectable television channels comprising:

user control means for issuing control commands including program schedule display control commands, said program schedule display control commands including background display control commands;

storage means for electronically storing television program schedule information for a plurality of television programs, said storage means further comprising a plurality of user-selectable background views;

data processing means for receiving said user control commands, retrieving said program schedule information and said user-selectable background view, and generating video display generator control commands;

a video display generator adapted to receive control commands from said data processing means for generating a display of television program schedule listings, said display of program listings comprising program schedule information for at least one channel and at least one time period, said video display generator further adapted to display said program listings in overlaying relationship with said background view.
FIG. 5

Flip

MSO LOGO

5 KPIX (10:00-11:00)
Price Is Right

TV GUIDE

51

52

55
FIG. 6
FIG. 6A
FIG. 7
FIG. 8

FAVORITE CHANNEL

4. KCNC
5. SHO [Delete]
6. KRMA
7. KMGH
8. MUN1
9. KUSA
10. KTCI
11. REQ1

Choices

Selected

12. MOVIES
13. NEWS
14. SPORTS

TV GUIDE
12:25 pm

Enter

82 15 REQ2

81 9 KUSA

80

7 KMGH

5 SHO

3 PPV

MOVIES

RECTIFIED SHEET (RULE 91)
HBO is a Premium Service

To order this service press Enter

FIG.9
<table>
<thead>
<tr>
<th>Channel</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBO</td>
<td>Home Box Office</td>
<td>$10.40/Month</td>
</tr>
<tr>
<td>SHO</td>
<td>Showtime</td>
<td>$9.95/Month</td>
</tr>
<tr>
<td>DIS</td>
<td>The Disney Channel</td>
<td>$9.95/Month</td>
</tr>
<tr>
<td>TMC</td>
<td>The Movie Channel</td>
<td>$1.50/Month</td>
</tr>
<tr>
<td>MAX</td>
<td>Cinemax</td>
<td>$9.95/Month</td>
</tr>
<tr>
<td>PLA</td>
<td>Playboy at Night</td>
<td>$4.95/5:00pm to 3:00am</td>
</tr>
<tr>
<td>ACT</td>
<td>Action</td>
<td>$5.95/11:00pm to 3:00pm</td>
</tr>
</tbody>
</table>

Movie, special events, and family programming!

You are not a Subscriber. Press Enter to Subscribe!

FIG. 10
FIG. 11

Looking for Miracles

(6:00-8:00 p.m.)
FIG. 12
Jun 7

Set Reminder for

2 KTVU  5:30p Mama's Family
Arrows to select <Enter> to accept  Yes

FIG. 13
2 KTVU  5:30p Mama's Family
Will start in 2 minutes
Tune

FIG.14
FIG. 15

Complete MSO Title
FIG. 16
<table>
<thead>
<tr>
<th>TV GUIDE</th>
<th>ON SCREEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOW SHOWING</td>
<td>HOME THEATER</td>
</tr>
<tr>
<td>CABLE COMPANY</td>
<td></td>
</tr>
</tbody>
</table>

Complete MSO Title

FIG.17
<table>
<thead>
<tr>
<th>Time</th>
<th>Station</th>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00p</td>
<td>4 KRON</td>
<td>Baseball (4:30-7:30p)</td>
</tr>
<tr>
<td>7:30p</td>
<td>4 KRON</td>
<td>Baseball</td>
</tr>
<tr>
<td>8:00p</td>
<td>5 KPIX</td>
<td>Ent. Tonight</td>
</tr>
<tr>
<td>8:30p</td>
<td>5 KPIX</td>
<td>Fresh Prince</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Blossom</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Murphy Brown</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JFK</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Day One</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wheel of Fortune</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jeopardy!</td>
</tr>
<tr>
<td>Channel</td>
<td>Time</td>
<td>Program Title</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td>22 LIF</td>
<td>4:00p</td>
<td>A Case of Deadly Force</td>
</tr>
<tr>
<td>1 HOT</td>
<td>4:00p</td>
<td>Ring of Fire II: Blood and Steel</td>
</tr>
<tr>
<td>34 AMC</td>
<td>4:00p</td>
<td>Texas Across the River</td>
</tr>
<tr>
<td>31 MAX</td>
<td>4:00p</td>
<td>The Ballad of the Sad Cafe</td>
</tr>
<tr>
<td>8 SHO</td>
<td>5:00p</td>
<td>Big Girls Don't Cry—They Get Even</td>
</tr>
<tr>
<td>46 BRV</td>
<td>5:00p</td>
<td>Queen of Hearts</td>
</tr>
<tr>
<td>27 TMC</td>
<td>5:00p</td>
<td>The Roaring Twenties</td>
</tr>
<tr>
<td>25 TBS</td>
<td>5:05p</td>
<td>No Mercy</td>
</tr>
<tr>
<td>Time</td>
<td>Program</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>----------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>4:30p</td>
<td>Baseball</td>
<td></td>
</tr>
<tr>
<td>7:30p</td>
<td>Entertainment Tonight</td>
<td></td>
</tr>
<tr>
<td>8:00p</td>
<td>Fresh Prince</td>
<td></td>
</tr>
<tr>
<td>8:30p</td>
<td>Blossom</td>
<td></td>
</tr>
<tr>
<td>9:00p</td>
<td>Perry Mason: Notorious Nun</td>
<td></td>
</tr>
<tr>
<td>11:00p</td>
<td>News</td>
<td></td>
</tr>
<tr>
<td>11:30</td>
<td>Tonight</td>
<td></td>
</tr>
<tr>
<td>12:30a</td>
<td>David Letterman</td>
<td></td>
</tr>
</tbody>
</table>
Oscar (10:00–12:00p) (1991) P.G. A mobster (Sylvester Stallone) tries to go legit. Omella Muti, Don Ameche, Peter Riegert, Tim Curry.
Pay Per View Ordering

Passenger 57

What time would you like this show to start?

Today 9:00p  Tomw 12:00p  Tomw 6:00p

Would you like to see a countdown onscreen just before the show start

Yes No

$3.99

FIG.23
Pay Per View Confirmation

You have requested to order:

Passenger 57

$ 3.99

NO, I DO NOT WANT TO ORDER.

FIG. 24
Pay Per View Confirmation

You have requested to order:

Passenger 57 $3.99

Yes, I would like to order

Passenger 57 has been Ordered!
Tune to Channel 1 Today at 9:00pm.

PPV

Source

FIG.24A
<table>
<thead>
<tr>
<th>LISTINGS</th>
<th>Listing</th>
<th>6:06P AUG 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **NBC** 4 News
- **ABC** 6 News
- **CBS** 10 CBS News
- **Fox** 28 Club Paradise (5:00)
- **PBS** 29 Mystery!
- **COM** 30 Tribute to Carson
- **HBO** 33 Gremlins 2: The New Batch
- **ESN** 34 Tennis (4:30)
- **AMC** 35 Arise my Love (5:00)
- **DSC** 37 Natural World
- **NIK** 38 I Love Lucy

**FIG.25**
<table>
<thead>
<tr>
<th>Premium Services</th>
<th>Enter</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBO</td>
<td>Home Box Office $10.40/Month</td>
</tr>
<tr>
<td>SHO</td>
<td>Showtime $9.95/Month</td>
</tr>
<tr>
<td>DIS</td>
<td>The Disney Channel $9.95/Month</td>
</tr>
<tr>
<td>TMC</td>
<td>The Movie Channel $1.50/Month</td>
</tr>
<tr>
<td>MAX</td>
<td>Cinemax $9.95/Month</td>
</tr>
<tr>
<td>PLA</td>
<td>Playboy at Night $4.95/Evening (5:00pm to 3:00am)</td>
</tr>
<tr>
<td>ACT</td>
<td>Action $5.95/Day (11:00pm to 3:00pm)</td>
</tr>
</tbody>
</table>

Movie, special events, and family programming!

You are not a Subscriber. Press Enter to Subscribe!

FIG. 26
| Cable System Messages | Pay Per View is featuring "Batman Returns" this month. | Get a free sneak peek of HBO this weekend. | Complete MSO Title |

**FIG. 28**
**FIG. 29A**

When headline is highlighted, full message appears in this space.
Use left/right arrows, to read messages, use down arrows.

To move between cable system and TV Guide multiboxes,

<table>
<thead>
<tr>
<th>Guide</th>
<th>Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV</td>
<td>TV</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PBS Pledge Drive Begins Tonight With Auction</th>
<th>3/30</th>
</tr>
</thead>
<tbody>
<tr>
<td>President Clinton Address</td>
<td>3/25</td>
</tr>
<tr>
<td>California/Earthquake Reeks Havoc on TV</td>
<td>1/223</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Logo</th>
<th>Logo</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSOC</td>
<td>MSOC</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>New Channel Next Week on Your Cable Network</th>
<th>2/28</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pay Per View Movie Shown Will Be on Tonight Only</td>
<td>3/22</td>
</tr>
<tr>
<td>Free HBO Preview Tonight</td>
<td>3/17</td>
</tr>
</tbody>
</table>
Billing
Name: TV Guide Onscreen
Billed From: 05/25/93
Acct. #: 12345-098765-08-9
Billed To: 06/25/93
Total: $3.99
FOR CUSTOMER SERVICE CALL: 790-0900
Date: 06/07/93
Time: 9:00 p
Service/PPV Event: PASSENGER 57

Cost: $3.99

FIG. 29

RECTIFIED SHEET (RULE 91)
Key Access

Parental Guidance

MPAA Rating

Channel Block

Change Key Access Code:

Clear Key Access Code and All Keys:

FIG. 30
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Last</th>
<th>Quote</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMCSA</td>
<td>18</td>
<td>5415</td>
<td>-0.25</td>
</tr>
<tr>
<td>CVC</td>
<td>29.75</td>
<td>129</td>
<td>-0.125</td>
</tr>
<tr>
<td>JOIN</td>
<td>10.5</td>
<td>22</td>
<td>0</td>
</tr>
<tr>
<td>LBTYA</td>
<td>18.125</td>
<td>873</td>
<td>0.625</td>
</tr>
<tr>
<td>LBTYB</td>
<td>18</td>
<td>0</td>
<td>1.5</td>
</tr>
<tr>
<td>TCMA</td>
<td>18.25</td>
<td>22970</td>
<td>-0.5</td>
</tr>
<tr>
<td>TCMB</td>
<td>19.25</td>
<td>351</td>
<td>-0.375</td>
</tr>
<tr>
<td>TUNE</td>
<td>5.375</td>
<td>407</td>
<td>-0.125</td>
</tr>
</tbody>
</table>

Portfolio Value is 433200 and your gain is 443.
STORIES

US World News
Cubans use Vitamins to combat epidemic

Geneva - A costly campaign to provide vitamins to all Cubans has helped curb a mysterious epidemic that has afflicted thousands with vision problems, a World Health Organization official said yesterday.

The outbreak of optical neuritis has dimmed the vision of about 20,000 Cubans and a related malady has affected 6,000 other people, mostly women.

FIG. 34
SPORTS

Major League Baseball

Yesterday in National League Action
Colorado 7, Houston 5
San Francisco 5, Chicago 4

Yesterday in American League Action
Detroit 4, Boston 1
Toronto 4, Milwaukee 2

FIG. 35
FIG 36B
FIG. 36C
Clear ALL favorite channels

Press * - Lines to illustrate text

FIG. 37
FIG. 38
MENU

By Time

By Channel

Locator

Movies

Sports

Children

HOME THEATER

NOW SHOWING

CUSTOMER SERVICE

FIG. 38A
TV GUIDE

TODAY 7:30PM

Extra Extra Line
51 CSPN2 Gov't Program(10-10a)
52 SPICE Mom and Dad Save the World (4-6p)
53 KWHD Religious Programming(12-12m)
54 MUN2 Public Access (12-12m)
2 KWGN NBA Basketball (6-30-9p)

Mom and Dad Save the World $4.99
You have requested this program at 4PM.
To complete the ordering process, enter your four-digit purchase code.
Purchase Code: ***

FIG. 38B
FIG. 39
This button sets the text location to the bottom of the Screen.
Press [OK] to select

FIG. 40
You do not have a Lockout Code set.
To restrict the availability of certain channels or programs, use your remote to enter four digits (for example, 4567).

Lockout Code: 

** **

FIG. 40A

To restrict the ability to order programming, use your remote to enter four digits (for example, 1234).

Purchase Code: 

** **

FIG. 40B

RECTIFIED SHEET (RULE 91)
please re-enter your four digits.

Purchase Code: * * * *

FIG.40C

Yes 4> No then Press OK

FIG.40D
enter your current
four-digit
Purchase Code.

Purchase Code:

FIG. 40E
RESTRICTED!
TO VIEW THIS PROGRAM, ENTER YOUR FOUR-DIGIT LOCKOUT CODE NUMBER, THEN PRESS OK

LOCKOUT CODE:

FLIP 23 DSC (2:30-3p)  TV GUIDE
Easy Does It

300

FIG. 41

RECTIFIED SHEET (RULE 91)
EXTRACT PROGRAM TITLES

DATABASE UNEDITED LISTINGS

DATABASE TITLES ONLY

DETERMINE WHAT GRID SIZE LISTINGS ARE NEEDED

DETERMINE SPACE REQUIRED FOR TITLE

DETERMINE IF EDITING REQUIRED FOR A GRID CELL

NO

NEXT LISTING

YES

IS TITLE IN EDITED LIBRARY OF TITLES?

YES

REPLACE WITH TITLE FROM EDITED LIBRARY

NO

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EDITED PROGRAM TITLE FILE

DATABASE EDITED LISTINGS

FIG. 42
### INTERNATIONAL SEARCH REPORT

#### A. CLASSIFICATION OF SUBJECT MATTER

**IPC 6**  H04N5/445 //H04N5/50

According to International Patent Classification (IPC) or to both national classification and IPC

#### B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

**IPC 6**  H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

#### C. DOCUMENTS CONSIDERED TO BE RELEVANT

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<td>A</td>
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<td>EP,A,0 401 930 (N.V.PHILIPS GLOEILAMPENFABRIEKEN) 12 December 1990; see the whole document</td>
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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

*S Special categories of cited documents:*

'A' document defining the general state of the art which is not considered to be of particular relevance

'E' earlier document but published on or after the international filing date

'I' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

'O' document referring to an oral disclosure, use, exhibition or other means

'T' document published prior to the international filing date but later than the priority date claimed

'T' later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

'X' document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

'Y' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

'&' document member of the same patent family

**Date of the actual completion of the international search**

1 February 1995

**Date of mailing of the international search report**

15.05.95

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL-2280 HT Rijswijk
Tel: (+31-70) 340-2040, Tlx: 31 651 epc nl,
Fax: (+31-70) 340-3016

Authorized officer

VERSCHELDEN, J
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INTERNATIONAL SEARCH REPORT

Box I  Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. □ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:

2. □ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. □ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II  Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. claims 1-17: User created program schedule by means of an electronic programming; 2. claim 18: Electronic television programming guide with retrieval by abbreviated titles; 3. claim 19: Electronic television programming guide with selection from a number of available background pictures.

1. □ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. □ As all searchable claims could be searches without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. □ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. □ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

   1-17

Remark on Protest

□ The additional search fees were accompanied by the applicant’s protest.

□ No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet (1)) (July 1992)
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# Electronic Acknowledgement Receipt

**EFS ID:** 4029884  
**Application Number:** 11872320  
**International Application Number:**  
**Confirmation Number:** 8623  

**Title of Invention:** METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

**First Named Inventor/Applicant Name:** Min-Haeng Cho  
**Customer Number:** 34610  
**Filer:** Daniel Y.J. Kim/Deborah Kimberlin  
**Filer Authorized By:** Daniel Y.J. Kim  
**Attorney Docket Number:** EZ-0006  
**Receipt Date:** 30-SEP-2008  
**Filing Date:** 15-OCT-2007  
**Time Stamp:** 11:12:18  
**Application Type:** Utility under 35 USC 111(a)

## Payment information:
Submitted with Payment: no

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**Total Files Size (in bytes):** 25042954
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.
NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.
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CONFIRMATION NO. 8623

UPDATED FILING RECEIPT

OO00000002/462057

Date Mailed: 12/28/2007

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections.**

**Applicant(s)**

Min-Haeng Cho, Seongnam-si, KOREA, REPUBLIC OF;
Chang-Woo Lee, Seoul, KOREA, REPUBLIC OF;
Eun-Kyung Chang, Seongnam-si, KOREA, REPUBLIC OF;

**Power of Attorney:** The patent practitioners associated with Customer Number 34610

**Domestic Priority data as claimed by applicant**

**Foreign Applications**


**If Required, Foreign Filing License Granted:** 10/30/2007

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 11/872,320**

**Projected Publication Date:** 05/08/2008

**Non-Publication Request:** No

**Early Publication Request:** No
METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process simplifies the filing of patent applications on the same invention in member countries, but does not result in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application’s filing receipt contains further information and guidance as to the status of applicant’s license for foreign filing.

Applicants may wish to consult the USPTO booklet, “General Information Concerning Patents” (specifically, the section entitled “Treaties and Foreign Patents”) for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help “toolkits” giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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The applicant has been granted a license under 35 U.S.C. 184, if the phrase “IF REQUIRED, FOREIGN FILING LICENSE GRANTED” followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as
set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

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**NOT GRANTED**

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Min-Haeng CHO; Chang-Woo LEE and Eun-Kyung CHANG

Confirmation No.: 8623
Group Art Unit: 2623

Serial No.: 11/872,320
Examiner: To Be Assigned

Filed: October 15, 2007
Customer No.: 34610

For: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

REPLY TO NOTICE TO FILE MISSING PARTS OF APPLICATION

FILING DATE GRANTED

U.S. Patent and Trademark Office
Customer Service Window, MAIL STOP MISSING PARTS
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

In reply to the Notice of Missing Parts of Application dated November 1, 2007, submitted herewith are the following documents for filing in the above-referenced application:

- Declaration and Power of Attorney.
- Filing Fee of $1,030.00.
- Additional claim fee of $______.
- Late filing surcharge of $130.00 (large entity) $65.00 (small entity).
- Transmittal of certified priority document(s).
- Copy of Form PTO-1533 (Notice of Missing Parts).
- Authorization to Treat a Reply as Incorporating An Extension of Time under 37 C.F.R. §1.136(a)(3).
- A check in the amount of $______ (Check #______) is enclosed.
- Please charge my Credit Card in the amount of $1,160.00.
- Letter Submitting Replacement Sheets for Figures 2-4.
- Verified English language translation.
- Surcharge for filing non-English Specification $130.00 (large entity) $65.00 small entity.
Assignment Recordation Coversheet and Assignment.

☐ A check in the amount of $40.00 (Check #  )

☐ Please charge my Credit Card $40.00, representing the recordation fee for the Assignment. (See completed form PTO-2038 enclosed).

It is requested that an Official Filing Receipt showing the data contained herewith now be issued.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
KED & ASSOCIATES, LLP

Daniel Y.J. Kim
Registration No. 36,186

Correspondence Address:
P.O. Box 221200
Chantilly, VA 20153-1200
703 766-3777  DYK/dak

Date: December 21, 2007
Please direct all correspondence to Customer Number 34610

\4\Documents\2309\2309-006\145565.doc
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Min-Haeng CHO; Chang-Woo LEE and Eun-Kyung CHANG

Confirmation No.: 8623

Group Art Unit: 2623

Examiner: To Be Assigned

Serial No.: 11/872,320

Filed: October 15, 2007

Customer No.: 34610

For: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

AUTHORIZATION TO TREAT A REPLY AS INCORPORATING AN EXTENSION OF TIME UNDER 37 C.F.R. §1.136(a)(3)

U.S. Patent and Trademark Office
Customer Service Window, MAIL STOP MISSING PARTS
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

The U.S. Patent and Trademark Office is hereby authorized to treat any concurrent or future reply that requires a petition for an extension of time under this paragraph for its timely submission, as incorporating a petition for extension of time for the appropriate length of time under 37 C.F.R. 1.136(a)(3). The U.S. Patent and Trademark Office is hereby authorized to charge all required extension of time fees to our Deposit Account No. 16-0607, if such fees are not otherwise provided for in such reply. A duplicate copy of this sheet is enclosed.

Respectfully submitted,
KED & ASSOCIATES, LLP

Daniel Y.J. Kim
Registration No. 36,186

Correspondence Address:
P.O. Box 221200
Chantilly, VA 20153-1200
703 766-3777 DYK/dak

Date: December 21, 2007
Please direct all correspondence to Customer Number 34610
DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter claimed and for which a patent is sought on the invention entitled METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING, the specification of which

☐ is attached hereto  ☑ was filed on October 15, 2007 as Application Serial No. 11/872,320 and was amended on ______________________ (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is known to me to be material to patentability in accordance with Title 37, Code of Federal Regulations, Section 1.56(a).

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365 (b) of any foreign application(s) for patent or inventor’s certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor’s certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s):

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I hereby claim the benefit under 35 U.S.C. 119(c) of any United States provisional application(s) listed below.

Application Number(s):

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I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

Prior U. S. Application or PCT Parent Number | Filing Date (Month/Day/Year) | Parent Patent Number (if applicable)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

I hereby appoint the attorney(s) and/or agent(s) associated with Customer Number 34610 to prosecute this application and transact all business in the Patent and Trademark Office.

Direct all correspondence to Customer Number 34610
Full name of sole or first inventor: Mong Hoeng Cho
Inventor's signature: ____________________________ Date: 20.11.07
Mailing Address: #C-2111 Intelbike, 24, Jeongja-dong, Bundang-gu, Seongnam-si, Gyeonggi-do, 463-841, Republic of Korea
Citizenship: Republic of Korea
Residence Address:

(only if different from mailing address):

Full name of joint inventor(s): Chang-Woo Lee
Inventor's signature: ____________________________ Date: 20.11.07
Mailing Address: 1F, 233-2, Junggok-dong, Gwangjin-gu, Seoul 143-220, Republic of Korea
Citizenship: Republic of Korea
Residence Address:

(only if different from mailing address):

Full name of joint inventor(s): Eun-Kyung Chang
Inventor's signature: ____________________________ Date: 24.10.07
Mailing Address: #103-1002, Cheongolmaeul Sungwon Apt., Geumgok-dong, Bundang-gu, Seongnam-si, Gyeonggi-do 463-718, Republic of Korea
Citizenship: Republic of Korea
Residence Address:

(only if different from mailing address):

Full name of joint inventor(s): ____________________________ Date: ____________________________
Mailing Address: ____________________________
Citizenship: ____________________________
Residence Address:

(only if different from mailing address):

Full name of joint inventor(s): ____________________________ Date: ____________________________
Mailing Address: ____________________________
Citizenship: ____________________________
Residence Address:

(only if different from mailing address):

Full name of joint inventor(s): ____________________________ Date: ____________________________
Mailing Address: ____________________________
Citizenship: ____________________________
Residence Address:

(only if different from mailing address):
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Min-Haeng CHO; Chang-Woo LEE and Eun-Kyung CHANG

Confirmation No.: 8623

Group Art Unit: 2623

Serial No.: 11/872,320

Examiner: To Be Assigned

Filed: October 15, 2007

Customer No.: 34610

For: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

LETTER SUBMITTING FORMAL DRAWINGS

U.S. Patent and Trademark Office
Customer Service Window, MAIL STOP DRAWINGS
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

Please find attached hereto three (3) sheets of formal drawings in connection with the above-identified application. Please substitute the three (3) sheets of formal drawing for the three (3) (Figures 2-4) sheets of formal drawings previously filed in connection with this application.

If the Examiner has any questions, please contact the undersigned at the telephone number listed below.

Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
KED & ASSOCIATES, LLP

Daniel Y.J. Kim
Registration No. 36,186

Correspondence Address:
P.O. Box 221200
Chantilly, VA 20153-1200
703 766-3777 DFK/dak

Date: December 21, 2007
Please direct all correspondence to Customer Number 34610
**Electronic Patent Application Fee Transmittal**

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### New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

### National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

### New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of

Min-Haeng CHO; Chang-Woo LEE and Eun-Kyung CHANG

Serial No.: 11/872,320

Filed: October 15, 2007

Confirmation No.: 8623

Group Art Unit: 2623

Examiner: To Be Assigned

Customer No.: 34610

For: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

TRANSMITTAL OF CERTIFIED PRIORITY DOCUMENT

U.S. Patent and Trademark Office
Customer Service Window, MAIL STOP MISSING PARTS
Randolph Building
401 Dulany Street
Alexandria, Virginia 22314

Sir:

At the time the above application was filed, priority was claimed based on the following application:


A copy of the priority application listed above is enclosed.

Respectfully submitted,
KED & ASSOCIATES, LLP

Daniel Y.J. Kim
Registration No. 36,186

Correspondence Address:
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Chantilly, VA 20153-1200
703 766-3777  DKG/dkg

Date: December 21, 2007

Please direct all correspondence to Customer Number 34610
This is to certify that the following application annexed hereto is a true copy from the records of the Korean Intellectual Property Office.

출원번호: 10-2006-0109478
Application Number

출원년월일: 2006년 11월 07일
Filing Date

출원인: 주식회사 휴맥스
Applicant(s)

2007년 08월 03일

COMMISSIONER

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【서지사항】
【서류명】 특허출원서
【권리구분】 특허
【수신처】 특허청장
【제출일자】 2006.11.07
【발명의 근거명칭】 프로그램 정보 표시 방법 및 장치
【발명의 영문명칭】 Method and device for displaying program information of broadcasting

【출원인】
【명칭】 주식회사 휴맥스
【출원인코드】 1-1998-000063-1

【대리인】
【성명】 이경란
【대리인코드】 9-1998-000651-6
【포괄위임등록번호】 2004-073908-7

【발명자】
【성명】 조민행
【성명의 영문표기】 CHO, MINHAENG
【주민등록번호】 751225-1XXXXXXX
【우편번호】 463-841
【주소】 경기도 성남시 분당구 정자 24 인텔리지 C동 2111호
【국적】 KR

【발명자】
【성명】 이창우
【성명의 영문표기】 Lee, Chang Woo
【주민등록번호】 750717-1XXXXXXX
【우편번호】 143-220
【주소】 서울시 광진구 중곡동 233-2 1층
【국적】 KR
【발명자】
【성명】 장은경
【성명의 영문표기】 CHANG, EUN KYUNG
【주민등록번호】 770516-2XXXXXXX
【우편번호】 463-718
【주소】 경기도 성남시 분당구 금곡동 청솔마을 성원 703동 1902호
【국적】 KR
【심사청구】 청구
【취지】 특허법 제42조의 규정에 의한 출원, 특허법 제60조의 규정에 의한 심사청구를 합니다.

대리인 이경란 (인)

【수수료】
【기본출원료】 0 면 38,000 원
【가산출원료】 25 면 0 원
【우선권주장료】 0 건 0 원
【심사청구료】 16 항 621,000 원
【합계】 659,000 원
【요약서】

【요약】

프로그램 정보(EPG : Electronic Program Guide) 표시 방법 및 장치가 개시된다. 본 발명의 일체면에 따르면, 방송 전자기기에서의 EPG(Electronic Program Guide) 표시 방법에 있어서, EPG 모드 실행 명령 기의 사용자 조작에 따라 채널 필드 및 이벤트 필드를 포함하는 EPG 기본 모드 화면을 표시하는 단계; 및 표시모드 전환기에 따른 입력 신호에 상응하여 미리 지정된 항목의 필드를 추가하고, 추가된 필드의 특정 값 및 미리 선택된 채널에 상응하는 이벤트 정보가 표시되도록 EPG 추가 모드 화면을 표시하는 단계를 포함하는 EPG 표시 방법이 제공된다. 본 발명에 따르면, EPG 표시 기능이 실행되면 요일에 따른 이벤트 정보가 표시되는 프로그램 정보(EPG) 표시 방법 및 장치를 제공할 수 있다.

【대표도】

도 3

【색인어】

EPG, 이벤트, 방송, 프로그램 정보, 요일
【명세서】

【발명의 명칭】

프로그램 정보 표시 방법 및 장치{Method and device for displaying program information of broadcasting}

【도면의 간단한 설명】

<1> 도 1은 본 발명의 일 실시예에 따른 EPG 표시 기능을 제공하는 방송 전자기기의 기능 블록도.

<2> 도 2는 본 발명의 일 실시예에 따른 EPG 기본 모드 화면을 도시한 예시도.

<3> 도 3 및 도 4는 본 발명의 각 실시예에 따른 EPG 주간 모드 화면을 도시한 예시도.

<4> <도면의 주요 부분에 대한 부호 설명>

<5> 310 : 채널 필드

<6> 330 : 요일 필드

<7> 350 : 이벤트 필드

【발명의 상세한 설명】

【발명의 목적】

【발명이 속하는 기술분야 및 그 분야의 종래기술】

28-4
본 발명은 정보 표시에 관한 것으로서, 좀 더 상세하게는 프로그램 정보 표시 방법 및 장치에 관한 것이다.

근래에는 지상파 방송뿐만 아니라, 인터넷 방송, 위성 방송 등 다양한 방송 시스템이 존재하고 있어, 위성으로부터 방송 신호를 수신하여 TV 장치에 전송하는 장치인 셋톱박스(set-top box)와 같은 방송 수신 장치가 출시되고 있다.

셋톱박스를 구비하거나, 방송 프로그램을 수신하여 제공하는 장치(예를 들어, DMB폰, 디지털 TV 등, 이하, '방송 전자기기'라 통칭함)는 EPG(Electronic Program Guide) 표시 기능을 제공한다. EPG는 입력의 채널에 대한 방송 시간, 프로그램 제목 등의 이벤트 정보와 해당 채널 정보 등을 포함하는 프로그램 정보이며, 방송 전자기기는 EPG 화면을 디스플레이(display)하여 사용자에게 프로그램 정보를 제공한다. 물론, EPG는 채널별 프로그램 정보뿐만 아니라 각 위성별 채널 정보, 방송사별 채널 정보 등의 다양한 프로그램 정보일 수 있음을 당연하다.

기존의 EPG는 한 화면에 보통 2-3시간 간격의 이벤트 정보만을 표시할 수 있었다. 특히, 사용자가 한주간의 방송 프로그램 정보를 확인하면서 원하는 방송 프로그램에 대한 예약 녹화를 한꺼번에 수행하고자 하는 경우가 발생할 수 있는데, 기존의 EPG 방식에서는 사용자가 여러 번의 키 조작을 해야지만 원하는 채널 및 요일에 따른 이벤트 정보를 확인할 수 있었다. 즉, 방송 이벤트 정보를 검색하기 위한 다양한 조건들(즉, 채널 또는 요일 등)에 따른 EPG 화면을 제공하는데 따른 사용자의 불편이 있었다.
【발명이 이루고자 하는 기술적 과제】

따라서, 본 발명은 상술한 문제점을 해결하기 위해 안출된 것으로서, EPG 표시 기능이 실행되며 요일에 따른 이벤트 정보가 표시되는 프로그램 정보(EPG) 표시 방법 및 장치를 제공하기 위한 것이다.

또한, 본 발명은 요일과 같은 다양한 항목에 따른 다양한 모드의 EPG 화면을 간단한 키 입력만으로 제공할 수 있는 EPG 표시 방법 및 장치를 제공하기 위한 것이다.

또한, 본 발명은 간단한 키 조작만으로 정보 필드를 추가할 수 있어 이벤트 정보를 다양하게 검색할 수 있는 EPG 표시 방법 및 장치를 제공하기 위한 것이다.

본 발명의 다른 목적들은 이하에 서술되는 실시예들을 통하여 보다 명확하게 것이다.

【발명의 구성】

상술한 목적을 달성하기 위한 본 발명의 일 측면에 따르면, 방송 전자기기에 서의 EPG(Electronic Program Guide) 표시 방법에 있어서, EPG 모드 실행 명령 키의 사용자 조작에 따라 채널 필드 및 이벤트 필드를 포함하는 EPG 기본 모드 화면을 표시하는 단계; 및 표시모드 전환키에 따른 입력 신호에 상응하여 미리 지정된 항목의 필드를 추가하고, 상기 추가된 필드의 특정 값 및 미리 선택된 채널에 상응
하는 이벤트 정보가 표시되도록 EPG 추가 모드 화면을 표시하는 단계를 포함하는 EPG 표시 방법 및 그 방법을 실행하는 프로그램이 기록된 기록매체가 제공된다.

여기서, 사용자의 입력에 따라 상기 체널 필드 및 상기 추가된 필드 중 어느 하나, 또는 각 필드의 값들 중 어느 하나로 커서를 이동시키는 단계를 더 포함하되,

상기 커서에 의해 선택되거나 미리 지정된 각 필드의 값에 상응하는 이벤트 정보가 상기 이벤트 필드에 표시되는 것을 특징으로 할 수 있다.

상술한 목적을 달성하기 위한 본 발명의 다른 측면에 따르면, EPG 모드 실행 명령 키 및 표시모드 전환키를 포함하는 입력부; EPG 화면을 표시하기 위한 표시부; 및 상기 EPG 모드 실행 명령 키의 사용자 조작에 따라 체널 필드 및 이벤트 필드를 포함하는 EPG 기본 모드 화면을 상기 표시부를 통해 표시하고, 상기 표시모드 전환키에 따른 입력 신호에 상응하여 미리 지정된 항목의 필드를 추가하며 상기 추가된 필드의 특정 값 및 미리 선택된 체널에 상응하는 이벤트 정보가 표시되도록 EPG 추가 모드 화면을 상기 표시부를 통해 표시하는 제어부를 포함하는 EPG 표시 장치가 제공된다.

상기한 각 측면에 있어서, 상기 항목은 요일일 수 있으며, 추가된 요일 필드의 상기 특정 값은 "오늘"로 초기화될 수 있다.

또한, 상기 제어부는, 사용자의 입력에 따라 상기 체널 필드 및 상기 추가된
필드 중 어느 하나, 또는 각 필드의 값들 중 어느 하나로 커서를 이동시키며, 상기 커서에 의해 선택되거나 미리 지정된 각 필드의 값을 상응하는 이벤트 정보가 표시부를 통해 상기 이벤트 필드에 표시할 수 있다.

또한, 상기 항목의 필드가 추가되면, 상기 채널 필드의 상기 미리 선택된 채널에 커서가 위치되도록 EPG 화면을 표시할 수 있다.

또한, 상기 표시모드 전환기에 따른 입력 신호가 다시 감지되면, 미리 지정된 순서에 따른 다른 항목의 필드를 더 추가하며, 상기 새로이 추가된 필드에 상응하는 이벤트 정보를 표시할 수 있다.

또한, 상기 순서는 사용자의 조작에 의해 설정 가능하며, 상기 순서를 설정하기 위한 사용자 인터페이스(UI) 화면이 표시될 수 있다.

또한, 상기 EPG 추가 모드 화면에 포함된 이벤트 필드의 시간축을 세로로 표시할 수 있다.

또한, 상기 EPG 모드 실행 명령 키와 상기 표시모드 전환키는 하나의 키로 구현될 수 있다.

상술한 목적을 달성하기 위한 본 발명의 제4 측면에 따르면, EPG 모드 실행 명령 키를 포함하는 입력부; EPG 화면을 표시하기 위한 표시부; 및 상기 EPG 모드 실행 명령 키의 사용자 조작에 따라 채널 필드, 요일 필드 및 이벤트 필드를 포함
하는 EPG 화면을 상기 표시부를 통해 표시하는 채널을 포함하여, 상기 이벤트 필드에는 상기 채널 필드 중 선택된 채널과 상기 요일 필드 중 선택된 요일에 상응하는 이벤트 정보가 표시되는 것을 특징으로 하는 EPG 표시 장치가 제공된다.

본 발명은 다양한 변경을 가할 수 있도록 여러 가지 실시예를 가질 수 있는 바, 특정 실시예들을 도면에 예시하고 상세한 설명에 상세하게 설명하고자 한다. 그러나, 이는 본 발명을 특정한 실시 형태에 대해 한정하려는 것이 아니며, 본 발명의 사상 및 기술 범위에 포함되는 모든 변경이, 균등한 내지 대체물의 포함하는 것으로 이해되어야 한다.

제1, 제2 등과 같이 서수를 포함하는 용어는 다양한 구성요소들을 설명하는 데 사용될 수 있지만, 상기 구성요소들은 상기 용어들에 의해 한정되지지는 않는다. 상기 용어들은 하나의 구성요소를 다른 구성요소로부터 구별하는 목적으로만 사용된다. 예를 들어, 본 발명의 권리 범위를 벗어나지 않으면서 제1 구성요소는 제2 구성요소로 명명될 수 있고, 유사하게 제2 구성요소도 제1 구성요소로 명명될 수 있다. 둘 또는 이라는 용어는 복수의 관련된 기재된 항목들의 조합 또는 복수의 관련된 기재된 항목들 중의 어느 항목을 포함한다.

어떤 구성요소가 다른 구성요소에 "연결되어" 있다거나 "접속되어" 있다고 언급된 때에는, 그 다른 구성요소에 직접적으로 연결되어 있거나 또는 접속되어 있을 수도 있지만, 중간에 다른 구성요소가 존재할 수도 있다고 이해되어야 할 것이다. 반면에, 어떤 구성요소가 다른 구성요소에 "직접 연결되어" 있다거나 "직접 접
속되어" 있다고 언급된 때에는, 중간에 다른 구성요소가 존재하지 않는 것으로 이해되어야 할 것이다.

본 출원에서 사용한 용어는 단지 특정한 실시예를 설명하기 위해 사용된 것으로, 본 발명은 한정하려는 의도가 아니다. 단수의 표현은 문맥상 명백하게 다르게 뜻하지 않는 한, 복수의 표현을 포함한다. 본 출원에서, "물품하다" 또는 "가지다" 등의 용어는 명세서상에 기재된 특장, 숫자, 단계, 동작, 구성요소, 부품 또는 이들을 조합한 것이 존재함을 지정하려는 것이지, 하나 또는 그 이상의 다른 특장들이나 숫자, 단계, 동작, 구성요소, 부품 또는 이들을 조합한 것들의 존재 또는 부가 가능성을 미리 배제하지 않는 것으로 이해되어야 한다.

다르게 정의되지 않는 한, 기술적이거나 과학적인 용어를 포함해서 여기서 사용되는 모든 용어들은 본 발명이 속하는 기술 분야에서 통상의 지식을 가진 자에 의해 일반적으로 이해되는 것과 동일한 의미를 가지고 있다. 일반적으로 사용되는 사전에 정의되어 있는 것과 같은 용어들은 관련 기술의 문맥 상 가지는 의미와 일치하는 의미를 가지는 것으로 해석되어야 하며, 본 출원에서 명백하게 정의하지 않는 한, 이상적이거나 과도하게 형식적인 의미로 해석되지 않는다.

이하, 첨부한 도면들을 참조하여 본 발명에 따른 실시예를 상세히 설명하기로 하며, 첨부 도면을 참조하여 설명함에 있어 도면 부호에 상관없이 동일하거나 대응하는 구성 요소는 동일한 참조번호를 부여하고 이를 대응되는 설명은 생략하기로 한다.
도 1은 본 발명의 일 실시예에 따른 EPG 표시 기능을 제공하는 방송 전자기기의 기능 블록도이다.

도 1을 참조하면, EPG 표시 장치인 방송 전자기기(100)는 방송 수신부(110), 저장부(120), 표시부(130), 입력부(140) 및 제어부(150)를 포함한다.

입력부(140)는 사용자로부터 EPG 모드 실행 명령 등의 사용자로부터의 입력신호를 입력 받기 위한 수단으로, 버튼, 휠(wheel), 스위치, 근거리 통신 모듈(예를 들어, 리모트 컨트롤러로부터의 신호를 입력 받기 위한 리모트 모듈, 블루투스(BLUETOOTH) 등) 등으로 구현될 수 있다.

특히, 본 실시예에 따른 입력부(140)는 요일별 EPG 화면 등 다양한 형식의 EPG 화면으로의 전환을 위한 특정 기능 키(예, 표시모드 전환키)를 포함할 수 있다. 여기서, 표시모드 전환키는 독립적으로 구비될 수도 있으며, 또는 EPG 모드 실행 명령 키가 표시모드 전환키로도 사용될 수 있다. 즉, EPG 모드 실행 명령 키가 한번 조작되면 EPG 모드를 실행하고, 두 번째 조작부터는 상기한 표시모드 전환키의 기능을 수행하도록 구현될 수 있다. 표시모드 전환키를 이용하여 EPG 화면을 변환하는 방법은 관련 도면(도 2 내지 도 4)을 참조하여 후술하기로 한다.

방송 수신부(110)는 하나 이상의 방송 시스템(즉, 방송을 제공하는 방송사시스템)으로부터 방송 데이터, 방송 이벤트(event) 정보 등을 수신하도록 기능하며, 저장부(120)는 방송 시스템으로부터 수신된 방송 이벤트 정보 등을 저장한다.
제어부(150)는 방송 전자기기(100)가 방송 시스템으로부터 각 방송에 대한 방송 이벤트 정보를 수신하고, 수신된 방송 이벤트 정보를 이용하여 방송 프로그램 정보가 담긴 EPG 화면을 생성 및 표시할 수 있도록 방송 수신부(110), 저장부(120), 입력부(140) 및 표시부(130)를 제어한다. 특히, 본 실시예에 따른 제어부(150)는 입력부(140)의 특정 기능 버튼의 입력에 따라, 현재의 채널 및 요일에 상응하는 방송 프로그램 정보가 담긴 EPG 화면을 제공할 수 있도록 각 구성요소를 제어한다.

도면에 도시되지 않은 경우, 방송 전자기기(100)의 제어부(150)는 그 기능에 따라 입력신호 인식부, 메모리부, EPG 기능부 및 표시 제어부를 포함할 수 있으며, 제어부(150)의 각 구성부는 반드시 하드웨어적으로 구현될 필요는 없으며, 프로그램과 같은 소프트웨어적으로 구현될 수도 있음은 당연하다.

제어부(150)의 입력신호 인식부는 입력부(140)를 통해 사용자로부터 입력된 입력 신호를 인식하도록 기능한다. 즉, 입력신호 인식부는 입력부(140)의 EPG 모드 실행 명령 키 및 표시모드 전환키의 사용자 조작을 인식하여 그에 상응하는 입력 신호를 제어부(150)로 전달한다.

제어부(150)의 메모리부는 제어부(150)가 상술한 기능을 수행하는데 필요한 데이터가 저장될 수 있으며, 특히, EPG 화면을 생성하는데 필요한 각 채널별 이벤트 정보 등의 방송 프로그램 정보가 임시 저장될 수 있다.

제어부(150)의 EPG 기능부는 방송 시스템으로부터 수신된 방송 프로그램에 대한 정보들을 이용하여 EPG 화면을 생성하도록 기능한다. 특히, EPG 기능부는 전
술한 바와 같이 표시모드 전환기에 따른 다양한 모드의 EPG 화면을 생성한다.

제어부(150)의 표시 제어부는 표시부((130)를 제어하도록 기능한다. 즉, 표시 제어부는 EPG 기능부가 생성한 EPG 화면을 표시부(130)가 표시하도록 제어한다.

이하, 표시모드 전환기를 구비한 방송 전자기기(100)에서의 EPG 표시 방법을 설명하기로 하며, 상기한 방송 전자기기(100)의 각 구성요소들이 EPG 화면을 표시하기 위한 다른 기능들은 이하의 설명을 통해 더욱 자명하게 될 것이다.

도 2는 본 발명의 일 실시예에 따른 EPG 기본 모드 화면을 도시한 예시도이고, 도 3 및 도 4는 본 발명의 각 실시예에 따른 EPG 주간 모드 화면을 도시한 예시도이다.

EPG 모드 실행 명령 키에 따른 신호가 입력되면, 방송 전자기기(100)는 도 2에 도시된 바와 같은 "EPG 기본 모드 화면"을 표시할 수 있다.

EPG 기본 모드 화면에는 각 채널 및 시간을 기준으로 해당 이벤트 정보(즉, 해당 채널 및 시간에 상응하는 프로그램 정보)가 표시된다. 즉, EPG 기본 모드 화면은 채널에 대한 정보를 갖는 채널 필드(210)와 시간에 따른 이벤트 정보를 갖는 이벤트 필드(230)를 포함한다. 채널 필드(210)에는 사용자가 원하는 채널을 선택할 수 있도록 미리 지정된 개수만큼의 채널이 표시되고, 이벤트 필드(230)에는 채널 필드(210)에서 선택된 채널에 상응하는 이벤트 정보가 각 시간 정보에 따라 표시된다.
이후 표시모드 전환버튼이 입력되면, 미리 지정된 순서에 따른 항목에 상응하는 하나의 필드가 추가된 "EPG 추가 모드 화면"이 표시된다. 이하, 도 3 및 도 4에 도시된 바와 같이 표시모드 전환버튼의 최초 조작에 따른 항목은 요일이며, 그에 따라 요일 필드(330)가 추가된 "EPG 주간 모드 화면"이 표시되는 경우를 가정하기로 한다. 물론, 요일 필드(330) 외에도 방송 종류 필드(예를 들어, 스포츠, 연예, 뉴스 등의 항목을 갖는 필드) 등의 다양한 다른 필드가 최초에 추가될 수도 있다. 예를 들어, 상기한 미리 지정된 순서는 요일, 방송 종류, 방송 시간 순이 수 있으며, 이외에도 다양한 항목에 대한 필드가 더 추가될 수 있음을 당연하다.

또한, 일 실시예에 따르면, 추가되는 항목의 순서는 사용자에 의해 설정되도록 방송 전자기기(100)는 사용자 인터페이스(UI) 화면을 제공할 수도 있다. 따라서, 사용자는 미리 추가되는 항목에 대한 순서를 설정하고, 이후 각 항목에 따른 필드를 EPG 화면에 추가시킬 수 있다.

EPG 주간 모드 화면은 채널을 표시하기 위한 채널 필드(310), 요일을 표시하기 위한 요일 필드(330) 및 시간에 따른 이벤트 정보를 표시하기 위한 이벤트 필드(350)를 포함한다. 여기서, 이벤트 필드(350)에 표시되는 시간간격(예를 들어, 6시간)은 사용자에 의해 임의로 조정이 가능하다. 물론, 시간과 이벤트 정보가 분리되어 시간 필드가 별도로 구성될 수도 있음을 당연하다. 즉, 사용자는 시간 필드에서 특정 시각(時刻)을 선택함으로써, 해당 시간에 따른 이벤트 정보가 이벤트 필드(350)에 표시될 수 있다.

도면에 도시된 바와 같이, 사용자의 인식순서에 적합하도록, 채널 필드
(310), 요일 필드(330) 및 이벤트 필드(350)를 왼쪽에서 오른쪽 방향으로 배치할 수 있다. 물론, 그 배치 순서는 바뀔 수 있음을 당연하다.

채널 필드(310)에서 선택된 하나의 채널과 요일 필드(330)에서 선택된 해당 요일에 상응하는(즉, 해당 채널과 해당 요일의 "AND"연산) 이벤트 정보가 이벤트 필드(350)에 표시된다. 사용자는 채널 필드(310)에 커서가 위치한 경우에는 상하 방향 키 등을 이용하여 원하는 채널을 선택하여 현재의 요일에 상응하는 이벤트 정보를 확인할 수 있다. 여기서, 상기한 커서는 필드 내의 어느 하나의 값을 사용자가 선택할 수 있도록, 사용자가 위치할 수 있는 모든 형태로 구현될 수 있다. 예를 들어, 도 3에 도시된 바와 같이, 채널 필드(310)의 "27 DW TV"값이 선택될 경우 사용자가 위치할 수 있도록 박스(BOX) 형태의 커서가 표시될 수 있다.

또한, 사용자는 동일한 방식으로 임의의 채널이 선택된 상태에서 요일 필드(330)로 커서를 움직인 후 상하 방향 키 등을 이용하여 원하는 요일을 선택하면 선택된 요일 및 상기한 채널에 따른 이벤트 정보를 이벤트 필드(350)에서 확인할 수 있다.

따라서, 본 실시에 따르면 사용자는 한번의 키 조작만으로 요일 필드(330)가 추가된 EPG 화면을 표시하도록 하여 확인하고자 하는 요일 및 채널에 상응하는 이벤트 정보를 손쉽게 확인할 수 있다.

여기서, 도면에 도시된 바와 같이, 방송 전자기기(100)에 표시되는 정보의 양을 보다 많이 하기 위해, EPG 기본 모드 화면에서 EPG 주간 모드 화면으로 전환 되면 시간축이 가로축에서 세로축으로 변경될 수 있다.
다른 실시예에 따르면, 방송 전자기기(100)는 최초 EPG 모드 실행 명령 키에 따른 신호가 입력되면 도 3 또는 도 4에 도시된 바와 같은 EPG 주간 모드 화면을 곧바로 표시할 수도 있다. 따라서, 사용자는 EPG 기능을 수행하면, 채널 및 요일을 선택하여 채널과 요일에 따른 이벤트 정보를 손쉽게 검색할 수 있다. 물론, 이후 표시모드 전환기에 따른 신호가 입력되면 방송 종류 필드 등이 추가될 수 있음은 상술한 설명을 통해 자명하다 할 것이다.

도 3을 참조하면, 방송 전자기기(100)는 EPG 기본 모드 화면을 표시하고 있는 상태에서 표시모드 전환기에 대한 입력 신호가 한번만 입력되면, EPG 주간 모드 화면을 표시하며 커서는 채널 필드(310)에 위치하도록 할 수 있다. 즉, EPG 기본 모드 화면에서 선택되었던 채널에 커서가 위치함으로써, 커서가 위치한 채널 및 초 기화된 요일에 따른 이벤트 정보가 표시된다. 요일은 그날의 요일 즉 "오늘 (TODAY)"로 초기화 될 수 있다.

따라서, 사용자는 채널 필드(310)에 위치한 커서의 움직임을 조작함으로써, 현재 설정된 요일에 따른 원하는 채널의 이벤트 정보를 확인할 수 있다.

일 실시예에 따르면, 특정 방향 버튼과 같은 미리 지정된 특정 키에 따른 입력 신호가 입력되면, 커서가 요일 필드(330)로 이동될 수 있다. 즉, 사용자는 우측 방향 버튼 등의 특정 키 입력으로 커서를 요일 필드(330)로 이동시킨 후, 상하 방향 버튼을 조작하여 요일을 선택할 수 있으며, 방송 전자기기(100)는 선택된 요일 및 미리 선택된 현재의 채널에 상응하는 이벤트 정보를 추출하여 이벤트 필드(350)에 표시할 수 있다.
여기서, 상속한 바와 같이 EPG 주간 모드 화면에서 표시모드 전환버튼이 다시 한번 조작되면, 방송 전자기기(100)는 미리 지정된 순서에 따른 다른 하나의 필드(예를 들어, 상속한 방송 종류 필드 등)가 추가될 수 있으며, 그에 따라 이벤트 필드(350)에 추가된 방송 종류 필드에 상응하는 이벤트 정보가 표시될 수 있다.

물론, 도면에 도시된 바와 같이, EPG 화면에는 현재 시간, 날짜, 요일 및 현재 선택된 채널 및 이벤트에 대한 상세 정보 등이 더 표시될 수도 있음은 자명할 것이다.

상속한 바와 같은 본 발명의 방법은 프로그램으로 구현되어 컴퓨터로 읽을 수 있는 기록매체(씨디롬, 램, 롱, 플로피 디스크, 하드디스크, 광자기디스크 등)에 저장될 수 있다.

본 발명은 상기한 실시예에 한정되지 않으며, 많은 변형이 본 발명의 사상 내에서 당 분야에서 통상의 지식을 가진 자에 의하여 가능함은 물론이다.

【발명의 효과】

이상에서 상속한 바와 같이 본 발명에 따르면, EPG 표시 기능이 실행되면 요일에 따른 이벤트 정보가 표시되는 프로그램 정보(EPG) 표시 방법 및 장치를 제공할 수 있다.
또한, 본 발명에 따르면 요일과 같은 다양한 항목에 따른 다양한 모드의 EPG 화면을 간단한 키 입력만으로 제공할 수 있는 프로그램 정보 표시 방법 및 장치를 제공할 수 있다.

또한, 본 발명에 따르면 간단한 키 조작만으로 정보 필드를 추가할 수 있어 이벤트 정보를 다양하게 검색할 수 있다.

상기에서는 본 발명의 실시예를 참조하여 설명하였지만, 해당 기술 분야에서 통상의 지식을 가진 자라면 하기의 특허 청구범위에 기재된 본 발명의 사상 및 영역으로부터 벗어나지 않는 범위 내에서 본 발명을 다양하게 수정 및 변경시킬 수 있음을 이해할 수 있을 것이다.
【특허청구범위】

【청구항 1】

방송 전자기기에서의 EPG(Electronic Program Guide) 표시 방법에 있어서,

EPG 모드 실행 명령 키의 사용자 조작에 따라 채널 필드 및 이벤트 필드를
포함하는 EPG 기본 모드 화면을 표시하는 단계; 및

표시모드 전환기에 따른 입력 신호에 상응하여 미리 지정된 항목의 필드를
추가하고, 상기 추가된 필드의 특정 값 및 미리 선택된 채널에 상응하는 이벤트 정보가 표시되도록 EPG 추가 모드 화면을 표시하는 단계를 포함하는 EPG 표시 방법.

【청구항 2】

제 1항에 있어서,

상기 항목은 요일인 것을 특징으로 하는 EPG 표시 방법.

【청구항 3】

제 2항에 있어서,

추가된 요일 필드의 상기 특정 값은 "오늘"로 초기화되는 것을 특징으로 하
는 EPG 표시 방법.
【청구항 4】

제 1항에 있어서,

사용자의 입력에 따라 상기 채널 필드 및 상기 추가된 필드 중 어느 하나, 또는 각 필드의 값들 중 어느 하나로 커서를 이동시키는 단계를 더 포함하되,

상기 커서에 의해 선택되거나 미리 지정된 각 필드의 값에 상응하는 이벤트 정보가 상기 이벤트 필드에 표시되는 것을 특징으로 하는 EPG 표시 방법.

【청구항 5】

제 1항에 있어서,

상기 항목의 필드가 추가되면, 상기 채널 필드의 상기 미리 선택된 채널에 커서가 위치되도록 EPG 화면을 표시하는 것을 특징으로 하는 EPG 표시 방법.

【청구항 6】

제 1항에 있어서,

상기 표시모드 전환기에 따른 입력 신호가 다시 감지되면, 미리 지정된 순서에 따른 다른 항목의 필드를 더 추가하며, 상기 새로이 추가된 필드에 상응하는 이벤트 정보를 표시하는 것을 특징으로 하는 EPG 표시 방법.
【청구항 7】

제 6항에 있어서,

상기 순서는 사용자의 조작에 의해 설정 가능한 것을 특징으로 하는 EPG 표시 방법.

【청구항 8】

제 1항에 있어서,

상기 EPG 모드 실행 명령 키와 상기 표시모드 전환기는 하나의 키로 구현되는 것을 특징으로 하는 EPG 표시 방법.

【청구항 9】

EPG 모드 실행 명령 키 및 표시모드 전환기를 포함하는 입력부;

EPG 화면을 표시하기 위한 표시부; 및

상기 EPG 모드 실행 명령 키의 사용자 조작에 따라 채널 필드 및 이벤트 필드를 포함하는 EPG 기본 모드 화면을 상기 표시부를 통해 표시하고, 상기 표시모드 전환기에 따른 입력 신호에 상응하여 미리 지정된 항목의 필드를 추가하며 상기 추가된 필드의 특정 값 및 미리 선택된 채널에 상응하는 이벤트 정보가 표시되도록 EPG 추가 모드 화면을 상기 표시부를 통해 표시하는 제어부를 포함하는 EPG 표시 장치.
【청구항 10】

제 9항에 있어서,

상기 항목은 요일인 것을 특정으로 하는 EPG 표시 장치.

【청구항 11】

제 10항에 있어서,

추가된 요일 필드의 상기 특정 값은 "오늘"로 초기화되는 것을 특정으로 하는 EPG 표시 장치.

【청구항 12】

제 9항에 있어서, 상기 제어부는,

사용자의 입력에 따라 상기 채널 필드 및 상기 추가된 필드 중 어느 하나, 또는 각 필드의 값을 중 어느 하나로 커서를 이동시키며, 상기 커서에 의해 선택되거나 미리 지정된 각 필드의 값에 상응하는 이벤트 정보가 표시부를 통해 상기 이벤트 필드에 표시하는 것을 특정으로 하는 EPG 표시 장치.

【청구항 13】

제 9항에 있어서,
상기 제어부는, 상기 표시모드 전환기에 따른 입력 신호가 다시 감지되면 미리 지정된 순서에 따른 다른 항목의 필드를 더 추가하며, 상기 새로이 추가된 필드에 상응하는 이벤트 정보를 상기 표시부가 표시하도록 제어하는 것을 특징으로 하는 EPG 표시 장치.

【청구항 14】

 제 13항에 있어서,

상기 제어부는 상기 순서를 설정하기 위한 사용자 인터페이스(UI) 화면을 상기 표시부를 통해 표시하는 것을 특징으로 하는 EPG 표시 장치.

【청구항 15】

 제 9항에 있어서,

상기 EPG 모드 실행 명령 키와 상기 표시모드 전환기는 하나의 키로 구현되는 것을 특징으로 하는 EPG 표시 장치.

【청구항 16】

방송 전자기기에서의 EPG(Electronic Program Guide) 표시를 위해 디지털 처리 장치에서 실행될 수 있도록 유형적으로 구현되어 있으며, 디지털 처리 장치에 의해 판독될 수 있는 프로그램이 기록된 기록매체에 있어서,
EPG 모드 실행 명령 키의 사용자 조작에 따라 채널 필드 및 이벤트 필드를 포함하는 EPG 기본 모드 화면을 표시하는 단계; 및

표시모드 전환키에 따른 입력 신호에 상응하여 미리 지정된 항목의 필드를 추가하고, 상기 추가된 필드의 특정 값 및 미리 선택된 채널에 상응하는 이벤트 정보가 표시되도록 EPG 추가 모드 화면을 표시하는 단계를 실행하는 프로그램이 기록된 기록매체.
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[도 1]
【3】
【도 4】

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**FILING RECEIPT**

34610
KED & ASSOCIATES, LLP
P.O. Box 221200
Chantilly, VA 20153-1200

Date Mailed: 11/01/2007

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination’s Filing Receipt Corrections. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections.

Applicant(s)

Min-Haeng Cho, Residence Not Provided;
Chang-Woo Lee, Residence Not Provided;
Eun-Kyung Chang, Residence Not Provided;

Power of Attorney: None

Domestic Priority data as claimed by applicant

Foreign Applications

If Required, Foreign Filing License Granted: 10/30/2007

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is US 11/872,320

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Early Publication Request: No
METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process simplifies the filing of patent applications on the same invention in member countries, but does not result in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application’s filing receipt contains further information and guidance as to the status of applicant’s license for foreign filing.

Applicants may wish to consult the USPTO booklet, “General Information Concerning Patents” (specifically, the section entitled “Treaties and Foreign Patents”) for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

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Title 35, United States Code, Section 184
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No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).
NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

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Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given TWO MONTHS from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is missing.
  Applicant must submit $310 to complete the basic filing fee for a non-small entity. If appropriate, applicant may make a written assertion of entitlement to small entity status and pay the small entity filing fee (37 CFR 1.27).
- The oath or declaration is missing.
  A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.
  Note: If a petition under 37 CFR 1.47 is being filed, an oath or declaration in compliance with 37 CFR 1.63 signed by all available joint inventors, or if no inventor is available by a party with sufficient proprietary interest, is required.

The required item is informal since it does not comply with the regulations for the reason(s) indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- Replacement drawings in compliance with 37 CFR 1.84 and 37 CFR 1.121(d) are required. The drawings submitted are not acceptable because:
  - The drawings submitted to the Office are not electronically reproducible because portions of figures 2-4 are missing and/or blurry.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:
• To avoid abandonment, a surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.16(f) of $130 for a non-small entity, must be submitted with the missing items identified in this notice.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is $1160 for a non-small entity
• $310 Statutory basic filing fee.
• $130 Surcharge.
• The application search fee has not been paid. Applicant must submit $510 to complete the search fee.
• The application examination fee has not been paid. Applicant must submit $210 to complete the examination fee for a non-small entity.

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UTILITY PATENT APPLICATION TRANSMITTAL UNDER 37 C.F.R. §1.53(b)

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Docket No.: EZ-0006

Sir:

Transmitted herewith for filing is the patent application of
INVENTORS: Min-Haeng CHO; Chang-Woo LEE and Eun-Kyung CHANG

FOR: METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

Enclosed are:
1. ☑ 21 pages of specification, claims, abstract
2. ☑ 4 sheets of FORMAL drawings
3. ☑ ______ pages of newly executed Declaration & Power of Attorney (copy or original)
5. ☑ Applicant claims Small Entity Status
6. ☑ Information Disclosure Statement, Form PTO-1449 and ______ references
7. ☑ Assignment papers for HUMAX Co., Ltd. ______ cover sheet, assignment and assignment fee (To Follow)
8. ☑ Certified copy of Priority Application No. 10-2006-0109478 filed on November 7, 2006 in Korea (To Follow)
9. ☑ Two (2) return postcards
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☐ Any patent application processing fees under 37 C.F.R. 1.17.

☐ Any filing fees under 37 C.F.R. 1.16 for presentation of extra claims.

Respectfully submitted,
KED & ASSOCIATES, LLP

Daniel Y.J. Kim
Registration No. 36,186

Correspondence Address:
P.O. Box 221200
Chantilly, Virginia 20153-1200
703 766-3777 DYS/dsk

Date: October 15, 2007

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<td>METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING</td>
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<tr>
<td><strong>First Named Inventor/Applicant Name:</strong></td>
<td>Min-Haeng CHO</td>
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**New Applications Under 35 U.S.C. 111**
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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**New International Application Filed with the USPTO as a Receiving Office**
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.
METHOD AND DEVICE FOR DISPLAYING PROGRAM INFORMATION OF BROADCASTING

CROSS-REFERENCE TO RELATED PATENT APPLICATIONS

This application claims the benefit of Korean Patent Application No. 10-2006-0109478, filed on November 7, 2006, in the Korean Intellectual Property Office, the disclosure of which is incorporated herein in its entirety by reference.

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to display of information, more particularly to a method of and a device for displaying program information.

Description of the Related Technology

As a variety of broadcasting systems, such as the Internet broadcasting and satellite broadcasting as well as groundwave broadcasting, are increasingly available, a broadcast receiver such as a set top box is used to receive broadcasting signals from a satellite and transmit the signals to a TV set.

A device having the set top box or a device for receiving and displaying a broadcasting program (e.g., a DMB (Digital Multimedia Broadcasting) phone, a digital TV, etc. Collectively, “broadcasting electronic device”) provides an EPG (Electronic
Program Guide) display function. The EPG is program information including event information such as the schedule or program title of a channel and channel information, and the broadcasting electronic device displays an EPG screen to provide the program information to a user. Of course, it is apparent that the EPG may be various program information such as channel information per each satellite or channel information per each broadcasting system as well as program information per each channel.

The EPG has been able to display information of 2- to 3- hour events only on one screen. If the user viewed one-week-long broadcasting program information and wanted to schedule the recording of desired programs, the conventional EPG would require several key pushes to view the event information based on the desired channel and day of the week. Namely, it was very uncomfortable for the user because the EPG screen was not provided with various conditions (e.g., channel or day) for searching broadcasting event information.

SUMMARY OF CERTAIN INVENTIVE ASPECTS

The present invention provides a method of and a device for displaying event information of each day of the week when an EPG display function is activated.

The present invention also provides a method of and a device for providing EPG screens in various modes according to various items such as the day of the week with simple key operations.
The present invention also provides a method and a device for displaying an EPG screen, on which event information can be searched in various ways by inserting an information field with simple key operations.

An aspect of the present invention features a method and a recorded medium of a program of displaying an EPG (Electronic Program Guide) in a broadcasting electronic device. The method and program display an EPG default mode screen having a channel field and an event field according to the user’s manipulation of an EPG mode execution command key, add a field of a predetermined item in accordance with an input signal corresponding to a display mode change key, and display an EPG addition mode screen to display a specific value of the added field and event information corresponding to a preselected channel.

In addition, a cursor is moved to one of the channel field and the added field or to one of the values of the fields in accordance with an input from the user.

The event information selected by the cursor or corresponding to predetermined values of each field is displayed on the event field.

Another aspect of the present invention features an EPG display device, which includes an input device having an EPG mode execution command key and a display mode change key, a display, displaying an EPG screen, and a controller, displaying on the display an EPG default mode screen having a channel field and an event field according to the user’s manipulation of the EPG mode execution command key, adding
a field of a predetermined item corresponding to an input signal of the display mode change key, and displaying on the display an EPG addition mode screen to display the added field and event information corresponding to a preselected channel.

In each of the aspects, the item may be a day of the week, and the value of the added day field can be initialized to "today."

In addition, the controller can move a cursor to one of the channel field and the added field or to one of the values of the fields in accordance with an input from the user, and the event information selected by the cursor or corresponding to predetermined values of each field can be displayed on the event field.

In addition, if the field of the item is added, the EPG screen can be displayed to locate the cursor on the preselected channel of the channel field.

In addition, if the input signal corresponding to the display mode change key is detected again, a field of another item in the predetermined order can be newly added, and event information corresponding to the newly-added field can be displayed.

In addition, the predetermined order can be configure by an operation of the user, and a user interface (UI) screen for the user to determine the order can be displayed.

In addition, the time axis of the event field included in the EPG addition mode screen can be displayed vertically.

Also, the EPG mode execution command key and the display mode change key
can be embodied in a single key.

Still another aspect of the present invention features an EPG display device, which includes an input device having an EPG mode execution command key and a display mode change key, a display, displaying an EPG screen, and a controller displaying on the display an EPG screen having a channel field, a day field, and an event field in accordance with the user's EPG mode execution command key. A channel selected among the channel field and event information corresponding to the day selected among the day field are displayed in the event field.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of a broadcasting electronic device providing an EPG display function according to an embodiment of the present invention.

FIG. 2 is an EPG default mode screen according to an embodiment of the present invention.

FIG. 3 and FIG. 4 are an EPG weekly mode screen according to each embodiment of the present invention.

DESCRIPTION OF CERTAIN INVENTIVE EMBODIMENTS

Since there can be a variety of permutations and embodiments of the present invention, certain embodiments will be illustrated and described with reference to the
accompanying drawings. This, however, is by no means to restrict the present invention to certain embodiments, and shall be construed as including all permutations, equivalents and substitutes covered by the spirit and scope of the present invention.

Terms such as “first” and “second” can be used in describing various elements, but the above elements shall not be restricted to the above terms. The above terms are used only to distinguish one element from the other. For instance, the first element can be named the second element, and vice versa, without departing the scope of claims of the present invention. The term “and/or” shall include the combination of a plurality of listed items or any of the plurality of listed items.

When one element is described as being “connected” or “accessed” to another element, it shall be construed as being connected or accessed to the other element directly but also as possibly having another element in between. On the other hand, if one element is described as being “directly connected” or “directly accessed” to another element, it shall be construed that there is no other element in between.

The terms used in the description are intended to describe certain embodiments only, and shall by no means restrict the present invention. Unless clearly used otherwise, expressions in the singular number include a plural meaning. In the present description, an expression such as “comprising” or “consisting of” is intended to designate a characteristic, a number, a step, an operation, an element, a part or combinations thereof, and shall not be construed to preclude any presence or possibility of one or more other
characteristics, numbers, steps, operations, elements, parts or combinations thereof.

Unless otherwise defined, all terms, including technical terms and scientific terms, used herein have the same meaning as how they are generally understood by those of ordinary skill in the art to which the invention pertains. Any term that is defined in a general dictionary shall be construed to have the same meaning in the context of the relevant art, and, unless otherwise defined explicitly, shall not be interpreted to have an idealistic or excessively formalistic meaning.

Hereinafter, some embodiments will be described in detail with reference to the accompanying drawings. In describing the present invention, identical or corresponding elements will be given the same reference numerals, regardless of the figure number.

FIG. 1 is a block diagram of a broadcasting electronic device providing an EPG display function according to an embodiment of the present invention.

Referring to FIG. 1, the broadcasting electronic device 100, which is an EPG displaying device, includes a broadcasting receiver 110, a storage 120, a display 130, an input device 140, and a controller 150.

The input device 140 is for receiving an input signal, such as an EPG mode execution command, from a user, and can be a button, wheel, switch, or short-range communication module (e.g., a remote controller module for receiving a signal from a remote controller, Bluetooth, etc.).
Particularly, the input device 140 according to the present invention can also have a certain function key (hereinafter, “display mode change key”) for changing into various types of EPG screens such as an EPG screen per each day of week. The display mode change key may be a dedicated key, or an EPG mode execution command key can be used as the display mode change key. Namely, if the EPG mode execution command key is pushed once, the EPG mode will run, and after a second push, it can work as the display mode change key. The way of changing the EPG screen by use of the display mode change key will be described with reference to FIG. 2 to FIG. 4.

The broadcasting receiver 110 receives broadcasting data and broadcasting event information from at least one broadcasting system, and the storage 120 stores the broadcasting event information received from the broadcasting system.

The controller 150 controls the broadcasting receiver 110, the storage 120, the input device 140 and the display 130 to receive the event information for each broadcasting from the broadcasting system, generate and display an EPG screen containing the broadcasting program information by use of the received broadcasting event information. In addition, the controller 150 controls each element to provide the EPG screen containing the broadcasting program information corresponding to a current channel and the day of the week according to an input of a certain function button in the input device 140.
Although not shown in the drawings, the controller 150 of the broadcasting electronic device 100 can include an input signal analyzer, memory, EPG function unit and display controller, and it is not required for each component of the controller 150 to be embodied in the form of hardware but it can be embodied in the form of software such as a program.

The input signal analyzer of controller 150 recognizes input signals received through the input device 140. Namely, the input signal analyzer recognizes the user’s manipulation of the EPG mode execution command key and the display mode change key and sends the input signals corresponding to each manipulation to the controller 150.

The memory of the controller 150 can store data required for the controller to operate the aforementioned functions and, in addition, temporally store broadcasting program information such as event information per each channel required to generate the EPG screen.

The EPG function unit of the controller 150 generates the EPG screen by using information about a broadcasting program received from a broadcasting system. In addition, the EPG function unit generates EPG screens of various modes according to the display mode change key as described above.

The display controller of the controller 150 controls the display 130. Namely, the display controller controls the display to display an EPG screen generated by the
EPG function unit.

Hereinafter, a method of displaying an EPG in a broadcasting electronic device 100 having a display mode change key will be described. Other functions for having each element of the broadcasting electronic device 100 display an EPG screen will become more apparent from the following description.

FIG. 2 is an EPG default mode screen according to an embodiment of the present invention, and FIG. 3 and FIG. 4 are an EPG weekly mode screen according to each embodiment of the present invention.

Once a signal corresponding to the EPG mode execution command key is inputted, the broadcasting electronic device 100 can display “EPG default mode screen” as shown in FIG. 2.

On the EPG default mode screen, event information (i.e., program information on the channel and time) is displayed in the order of channel and time. The EPG default mode screen includes a channel field 210, with information on the channel, and an event field 230, with event information on the time table. On the channel field 210, the predetermined number of channels is displayed for the user to select the desired channel, and on the event field 230, event information corresponding to the selected channel is displayed on each time table.

If there is an input of the display mode change key, “EPG addition mode
screen”, added with one more field corresponding to an item according to the predetermined order, is displayed. Hereinafter, as shown in FIG. 3 and FIG. 4, it will be assumed that the item corresponding to the first manipulation of the display mode change key is the day of the week, and accordingly, “EPG weekly mode screen” to which a day field 330 is added is displayed. Of course, various types of modes, such as a broadcasting type field (e.g., a fields having items such as sports, entertainment, news, etc.) as well as a day field 330 may be added at the beginning. For example, the predetermined order can be the day of the week, the broadcasting type, the broadcasting schedule, etc., and it is apparent that any field for various items can be added to this order.

In addition, according to an embodiment, the broadcasting electronic device 100 can provide a UI screen for the user to set the order of items to be added. Thus, the user can preconfigure the order of items to be added and then add a field for each item on the EPG screen.

The EPG weekly mode screen includes a channel field 310 for displaying a channel, a day field 330 for displaying the day of the week, and an event field 350 for displaying event information based on the time table. The time period (e.g., 6 hours) displayed on the event field 350 is adjustable by the user. Of course, it is apparent that the time and event information can be separated such that the time field can be located separately. Namely, by the user’s selection of a certain time in the time field, the event
information at the selected time can be displayed on the event field 350.

As shown in the drawings, in order to be suitable for the user’s order of cognition, the channel field 310, day field 330, and event field 350 can be arranged from the left to the right. Of course, it is apparent that the arrangement order may be changed.

The event information (i.e., an “AND” operation of the channel and the day of the week) corresponding to one channel selected from the channel field 310 and the day selected from the day field 330 is displayed on the event field 350. If a cursor is located on the channel field 310, the user can see the event information corresponding to the day by selecting the desired channel through a navigation key (up-down-left-right arrows) and so on. The cursor can have any kinds of shapes to allow the user to select any one value within the field. For example, as shown in FIG. 3, a box type cursor can be displayed for the user to recognize that “27 DW TV” in the channel field 310 is selected.

In addition, when the user moves the cursor in the same way of using the navigation key to select the desired day of the week while a certain channel is selected, the user can view the selected day of the week and event information corresponding to the channel on the event field 350.

Therefore, according to the present invention, the user can easily view the
desired day and event information corresponding to the channel by a single key
manipulation for displaying the EPG screen having the day field 330 added thereon.

As shown in the drawings, if the EPG default mode screen is changed to the
EPG weekly mode screen in order to increase the amount of information to be displayed
on the broadcasting electronic device 100, the time axis may be changed from the
horizontal axis to the vertical axis.

In another embodiment, directly after a signal corresponding to the EPG mode
execution command key is inputted at first, the broadcasting electronic device 100 can
display the EPG weekly mode screen as shown in FIG. 3 or FIG. 4. Thus, if executing
an EPG function, the user can search channel and event information according to the
day of the week by selecting the channel and day of the week. Of course, it is apparent
from the aforementioned description that a broadcasting type field can be added if a
signal corresponding to the display mode change key is inputted.

Referring to FIG. 3, if an input signal for the display mode change key is
inputted once while displaying the EPG default mode screen, the broadcasting
electronic device 100 displays the EPG weekly mode screen and locates the cursor on
the channel field 310. Namely, by locating the cursor on the channel being selected on
the EPG default mode screen, the channel on which the cursor is located and event
information of the initialized day of the week are displayed. The day of the week can be
initialized to the present day, i.e., “Today.”
Thus the user can view the event information of the desired channel on the currently selected day of the week by operating the movement of cursor located on the channel field 310.

According to an embodiment, if an input signal corresponding to a predetermined key such as a certain direction button is inputted, the cursor can be moved to the day field 330. Namely, after locating the cursor to the day field 330 by pushing a right direction button, the user can select the desired day by manipulating the up or down direction button, and the broadcasting electronic device 100 can extract the selected day and event information corresponding to the preselected current channel and displays them on the event field 350.

As described above, if the display mode change key is pushed again on the EPG weekly mode screen, the broadcasting electronic device 100 can add another field (e.g., the aforementioned broadcasting type field, etc.) according to the predetermined order, and accordingly the event information corresponding to the broadcasting type field added to the event field 350 can be displayed.

Of course, as shown in the drawings, it is apparent that the current time, date, day of the week and details of the currently selected channel and event can be further displayed on the EPG screen.

The aforementioned method according to the embodiment of the present invention can be stored in a computer-readable recorded medium (e.g. CD-ROM, RAM,
ROM, floppy disc, hard disc, optical disc, etc) in the form of a program.

Although the present invention is described with some embodiments, those who skilled in the art can understand that various modifications, changes, and additions can be made without departing from the mete and scope of the present invention.
WHAT IS CLAIMED IS:

1. A method of displaying an EPG (Electronic Program Guide) in a broadcasting electronic device, comprising:

   displaying an EPG default mode screen comprising a channel field and an event field according to a manipulation of an EPG mode execution command key by a user;

   adding a field of a predetermined item in accordance with an input signal corresponding to a display mode change key; and

   displaying an EPG addition mode screen to display a specific value of the added field and event information corresponding to a preselected channel.

2. The method of Claim 1, wherein the item is a day of a week.

3. The method of Claim 2, wherein the specific value of the added field of the day is initialized to “today.”

4. The method of claim 1 further comprising moving a cursor to any one of the channel field and the added field or to any one of the values of the fields in accordance with an input from the user,
whereas the event information selected by the cursor or corresponding to
predetermined values of the fields is displayed on the event field.

5. The method of Claim 1, wherein, if a field of the item is added, an EPG
screen is displayed in such a manner that the cursor is located on the preselected
channel of the channel field.

6. The method of Claim 1, wherein, if the input signal in accordance with the
display mode change key is detected again, a field of another item according to a
predetermined order is newly added, and event information corresponding to the
newly-added field is displayed.

7. The method of Claim 6, wherein the predetermined order can be configured
by an operation of the user.

8. The method of Claim 1, wherein the EPG mode execution command key
and the display mode change key are embodied in a single key.

9. An EPG display device, comprising:

an input device having an EPG mode execution command key and a display
mode change key;

      a controller, generating an EPG default mode screen having a channel field and
an event field according to a user's manipulation of the EPG mode execution command
key, adding a field of a predetermined item in accordance with an input signal
5 corresponding to the display mode change key, and generating an EPG addition mode
screen displayed with a specific value of the added field and event information
corresponding to a preselected channel; and

      a display, displaying the generated EPG screens.

10 10. The EPG display device of Claim 9, wherein the item is a day of a week.

11. The EPG display device of Claim 10, wherein the specific value of the
added field of the day is initialized to "today."

15 12. The EPG display device of Claim 9, wherein the controller moves a cursor
to any one of the channel field and the added field or to any one of the values of the
fields in accordance with an input from the user, and the event information selected by
the cursor or corresponding to predetermined values of the fields is displayed on the
20 event field of the display.
13. The EPG display device of Claim 9, wherein the controller adds a field of another item in a predetermined order if the input signal corresponding to the display mode change key is detected again and controls the display to display event information corresponding to the newly added field.

14. The EPG display device of Claim 13, wherein the controller controls the display to display a user interface (UI) screen for the user to determine the order.

15. The EPG display device of Claim 9, wherein the EPG mode execution command key and the display mode change key are embodied in a single key.

16. A recorded medium tangibly embodying a program of instructions executable by a digital processing device to display EPG (Electronic Program Guide) in a broadcasting electronic device, the program being readable by the digital processing device, the program executing:

   displaying an EPG default mode screen comprising a channel field and an event field in accordance with a user’s manipulation of an EPG mode execution command key;

   adding a field of a predetermined item in accordance with an input signal
corresponding to a display mode change key; and

displaying an EPG addition mode screen to display a specific value of the

added field and event information corresponding to a preselected channel.
ABSTRACT

A method of displaying an EPG and a device thereof. According to one aspect of embodiment of the present invention, the method of displaying the EPG (Electronic Program Guide) in a broadcasting electronic device displays an EPG default mode screen having a channel field and an event field in accordance with a user's manipulation of an EPG mode execution command key, adds a field of a predetermined item in accordance with an input signal corresponding to a display mode change key, and displays an EPG addition mode screen to display a specific value of the added field and event information corresponding to a preselected channel.
FIG. A

TV Guide Weekly

29 Mar 14

DM TV

JOURNAL

Sat 14 OCT, 0:00 - 0:30

Nachrichten, Wirtschaft, Tag...

0:25 E1

1:05 JOURNAL

1:30 QUADGRA

3:00 DISCOVER GERMANY

Schedule

Find

310

330

350
### PATENT APPLICATION FEE DETERMINATION RECORD

#### Application as Filed – Part I

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**APPLICATION SIZE FEE (37 CFR 1.16(s))**

If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR.

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### Application as Amended – Part II

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**FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))**

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This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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