US 20030188311A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2003/0188311 A1

Yuen et al. (43) Pub. Date: Oct. 2, 2003

(54) METHOD AND SYSTEM FOR DISPLAYING ADVERTISEMENTS BETWEEN SCHEDULE LISTINGS

(75) Inventors: **Henry C. Yuen**, Pasadena, CA (US); **Roy J. Mankovitz**, Calabasas, CA (US); **Daniel S. Kwoh**, La Canada/Flintridge, CA (US); **Elsie Y. Leung**, South Pasadena, CA (US)

Correspondence Address:
CHRISTIE, PARKER & HALE, LLP
P.O. BOX 7068
PASADENA, CA 91109-7068 (US)

(73) Assignee: **StarSight Telecast, Inc.**

(21) Appl. No.: **10/401,301**

(22) Filed: **Mar. 27, 2003**

Related U.S. Application Data

(63) Continuation of application No. 09/284,894, filed on Jul. 13, 1999, filed as 371 of international application No. PCT/US97/23852, filed on Dec. 19, 1997.

(60) Provisional application No. 60/034,784, filed on Dec. 19, 1996.

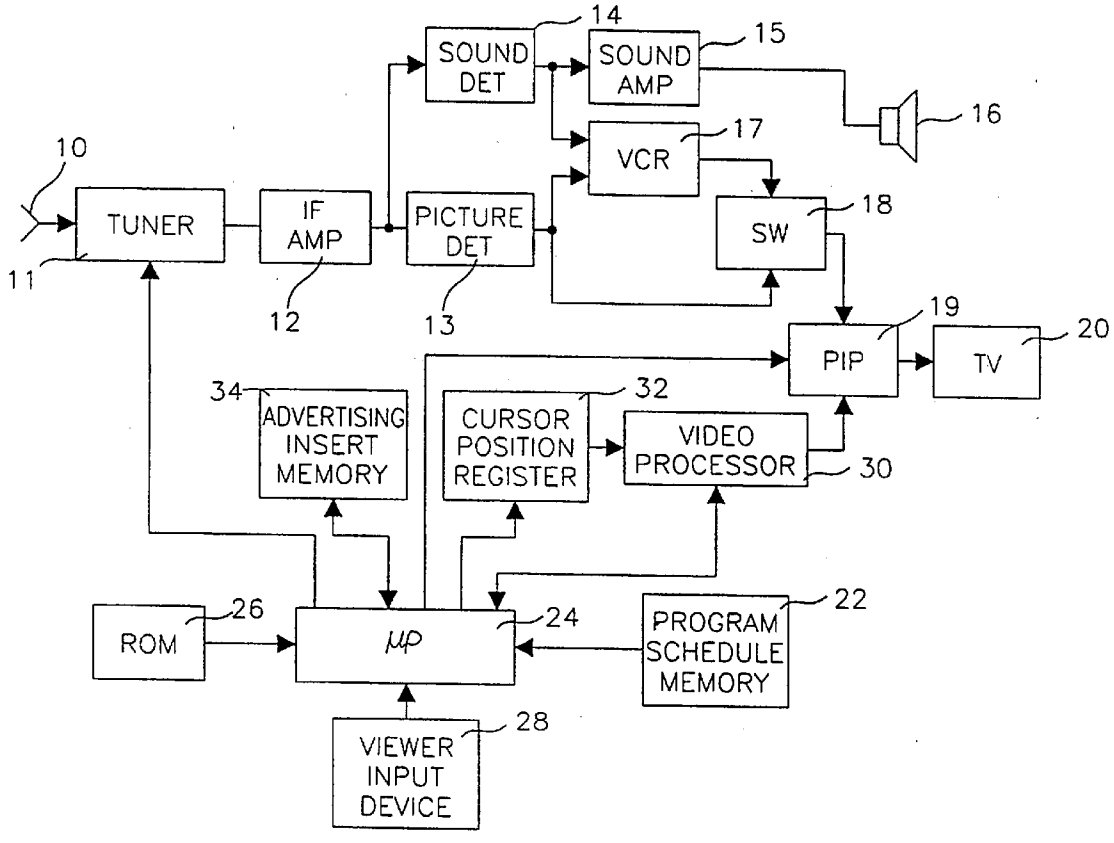
Publication Classification

(51) **Int. Cl.**[7] **H04N 7/025**; H04N 7/10; G06F 3/00; H04N 5/445; G06F 13/00

(52) **U.S. Cl.** **725/42**; 725/34; 725/47

(57) **ABSTRACT**

In one embodiment, the invention is a system and method for simultaneously displaying advertisements with an electronic program guide (EPG). The system displays television schedule information in rows of schedule information items including the time and channel for at least a portion of the displayed television schedule information items. An advertisement is selected for display from a plurality of advertisements, and the selected advertisement is displayed between two rows of the schedule information items simultaneously with the displayed television schedule information items.



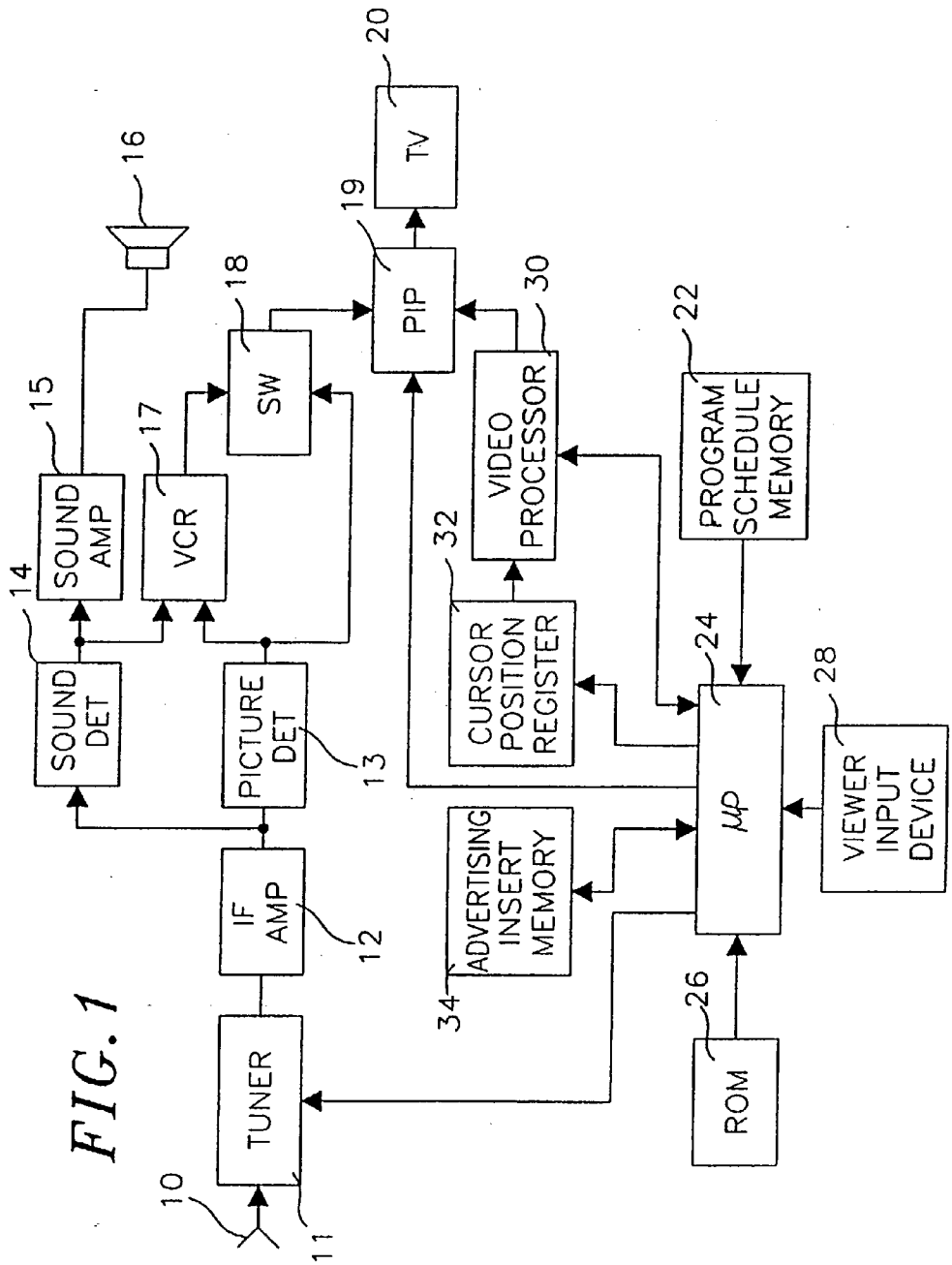
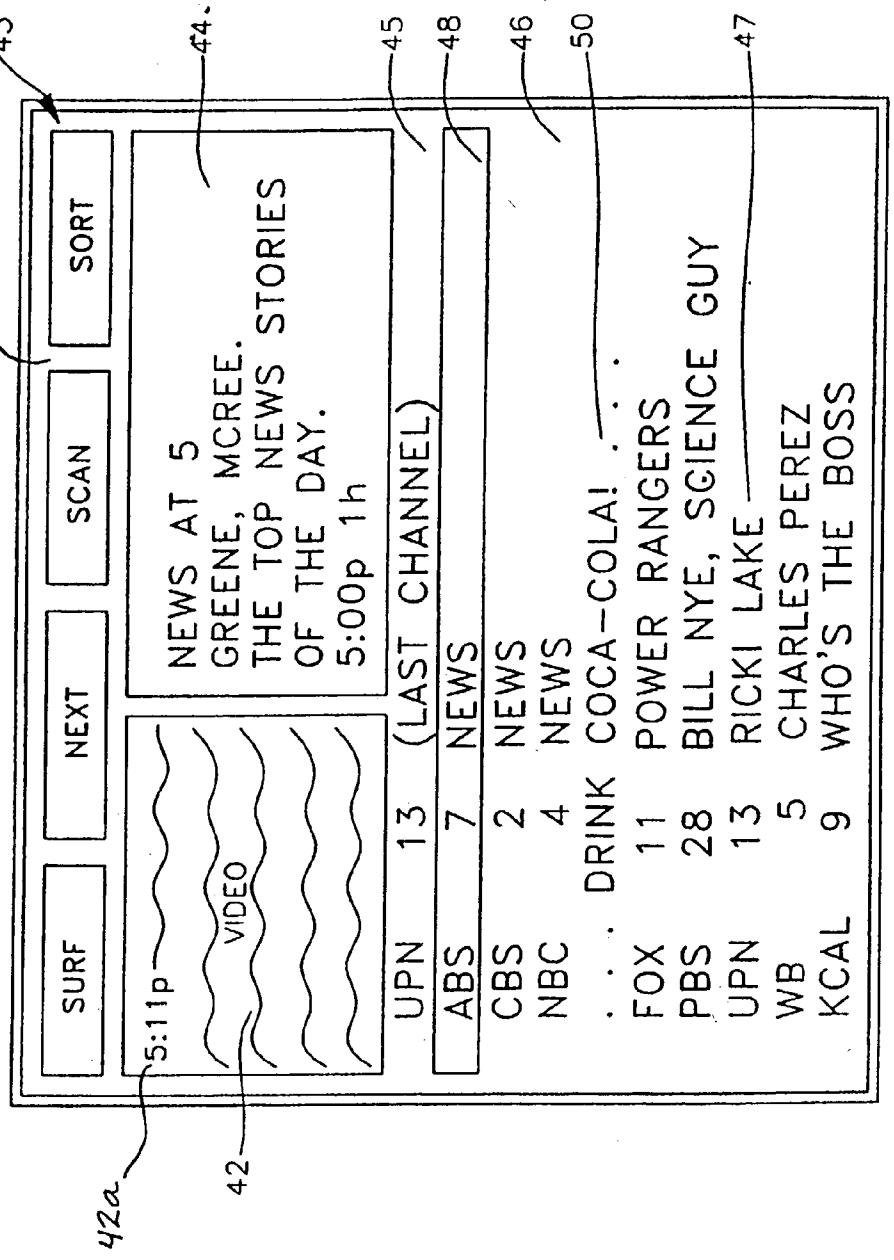

TUNER
IF AMP
PICTURE DET
SOUND DET
SOUND AMP
VCR
SW
PIP
TV
VIDEO PROCESSOR
CURSOR POSITION REGISTER
ADVERTISING INSERT MEMORY
PROGRAM SCHEDULE MEMORY
μP
ROM
VIEWER INPUT DEVICE
10
11
12
13
14
15
16
17
18
19
20
22
24
26
28
30
32
34

FIG. 1

FIG. 2


40
43
44
45
48
46
50
47
SURF
NEXT
SCAN
SORT
NEWS AT 5
GREENE, MCREE.
THE TOP NEWS STORIES
OF THE DAY.
5:00p 1h
5:11p
VIDEO
UPN 13 (LAST CHANNEL)
ABS 7 NEWS
CBS 2 NEWS
NBC 4 NEWS
. . . DRINK COCA-COLA! . . . .
FOX 11 POWER RANGERS
PBS 28 BILL NYE, SCIENCE GUY
UPN 13 RICKI LAKE
WB 5 CHARLES PEREZ
KCAL 9 WHO'S THE BOSS
42a
42

METHOD AND SYSTEM FOR DISPLAYING ADVERTISEMENTS BETWEEN SCHEDULE LISTINGS

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of U.S. patent application Ser. No. 09/284,894, filed on Jul. 13, 1999, which is a 371 of PCT International Application No. PCT/US97/23852, filed on Dec. 19, 1997, which claims the benefit of U.S. Provisional Application No. 60/034,784, filed Dec. 19, 1996.

BACKGROUND OF THE INVENTION

[0002] This invention relates to electronic program guides that incorporate advertising messages or words.

[0003] As the number of television channels available on cable and by satellite expands, an on-screen electronic program guide (EPG) become more indispensable. Such an EPG permits the user to sort the available present and future programming by theme, time, and channel. As a result, the user can find a program of interest more easily.

[0004] It is costly to collect EPG data for display and to transmit such data to the consumer. Thus, there is a need to find a way to recover the cost of these activities.

SUMMARY OF THE INVENTION

[0005] According to the invention, advertisements are inserted in an EPG on the screen of a display monitor between the individual television program listings. Specifically, a memory stores EPG data and advertising data. A microprocessor is programmed to recover EPG data corresponding to a number of television programs and advertising data-from the memory. The microprocessor controls the monitor to display the recovered EPG data on the screen in lines of television program listings, each television program listing being displayed in a separate line, and to display the recovered advertising data in a line on the screen instead of one of the television program listings.

[0006] In a preferred embodiment, the EPG and advertising data are displayed in a first area of the screen and a detail window is displayed in a second area of the screen. One of the lines of EPG data is highlighted with a cursor. A description of the television program listing highlighted by the cursor is inserted in the second area. When the line of advertising data is highlighted with the cursor, a description relating to the advertising data is inserted in the second area.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] **FIG. 1** is a schematic block diagram of apparatus for carrying out the invention; and

[0008] **FIG. 2** is a screen format produced by the apparatus of **FIG. 1**.

DETAILED DESCRIPTION OF THE DRAWINGS

[0009] The disclosures of U.S. application Ser. No. 08/475,395, filed on Jun. 7, 1995, issued as U.S. Pat. No. 6,239,794, May 29, 2001, and application Ser. No. 08/728,614, filed on Oct. 10, 1996, issued as U.S. Pat. No. 6,028,599, Feb. 22, 2000, are incorporated fully herein by reference. As illustrated in the former application, a source of television signals **10** in **FIG. 1** such as a terrestrial antenna, or a cable is connected to a television tuner **11**. The output of tuner **11** is a modulated intermediate frequency signal containing video and audio television information. Tuner **11** is connected by an intermediate frequency amplifier (IF AMP) **12** to a picture detector (PICTURE DET) **13** and a sound detector (SOUND DET) **14**, which produce base band video and audio signals, respectively. The audio signal is coupled by a sound amplifier (SOUND AMP) **15** to a loudspeaker **16**. The video signal is coupled by a video amplifier not shown to one input of a switch **18**. Sound detector **14** and picture detector **13** are connected to the audio and video inputs, respectively, of a video cassette recorder (VCR) **17**. (Alternatively, television signal source **10** could be directly connected to the RF input of VCR **17**, if its internal turner and demodulating circuitry is to be utilized.) The output of VCR **17** is connected to the other input of switch **18**. The output of switch **18** is connected to one input of a conventional picture-in-picture (PIP) integrated circuit chip **19**. The output of PIP chip **19** is connected to the video input of a television receiver or monitor (TV) **20** having a screen (not shown).

[0010] An updatable data base of the schedule of program listings of all the available channels for a prescribed period of time, e.g a day or a week, is electronically stored in a program schedule memory **22**. These program listings typically include for each program the title, a program description, the day of the week, the start time of the day, the program length, and the channel on which the program is transmitted and thus available for reception at source **10**. In a preferred embodiment of the invention, the period of time for which the program listings are stored is different for the guides, depending upon viewer priorities and preferences. For example, the information needed to display the time specific program guide (TISPG) and channel specific program guide (CSPG) may be stored for one or two days and the information needed to display the theme specific program guide (THSPG) may be stored for a week or more. The data base can be updated by a continuous data link in the vertical blanking interval (VBI) of one television channel broadcast to the television receiver in well known fashion. Alternatively, the data base can be updated by unplugging memory **22** and replacing it with a memory having the updated data base. Memory **22** is connected to a microprocessor **24** that is programmed to control the operation of the described equipment. An operating program for microprocessor **24** is stored in a read only memory (ROM) **26**. A viewer input device **28**, preferably in the form of a remote IR controller, is coupled to microprocessor **24** to provide commands from the viewer. A video processor **30** is coupled to microprocessor **24**. When the viewer wishes to see television program listings, microprocessor **24** recalls a portion of the program schedule data base from memory **22** and couples it to video processor **30**, where the program listings are formatted for display. Preferably, the information stored in video processor **30** is a bit map of what is displayed on the screen of television receiver **20**. Video processor **30** is connected to the other input of PIP chip **19**. Preferably, viewer input device **28** controls microprocessor **24** by cursor movement on the screen of television receiver **20**. To this end, microprocessor **24** and video processor **30** are coupled to a cursor position register **32**. (Alternatively, the viewer can select items of information displayed on the screen by

keying into viewer input device **28** code numbers assigned to these items.) Microprocessor **24** is also coupled to tuner **11** for channel change, to VCR **17** for play/record selection and start/stop, to switch **18** for selection for one of its inputs, and to PIP chip **19** for selection of the mode of PIP operation.

[**0011**] The format of the electronic program guide is shown in **FIGS. 2**. The format has a background area **40** and an overlaid PIP window **42** in the upper left-hand corner of the screen. The real time, i.e., 5:11 p.m., is displayed in a sub-area **42***a* of PIP window **42**. Background area **40** includes a banner and message prompting area **43** at the top of the screen, a program description area **44** in the upper right-hand corner of the screen adjacent to PIP window **42**, and a program schedule area **46** below areas **42** and **44**. Program description area **44** includes the start time and length (duration) of the program being described. In area **46**, EPG data retrieved from memory **22** is displayed in lines, each program listing being displayed in a separate line. The viewer can move a cursor **48** vertically to highlight one of the lines of program listings displayed in area **46**. The highlighted background of cursor **48** and the background of program description area **44** are preferably the same color or shade. The complete, moving images of a currently broadcast television program in real time and the current time are displayed in PIP window **42** and the audio portion of the television program displayed in PIP window **42** is reproduced by the sound system of monitor **20**.

[**0012**] Advertising inserts are displayed on the screen between the lines of program listings in program schedule area **46** and related information or announcements are displayed in description area **44**. With reference to **FIG. 1**, the advertising inserts are preferably transmitted in the VBI as part of the program schedule information and stored at the television receiver in RAM, represented functional as an advertising insert memory **34**. Preferably the inserts are transmitted as part of the packets of information about the programs, i.e. show information packages (SIPs), with which the advertising inserts are displayed. The apparatus of **FIG. 1** functions as described in Ser. No. 08/475,395, the advertising inserts being treated as part of the program listings displayed in area **46** and the brief program descriptions displayed in area **44**.

[**0013**] In practice, memory **34** and memory **22** could be physically incorporated in a single RAM. Addresses for the advertising inserts could be stored as part of the pre-established time lists for the programs with which the advertising inserts are displayed. Thus, the addresses link the time lists to the advertising inserts, and each advertising insert is only stored once in memory **34**. By linking the advertising inserts to the time lists, the displayed advertising insert becomes time dependent. Thus, the content of the displayed advertisements can, to some extent, be directed to the interests of the viewers. Advertisements of interest to housewives would be displayed in the morning and advertisements of interest to children would be displayed in the early evening.

[**0014**] As illustrated in **FIG. 2**, an advertising insert **50** is preferably displayed as a line below the listing, "NBC 4 NEWS" of the television program that the advertiser, e.g., Coca Cola, sponsors. However, it is not necessary that there be a relationship between the position of the advertiser and the television program, depending on the circumstances. To obtain more information about the subject of advertising insert **50**, the viewer highlights the line with cursor **48**; then such information is displayed in area **44**, instead of information about a television program. For example, the announcement in area **44** could inform the viewer that the advertised product is on sale in articular retail establishment at a particular price or give an more detailed product description.

What is claimed is:

1. A method for simultaneously displaying channel advertisements with an electronic program guide (EPG), comprising:

displaying a plurality of television schedule information in a plurality of rows of schedule information items and displaying the time and channel for at least a portion of the displayed television schedule information items;

selecting an advertisement for display from a plurality of advertisements;

displaying the selected advertisement between two rows of the plurality rows of schedule information items simultaneously with the displayed plurality of television schedule information items.

2. The method of claim 1, wherein the displayed channel advertisement is interactive.

3. The method of claim 1, wherein the displayed channel advertisement includes text.

4. The method of claim 1, wherein the displayed channel advertisement is related to a product.

5. The method of claim 1, wherein the displayed channel advertisement is related to a service.

6. The method of claim 1, further comprising:

highlighting a row of displayed television program listings with a cursor;

displaying a detail window in a second area of the screen; and

displaying a description corresponding to the highlighted row of television program listings in a second area of the screen.

7. The method of claim 1, further comprising:

highlighting the displayed channel advertisement with a cursor; and

displaying information relating to the highlighted channel advertisement in a second area of the screen.

8. The method of claim 1, wherein the displayed channel advertisement has substantially the same horizontal width of each of the displayed plurality of television schedule information items.

9. The method of claim 1, wherein the displayed channel advertisement has substantially the same vertical height of each of the displayed plurality of television schedule information items.

10. The method of claim 1, further comprising transmitting the advertising data and the EPG data in a vertical blanking interval of a television signal.

11. The method of claim 1, wherein the advertising data is displayed independent of the displayed EPG data.

12. The method of claim 1, wherein the advertising data is displayed independent of user selections of the displayed EPG data.

13. The method of claim 1, wherein the advertising data contains information other than a channel name, channel number, and a program title.

14. The method of claim 1, wherein the EPG data is displayed for a user selectable time and the advertising data is displayed independent of the user selected time.

15. An apparatus for simultaneously displaying channel advertisements with an electronic program guide (EPG), comprising:

means for displaying a plurality of television schedule information in a plurality of rows of schedule information items and displaying the time and channel for at least a portion of the displayed television schedule information items;

means for selecting an advertisement for display from a plurality of advertisements;

means for displaying the selected advertisement between two rows of the plurality rows of schedule information items simultaneously with the displayed plurality of television schedule information items.

16. The apparatus of claim 15, wherein the displayed channel advertisement is interactive.

17. The apparatus of claim 15, wherein the displayed channel advertisement includes text.

18. The apparatus of claim 15, wherein the displayed channel advertisement is related to a product.

19. The apparatus of claim 15, wherein the displayed channel advertisement is related to a service.

20. The apparatus of claim 15, further comprising:

means for highlighting a row of displayed television program listings with a cursor;

means for displaying a detail window in a second area of the screen; and

means for displaying a description corresponding to the highlighted row of television program listings in a second area of the screen.

21. The apparatus of claim 15, further comprising:

means for highlighting the displayed channel advertisement with a cursor; and

means for displaying information relating to the highlighted channel advertisement in a second area of the screen.

22. The apparatus of claim 15, wherein the displayed channel advertisement has substantially the same horizontal width of each of the displayed plurality of television schedule information items.

23. The apparatus of claim 15, wherein the displayed channel advertisement has substantially the same vertical height of each of the displayed plurality of television schedule information items.

24. The apparatus of claim 15, further comprising means for transmitting the advertising data and the EPG data in a vertical blanking interval of a television signal.

25. The apparatus of claim 15, wherein the advertising data is displayed independent of the displayed EPG data.

26. The apparatus of claim 15, wherein the advertising data is displayed independent of user selections of the displayed EPG data.

27. The apparatus of claim 15, wherein the advertising data contains information other than a channel name, channel number, and a program title.

28. The apparatus of claim 15, wherein the EPG data is displayed for a user selectable time and the advertising data is displayed independent of the user selected time.

29. A system for displaying channel advertisements in an electronic program guide (EPG), comprising:

a memory for storing EPG data and a plurality of advertising data;

a display monitor having a screen;

a microprocessor for accessing the memory to retrieve a portion of the EPG data and accessing the memory to retrieve a selected advertising data from the stored plurality of advertising data; and

a video processor for displaying on the display monitor the retrieved portion of the EPG data in a plurality of rows of schedule information items and displaying the time and channel for at least a segment of the displayed television schedule information items and for displaying on the display monitor the selected retrieved advertisement between two rows of the plurality rows of schedule information items simultaneously with the displayed retrieved portion of the EPG data.

30. The system of claim 29, wherein the displayed channel advertisement is interactive.

31. The system of claim 29, wherein the displayed channel advertisement includes text.

32. The system of claim 29, wherein the displayed channel advertisement is related to one or more of a product and service.

33. The system of claim 29, wherein the advertising data is displayed independent of the displayed EPG data.

34. The system of claim 29, wherein the advertising data is displayed independent of user selections of the displayed EPG data.

35. The system of claim 29, wherein the advertising data contains information other than a channel name, channel number, and a program title.

36. The system of claim 29, wherein the EPG data is displayed for a user selectable time and the advertising data is displayed independent of the user selected time.

* * * * *