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(54) **SYSTEM FOR COLLECTING TELEVISION PROGRAM DATA**

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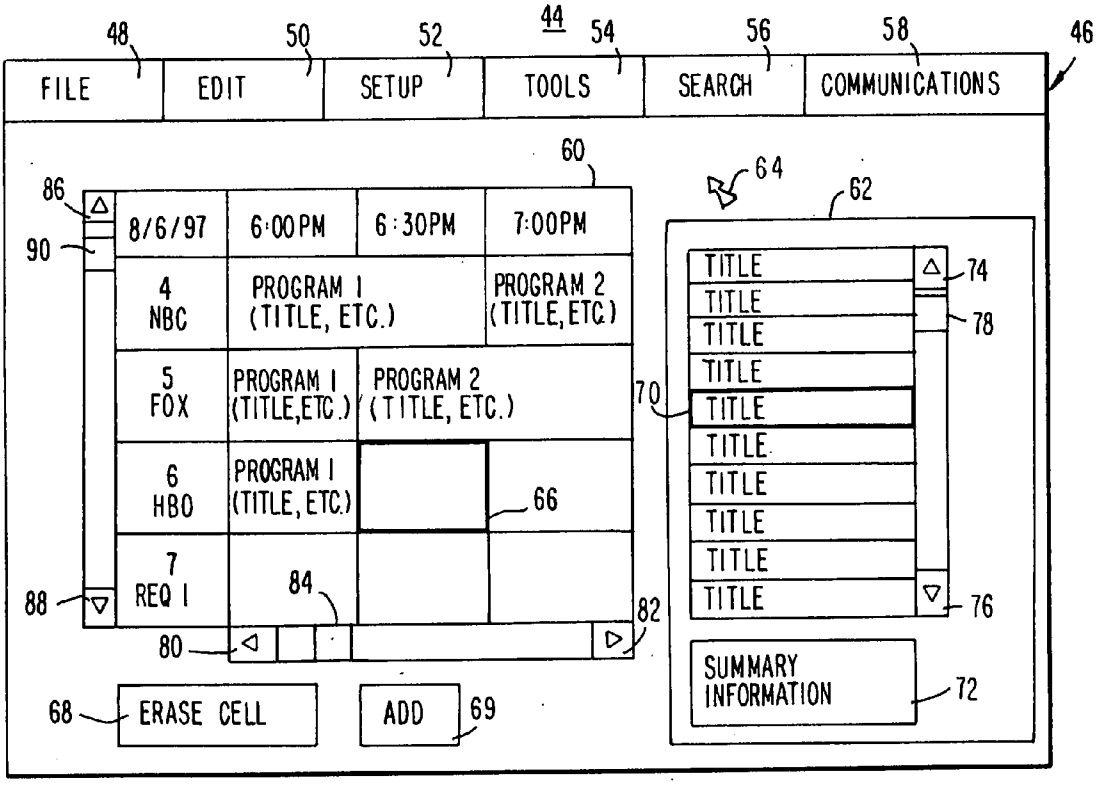
(57) **ABSTRACT**

A system for collecting program data from television systems is provided. The program data is collected at a main facility that distributes the program data to television distribution facilities for use in passive or interactive electronic television program guides. The system allows personnel at television station office computers to access a database of program data maintained at the main facility and to construct program schedules electronically using this database. The system error checks the program schedules in real time as they are constructed. The system allows reports, such as ad trafficking reports for use by television station personnel, to be generated based on the program schedule of a given television system.



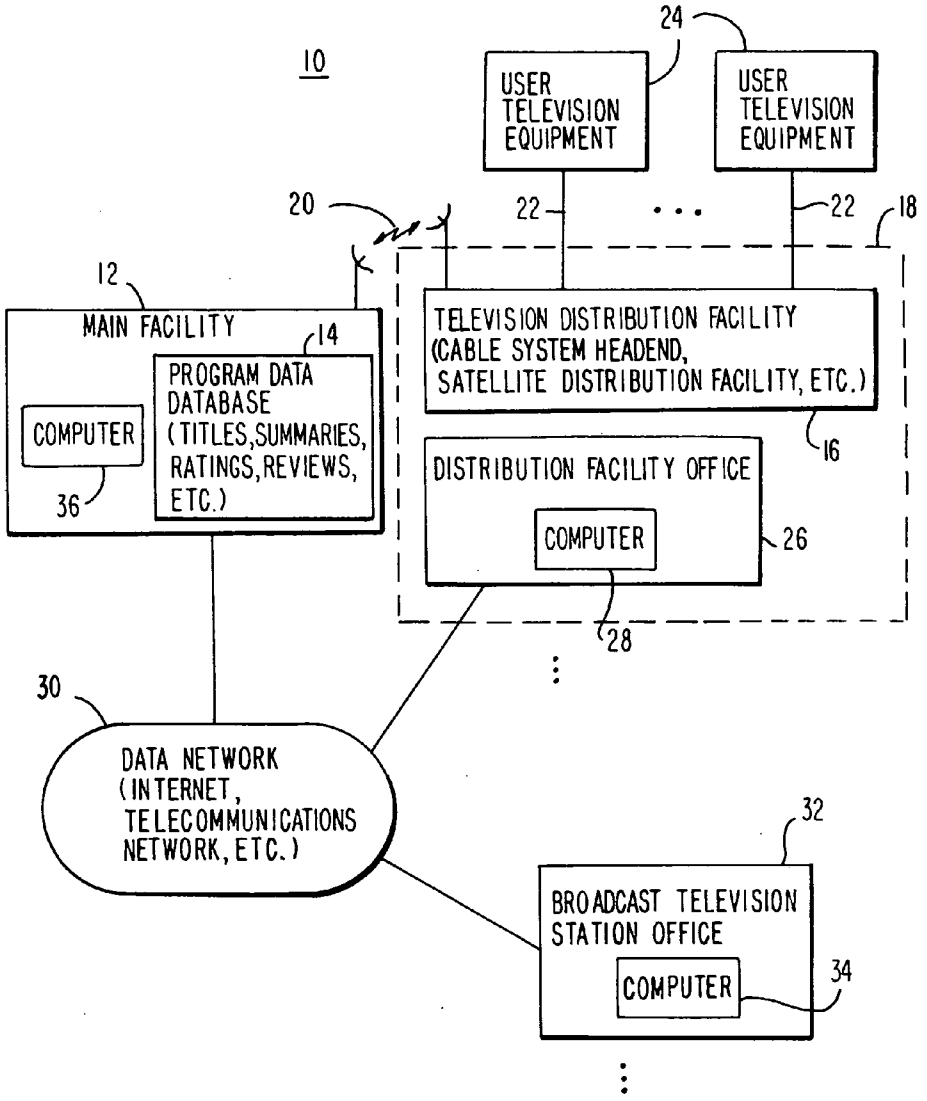

10
24
USER TELEVISION EQUIPMENT
USER TELEVISION EQUIPMENT
20
22
22
18
12
MAIN FACILITY
14
PROGRAM DATA DATABASE (TITLES, SUMMARIES, RATINGS, REVIEWS, ETC.)
COMPUTER
36
TELEVISION DISTRIBUTION FACILITY (CABLE SYSTEM HEADEND, SATELLITE DISTRIBUTION FACILITY, ETC.)
16
DISTRIBUTION FACILITY OFFICE
COMPUTER
26
28
30
DATA NETWORK (INTERNET, TELECOMMUNICATIONS NETWORK, ETC.)
32
BROADCAST TELEVISION STATION OFFICE
COMPUTER
34

FIG. 1

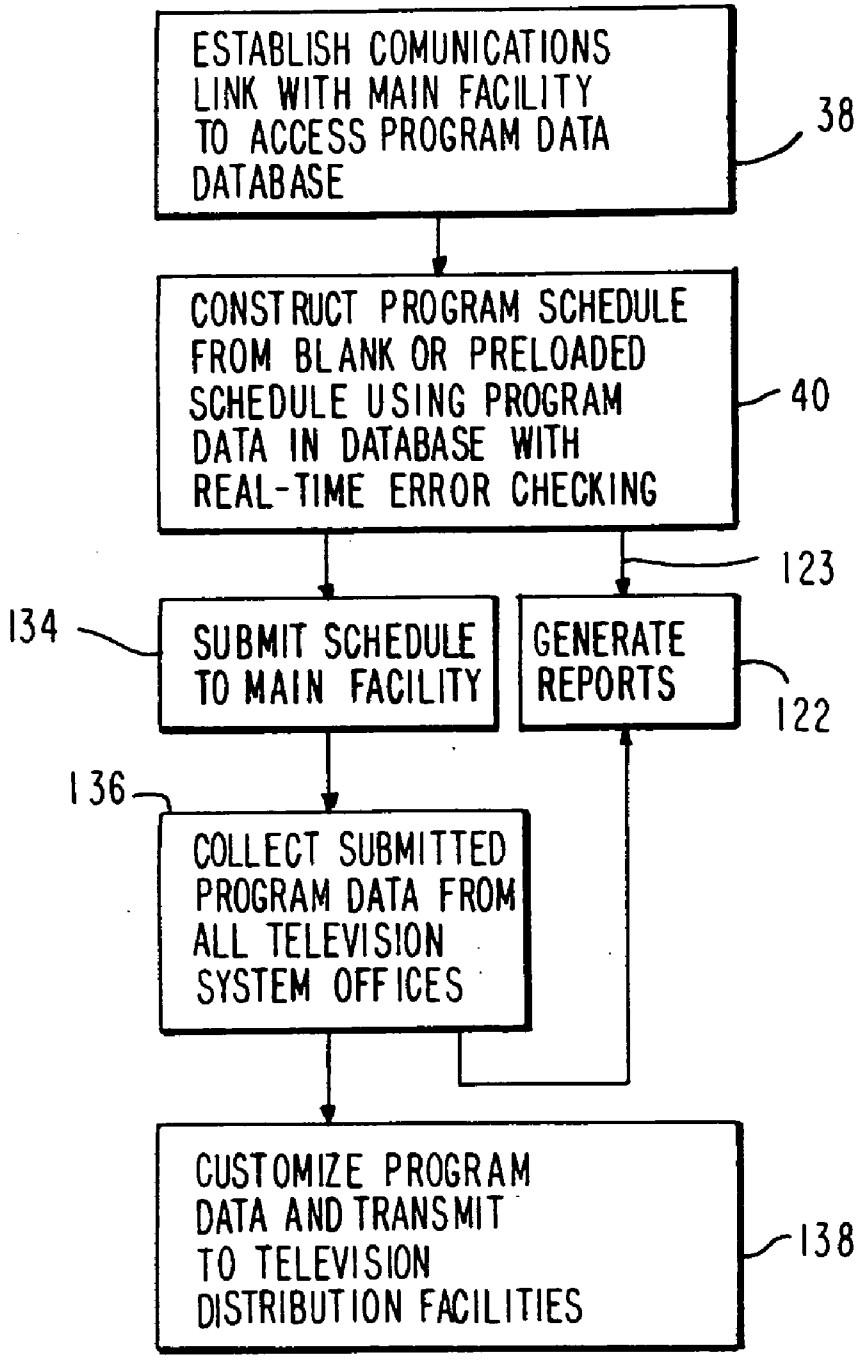

ESTABLISH COMUNICATIONS LINK WITH MAIN FACILITY TO ACCESS PROGRAM DATA DATABASE
38
CONSTRUCT PROGRAM SCHEDULE FROM BLANK OR PRELOADED SCHEDULE USING PROGRAM DATA IN DATABASE WITH REAL-TIME ERROR CHECKING
40
123
134
SUBMIT SCHEDULE TO MAIN FACILITY
GENERATE REPORTS
122
136
COLLECT SUBMITTED PROGRAM DATA FROM ALL TELEVISION SYSTEM OFFICES
CUSTOMIZE PROGRAM DATA AND TRANSMIT TO TELEVISION DISTRIBUTION FACILITIES
138

FIG. 2

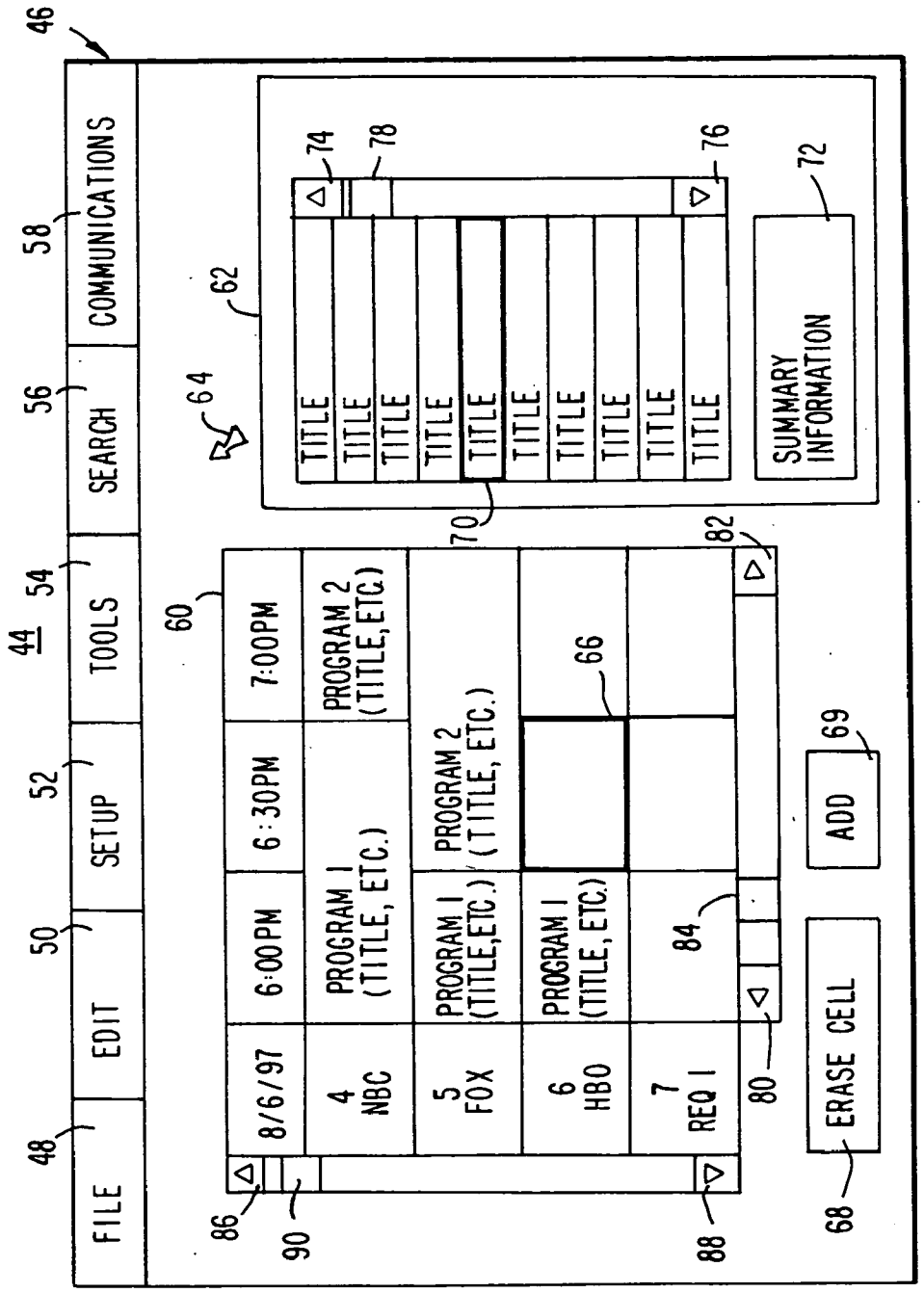

46
FILE
EDIT
SETUP
TOOLS
SEARCH
COMMUNICATIONS
48
50
52
54
56
58
44
60
62
64
70
72
74
76
78
TITLE
SUMMARY INFORMATION
8/6/97
6:00PM
6:30PM
7:00PM
4 NBC
5 FOX
6 HBO
7 REQ I
PROGRAM I (TITLE, ETC.)
PROGRAM I (TITLE,ETC.)
PROGRAM I (TITLE, ETC.)
PROGRAM 2 (TITLE, ETC.)
PROGRAM 2 (TITLE,ETC.)
66
80
82
84
86
88
90
ADD
69
ERASE CELL
68

FIG. 3

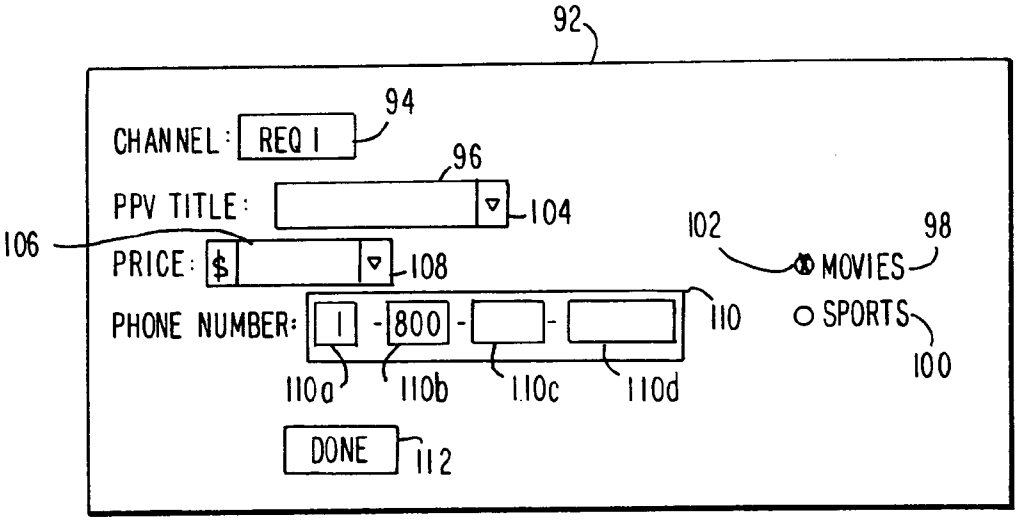

92
94
CHANNEL: REQ I
96
PPV TITLE:
104
106
PRICE: $
108
102
98
MOVIES
PHONE NUMBER: 1 - 800 -
110
SPORTS
100
110a
110b
110c
110d
DONE
112

FIG. 4

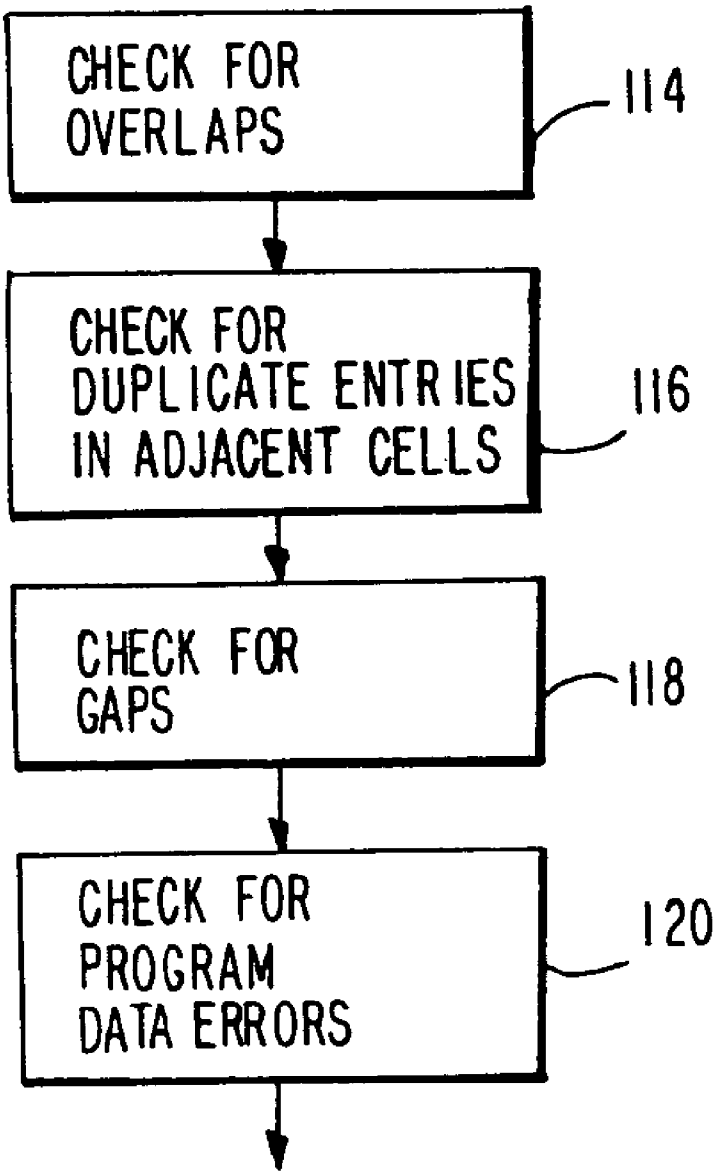

CHECK FOR OVERLAPS
114
CHECK FOR DUPLICATE ENTRIES IN ADJACENT CELLS
116
CHECK FOR GAPS
118
CHECK FOR PROGRAM DATA ERRORS
120

FIG.5

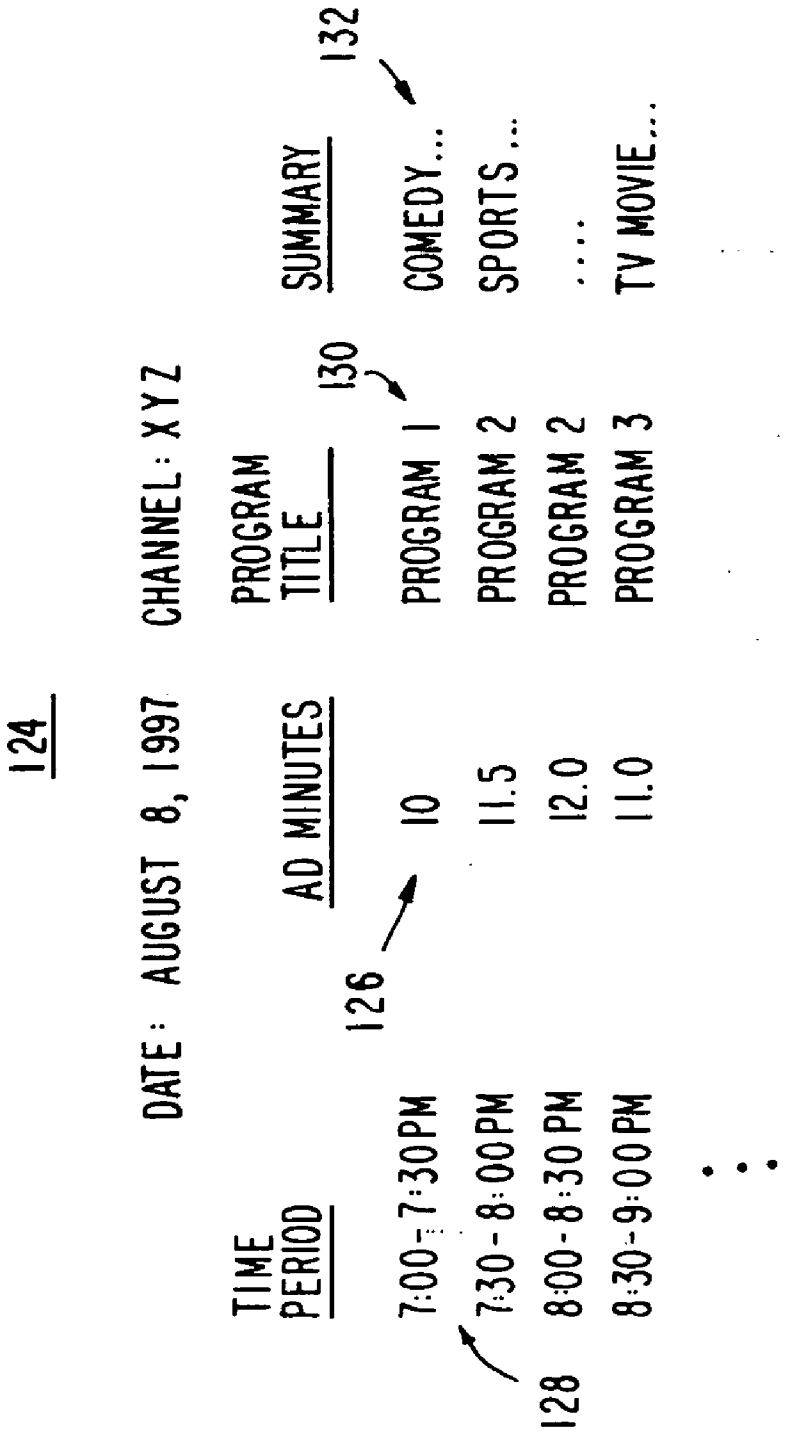

124
DATE: AUGUST 8, 1997
CHANNEL: XYZ
TIME PERIOD
126
AD MINUTES
PROGRAM TITLE
130
SUMMARY
132
128
7:00-7:30 PM
10
PROGRAM 1
COMEDY...
7:30-8:00 PM
11.5
PROGRAM 2
SPORTS...
8:00-8:30 PM
12.0
PROGRAM 2
....
8:30-9:00 PM
11.0
PROGRAM 3
TV MOVIE...

FIG. 6

SYSTEM FOR COLLECTING TELEVISION PROGRAM DATA

[0001] This invention is a continuation of U.S. patent application Ser. No. 09/766,566, filed on Jan. 19, 2001, which is a continuation of U.S. patent application Ser. No. 08/948,760, filed on Oct. 10, 1997, now U.S. Pat. No. 6,209,130, all of which are hereby incorporated by reference herein in their entireties.

BACKGROUND OF THE INVENTION

[0002] This invention relates to collecting television program data from television systems.

[0003] Cable, satellite, and broadcast television systems provide viewers with a large number of television channels. Users have traditionally consulted printed television program schedules to determine the programs being broadcast at a particular time. More recently, various passive and interactive television program guides have been developed that allow television program information to be displayed on a user's television.

[0004] For example, a passive program guide may be provided in the form of a continuously scrolling list of television program listings. Such a guide is typically provided on a dedicated television channel. A user can consult the scrolling listings by tuning to that channel.

[0005] Interactive program guides allow a user to navigate through television program listings using a remote control. Television listings are typically organized in a grid in which each row contains television program listings for a different channel and each column corresponds to a different scheduled broadcast time. The user can scroll up or down to view program listings for different channels or may pan left or right to view information about programs being broadcast at different times. Various navigational aids may be provided to help the user find program listings of interest.

[0006] The distribution system for a passive guide typically uses character generators located at cable system headends to generate scrolling program listings. Because each cable system has a different television program schedule, the character generators in the headends of each cable system must be provided with customized television program data. Such customized television program data is typically transmitted to each headend via satellite.

[0007] Passive scrolling guides for satellite television systems operate similarly. Television program data customized for the channel lineup and program schedule of a satellite service may be distributed on a dedicated satellite channel.

[0008] Interactive program guides are typically implemented on the set-top boxes or satellite receivers of individual users. Each set-top box or satellite receiver in a given cable or satellite system must be provided with television program data that is customized for that system. Typically, such program data is transmitted via satellite to each cable system headend or satellite distribution facility. The cable system headends and satellite distribution facilities for each television system retransmit the data to the users of that system using the vertical blanking interval or side band of a television channel.

[0009] A provider of television program guide data typically maintains a database of television program data such as program titles, ratings, running times, program summaries, reviews, etc. The data provider also must gather data concerning each television system's particular schedule, including the channel lineup, the programs scheduled for each channel and their scheduled broadcast times, pay-per-view pricing and ordering information, etc. Such data is gathered from a variety of sources, such as local television stations, cable systems, satellite systems, national networks, superstations, premium services, pay-per-view services, etc., each of which may have their own schedule information. The data provider customizes the program data for each television system to which program data is distributed.

[0010] The process of collecting television program data from its various sources is labor intensive. Television system personnel typically fill out forms by hand and fax or mail this information to the data provider. As a result, errors may be introduced into the data. For example, there is the possibility that errors will be introduced when forms are filled out improperly or when personnel at the data provider make a mistake in transcribing the information from the forms to the computer system at the data provider. Other errors may result from ambiguities in the data (e.g., when two programs share the same title). Resolving such ambiguities and eliminating other potential errors is burdensome for the data provider.

[0011] Moreover, there are personnel at the television system who would like to be able use a reliable electronic version of the schedule information contained in the forms. For example, personnel who sell commercial air time need to know precisely how much time is available for advertizing in various time slots.

[0012] It is therefore an object of the present invention to provide an improved system for collecting television program data for use in passive and interactive television program guides.

SUMMARY OF THE INVENTION

[0013] This and other objects of the invention are accomplished in accordance with the principles of the present invention by providing a system for collecting schedules of television program data at a main facility. The main facility creates customized sets of program data. The customized sets of program data may be used by various television distribution facilities, such as cable system headends, satellite distribution facilities, and television broadcast facilities and may also be used by video and print distribution facilities. The main facility may distribute the program data to the television distribution facilities via a communications link such as a satellite link for use in passive or interactive electronic television program guides. The main facility may similarly distribute the program data to the video and print distribution facilities (e.g., for use in a printed television program guide). If desired, program data may include system-specific information such as pay-per-view pricing information, telephone numbers for pay-per-view ordering or other services, etc.

[0014] The electronic data collection features of the system allow personnel at television station office computers to access a database of program data maintained at the main facility and to construct program schedules electronically using this database. The system performs real-time error checking of the program schedules as they are constructed.

For example, if the program schedule is made up of a grid of program titles, the real-time error checking may involve checking the grid for overlaps in adjacent grid cells, duplicate titles in adjacent grid cells, or excessive time gaps between grid cells.

[0015] Various editing tools may be used to facilitate program data entry in the schedule grid. For example, a program list may be provided that contains titles of television programs obtained from the database of program data at the main facility. Personnel at a television system office computer may select a desired title from the program list. The selected title may be added to the program schedule grid by clicking on an "add" button on the display screen of the schedule construction editing tool. A corresponding "erase cell" button may be provided for erasing a selected cell of program data from the grid.

[0016] Summary information associated with a selected title in the program list may be displayed in the program list for personnel constructing the program schedule to review prior to adding the selected title to the schedule. This prevents potentially erroneous entries from being added to the list when two television programs share the same title but are distinguishable based on their summary information.

[0017] The system allows reports, such as ad trafficking reports, to be generated based on the program schedules constructed at the television system office computers. Television system office personnel may use these reports when selling advertizing time, making promotions, or performing other sales and marketing tasks that involve the use of detailed program schedule information. If desired, such ad trafficking reports may contain program summary information obtained directly from the main facility database.

[0018] Further features of the invention, its nature and various advantages will be more apparent from the accompanying drawings and the following detailed description of the preferred embodiments.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] **FIG. 1** is a schematic block diagram of an illustrative system in accordance with the present invention.

[0020] **FIG. 2** is an illustrative flow chart of steps involved in the operation of the system of **FIG. 1** in accordance with the present invention.

[0021] **FIG. 3** is an illustrative display screen that may be used to construct a program schedule in accordance with the present invention.

[0022] **FIG. 4** is an illustrative program data entry screen for use in constructing a program schedule containing pay-per-view information in accordance with the present invention.

[0023] **FIG. 5** is an illustrative flow chart of steps involved in real-time error checking during the process of constructing a program schedule in accordance with the present invention.

[0024] **FIG. 6** is an illustrative ad trafficking report generated by the system of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0025] An illustrative system **10** in accordance with the present invention is shown in **FIG. 1**. Main facility **12**, which is typically operated by a television program data provider, distributes program data from program data database **14** to television distribution facilities such as television distribution facility **16** of television system **18** for use in passive and interactive television program guides. If desired, the program data may also be used in other services. Television distribution facility **16** may be a cable system headend, a satellite television distribution facility, or a broadcast distribution facility.

[0026] Each television system **18** (i.e., cable system, satellite system, or broadcast system) distributes television programming according to a different program schedule. Accordingly, each television distribution facility **16** receives a set of television program data that is customized for use in the program guide or guides of its associated television system **18**. Although there are a number of television systems **18** associated with main facility **12**, only a single television system **18** is shown in its entirety in **FIG. 1** to avoid over-complicating the drawings.

[0027] Program data is distributed from main facility **12** to television distribution facility **16** via communications link **20**. Communications link **20** may be a satellite link, a telephone network link, a cable or fiber optic link, a microwave link, a combination of such links, or any other suitable communications path. The program data transmitted by main facility **12** to television distribution facility **16** may include television program scheduled broadcast times, channels, titles, summaries, reviews, ratings, running times, pay-per-view ordering information such as pay-per-view telephone ordering numbers, pay-per-view prices, and any other suitable information related to television programming.

[0028] A passive television program guide may be provided using character generator equipment within television distribution facility **16** to convert the customized program data for that facility **16** into a scrolling guide of program listings. The scrolling program listings are provided to the user television equipment **24** of multiple users via communications paths **22**. Communications paths **22** preferably have sufficient bandwidth to allow television distribution facility **16** to distribute television programming to user television equipment **24**. If desired, television programming may be provided over separate communications paths (not shown). If television distribution facility **16** is a cable system headend, communications paths **22** may be coaxial cable and fiber optic links. If television distribution facility **16** is a satellite or broadcast distribution facility, communications paths **22** may be free-space links between transmitter equipment in television distribution facility **16** and receiver equipment in user equipment **24**. Communications paths **22** may be used to provide a scrolling guide of program listings to the users on a dedicated television channel. Any type of user television equipment that contains a standard television may be used to view such a passive guide.

[0029] An interactive television program guide may be provided by redistributing the customized program data provided to television distribution facility **16** from main facility **12** to the user television equipment **24** of each user via communications paths **22**. Each user's television equipment **24** preferably includes a set-top box, satellite receiver, or comparable equipment that executes an interactive program guide application to provide the functions of the interactive television program guide using the program data.

[0030] Cable television systems, satellite television systems, and broadcast television systems are collectively referred to herein as television systems. Such television systems have associated television system offices, each of which has a television system office computer. For example, television system **18** has an associated distribution facility office **26**. Broadcast television station office **32** is associated with a broadcast television system that is not shown separately in **FIG. 1**. Distribution facility office **26** has computer **28** and broadcast television station office **32** has computer **34**. If desired, television system offices may be located within their associated television distribution facilities.

[0031] Personnel at distribution facility office **26** can link computer **28** to database **14** of main facility **12** via data network **30**. Similarly, personnel at broadcast television station office **32** can link computer **34** to database **14** via data network **30**. Data network **30** may be the Internet, a telecommunications network such as a telephone network, or any other suitable data communications network. Computers **28** and **34** and one or more computers such as computer **36** in main facility **12** execute communications applications, editing applications, data processing applications, and other suitable computer applications for implementing the program data entry, editing, collecting, and processing functions of the present invention.

[0032] Illustrative steps involved in the operation of system **10** are shown in **FIG. 2**. When personnel at a television system office desire to construct a schedule of program data for submission to main facility **12** (e.g., to report that television system's schedule for the upcoming week or weeks), communications are established between a television system office computer such as computer **28** or computer **34** of **FIG. 1** and a main facility computer such as computer **36** of **FIG. 1** at step **38**. The way in which communications are established between the television system office computer and the main facility computer depends on the type of communications applications and communications hardware used in system **10**. For example, communications may be established using a pair of modems that communicate directly over a telephone network. Data network **30** may use satellite communications. If desired, data network **30** may be the Internet and the television system office computer may use a web browser to communicate with a server implemented on the main facility computer.

[0033] Regardless of the particular type of communications link that is established at step **38**, the communications link allows personnel at the television system office to connect to the main facility program data database. As a result, at step **40** personnel at the television system office computer are able to construct a program schedule for submission to the data provider by accessing the database of the data provider directly, rather than by filling out forms by hand and mailing or faxing them to the data provider for transcription onto the main facility computer.

[0034] The schedule may be constructed by creating a new program schedule (e.g., in the form of a blank grid) or may be created from a preloaded schedule (e.g., in the form of a grid in which some of the grid cells are already filled with program data). The term "grid" refers to grids of all sizes including grids of single-cell width, such as may be used when the television system involved is a single-channel local television broadcast station that wishes to supply its upcoming program schedule to the data provider.

[0035] Once such a grid or other suitable initialized program schedule file has been created, schedule construction may proceed using an editing application. Suitable editing applications may run primarily on the television system office computer, primarily on the main facility computer, or may run on both the television system office computer and the main facility computer.

[0036] A display **44** of the type that may be provided on the television system office computer during the program schedule construction of step **40** is shown in **FIG. 3**. The features of display **44** are illustrative only. Any other suitable computer application may be used to allow personnel to construct a schedule of program data for submission to the main facility.

[0037] Display **44** provides a number of options in the form of drop-down menu **46**. File option **48** provides access to file management functions such as for retrieving, saving, naming, and printing program schedules. Edit option **50** provides access to editing functions such as cut, paste, copy, delete, undelete, program grid cell-size control, etc. Setup option **52** provides access to system configuration functions such as general preferences, display preferences, program data preloading preferences, passwords, etc. Tools option **54** provides access to functions such as pay-per-view data entry mode, report generation functions, and miscellaneous functions. Search option **56** provides access to searching functions such as theme or category searching during data entry. Communications option **58** provides access to communications functions such as communications preferences and options for submitting completed program schedules to the data provider at the main facility.

[0038] Various display modes may be used. In the display arrangement for display **44** that is shown in **FIG. 3, a** program schedule grid **60** is provided for entry and editing of program data. Personnel may add data to a cell in grid **60** by typing in a desired entry. In addition, personnel at the television system office computer may place data in grid **60** by selecting an entry from program list **62**. Program list **62** preferably contains a list of program titles and related program information that is obtained directly from program data database **14 (FIG. 1)** in the main facility. Because such program data is obtained from the program data database, program titles selected from program list **62** are essentially error-free. Moreover, personnel at the television system office computer may access program summary information, running times, ratings, reviews, and other program data in the database that would not otherwise be readily available to the television system.

[0039] The cell of grid **60** into which program data for a given program is to be placed may be selected by placing cursor **64** on top of a desired cell and clicking once (e.g., using a mouse, trackball, or other suitable pointing device). This preferably causes a highlight such as highlight **66** to appear on grid **60** surrounding the selected cell. If a selected cell contains program data, that program data may be erased by clicking on erase cell option **68**.

[0040] Program data such as program titles, summary information, running times, ratings, star ratings, etc. may be added to the selected cell by placing cursor **64** on top of a desired title in program list **62** and clicking once. This preferably causes a highlight **70** to appear over the desired title (and over any other information that is contained

adjacent to the title in program list **62**). Clicking on add cell option **69** causes the highlighted program title and other information to be added to the program schedule grid cell under highlight **66**. If desired, a program title may be added to a given cell by double clicking on the desired title in program list **62**.

[**0041**] Display **44** preferably provides a summary information box **72** containing summary information (e.g., a movie synopsis, etc.) for the program with the highlighted title in program list **62**. This reduces the possibility that errors will be introduced when two programs share the same title, because the summary information in box **72** may be reviewed by television system office personnel before the final selection of that entry from list **62** is made.

[**0042**] Scroll buttons **74** and **76** and positioning button **78** may be used to locate a desired title from list **62**. In addition, a desired title may be typed in using the keyboard of the television system office computer. List **62** preferably allows titles to be located and automatically displayed in the center of list **62** under highlight **70** by typing in the first few letters of a desired title or by typing in the first few letters of a title and executing a search. Another feature that may be used to located a desired program entry is the search feature accessed through search option **56**. Selecting "search" from the drop-down menu associated with search option **56** allows desired categories (sports, movies, comedy, etc.) and keywords to be entered to locate a desired entry in list **62**. Once the desired search parameters are defined, a search of database **14** (**FIG. 1**) is performed to find a program entry from list **62** that matches the search parameters. Search results may be displayed in the center of program list **62**. Scroll buttons **80** and **82** and positioning button **84** may be used to move among the various time slots in grid **60**.

[**0043**] Scroll buttons **86**, **88**, and positioning button **90** may be used to move between different channels. A local broadcast television station may have only one channel for which program data for the schedule must be entered. A cable system or satellite system may have **100** or more channels in their channel lineup, including networks channels, local channels, premium channels, superstations, pay-per-view channels, promotional channels, etc. Several features may be used to facilitate the entry of program data for a large number of channels. For example, because the program data entries in some of the cells of program grid **60** do not change from week to week, it may be desirable to start the process of constructing a program schedule at step **40** using a copy of the program schedule for an existing grid **60**. Cells that require new entries may then be updated.

[**0044**] Another option that may be used involves creating program schedule grids **60** with preloaded program data. Because a cable or satellite television system may not wish to make any changes to the program schedule of a broadcast network that it carries, that broadcast network's program schedule can be automatically preloaded into an otherwise blank program grid **60** when a grid is constructed at step **40**. Schedules with preloaded programming data are provided using database **14** of **FIG. 1**. Any suitable program data may be preloaded. Configuration information concerning the channels and time periods for which such preloading is desired may be entered using setup option **52**.

[**0045**] When pay-per-view information is entered during step **40**, a display arrangement such as pay-per-view data entry display **92** of **FIG. 4** may be used. The arrangement of display **92** helps personnel at the television system office computer to add pay-per-view program data to the cell of program grid **60** under highlight **66**. Display **92** may be invoked by selecting the pay-per-view data entry mode under tools option **54** of **FIG. 3**. When display **92** is presented, channel call letters or other information that identifies the channel associated with the highlighted cell is preferably automatically displayed in channel identifier box **94**. The title for the pay-per-view event may be typed into title box **96**. Alternatively, the title for the pay-per-view event may be selected directly from database **14** (e.g., by typing the first few letters of a desired title and searching, by scrolling through a list of titles, etc.) and displayed in title box **96**.

[**0046**] Titles may also be obtained from database **14** based on search parameters such as the selectable movies and sports parameters **98** and **100**. In the example of **FIG. 4**, movies parameter **98** has been selected, as indicated by selection mark **102**. To scroll through all available program titles, the user removes the selection marks from search parameters such as parameters **98** and **100** and clicks on arrow **104**, whereupon a full list of the possible program entries from database **14** is displayed.

[**0047**] Pricing information may be entered by typing directly in price box **106** or by selecting from popular preloaded prices after clicking on arrow **108**. The phone number a subscriber is to use to order the pay-per-view event is entered using phone number box **110**. Boxes **110***a* and **110** are preferably preloaded to provide a visual cue that box **110** requires entry of a phone number and to save keystrokes during data entry. Boxes **110***c* and **110***d* are sized appropriately to accept a phone number. Done button **112** may be clicked on when data entry using display **92** is complete.

[**0048**] The program data entries that are made during the schedule construction of step **40** are preferably error checked in real time using an application that performs steps such as the illustrative error-checking steps shown in **FIG. 5**. At step **114**, grid **60** is checked for entries with running times that create overlaps between adjacent cells. At step **116**, grid **60** is checked for duplicate entries in adjacent cells. Although such duplicate entries are sometimes desired, the occurrence of duplicate entries is preferably flagged, so as to avoid inadvertent duplicate entries. At step **118**, grid **60** is checked for gaps in programming. If desired, gaps (periods of time with no programming) of any size may be flagged. Alternatively, only gaps of substantial duration (e.g., six hours or more) may be flagged. At step **120**, the program data of grid **60** is checked for errors. For example, pay-per-view pricing information may be checked to see if the price is within normal limits. Typically such pricing information is checked to determine if the price is a non-negative number and less than a predefined upper price limit. Additional error-checking steps not shown in **FIG. 5** may also be performed.

[**0049**] Error-checking steps **114**, **116**, **118**, and **120** may be implemented using an error-checking application that is executed concurrently with the application that supports the rest of the schedule construction process. Suitable error-checking applications may run primarily on the television system office computer, primarily on the main facility computer, or may run on both the television system office

computer and the main facility computer. Although shown as separate steps, the error-checking functions of steps **114**, **116**, **118**, and **120** are not necessarily mutually exclusive. Moreover, although shown in a certain order in **FIG. 5**, such error-checking steps may be performed in any desired order or may be performed concurrently.

[**0050**] Upon completion of the program schedule construction of step **40**, the program data for a television system may be submitted to main facility **12** at step **134**. Program data that was stored locally on the television system office computer during program schedule construction may be transmitted to the main facility database over data network **30** (**FIG. 1**). Program data that was stored on the main facility database during program schedule construction (e.g., in the form of a web page on the main facility server) may be submitted by sending commands to the main facility database indicating that schedule construction is complete.

[**0051**] At step **136**, the main facility assembles the program data submitted in the program schedules of the various different television systems and uses this information to update database **14**. For example, database **14** may be updated to reflect current schedule information contained in the program schedule for a local broadcast station that was submitted at step **134**.

[**0052**] When sufficient program data has been collected from the television systems that submit such data to generate complete sets of program data for all of the channels in a television system's lineup for an appropriate time period (e.g., for the next week), main facility **12** forms a suitable customized set of next week's program data for that television system and transmits this program data to the appropriate television distribution facility **18** at step **138**. The television distribution facility **18** may use the program data from the main facility to provide a passive television program guide or may retransmit the program data to user equipment **24** for use in an interactive television program guide.

[**0053**] Another aspect of the invention involves the generation of reports that can be used by marketing and sales personnel. Personnel at a television system must typically sell advertizing time, make promotions, and perform other sales and marketing tasks based on the program schedule for that television system. The program schedule for a given television system office to use in generating ad trafficking reports may be based on program schedule data stored locally by the television system office computer during schedule construction. The program schedule for a given television system office to use in generating ad trafficking reports may also be based on program schedule data stored in the main facility database (e.g., after the data has been collected from the various television systems submitting such data). If the program schedule data used to generate an ad trafficking report is stored locally, the ad trafficking report may be generated at step **122** as soon as the locally-stored data is finalized (see path **123** of **FIG. 2**). If the program schedule data used to generate an ad trafficking report is obtained from the main facility database, the ad trafficking report may be generated at step **122** by accessing such data in the main facility after the data has been collected from each television system data source (see path **125**).

[**0054**] An illustrative ad trafficking report **124** generated based on the program schedule of a given television station is shown in **FIG. 6**. An ad trafficking report typically includes information concerning the amount of advertizing time that the personnel at the television station have available to sell for each given time period. For example, in ad trafficking report **124**, the number of available advertizing minutes **126** is shown for each time period **128** and associated title **130**. The amount of time available for sale may depend on a variety of factors, such as the nominal running time of the scheduled program, the amount of national advertising or local advertising that is already committed for that slot, the amount of public service announcement or station identification time required for that slot, etc. Each of these factors may be used to generate an ad trafficking report in step **122** of **FIG. 2**. Because the program data needed to generate such a report is electronically available to the television system office computer either locally or on database **14**, the television system office computer can perform the calculations involved in generating ad trafficking report **124** rapidly without human intervention.

[**0055**] The television system office computer may incorporate program data such as program summary information **132** into ad trafficking report **124**. Summary information **132**, which may include running times, ratings, category information, reviews, etc., may be obtained from database **14**. Providing such summary information in ad trafficking report **124** allows television system sales or marketing personnel to use the summary information in making advertising sales, promotions, etc.

[**0056**] If desired, main facility **12** may distribute program data to video or print facilities other than television distribution facilities. For example, program data may be distributed to a print facility for use in a program guide that is printed rather than electronic.

[**0057**] The foregoing is merely illustrative of the principles of this invention and various modifications can be made by those skilled in the art without departing from the scope and spirit of the invention.

What is claimed is:

1. A method for constructing program schedules, the method comprising:

receiving program data from a remote source with a television system office computer;

automatically loading the program data into cells of a program schedule grid displayed using the television system office computer; and

editing the program data in response to personnel interacting with the program schedule grid using the television system office computer.

2. The method of claim 1 wherein receiving program data comprises receiving program titles.

3. The method of claim 1 wherein receiving program data comprises receiving program summary information.

4. The method of claim 1 wherein receiving program data comprises receiving program running times.

5. The method of claim 1 wherein receiving program data comprises receiving program ratings.

6. The method of claim 1 wherein receiving program data comprises receiving program data over the Internet.

7. The method of claim 1 wherein editing the program data comprises copying program data from a cell of the program schedule grid.

8. The method of claim 7 wherein editing the program data further comprises pasting the copied program data into a second cell of the program schedule grid.

9. The method of claim 1 wherein editing the program data comprises deleting program data from a cell of the program schedule grid.

10. The method of claim 9 wherein editing the program data further comprises undeleting the program data deleted from the cell of the program schedule grid.

11. The method of claim 1 further comprising adding program data to a blank cell of the program schedule grid in response to the personnel interacting with the program schedule grid using the television system office computer.

12. The method of claim 1 further comprising searching for program data in the program schedule grid in response to the personnel accessing a search function using the television system office computer.

13. The method of claim 1 further comprising setting display preferences for the program schedule grid in accordance with inputs received from the personnel using the television system office computer.

14. A system for constructing program schedules, the system comprising:

means for receiving program data from a remote source with a television system office computer;

means for automatically loading the program data into cells of a program schedule grid displayed using the television system office computer; and

means for editing the program data in response to personnel interacting with the program schedule grid using the television system office computer.

15. The system of claim 14 wherein the means for receiving program data comprises means for receiving program titles.

16. The system of claim 14 wherein the means for receiving program data comprises means for receiving program summary information.

17. The system of claim 14 wherein the means for receiving program data comprises means for receiving program running times.

18. The system of claim 14 wherein the means for receiving program data comprises means for receiving program ratings.

19. The system of claim 14 wherein the means for receiving program data comprises means for receiving program data over the Internet.

20. The system of claim 14 wherein the means for editing the program data comprises means for copying program data from a cell of the program schedule grid.

21. The system of claim 20 wherein the means for editing the program data further comprises means for pasting the copied program data into a second cell of the program schedule grid.

22. The system of claim 14 wherein the means for editing the program data comprises deleting program data from a cell of the program schedule grid.

23. The system of claim 22 wherein the means for editing the program data further comprises means for undeleting the program data deleted from the cell of the program schedule grid.

24. The system of claim 14 further comprising means for adding program data to a blank cell of the program schedule grid in response to the personnel interacting with the program schedule grid using the television system office computer.

25. The system of claim 14 further comprising means for searching for program data in the program schedule grid in response to the personnel accessing a search function using the television system office computer.

26. The system of claim 14 further comprising means for setting display preferences for the program schedule grid in accordance with inputs received from the personnel using the television system office computer.

27. Machine-readable media for use in constructing program schedules, wherein the machine-readable media is encoded with machine-readable instructions for performing the method comprising:

receiving program data from a remote source with a television method office computer;

automatically loading the program data into cells of a program schedule grid displayed using the television system office computer; and

editing the program data in response to personnel interacting with the program schedule grid using the television system office computer.

28. The machine-readable media defined in claim 27 wherein the machine-readable instructions for receiving program data comprises machine-readable instructions for receiving program titles.

29. The machine-readable media defined in claim 27 wherein the machine-readable instructions for receiving program data comprises machine-readable instructions for receiving program summary information.

30. The machine-readable media defined in claim 27 wherein the machine-readable instructions for receiving program data comprises machine-readable instructions for receiving program running times.

31. The machine-readable media defined in claim 27 wherein the machine-readable instructions for receiving program data comprises machine-readable instructions for receiving program ratings.

32. The machine-readable media defined in claim 27 wherein the machine-readable instructions for receiving program data comprises machine-readable instructions for receiving program data over the Internet.

33. The machine-readable media defined in claim 27 wherein the machine-readable instructions for editing the program data comprises machine-readable instructions for copying program data from a cell of the program schedule grid.

34. The machine-readable media defined in claim 33 wherein the machine-readable instructions for editing the program data further comprises machine-readable instructions for pasting the copied program data into a second cell of the program schedule grid.

35. The machine-readable media defined in claim 27 wherein the machine-readable instructions for editing the program data comprises machine-readable instructions for deleting program data from a cell of the program schedule grid.

36. The machine-readable media defined in claim 35 wherein the machine-readable instructions for editing the program data further comprises machine-readable instructions for undeleting the program data deleted from the cell of the program schedule grid.

37. The machine-readable media defined in claim 27 further encoded with machine-readable instructions for adding program data to a blank cell of the program schedule grid in response to the personnel interacting with the program schedule grid using the television system office computer.

38. The machine-readable media defined in claim 27 further encoded with machine-readable instructions for searching for program data in the program schedule grid in response to the personnel accessing a search function using the television system office computer.

39. The machine-readable media defined in claim 27 further encoded with machine-readable instructions for setting display preferences for the program schedule grid in accordance with inputs received from the personnel using the television system office computer.

40. A system for constructing program schedules, the system comprising:

a television system office computer configured to provide a program grid schedule grid, the program schedule grid having cells for automatically loading program data received by the television system office computer from a remote source, wherein the television system office computer is further configured to edit the program data in response to personnel interacting with the program schedule grid using the television system office computer.

41. The system of claim 40 wherein the program data received by the television system office computer comprises program titles.

42. The system of claim 40 wherein the program data received by the television system office computer comprises program summary information.

43. The system of claim 40 wherein the program data received by the television system office computer comprises program running times.

44. The system of claim 40 wherein the program data received by the television system office computer comprises program ratings.

45. The system of claim 40 wherein the program data received by the television system office computer comprises program data over the Internet.

46. The system of claim 40 wherein the television system computer is configured to edit the program data by copying program data from a cell of the program schedule grid.

47. The system of claim 46 wherein the television system computer is configured to edit the program data by pasting the copied program data into a second cell of the program schedule grid.

48. The system of claim 40 wherein the television system computer is configured to edit the program data by deleting program data from a cell of the program schedule grid.

49. The system of claim 48 wherein the television system computer is configured to edit the program data by undeleting the program data deleted from the cell of the program schedule grid.

50. The system of claim 40 wherein the television system computer is further configured to add program data to a blank cell of the program schedule grid in response to the personnel interacting with the program schedule grid using the television system office computer.

51. The system of claim 40 wherein the television system computer is further configured to search for program data in the program schedule grid in response to the personnel accessing a search function using the television system office computer.

52. The system of claim 40 wherein the television system computer is further configured to set display preferences for the program schedule grid in accordance with inputs received from the personnel using the television system office computer.

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