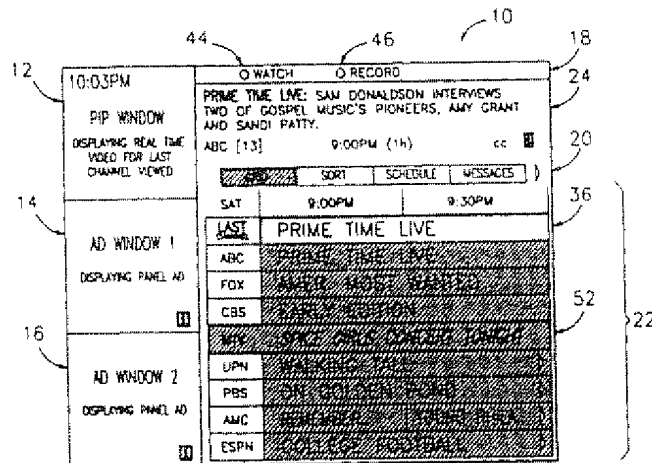




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(54) Title: SYSTEMS AND METHODS FOR DISPLAYING AND RECORDING CONTROL INTERFACES



(57) Abstract

The present invention is an improvement over previous electronic programming guides "EPG" in that it provides, among other things: improved viewer interaction capabilities with the EPG; improved viewer control of video recording (46) of future-scheduled programming; improved features of the EPG display and navigation (10); parental control of the EPG display; improved television program access by the viewer (22); improved product opportunities for the commercial advertiser to reach the viewer's profile (14, 16); improved products information access by the viewer (12); creation of the viewer's profile (36, 52); utilization of the viewer profile information to customize

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SYSTEMS AND METHODS FOR DISPLAYING AND RECORDING CONTROL INTERFACES

FIELD OF THE INVENTION

10 The present invention relates generally to television systems, and more particularly, to the display of, and recording control interface with, television programs, video, advertising information and program scheduling information.

BACKGROUND OF THE INVENTION

15 Television viewers have historically analyzed the information provided by television program schedule guides to select television programs to watch. Historically, television program schedule guides have listed the available television programs by day of the week, time of day, channel, and program title. Historically, only hardcopy television program schedule guides were available. More recently, as illustrated by the Levine Patent, U.S. Patent No. 4,908,713, television program guides have become available in electronic form. The earliest versions of on-screen electronic program guides ("EPG") provided for the storage of program schedule information in an electronic memory connected to the television receiver and generally provided for the on-screen formatting and display of the program schedule information on the television screen. The early EPGs typically overlaid the television programming. Furthermore, viewer interaction capabilities with early EPGs was extremely limited.

20 Later EPGs provided viewer-to-EPG interaction improvements and provided Picture-In-Guide ("PIG") display of the television program simultaneous with the display of the EPG. International Application No. PCT/US95/11173 (International Publication No. WO 96/07270), the disclosure of which is incorporated by reference herein for all purposes, illustrates such an improvement.

SUMMARY OF THE INVENTION

35 The present invention is an improvement over previous EPGs in that it provides, among other things:

- A. Improved viewer interaction capabilities with the EPG;
- B. Improved viewer control of video recording of future-scheduled programming;
- C. Improved features to the EPG display and navigation;

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- D. Parental control of the EPG display;
- E. Improved television program information access by the viewer;
- 5 F. Improved opportunities for the commercial advertiser to reach the viewer;
- G. Improved product information access by the viewer;
- H. Creation of a viewer's profile;
- I. Utilization of viewer profile information to customize various aspects of the EPG;
- and J. Utilization of viewer profile information to provide customized presentation
- 10 of advertising to the viewer.

DESCRIPTION OF THE DRAWINGS

These and other features, aspects, and advantages of the present invention will become better understood with regard to the following description, appended claims, and

15 accompanying drawings where:

FIG.1 is a graphic representation of a sample screen display of the EPG.

FIG.2 is a drawing of a portion of a remote control device that shows keys for activating various functions of the EPG.

FIG. 3 is a graphic representation of a sample on screen EPG display depicting the

20 EPG's on-screen Grid Guide in the programming scrolling mode.

FIGS. 4a and 4b is a graphic representation of a sample on screen EPG display depicting the EPG's on-screen Grid Guide in the channel-scrolling.

FIG. 5 is a graphic representation of a sample on screen EPG display depicting the

25 EPG in the Watch Scheduling Function.

FIG. 6 is a graphic representation of a sample on screen EPG display depicting the

Watch/Record Schedule screen of the EPG.

FIG. 7 is a graphic representation of a sample on screen EPG display depicting the top level theme screen display of the EPG.

FIG. 8 is a graphic representation of a sample on screen EPG display depicting the

30 second-level theme screen display of the EPG.

FIG. 9 is a graphic representation of a sample on screen EPG display depicting the Channel Guide function of the EPG.

FIGS. 10a and 10b are graphic representations of sample on screen EPG displays depicting one embodiment of the feature of presenting additional information concerning the

35 subject matter of a highlighted Panel Ad Window.

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DETAILED DESCRIPTION OF THE INVENTION

5 The disclosure of International Application WO96/07270, published on March 7, 1996 is incorporated fully herein by reference. The present invention is an improvement on the electronic program guide (EPG) disclosed therein. The apparatus disclosed in the referenced PCT application is used to generate the screen displays described below.

10 In FIG. 1 of the drawing, one embodiment of the EPG with Ad Window and Advertising Messages is shown. In FIG. 1, a television screen display 10 is shown. Display 10 could be generated by a conventional television receiver with interlaced scan lines, by a VCR, by a PC monitor with progressive scan lines, or by another other type of video display device. In the upper left hand corner of the screen is a PIP window 12. Below window 12 are Panel Ad Windows 14, and 16 ("Ad Windows"). Windows 12, 14, and 16 each typically occupy about 1/9 of the total screen area. The remainder of the screen area is typically occupied (moving from top to bottom of the screen) by an action key bar 18, a navigation bar 20, a grid guide 22 ("Grid Guide"), and an information box 24 (the "detailed information area").

15 In FIG. 2 of the drawing, one embodiment of a remote controller 26 for activating the functions of display 10 is shown. Remote controller 26 could have other keys for activating the functions of a user video device, such as a television receiver, a VCR, or a cable box. Remote control 26 has up, down, right, and left arrows keys 28, 30, 32, and 34, respectively, for controlling the movement of a cursor 36 on display 10. Cursor 36 can select, i.e., highlight, any of windows 12, 14, or 16 by pressing arrow keys 28 to 34, any of the titles and channels in Grid Guide 22 by pressing arrow keys 32 and 34, or navigation bar 20 by pressing arrow keys 32 and 34. Windows 12, 14, and 16 are highlighted by adding a border around the window or changing the color of the border, if the border is permanent. The titles and channels in Grid Guide 22 and navigation bar 20 are highlighted by changing color.

20 Highlighting of windows and/or viewer selections from the Grid Guide and/or navigation and EPG on screen display components may be accomplished in a number of other ways. For instance, the border of a selected window, or the selected Grid Guide or navigation component, can be made to appear to flash. Another way to highlight a viewer selection is to make the selected window or feature appear to become brighter than the rest of the on screen display. Yet another way to highlight a viewer selection is to blur all portions of the on screen display, except for the viewer selected component. Still another way to highlight a viewer selection is to make all portions of the on screen display, except for the viewer selected component, appear transparent. Still yet another way to highlight a viewer selection is to add animation to the selected component. When a portion of the EPG is selected, the

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