

(19) **United States**(12) **Patent Application Publication**
Boyer et al.(10) **Pub. No.: US 2003/0066085 A1**(43) **Pub. Date: Apr. 3, 2003**(54) **INTERNET TELEVISION PROGRAM GUIDE SYSTEM**

ation of application No. 08/938,028, filed on Sep. 18, 1997, now abandoned.

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(60) Provisional application No. 60/032,539, filed on Dec. 10, 1996.

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(52) **U.S. Cl.** **725/104**; 725/61; 725/86; 725/109; 725/112; 725/51

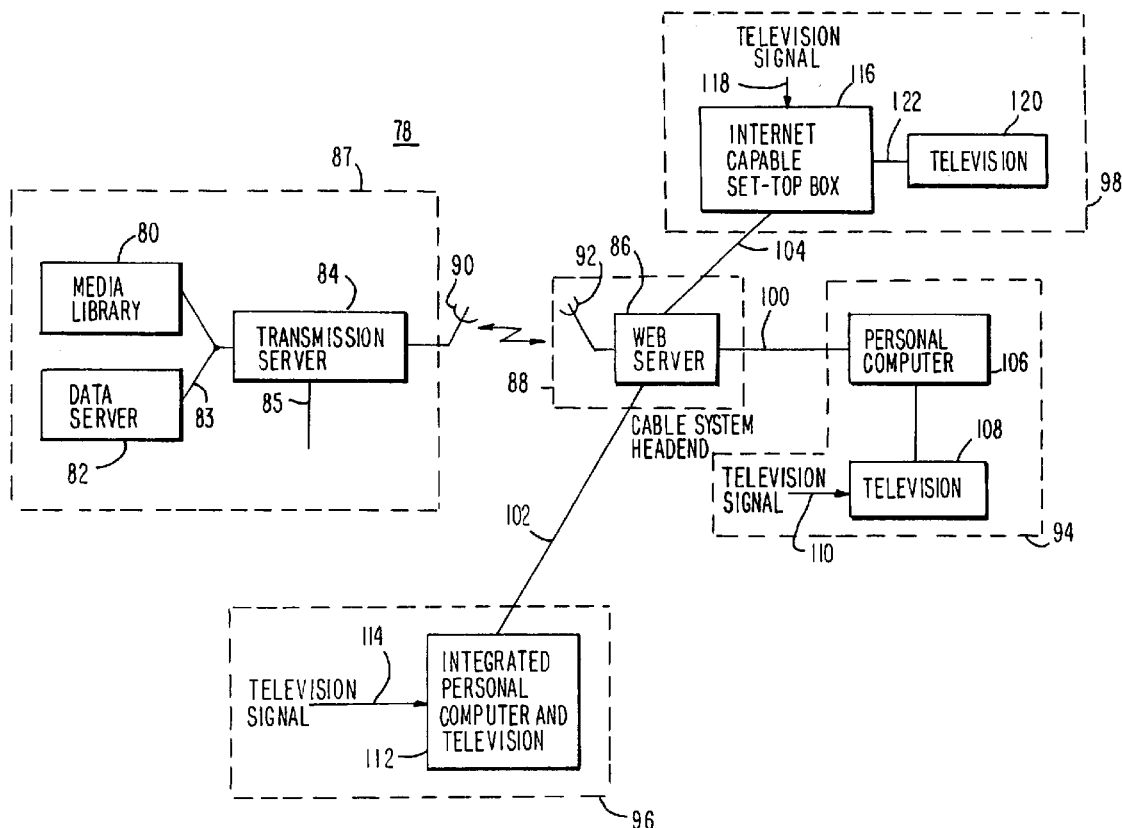
Correspondence Address:

FISH & NEAVE
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50TH FLOOR
NEW YORK, NY 10020-1105 (US)(73) Assignee: **United Video Properties, Inc., a corporation of Delaware**(21) Appl. No.: **10/287,640**(22) Filed: **Nov. 1, 2002****Related U.S. Application Data**

(63) Continuation of application No. 09/560,207, filed on Apr. 27, 2000, now abandoned, which is a continu-

(57) **ABSTRACT**

An Internet television program guide system is provided that allows a user at a multimedia system to access information related to television programs over an Internet communications link. The user can view and select television program guide listings, including listings for pay-per-view programs. A program information web page may be provided for programs selected by the user. The program information page may include a selectable option for allowing the user to view a video clip of the selected program. An order web page may be provided for users to order selected pay-per-view programs over the Internet by selecting an on-screen option in the order web page.



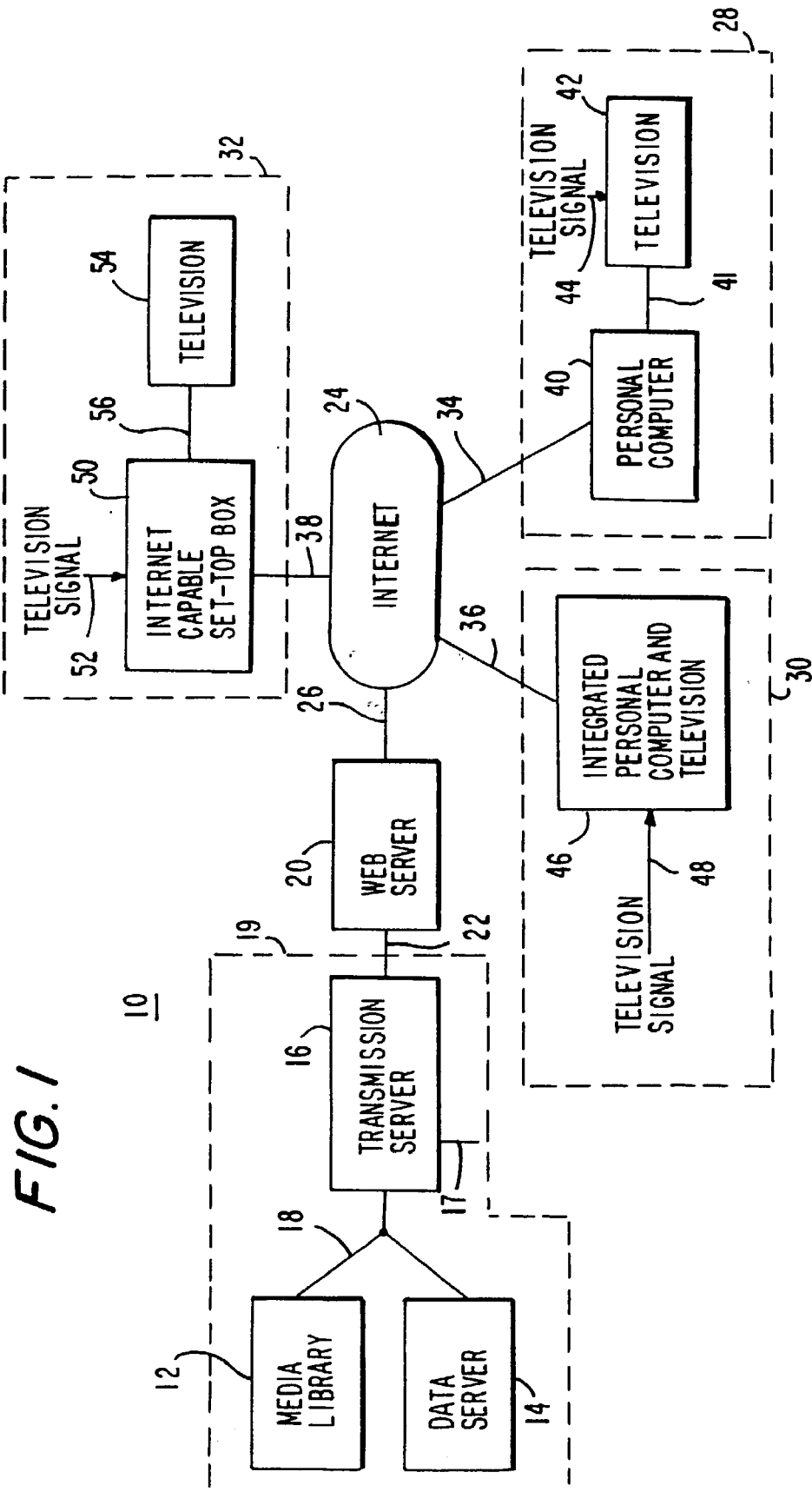


FIG. 2

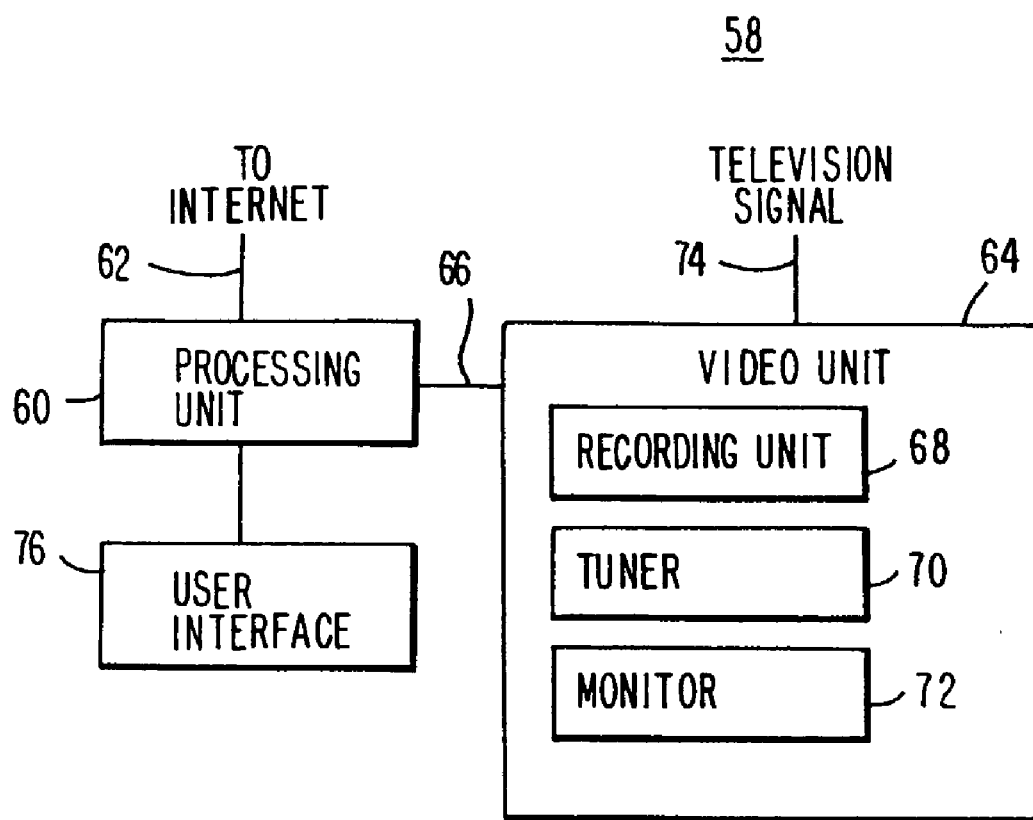


FIG. 3

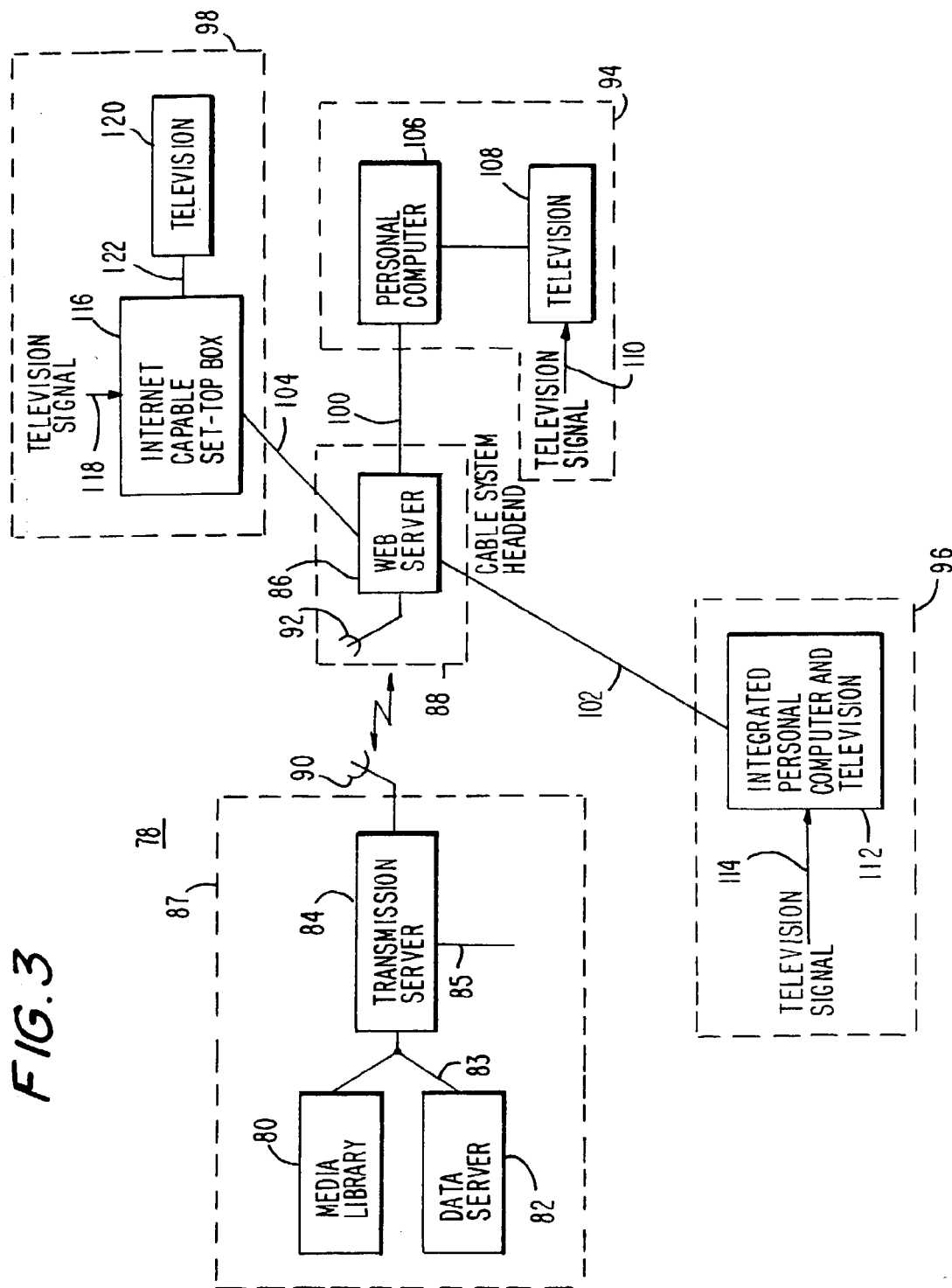


FIG. 4

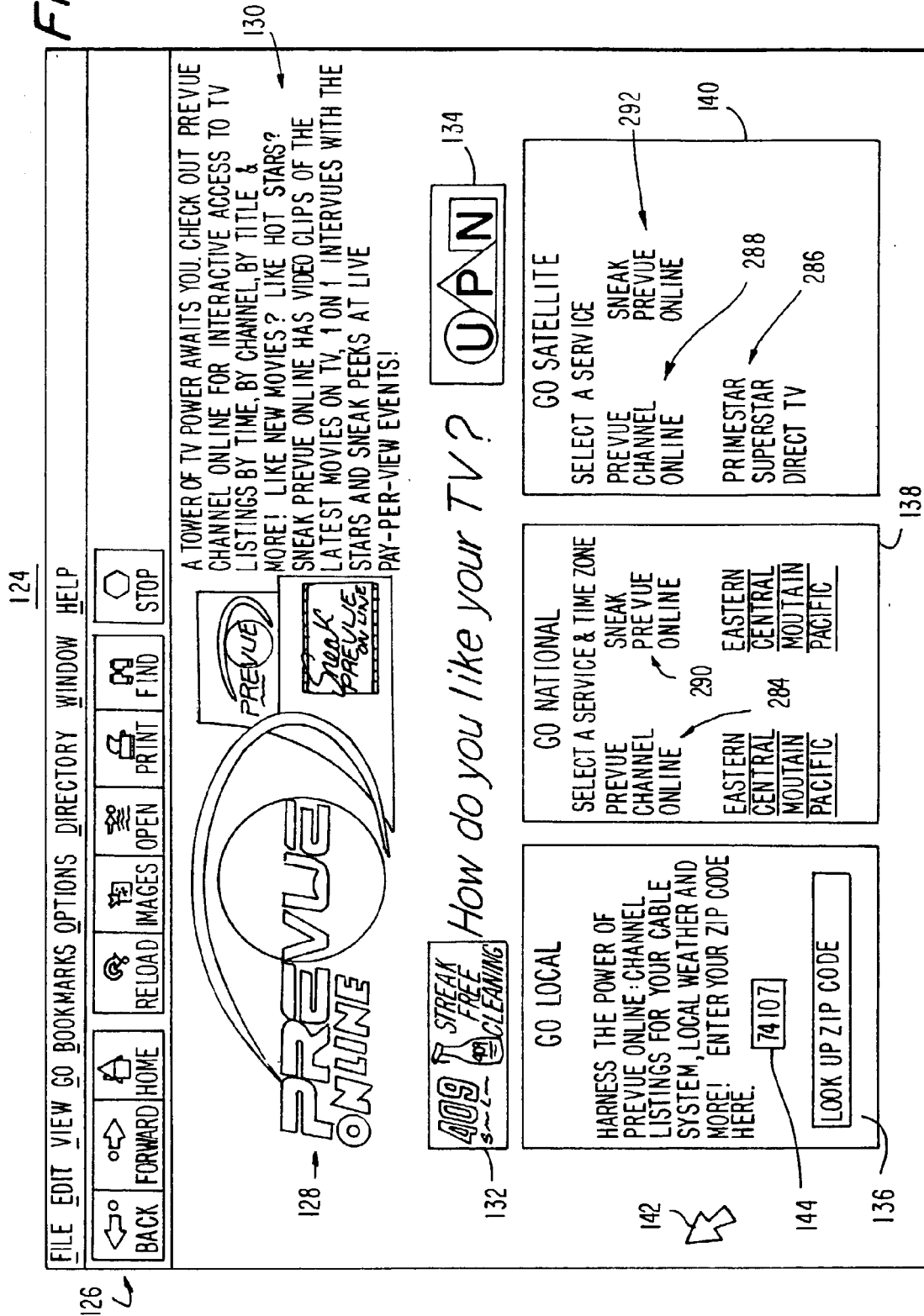


FIG. 5

SELECT STATE OF INTEREST

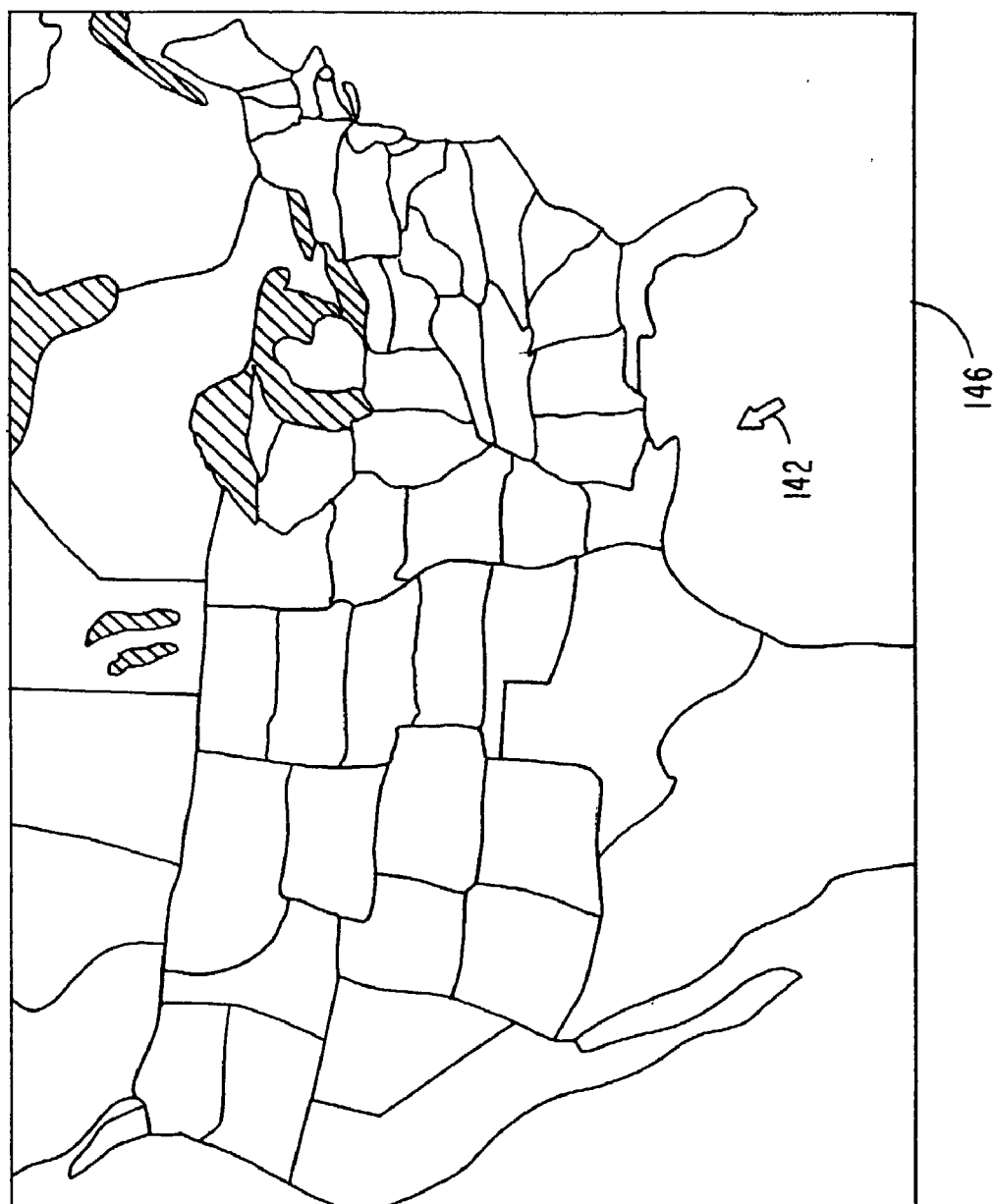


FIG. 6

SELECT CABLE SYSTEM OPERATOR
REGION OF INTEREST

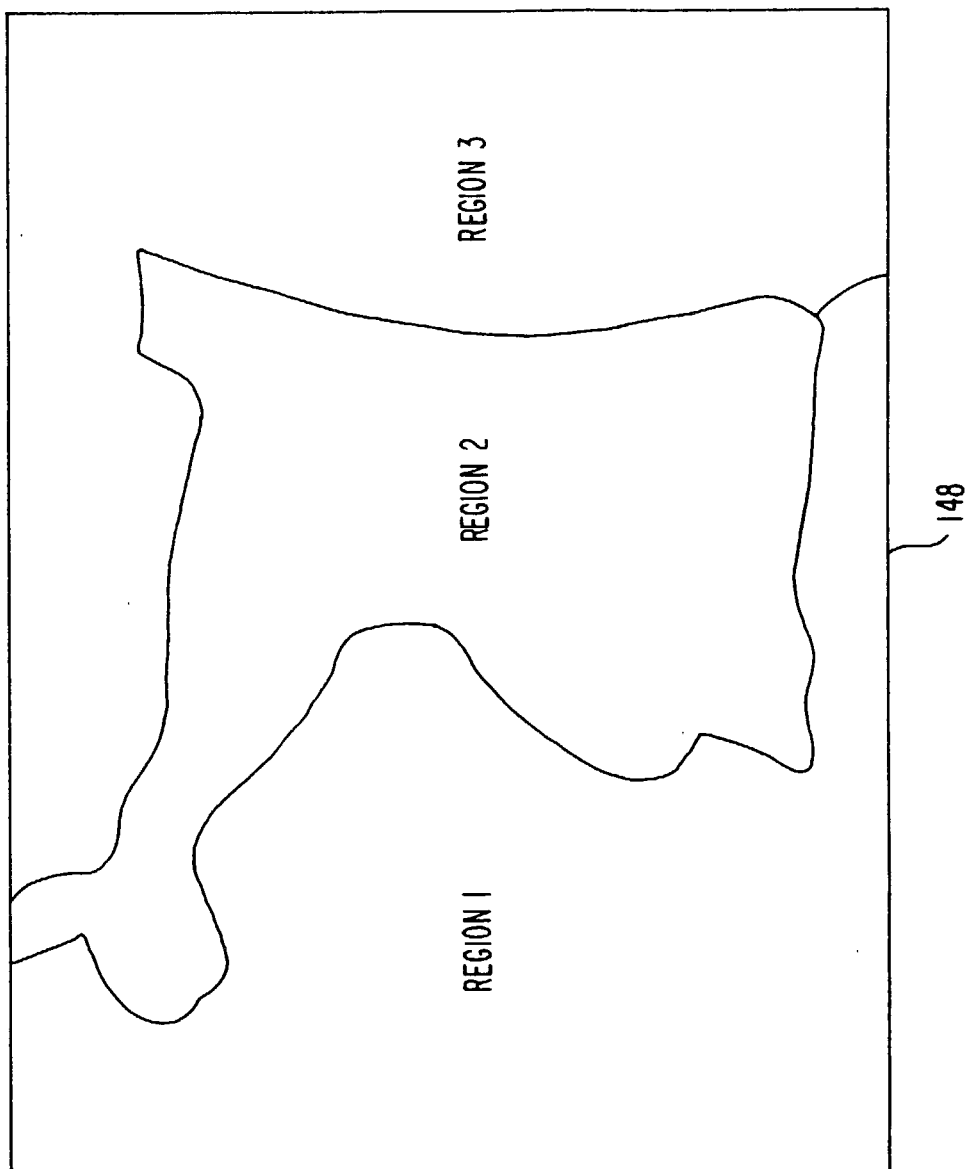


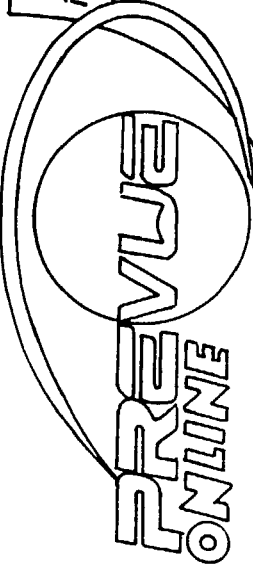
FIG. 7

150

		
SORRY, LOCAL LISTINGS ARE NOT CURRENTLY AVAILABLE IN YOUR AREA. LOCAL LISTINGS ON PREVUE ONLINE ARE A SEPARATE SERVICE FROM THE PREVUE CHANNEL. YOUR CABLE COMPANY WILL NEED TO SUBSCRIBE TO THIS SERVICE IN ORDER FOR YOU TO GET TO LOCAL LISTINGS. WE OFFER NATIONAL LISTINGS FOR THOSE AREAS NOT YET COVERED, AND WE'RE CONTACTING CABLE SYSTEMS AS FAST AS WE CAN. PLEASE FILL OUT THE FORM BELOW TO FORWARD TO YOUR TO CABLE COMPANY. THANKS FOR YOUR SUPPORT! YOUR E-MAIL ADDRESS YOUR CABLE PROVIDER YOUR ZIP CODE COMMENTS SUBMIT RESET FORM		

FIG. 8

152



PREVUE
ONLINE

A TOWER OF TV POWER AWAITS YOU. CHECK OUT PREVUE CHANNEL ONLINE FOR INTERACTIVE ACCESS TO TV LISTINGS BY TIME, BY CHANNEL, BY TITLE & MORE! LIKE NEW MOVIES? LIKE HOT STARS? SNEAK PREVUE ONLINE HAS VIDEO CLIPS OF THE LATEST MOVIES ON TV, 1 ON 1 INTERVIEWS WITH THE STARS AND SNEAK PEEKS AT LIVE PAY-PER-VIEW EVENTS!





*Can't go local?
Please pick again!*

409 **STREAK FREE** **CLEANING**

UPN

154

SELECT A CITY

TO SEE WHAT PREVUE ONLINE COULD OFFER IN YOUR CABLE AREA, CHECK OUT ONE OF THESE SITES

ANNAHEIM

-

156

SUBMIT

GO NATIONAL

SELECT A SERVICE & TIME ZONE

PREVUE CHANNEL ONLINE

SNEAK PREVUE ONLINE

EASTERN
CENTRAL
MOUNTAIN
PACIFIC

136

GO SATELLITE

SELECT A SERVICE

PREVUE CHANNEL ONLINE

SNEAK PREVUE ONLINE

PRIMESTAR
SUPERSTAR
DIRECT TV

140

FIG. 9

166



162



168



Help us to serve you better

TO BETTER BRING YOU THE TV ENTERTAINMENT YOU WANT MOST,
WE NEED A LITTLE INFORMATION FIRST

YOUR E-MAIL ADDRESS

MODEM CONNECT SPEED

☐ 14.4 bps
 ☐ 28.8 bps
 ☐ 33.6 bps
 ☐ ISDN
 ☐ T-1

PROCESSOR SPEED

☐ 486 PC OR SLOWER
 ☐ 68K MACINTOSH
☐ PENTIUM PC
 ☐ POWER MACINTOSH
☐ UNIX OR OTHER

FIG. 10

170

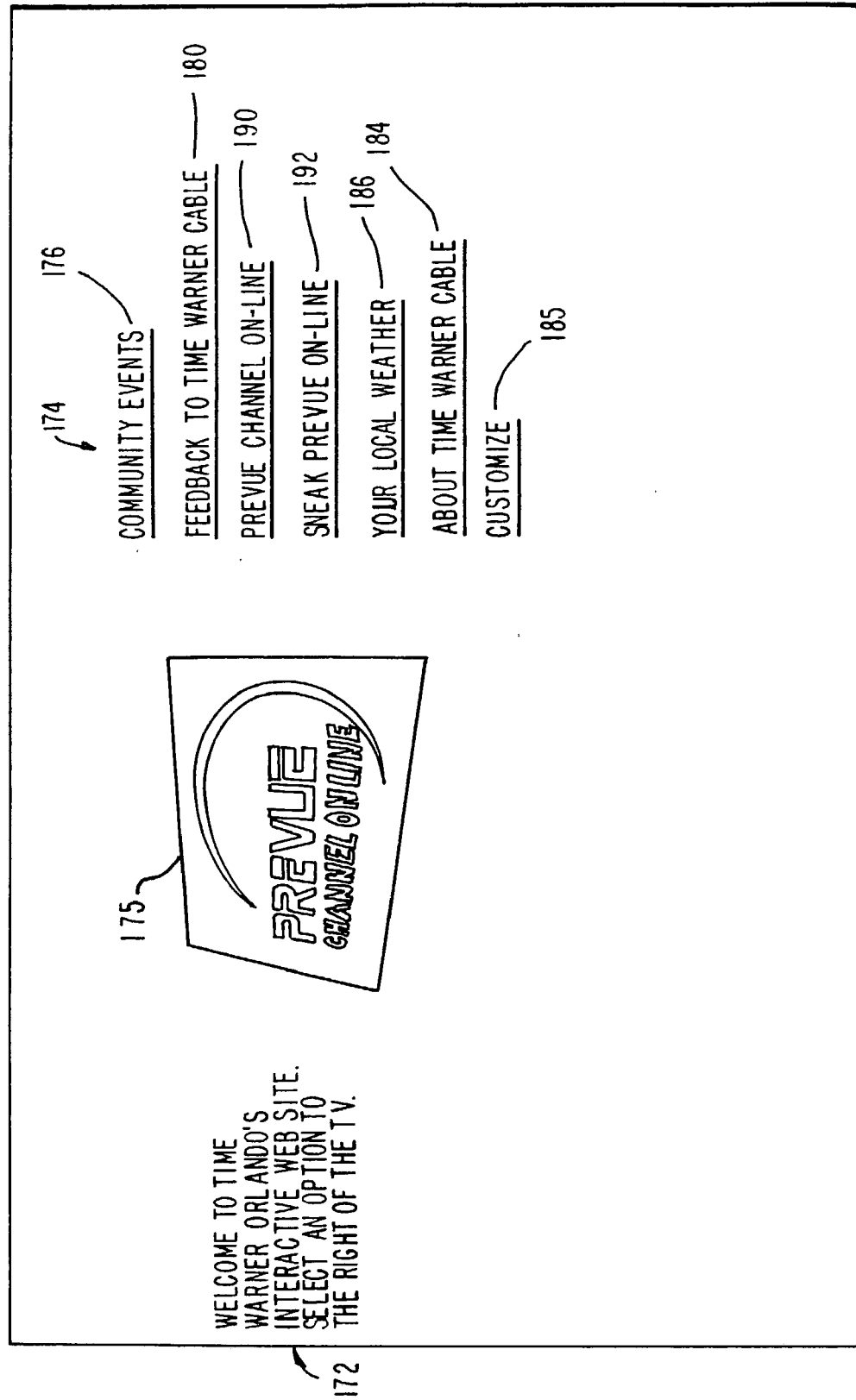


FIG. 11

178

STAR TREK VOYAGER	23	PREVIEW CHANNEL ONLINE	TCI		STAR TREK VOYAGER
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Community Events

DECEMBER 6, 1996

-JAZZFEST UNDER THE STARS-

ENJOY FREE ENTERTAINMENT AT HOSPITALITY POINT. ARRIVE EARLY FOR THE BEST SEATS. SESSION BEGINS AT 8PM.
SPONSORED BY STATION KIFM COOL JAZZ.

DECEMBER 11, 1996

COMMUNITY CENTER OF EL CAJON.

COMMUNITY WATCH GROUP MEETING, ROOM 16 NEW MEMBER SIGN-UP WED. 11 @ 6:00PM.

FIG. 12

182

				
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Feedback to Time Warner Orlando

YOUR E-MAIL ADDRESS:

COMMENTS

FIG. 13

186

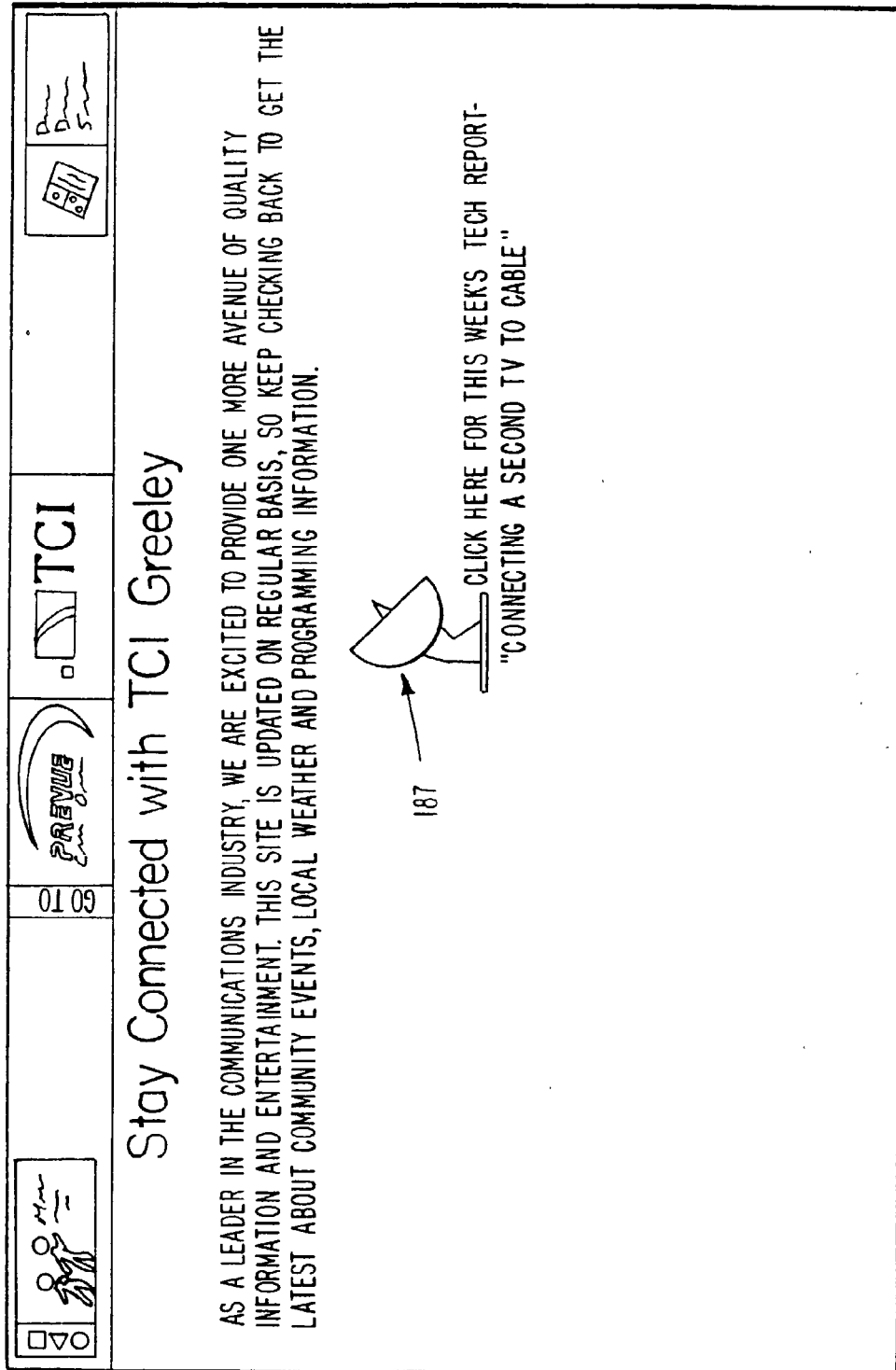
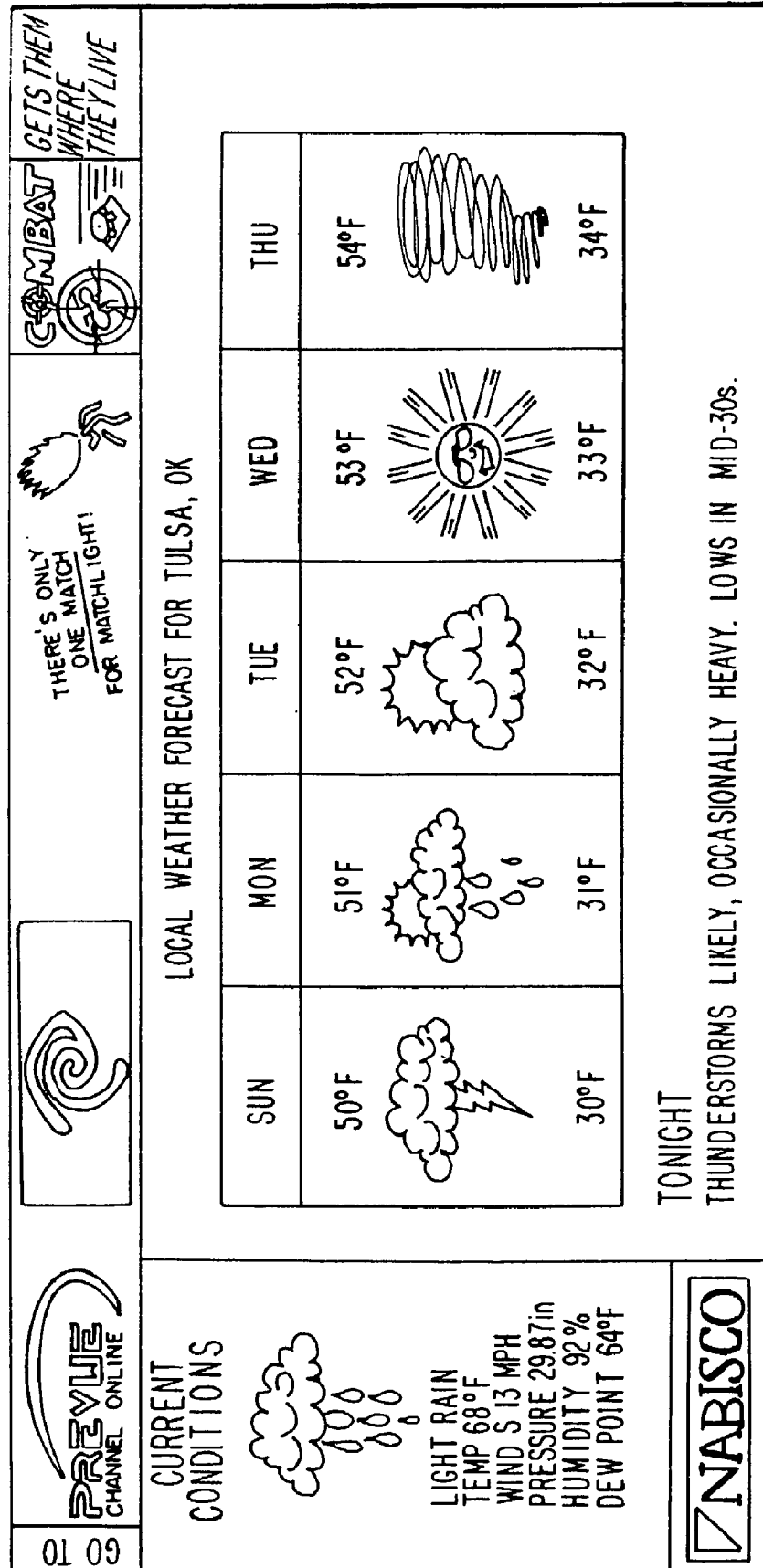


FIG. 14

188



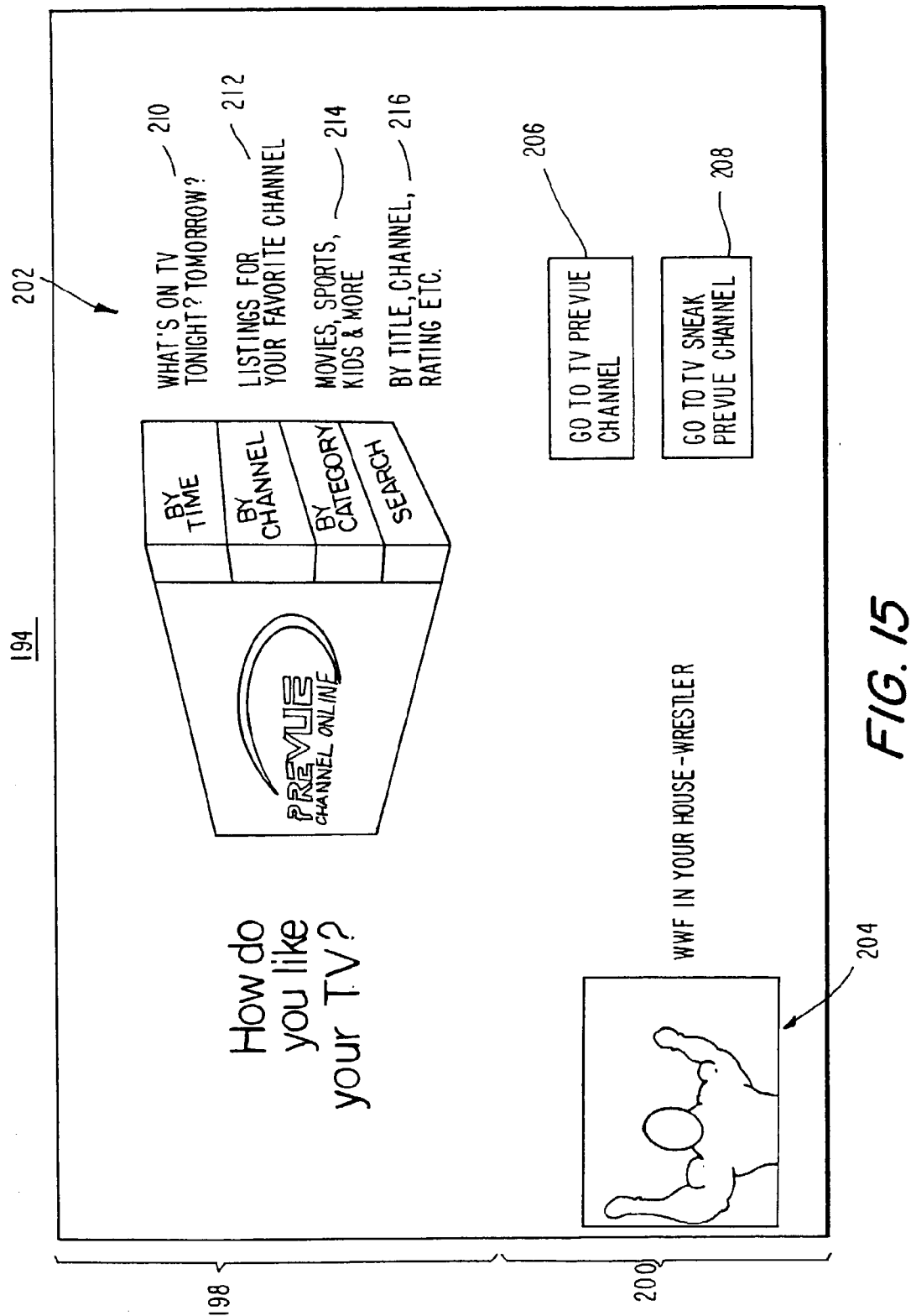


FIG. 16

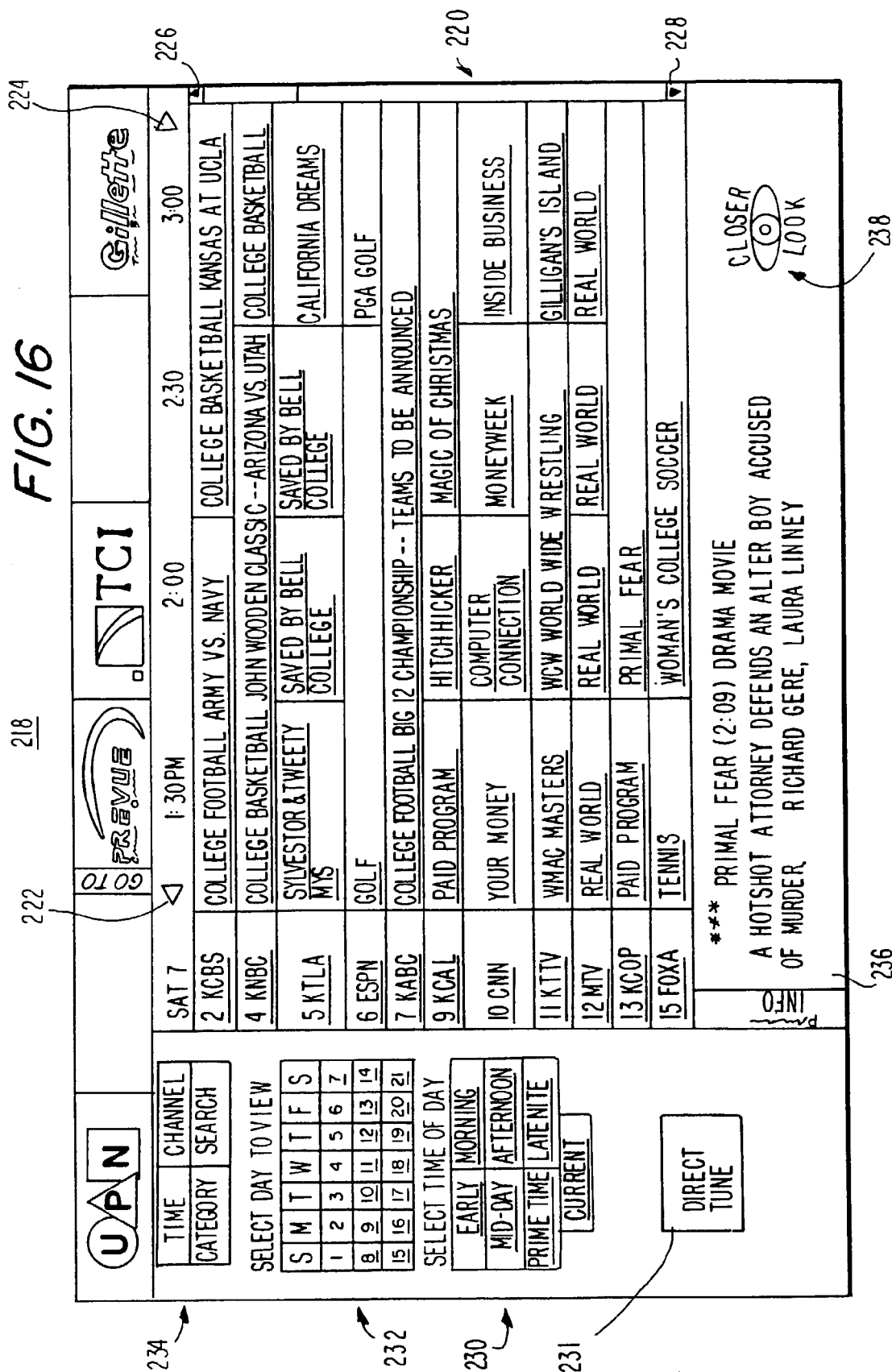


FIG. 17

242

TIME

CATEGORY

CHANNEL

SEARCH

GO TO

PREVIEW

TCI

CHANNEL

DESCRIPTION

CHANNEL

DESCRIPTION

CHANNEL	DESCRIPTION	CHANNEL	DESCRIPTION	CHANNEL	DESCRIPTION
	2	KCBS	4	4	KNBC
5	5	KTLA	ESPN	6	ESPN
	7	KABC		9	KCAL
CNN	10	CNN		11	KTTV
	12	MTV		13	KCOP
	15	FOXA FOX SPORTS WEST	~	16	LIFE
~	17	USA USANET		18	KSCI

SELECT DAY TO VIEW

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21

SELECT TIME OF DAY

EARLY MORNING

MID-DAY AFTERNOON

PRIME TIME LATE NITE

CURRENT

DIRECT TUNE

248

246

244

FIG. 18



250





256



TIME	CHANNEL	CATEGORY	SEARCH	TIME & DATE	2 KCBS DESCRIPTION	
SELECT DAY TO VIEW				11:00AM	COLLEGE FOOTBALL: ARMY VS. NAVY	
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
SELECT TIME OF DAY				2:30PM	COLLEGE BASKETBALL KANSAS AT UCLA	
EARLY MORNING				3:00PM	PAID PROGRAM	
MID-DAY AFTERNOON				3:30PM	PAID PROGRAM	
PRIME TIME LATE NITE				6:00PM	BEACH PATROL	
CURRENT				7:00PM	COAST GUARD	
				7:30PM	CBS EVENING	
				8:00PM	NEWS	
				9:00PM	ENTERTAINMENT TONIGHT	
				10:00PM	DR. QUINN, MEDICINE WOMAN	
				11:00PM	EARLY EDITION	
				SUN 08		
				12:00AM	WALKER, TEXAS RANGER	

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FIG. 19

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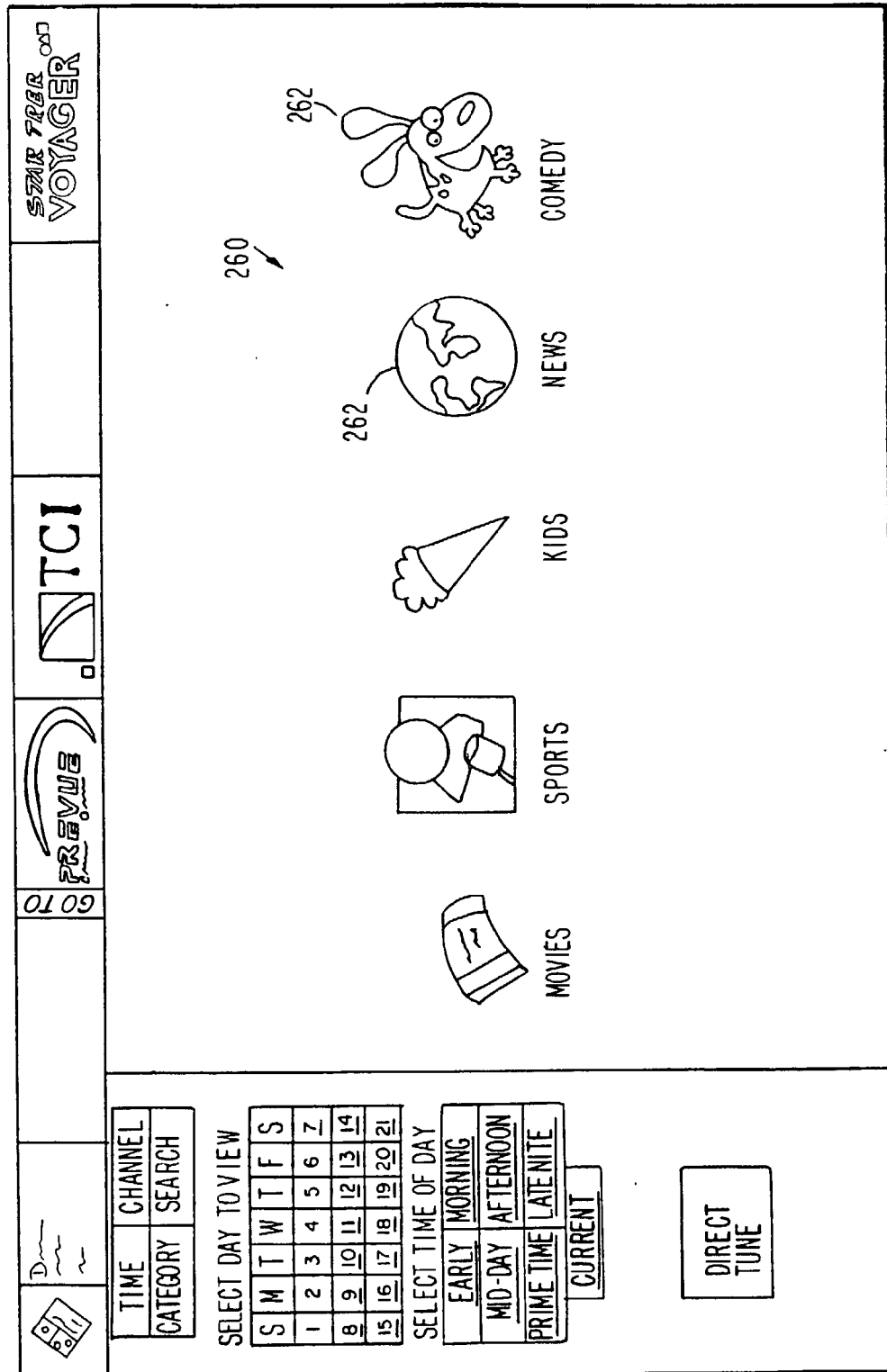


FIG. 20

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TIME

CATEGORY

CHANNEL

SEARCH

LISTING FOR GENRE - MOVIE

TIME & DATE	CHANNEL	MOVIE
SAT 07 12:00PM	21 AMC	LAND OF THE PHAROAHS
SAT 07 12:00PM	36 REQ	THE CRAFT
SAT 07 12:00PM	96 TCM	IN THE GOOD OLD SUMMERTIME
SAT 07 12:00PM	99 ENCORE	SEX AND THE SINGLE GIRL
SAT 07 12:25PM	25 SHOW	MAD LOVE
SAT 07 12:30PM	95 FLIX	MOTHER JUGS & SPEED
SAT 07 12:30PM	98 SPICE	EROTIC PRINCESS
SAT 07 1:00PM	26 TMC	BABETTES FEAST
SAT 07 1:00PM	35 REQ	THE BIRDCAGE

INFO

WHAT'S ON BY PREVUE INTERACTIVE

270

266

FIG. 21

272

UPN

GO TO

Reviews

TCI

UPN

TIME

CHANNEL

CATEGORY

SEARCH

SELECT DAY TO VIEW

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21

SELECT TIME OF DAY

EARLY MORNING
MID-DAY AFTERNOON
PRIME TIME LATE NITE
CURRENT

ENTER SEARCH TEXT:

276

274

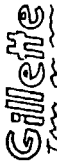
SEARCH WITHIN:

TITLE
ACTOR
CATEGORY
DESCRIPTION
RATING

FIG. 22

278

282













LISTING FOR ACTOR = GIBSON

TIME & DATE	CHANNEL	PROGRAM
TUE 10 10:00AM	23 HBO	FOREVER YOUNG
TUE 10 8:00 PM	23 HBO	FOREVER YOUNG
SAT 14 4:15 PM	23 HBO	FOREVER YOUNG
SUN 15 1:00 PM	7 KABC	TO LOVE, HONOR AND DECEIVE
TUE 17 4:00AM	95 FLIX	MADMAX
FRI 20 8:15AM	23 HBO	FOREVER YOUNG
FRI 20 7:15PM	23 HBO	FOREVER YOUNG

SELECT DAY TO VIEW

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21

SELECT TIME OF DAY

EARLY MORNING

MID-DAY AFTERNOON

PRIME TIME LATE NITE

CURRENT

INFO

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WHAT'S ON BY PREVUE INTERACTIVE...

FIG. 23

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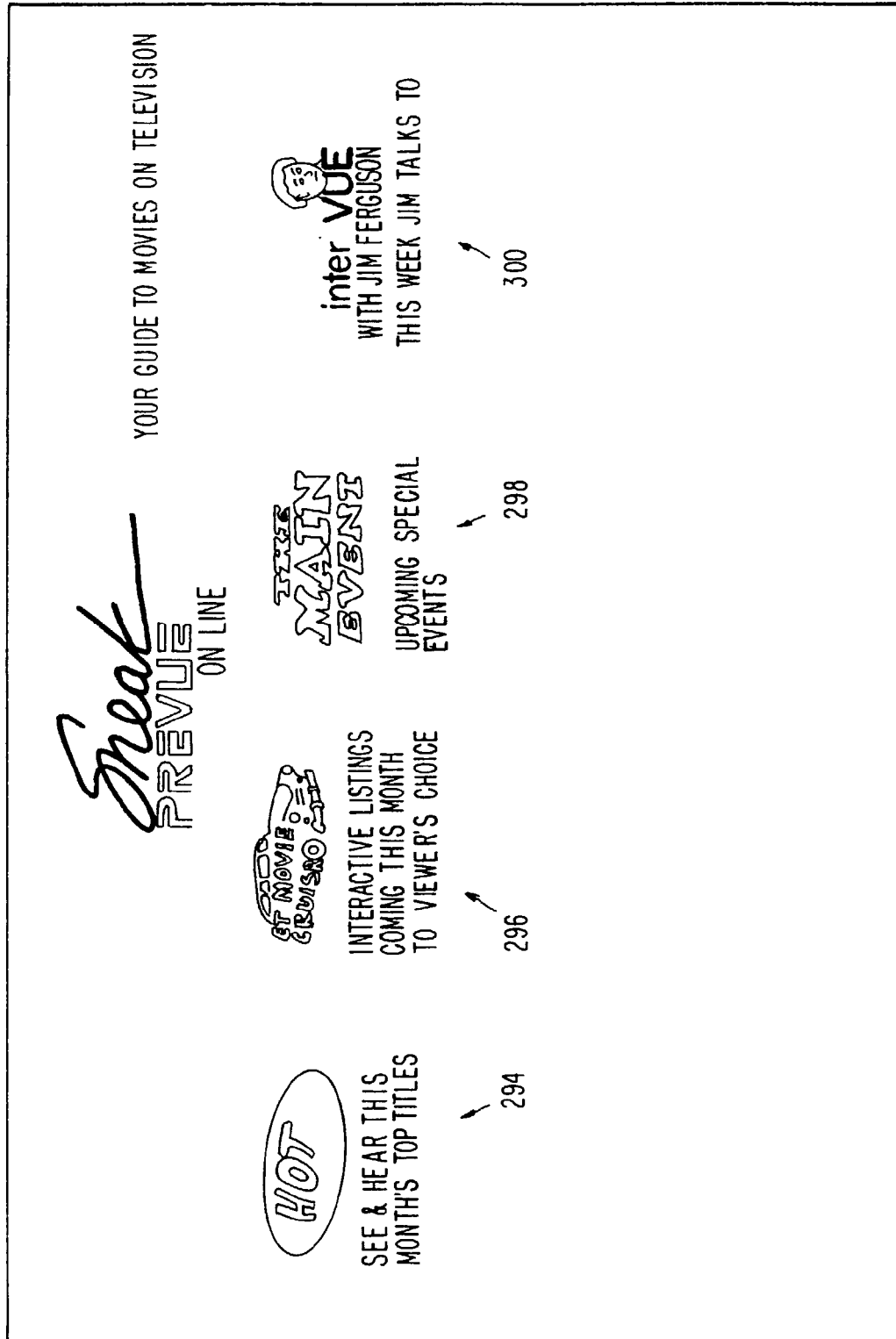


FIG. 24

302

CLICK ON A TITLE OR SCREEN SHOT TO GET VIDEO & AUDIO INTERVUES, TRAILERS,
BEHIND-THE-SCENES AND MORE!

HOT
PIX

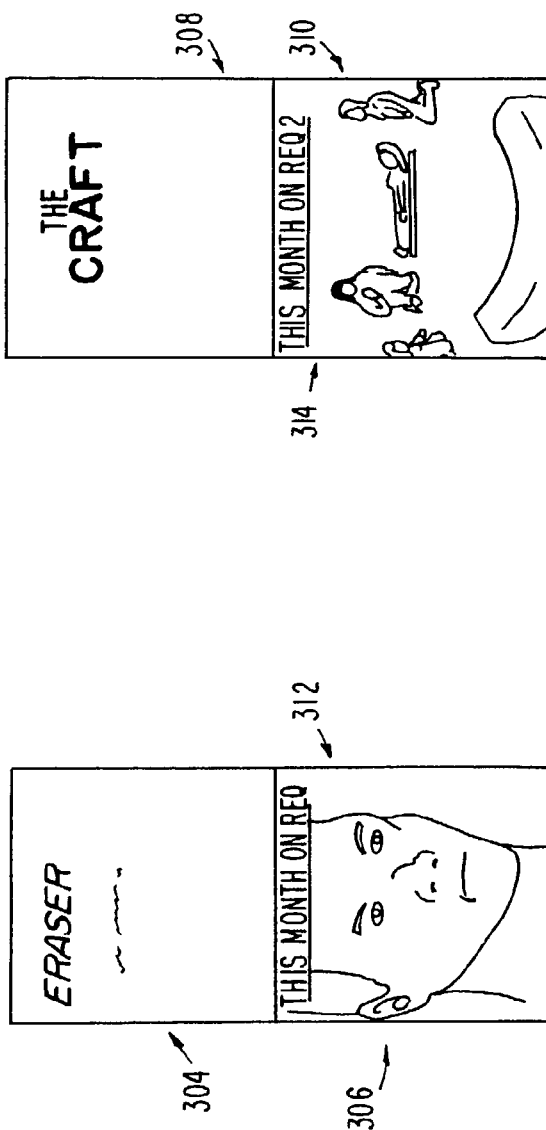


FIG 25

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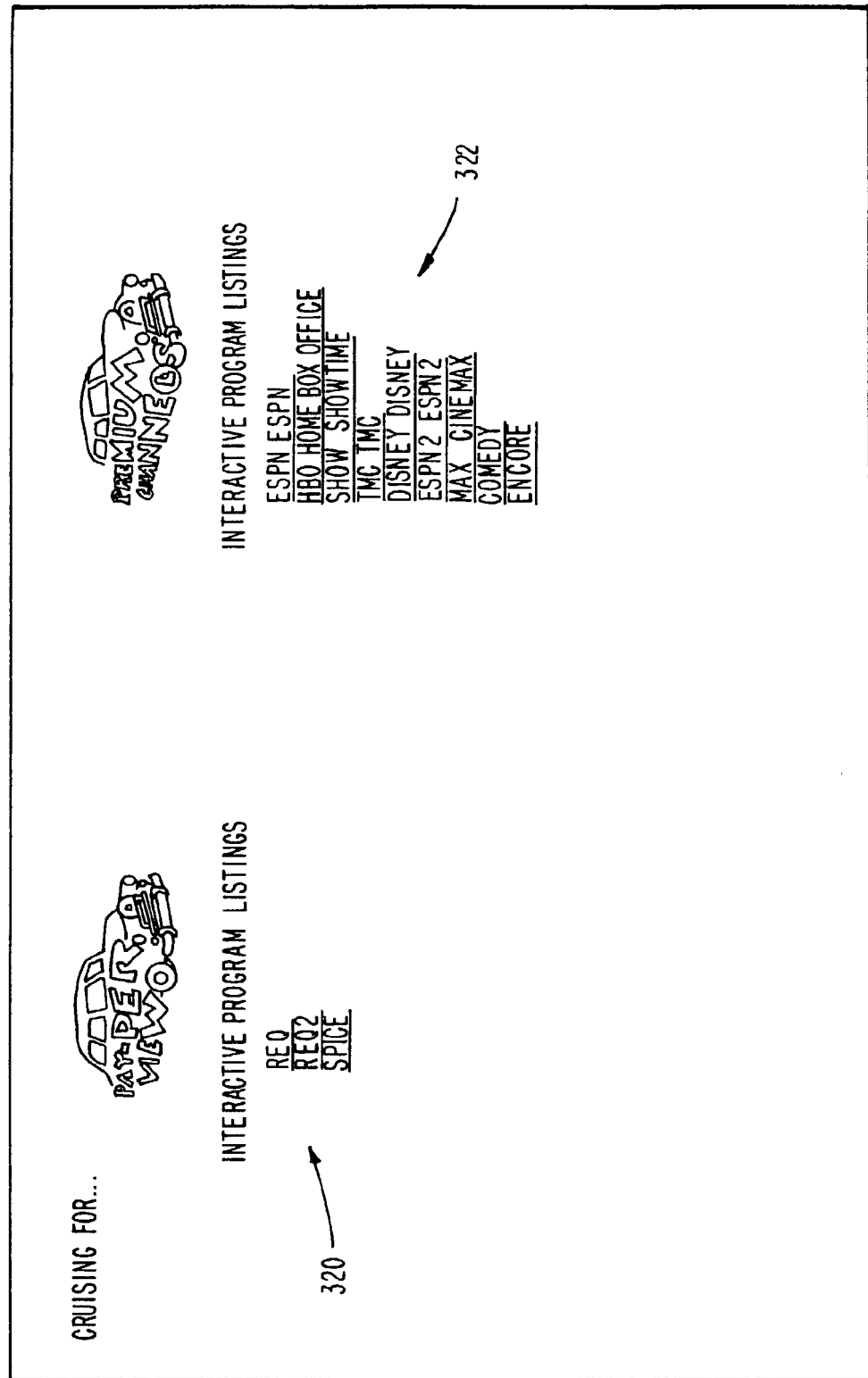


FIG. 26

316

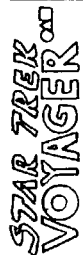
																																																																																																																																													
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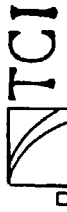
FIG. 27

328
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TIME	CHANNEL
CATEGORY	SEARCH
SELECT DAY TO VIEW	
S M T W T F S	
1 2 3 4 5 6 7	
8 9 10 11 12 13 14	
15 16 17 18 19 20 21	
SELECT TIME OF DAY	
EARLY MORNING	
MID-DAY AFTERNOON	
PRIME TIME LATE NITE	
CURRENT	

TIME & DATE

27 DISNEY DESCRIPTION

1:30 PM	WINNIE THE POOH AND TIGGER TOO
2:00 PM	DUCK FOR HIRE
2:50 PM	TOY TINKERS
3:00 PM	BABY-SITTERS CLUB
3:30 PM	READY OR NOT
4:00 PM	TORKELSONS
4:30 PM	OCEAN GIRL
5:00 PM	SPELLBINDER
5:30 PM	AUDUBON'S ANIMAL ADVENTURES-DOLPHINS
6:00 PM	20,000 LEAGUES UNDER THE SEA
8:10 PM	AVONlea
9:00 PM	WERE BACK! A DINOSAUR'S STORY
10:15 PM	PETE'S DRAGON
INFO PETE'S DRAGON (2:15) A LOVABLE DRAGON HELPS AN ORPHAN ESCAPE HIS FOSTER FAMILY. MICKEY ROONEY, HELEN REDDY FANTASY MOVIE	

330

FIG. 28

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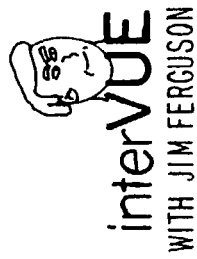
THE
MAIN
EVENT

LIVE SPORTS EVENTS THIS MONTH ON PAY-PER-VIEW

BOXING: TYSON VS. HOLYFIELD → 334

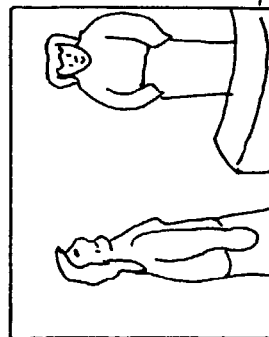
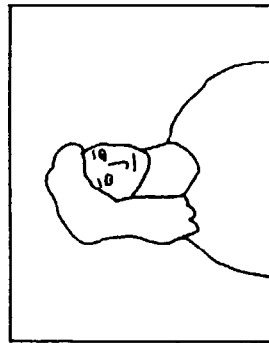
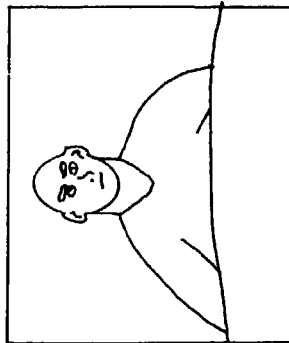
FIG. 29

338

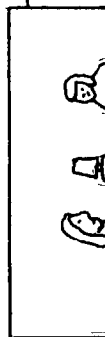


CLICK ON A SCREEN SHOT FOR A VIDEO & AUDIO INTERVUES

INTERVUE-STAR TREK FIRST CONTACT



INTERVUE-STEALING BEAUTY



340

340

FIG. 30

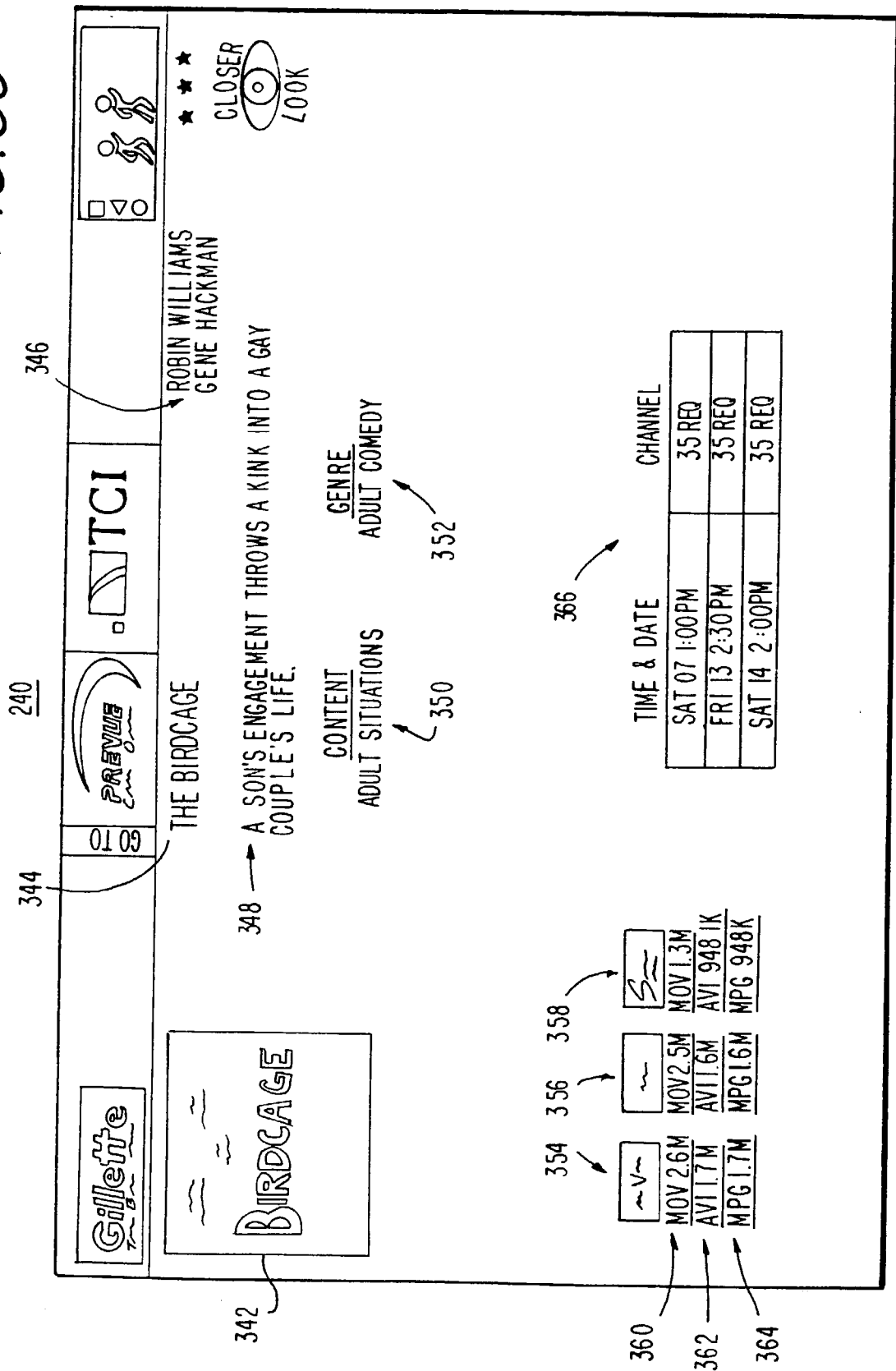


FIG. 31

336

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ORDER PPV MOVIE / EVENT

TO ORDER PPV ONLINE, YOU MUST HAVE HAVE A PIN NUMBER,
IF YOU DO NOT HAVE A PIN NUMBER, PLEASE CALL
CUSTOMER SERVICE AT 1-800-222-3333

ENTER TELEPHONE NUMBER 370

ENTER PIN 372

PLACE ORDER 374

FIG. 32

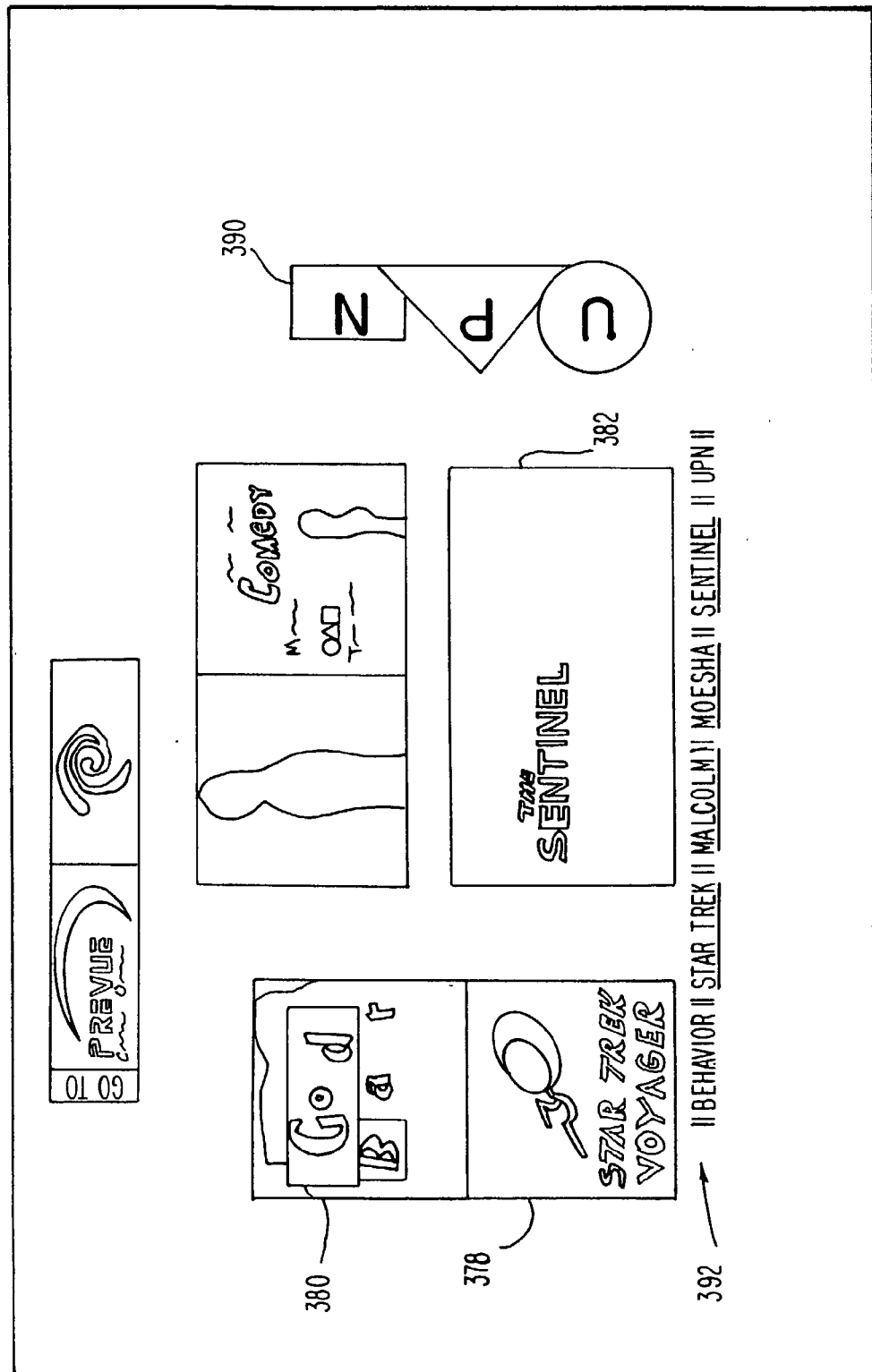
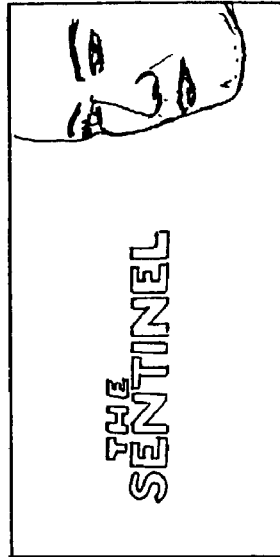


FIG. 33

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CLICK FOR VIDEO



THIS WEEK'S EPISODE
UPN - SENTINEL - TS211

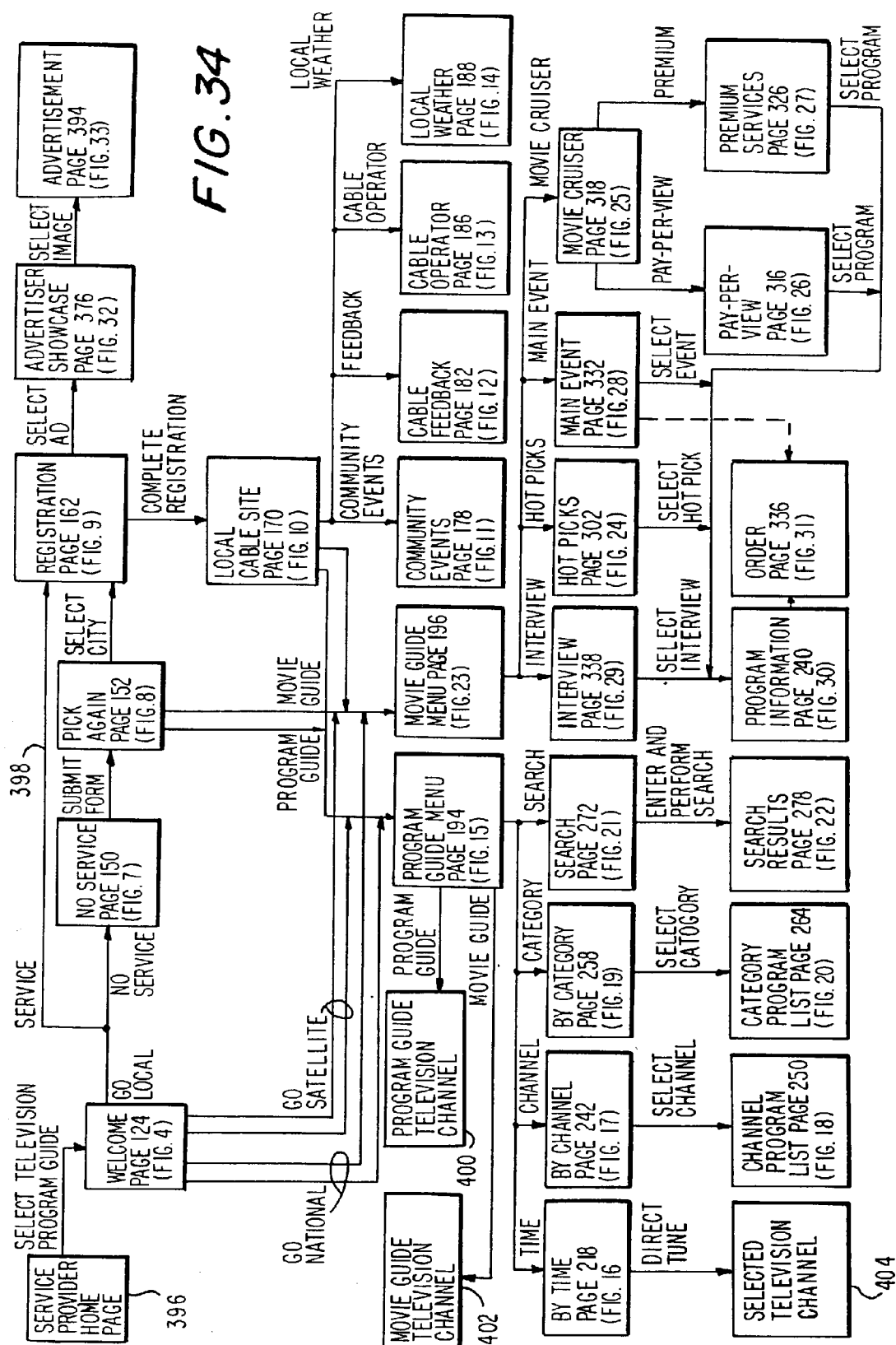
TENSION RUNS HIGH AS ELLISON SEARCHES FOR A SERIAL BOMBER WHO IS TARGETING AFRICAN AMERICAN CHURCHES.

GUEST STARRING:

KIMBERLY ELISE AS CANDANCE BLAKE, KEN EARL AS CAPTAIN TAGGERT, MICHEL KOPSA AS DIRK LARSON, KIRK B.R. WOLLER AS ALEX

PROGRAM OVERVIEW:

RUGGED POLICE DETECTIVE JAMES ELLISON (RICHARD BURGI) AND GOOD-NATURED ANTHROPOLOGIST GRADUATE STUDENT BLAIR SANDBURG (GARETT MAGGART) BECOME AN IMPROBABLE TEAM WHEN THE RENEGADE DETECTIVE DEVELOPS A DRAMATICALLY DIFFERENT ADVANTAGE - HIS FIVE SENSES ARE HEIGHTENED WILDLY BEYOND THAT OF AN ORDINARY HUMAN BEING - AND THE HIP, YOUNG GRAD KNOWS AN



INTERNET TELEVISION PROGRAM GUIDE SYSTEM

[0001] This application is a continuation of U.S. patent application Ser. No. 09/560,207, filed Apr. 27, 2000, which is a continuation of U.S. patent application Ser. No. 08/938,028, filed Sep. 18, 1997 (now abandoned), which is a nonprovisional of U.S. provisional patent application No. 60/032,539, filed Dec. 10, 1996. All of these prior applications are hereby incorporated by reference herein in their entireties.

BACKGROUND OF THE INVENTION

[0002] This invention relates to the Internet, and more particularly, to techniques for providing television program guide information and services to a user over the Internet.

[0003] A large number of television channels are available over cable television systems and satellite television systems. Television viewers have traditionally had to consult preprinted television program listings to determine which programs were scheduled to be broadcast on a particular day. More recently, television-based program guides have been developed that allow television viewers to view television program listings directly on their television sets.

[0004] For example, the Prevue® channel is a scrolling television program listings service that a cable system operator may make available to subscribers over a dedicated cable channel. Viewers can tune to the appropriate television channel to view program listings for television programs that are currently being broadcast and are scheduled to be broadcast in the next few hours. Although the Prevue® channel is a valuable service, the viewer is somewhat constrained by the passive nature of the service. For example, the viewer cannot view television listings for the next day or week.

[0005] As a result, more advanced television program guide services have been developed that allow the service provider to deliver television program listing data to the user's set-top box. The data is typically delivered over the television cable system infrastructure (e.g., on a given television channel during the vertical blanking interval or over an out-of band channel). Software in the set-top box allows the viewer to display the television program listings on the viewer's television set.

[0006] These program guide services allow the user to manipulate the television listings by searching or sorting through the listings using criteria such as genre, channel, and broadcast time. An example of a such an interactive television program guide is the Prevue Express® guide of Prevue Networks, Inc. of Tulsa, Okla., the assignee of the present invention.

[0007] Although passive scrolling guides and interactive set-top box guides are useful sources of television program guide information, millions of users with personal computers have not been able to obtain on-line television program listings. In addition, users have not been able to select from diverse options that allow the user to view promotional video clips, interview segments, audio clips, and other multimedia material related to a given television program.

[0008] It is therefore an object of the present invention to provide a television program guide system that provides

television program listings from a server to a user's multimedia system over an Internet communications link.

[0009] It is a further object of the present invention to provide a television program guide system that allows users to click on text or still images to view promotional video clips, audio clips, interview segments, and other multimedia material related to a given television program.

SUMMARY OF THE INVENTION

[0010] These and other objects of the invention are accomplished in accordance with the principles of the present invention by providing an Internet television program guide system. A computer system having a media library and a data server is used to provide multimedia clips and related television program guide data. The multimedia material and program guide data are provided to a web server. The web server provides this information to the user's multimedia system via an Internet communications link.

[0011] The multimedia system has a processing unit for receiving information from the Internet communications link and processing such information accordingly. The multimedia system also has a video unit for receiving television signals. In a first embodiment, the processing unit is based on a personal computer running a standard web browser with plug-ins. The video unit is based on a television. In a second embodiment, the processing unit and video unit of the multimedia system are provided by an integrated personal computer and television unit. In a third embodiment, the processing unit is in an Internet capable set-top box and the video unit is based on a television.

[0012] The web server may be located adjacent to the computer system and the program guide data and multimedia material provided to the multimedia system via the Internet. Alternatively, the web server may be located in a cable system headend. When the web server is located in the cable system headend, program guide data and other multimedia material may be provided to the web server via a satellite link. The program guide data and multimedia material are provided to the multimedia system over an Internet communications link.

[0013] Television program guide data and related multimedia information are preferably provided to the user's multimedia system in the form of one or more web pages. Because such an arrangement allows the use of the widely adopted hypertext transfer protocol (http) and emerging web standards, a user with a personal computer can access information using commonly available web browser software. Because program guide information is distributed over the Internet, the user can access this information at remote locations. For example, the user can access the television program guide service while traveling by car, bus, train, or plane, from a hotel room or business meeting, from a personal computer at work, or in any suitable environment in which there is a link to the Internet. In all arrangements (whether the user is accessing the program guide service from their home or from a remote location), the system benefits from using the established protocols and standards of the Internet.

[0014] In addition, because the Internet television program guide is provided as a web site having a number of linked web pages, features can be easily added or deleted from the

service by the service provider, without directly affecting the hardware and software of the user.

[0015] Using a web site platform also allows a wide range of service options to be provided. In particular, numerous media formats (animation, full motion video, sound, still images, and text) are supported and may be interconnected using various embedded hypertext transfer protocol links.

[0016] 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

[0017] FIG. 1 is a system diagram showing a media library and data server interconnected with a web server and various multimedia systems.

[0018] FIG. 2 is a generalized diagram of a user's multimedia system.

[0019] FIG. 3 is a system diagram similar to that of FIG. 1 showing an arrangement in which the web server is located in a cable system headend.

[0020] FIG. 4 is a diagram of a home page for an Internet television program guide.

[0021] FIG. 5 is a diagram of a map-based menu for identifying a geographical area of interest.

[0022] FIG. 6 is a diagram of a map-based menu for a smaller geographical region than shown in FIG. 5.

[0023] FIG. 7 is a web page informing the user that no service is available.

[0024] FIG. 8 is a web page offering alternatives to local service.

[0025] FIG. 9 is a web page allowing the user to provide information regarding the user's multimedia system to the service provider.

[0026] FIG. 10 is a web page presenting various program guide options to the user.

[0027] FIG. 11 is a web page containing information on community events.

[0028] FIG. 12 is a web page providing the user an opportunity to give feedback to a local cable system operator.

[0029] FIG. 13 is a web page containing information pertaining to the local cable operator's system.

[0030] FIG. 14 is a web page containing weather information.

[0031] FIG. 15 is a web page presenting various program guide options including direct links to related program guide and movie guide television channels.

[0032] FIG. 16 is a web page containing television program guide listings organized by time.

[0033] FIG. 17 is a web page presenting a menu of channel selections.

[0034] FIG. 18 is a web page containing television program guide listings organized by channel.

[0035] FIG. 19 is a web page containing icons representing category options.

[0036] FIG. 20 is a web page containing television program guide listings organized by category.

[0037] FIG. 21 is a search page containing a box for entering search text and various search field options.

[0038] FIG. 22 is a television program guide listing page based on the results of a search.

[0039] FIG. 23 is a web page presenting program guide options related to promotional clips, interview segments, and pay-per-view and premium services.

[0040] FIG. 24 is a web page presenting various image stills that may be selected by the user when it is desired to view related video clips.

[0041] FIG. 25 is a web page presenting user options regarding pay-per-view and premium services.

[0042] FIG. 26 is a web page containing television program listings for a selected pay-per-view channel.

[0043] FIG. 27 is a web page containing television program listings for a selected premium channel.

[0044] FIG. 28 is a web page providing information regarding upcoming pay-per-view sporting and special events.

[0045] FIG. 29 is a web page containing still images corresponding to available interview segments.

[0046] FIG. 30 is a program information web page containing information on a program selected by the user and presenting related options.

[0047] FIG. 31 is a web page that allows a user to enter information for ordering a pay-per-view event.

[0048] FIG. 32 is a web page that provides a showcase for advertisers.

[0049] FIG. 33 is a web page containing detailed advertising information on a selected topic or television program.

[0050] FIG. 34 is a site map showing the options that are selected and the links that are traversed in navigating among the television program guide web pages of FIGS. 4-33.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0051] An Internet television program guide system 10 is shown in FIG. 1. Television program information is stored in media library 12 and data server 14. Media library 12 preferably contains an array of compact disc read only memory (CD-ROM) disks, digital video disks (DVDs), or other suitable media for storing multimedia content. Media library 12 contains television program clips and related interviews and reviews. The television program information stored in media library 12 is primarily video-based. Data server 14 maintains various databases of television program information. For example, data server 14 may have a remote media database containing descriptions of videos in media library 12. Data server 14 may also have a database containing information on standard titles, a pay per view database containing information regarding pay-per-view events, and a scheduling information database. Data server 14 may

have a cable system operator database containing channel lineups, information on the time zone of the operator, weather data for the operator's region, data on the zip codes in the cable system operator's area, etc. Other databases may be supported by data server 14, as desired. The television program information in data server 14 is primarily in non-video formats.

[0052] Media library 12 and data server 14 are interconnected with transmission server 16 via internal network 18. Media library 12, data server 14, network 18, and transmission server 16 make up computer system 19. Television program information may be stored on data server 14 in a relational database format and may be stored on transmission server 16 in an object-oriented database format. A building process implemented in the C++ programming language can be used to periodically (e.g., once a day) build a temporary data set of television program information (e.g., a seven-day to one-month data set) for storage on transmission server 16. Transmission server 16 also receives information for the Internet television program guide service such as weather data, sports scores, etc., via data input 17.

[0053] Television program information and related data may be transferred from transmission server 16 to web server 20 via communications line 22. Communications line 22 may be part of an internal network or may be a standard dedicated communications line. Web server 20 can be connected to the Internet 24 via communications link 26. Communications link 26 is preferably a telephone line or other suitable Internet communications path.

[0054] If transmission server 16 and web server 20 are separate devices, as shown in FIG. 1, transmission server 16 can be used as a common data processing facility for other applications which use the type of television program data stored on transmission server 16. If desired, the functions of transmission server 16 and web server 20 can be integrated in a signal machine.

[0055] Web server 20 uses standard protocols such as the TCP/IP (Transmission Control Protocol/ Internet Protocol) and hypertext transfer protocol to make the television program information available over the Internet 24 to users at multimedia systems 28, 30, and 32 via communications links 34, 36, and 38. Communications links 34, 36, and 38 are Internet links formed from telephone lines, radio-frequency (RF) links, cable modem links, satellite dish links, combinations of links such as these, or any other suitable Internet connection paths.

[0056] Multimedia system 28 has personal computer 40 and may have television 42. Certain program guide features require that personal computer 40 be able to control television 42 via link 41, which may be, e.g., an infrared communications link. Link 41 allows personal computer 40 to tune television 42 using control signals. Television 42 receives television signals from input 44. The television signals received by input 44 and the other television signal inputs shown in FIGS. 1-3 may be provided by cable television, satellite television, broadcast television, a combination of such sources, or any other suitable source of television programming signals. Internet access for multimedia system 28 is provided via Internet communications link 34.

[0057] Multimedia system 30 has an integrated personal computer and television 46, such as the Gateway 2000

Destination® PC-TV hybrid available from Gateway 2000 Inc. of North Sioux City, S. Dak. Television signals are provided at input 48. Internet access is provided via Internet communications link 36.

[0058] Multimedia system 32 has an Internet capable set-top box 50. Set-top box 50 may use the TV OnLine® set-top box application software of World Gate Corporation, which may be implemented on set-top boxes such as the CFT-2200® of General Instrument Corporation of Hatboro, Pa. and the 8600x® of Scientific Atlanta of Atlanta, Ga. Set-top box 50 receives television signals via input 52. Internet access is provided via Internet communications link 38. Video display signals containing television and Internet information are provided to television 54 by line 56.

[0059] During operation of system 10, certain data processing functions, such as user-initiated searches and sorts, are typically performed on web server 20. If desired, such functions can be performed on a suitable data processing component in multimedia systems 28, 30, and 32.

[0060] Certain television guide functions require only that multimedia systems 28, 30, and 32 contain web browsing capabilities. Other functions require television tuning and video recording capabilities. FIG. 2 shows a generalized multimedia system arrangement that is capable of supporting controlled television tuning and video recording, if desired. As shown in FIG. 2, multimedia system 58 has a processing unit 60, which preferably contains memory for storing instructions and a microprocessor for executing the instructions. Processing unit 60 accesses the Internet via Internet link 62. Video unit 64, which may be connected to processing unit 60 by communications line 66, contains recording unit 68, tuner 70, and monitor 72. Television signals are received at input 74.

[0061] Tuner 70 is used to select television programs from television signals on input 74 for viewing or recording. Tuner 70 may be controlled under the direction of control signals provided by processing unit 60 over communications link 66. Television signals and Internet information can be viewed using monitor 72. Recording unit 68 allows the user to make videocassette recordings of television programs. Recording unit 68 may also be controlled by control signals from processing unit 60.

[0062] The operation of processing unit 60 is determined based on the execution of instructions stored in memory in processing unit 60 and on control inputs received from the user via user interface 76. Suitable user interfaces include handheld infrared remote controls, keyboards, pointing devices, and voice recognition devices.

[0063] Multimedia systems such as multimedia system 58 of FIG. 2 may be used in place of multimedia systems 28, 30, and 32. Alternatively, systems such as systems 28, 30, and 32 may be modified to incorporate features like those shown multimedia system 58. For example, if it were desired to provide a multimedia system with circuitry to handle video recording, video recording units (such as recording unit 68) could be provided in systems such as multimedia systems 28, 30, and 32. In addition, in systems such as system 58, certain components may be used more than once (e.g., tuner 70 may be contained within both a television component and a videocassette recorder component in system 58).

[0064] Regardless of the specific configuration of the multimedia systems used in system 10, the user of such a multimedia system has the capability to access television program guide information on web server 20. Many of the features of the Internet program guide service are available using multimedia systems with the capabilities of a modern personal computer (desktop or laptop). If it is desired to use certain program guide features that rely upon controlling a tuner or recording unit, the multimedia system should also have the ability to tune to a desired television program from among the various television programs provided at inputs 44, 48, 52, and 74 and have the ability to record that program automatically, under the control of commands from processing unit 60. Additional features may also be implemented on multimedia system 58.

[0065] Another configuration that may be used for an Internet television program guide system is shown in FIG. 3. As shown in FIG. 3, Internet television program guide system has media library 80 and data server 82. Media library 80 contains television program clips, interviews, and reviews. The television program information stored in media library 80 is primarily video. Data server 82 contains databases of television program information. For example, data server 82 may have a database containing descriptions of videos in media library 80. Data server 82 may also have a databases containing information on program titles, pay-per-view events, and television program schedules. Data server 82 may have a cable system operator database containing channel lineups, information on the time zone of the operator, weather data for the operator's region, data on the zip codes in the cable system operator's area, etc. Other databases may also be supported by data server 82. The television program information in data server 82 is mainly in formats other than video.

[0066] Media library 80 and data server 82 are interconnected with transmission server 84 via internal network 83. Media library 80, data server 82, and internal network 83 make up computer system 87. Television program information may be stored on data server 82 in a relational database format and may be stored on transmission server 84 in an object-oriented database format. A building process implemented in the C++ programming language may be used to periodically (e.g., once a day) build a temporary data set of television program information (e.g., a seven-day to one-month data set) for storage on transmission server 84. Transmission server 84 also receives information for the Internet television program guide service such as weather data, sports scores, etc., via data input 85.

[0067] A web server 86 is provided in each cable system headend 88. Cable system headend 88 has additional components (not shown) for distributing cable television signals to customers in the service area surrounding headend 88. Providing web server 86 in a location that is relatively close to users allows television program information to be provided to the users efficiently.

[0068] Television program information (including video clips and associated television program data) is transmitted from transmission server 84 to each cable system headend 88 via satellite uplink 90 and satellite downlink 92. Each web server 86 uses the Internet TCP/IP protocol to make the television program information available to users at multimedia systems 94, 96, and 98 via respective communica-

tions links 100, 102, and 104. Communications links 100, 102, and 104 are Internet links formed from telephone lines, radio-frequency (RF) links, cable modem links, satellite dish downlinks, combinations of links such as these, or any other suitable Internet connection paths. Although illustrated as direct links between multimedia systems 94, 96, and 98 and web server 86, communications links 100, 102, and 104 may be Internet paths that pass through extensive portions of the Internet.

[0069] Multimedia system 94 has personal computer 106 and may have television 108. Television 108 receives television signals from input 110. Access to web server 86 is provided via Internet communications link 100.

[0070] Multimedia system 96 has an integrated personal computer and television 112, such as the Gateway 2000 Destination PC-TV hybrid. Television signals are provided at input 114. Access to web server 86 is provided via Internet communications link 102.

[0071] Multimedia system 98 has an Internet capable set-top box 116, such as the TV OnLine® set-top box. Set-top box 116 receives television signals via input 118. Access to web server 86 is provided via Internet communications link 104. Video display signals containing television and Internet information are provided to television 120 by line 122.

[0072] The system hardware shown in FIGS. 1-3 for providing television program guide Internet services is illustrative and other suitable hardware arrangements may be used, if desired. Regardless of the particular hardware system that is used, however, the present invention preferably involves providing television program guide services and features to users over the Internet in the form of multiple web pages that use the standard hypertext transfer protocol (http). In the system of FIG. 1, web pages and associated program guide features (such as searching, etc.) are provided using web server 20. In the system of FIG. 3, web pages and associated features are provided using web server 86.

[0073] Because television program guide services are provided using web pages, the program guide services may be accessed using standard web browsers operating on the appropriate processing unit in the user's multimedia system. For example, in multimedia system 58 of FIG. 2, a web browser may be implemented using processing unit 60. Suitable web browsers include the Internet Explorer® web browser of Microsoft Corporation of Redmond, Wash. and the Netscape Navigator® web browser of Netscape Communications Corporation of Mountain View, Calif. Such web browsers support the viewing of various types of multimedia content, such as video stills (JPEG or GIF files) and video and audio clips (AVI, MOV, and MPG files). If desired, certain of these multimedia support functions may be provided as web browser plug-ins (i.e., special software modules designed to enhance the features of a web browser application). A suitable video player plug-in for MOV files is the Quicktime® application of Apple Computer, Inc. of Cupertino, Calif. AVI and MPG (or MPEG—Motion Picture Expert Group) files may be played using the ActiveMovie® application of Microsoft Corporation.

[0074] An illustrative welcome page 124 for the television program guide service of the present invention is shown in FIG. 4. (A site map is shown in FIG. 34.) Web browser

function keys **126** help the user at multimedia system **58** to navigate through web pages of material such as welcome page **124**. Users may also navigate by clicking on an image or an element of highlighted text with cursor **142**, which may be controlled by a pointing device such as a mouse or trackball. Other arrangements for selecting links may be used if supported by the user interface **76** that is provided in multimedia system **58**. Web browser function keys **126** include back and forward keys that allow the user to navigate backward and forward along a browsing trail. Web browser function keys **126** are not shown in the other FIGS., but are shown in **FIG. 4** to illustrate the types of function keys that are available with a standard web browser.

[0075] Welcome page **124** may contain identifying logos **128** (which may be, for example, United States trademarks). Identifying logos **128** allow a user to quickly associate a service provider, such as the assignee of the present invention, Prevue Networks, Inc. of Tulsa, Okla., with the Internet television program guide service. If desired, welcome page **124** can contain summary instructions **130** that inform the user of some of the features available with the service. Other web pages (not shown) may contain links that point to welcome page **124**.

[0076] Advertisements **132** and **134** allow a service provider to generate revenues from parties who wish to advertise products using Internet television program guide system **10** (**FIG. 1**) or **78** (**FIG. 3**). Advertisements **132** and **134** may be video stills, may be animated, or may include full-motion video. Audio material can also be associated with advertisements **132** and **134**. For example, supplemental audio information can be provided when a user clicks on advertisement **132** or **134**. If desired, advertisements **132** and **134** may be linked to web sites provided by the advertising parties. The advertisements **132** and **134** that are displayed may periodically (e.g., once every few seconds) cycle through different advertisements for different advertisers.

[0077] An important aspect of the Internet television program guide service provided by system **10** (**FIG. 1**) and system **78** (**FIG. 3**) relates to on-line television program listings and information on upcoming movies and special events. The user may be presented with a number of choices regarding the type of on-line information that is available. For example, the user may be presented with the opportunity to select between go local option **136**, go national option **138**, and go satellite option **140**. Additional features of the service may be accessed after the user has selected one of these options.

[0078] If the user desires to select go local option **136**, the user may be prompted to enter a zip code for the local area of interest in box **144**. If service is available, the program guide system links the user to an appropriate local system operator's web site based on the zip code information. If desired, the user can select a local area by entering information such as a cable system operator's name, the name of a city, international country and city information, etc. Another way in which the user may select a local service area of interest is using a map-based graphical user interface. As shown in **FIG. 5**, the user is presented with United States map **146**. The user selects a state of interest using cursor **142**. If necessary, additional maps containing greater levels of detail are provided, each allowing the user to make further

geographical selections. Ultimately, the user is presented with a local map (e.g., a map that allows the user to select from several available cable system operators). In map **148** of **FIG. 6**, the user can select between three available cable system operator regions: region **1**, region **2**, and region **3**.

[0079] If no local service is available, the user may be provided with a web page such as no service page **150** of **FIG. 7**, in which the user is informed that local service is not presently available in the area selected by the user. No service page **150** may provide the user with an opportunity to submit the user's e-mail address, cable provider information, local zip code information, and comments. Information provided by the user can be used by the operator of the television program guide system to solicit participation from non-participating local cable operators.

[0080] If no local service is available, the user may also be provided with pick again page **152**, as shown in **FIG. 8**. Pick again page **152** provides the user with another opportunity to select go national option **138** or go satellite option **140**. In addition, pick again page **152** provides the user with select a city option **154**, which is associated with a less restrictive set of program information than go local option **136** (**FIG. 4**). With select a city option **154**, the user may select a desired city using arrow key **156** (or alternatively, could type the name of the city directly into box **158**). After entering the desired city, the city information is submitted to the system by clicking on submit button **160**. Because select a city option **154** is less localized than go local option **136**, choosing select a city option **154** makes it more likely that there will be a set of program listings available for the user.

[0081] If service is available for the user in either the city selected in city option **154** or the localized geographic area selected in go local option **136**, the user is presented with registration page **162**, as shown in **FIG. 9**. Registration page **162** may contain instructions prompting the user to enter an e-mail address and information concerning the user's computer equipment. As with many of the other web pages provided in connection with the Internet television program guide service of systems **10** (**FIG. 1**) and **78** (**FIG. 3**), registration page **162** contains an identifying logo **164** and advertisements **166** and **168**.

[0082] Upon completing registration page **162**, the user is presented with local cable site page **170** of **FIG. 10**, which is customized to reflect the local geographic area or city selected by the user. Local cable site page **170** may contain a welcome message **172** that is customized to reflect the name of the local cable system operator.

[0083] A number of options **174** may be presented as hypertext links to associated web pages. An image **175** is displayed that changes as the user places cursor **142** on top of each option **174**. For example, the image **175** of **FIG. 10** is presented when the user positions cursor **142** over program guide option **190**. Different images are displayed as cursor **142** passes over each option **174**. The images **175** to be displayed are stored as bitmap images in processing unit **60** of multimedia system **58** (**FIG. 2**). This technique of presenting context-sensitive images to illustrate the current position of the cursor over hypertext link options is preferably used throughout the Internet television program guide service.

[0084] Various web pages may be displayed depending on which option **174** is selected by the user. For example,

selecting community events option **176** presents the user with community events page **178** (FIG. 11), which contains information on local upcoming community events. If desired, the listed community events may be specific to the type of service to which the user subscribes (e.g., cable or satellite).

[0085] Selecting cable feedback option **180** presents the user with cable feedback page **182** (FIG. 12), which allows the user to submit an e-mail address and comments to the local cable system operator.

[0086] Selecting cable operator option **184** takes the user to cable operator page **186** (FIG. 13), which contains information related to the local cable system. For example, by clicking on icon **187**, the user may be provided with a weekly report prepared by the cable system operator.

[0087] If the user wishes to customize the program guide service, the user may click on customize option **185** (FIG. 10). Selecting customize option **185** presents the user with a customization web page containing guide features that the user can customize, such as channel line-ups and genre-specific display colors (e.g., pink for sports program listings and orange for movie program listings). The customization web page may also contain user-selectable options that control how the user receives reminder messages when a desired program is about to start on the user's television. The user can direct the system to provide a pop-up reminder on the television screen, to send the user an e-mail reminder, or to remind the user via a predetermined paging number, etc. Customize option **185** may be provided in any suitable portion of the program guide service, such as on a program guide listings page (FIG. 16).

[0088] Another option **174** that is available on local cable site page **170** (FIG. 10) is local weather option **186**. Selecting local weather option **186** takes the user to local weather page **188** (FIG. 14). If desired, a map-based menu (such as shown in FIGS. 5 and 6) or other user input arrangement can be used to provide the user with the opportunity to select additional cities for which weather information is desired.

[0089] Program guide option **190** allows the user to access television program listings that can be organized by time, channel, and category and can be searched. Selecting program guide option **190** takes the user to program guide menu page **194** (FIG. 15). Movie guide option **192** allows the user to access channel listings for premium and pay-per-view channels, interviews, and various promotional media. Selecting movie guide option **192** takes the user to movie guide menu page **196** (FIG. 23).

[0090] The user may reach program guide menu page **194** (FIG. 15) from go national option **138** (FIGS. 4 and 8) or go satellite option **140** (FIGS. 4 and 8). If the user selected go local option **136** (FIG. 4) and successfully completed registration page **162** (FIG. 9), the user may reach program guide menu page **194** (FIG. 15) by selecting program guide option **190** on local cable site page **170** (FIG. 10). The user may also reach program guide menu page **194** (FIG. 15) via select a city option **154**. Each of these paths to program guide menu page **194** requires that slightly different user selections be made.

[0091] Go local option **136** (FIG. 4) requires that a user specify a particular local region (or cable system operator) of interest to reach local cable site page **170** (FIG. 10). To

reach program guide menu page **194** (FIG. 15) from local cable site page **170**, the user selects program guide option **190**.

[0092] Go national option **138** (FIGS. 4 and 8) requires that a user select a desired time zone (e.g., eastern, central, mountain, or pacific). To reach program guide menu page **194** from welcome page **124** (FIG. 4) or pick again page **152** (FIG. 8), the user selects program guide option **284**.

[0093] Go satellite option **140** (FIGS. 4 and 8) requires that the user select a desired satellite provider **286**. To reach program guide menu page **194** from welcome page **124** (FIG. 4) or pick again page **152** (FIG. 8), the user selects program guide option **288**.

[0094] Select a city option **154** (FIG. 8) requires that the user enter information specifying a particular city. When the user submits the city information by clicking on submit button **160**, the user is taken to registration page **162** (FIG. 9). The user reaches program guide menu page **194** from local cable site page **170** (FIG. 10) after completing the form on registration page **162**.

[0095] Regardless of which option is used to reach program guide menu page **194** (FIG. 15), information is preferably retained by the system **10** or **78** that indicates which selections have been made by the user. Retaining this information allows subsequently displayed program listings and other information to be automatically customized to reflect the user's selections.

[0096] As shown in FIG. 15, program guide menu page **194** may be constructed from two smaller web pages: top web page **198** and a bottom web page **200**. Top web page **198** contains graphics and text-based options **202** that are common to many different system operators. Bottom web page **200** may contain system specific promotional materials, such as pay-per-view video promotion **204**. Dividing program guide menu page **194** in this way allows system resources to be used more efficiently than would otherwise be possible, because the common material in top web page **198** can be used for more than one local cable system.

[0097] If desired, television channel options **206** and **208** may be provided that allow the user to easily access related television channel program services. When the user selects options **206** or **208**, processing unit **60** (FIG. 2) sends control commands to video unit **64** that direct tuner **70** of video unit **64** to tune to a television channel on which the desired program service is being broadcast.

[0098] For example, if the user wishes to tune video unit **64** to the Prevue® channel, the user may click on program guide television channel option **206**. When program guide television channel option **206** is selected, processing unit **60** directs video unit **64** to select the appropriate television signal from television signal input **74** so that the Prevue® channel is displayed on monitor **72**. The Prevue® channel is an example of a type of program guide service that displays a scrolling list of television program titles with a concurrent display of promotional videos and advertisements.

[0099] If the user wishes to tune video unit **64** to the Sneak Prevue® channel, the user may click on movie guide television channel option **208**. When movie guide television channel option **208** is selected, processing unit **60** directs video unit **64** to select the appropriate television signal from

television signal input **74** so that the Sneak Prevue® channel is displayed on monitor **72**. The Sneak Prevue® channel is an example of a type of movie guide service that displays promotional videos of upcoming pay-per-view events and premium channel offerings.

[**0100**] Television channel options **206** and **208** allow user to jump directly from an Internet-based television program guide service to related program guides services provided on conventional television channels. Facilitating this type of direct link is beneficial for the user, because it allows the user to avoid the cumbersome steps of leaving the Internet-based service and manually tuning video unit **64** to the appropriate channel while attempting to remember the correct channel number of the desired television service.

[**0101**] Options **202** allow the user to choose how to display various program listings for the user's preselected region of interest (national, satellite, or local). Typical options **202** include by time option **210**, by channel option **212**, by category option **214**, and search option **216**.

[**0102**] If by time option **210** is selected, the user is presented with by time page **218**, as shown in **FIG. 16**. By time page **218** contains program listings **220** that are organized in channel order from top to bottom and by broadcast time from left to right. In by time page **218**, the programs in program listings **220** may be listed beginning with programs that are currently being broadcast. For example, if the current time is between 1:30 PM and 2:00 PM, program listings **220** may begin with programs that start at 1:30 PM. Alternatively, the programs in program listings **220** may be listed based on a predetermined time slot (e.g., morning, afternoon, or prime time). If desired, the closest time slot to the current time may be displayed. Program listings **220** typically contain information for about two hours of programming.

[**0103**] Cursors **222** and **224** are used to navigate to earlier or later time periods, respectively. Web browser cursors **226** and **228** allow the user to scroll through the program listings. The user may also navigate the program listings with time navigation buttons **230**. For example, if the user would like to view program listings that begin in the morning, the user clicks on the morning navigation button **230**. If the user would like to view program listings for programs currently being broadcast, the user may click on the current navigation button **230**. Program listings for different days in the month may be viewed by selecting the appropriate day from calendar buttons **232**.

[**0104**] The user can chose between various available view options by selecting the appropriate time, channel, category, or search button from among view buttons **234**. View buttons **234** take the user to the same web pages that are presented when the corresponding options **202** of **FIG. 15** are selected. For example, by channel option **212** and channel view button **234** are both linked to by channel page **242** (**FIG. 17**).

[**0105**] Another component of by time page **218** and various other web pages provided by the present system is program information box **236**. The contents of program information box **236** changes dynamically, depending on which program title in program listings **220** is selected. For example, the user has clicked on the entry "Primal Fear" in program listings **220** of **FIG. 16**. As a result, the contents of

program information box **236** reflect this selection. Program information box **236** typically contains the program title (e.g., Primal Fear), the running time of the program (e.g., 2:09), a brief description of the program (e.g., A hot shot . . .), and a description of the program type or genre (e.g., drama movie). The program description may contain information on the actors in the program, the director, etc. Program information box **236** typically provides a rating of the program, such as a star rating (e.g., three stars) or the Motion Picture Association of America (MPAA) rating for movies or the television rating for television programs. If the user desires to view additional information relating to the selected program, the user may click on closer look icon **238** (or alternatively, on any portion of box **236**), which takes the user to program information page **240** (**FIG. 30**).

[**0106**] If desired, when programs are selected by a user that are currently being broadcast, direct tune button **231** may be displayed. When direct tune button **231** is clicked on by the user, processing unit **60** directs video unit **64** to select the appropriate television signal from television signal input **74** to display the selected program on monitor **72**.

[**0107**] By channel page **242** of **FIG. 17** is presented when the user selects by channel option **212** from program guide menu page **194** (**FIG. 15**) or when the user clicks on a channel view button, such as channel view button **234** of by time page **218** (**FIG. 16**). By channel page **242** contains channel list **244**. Channel list **244** may be arranged in channel number order and may contain associated icons **246** for certain channels. A user can click on each individual channel **248** in channel list **244** to obtain a list of program information based on the selected channel. A user can also click on a graphic or text link to a listed network's web site to be hyperlinked to that site.

[**0108**] When a channel **248** is selected, the user is presented with channel program list page **250**, as shown in **FIG. 18**. The selected channel in the example of **FIG. 18** is channel **2**. In channel program list page **250**, program listings **252** for the selected channel may be arranged in time order, beginning with the current time. If programs in program listings **252** extend into the next day, the programs may be separated by date separation bar **254**. Title bar **256** contains information identifying the currently selected channel.

[**0109**] By category page **258** of **FIG. 19** is presented when the user selects by category option **214** from program guide menu page **194** (**FIG. 15**) or when the user clicks on a category view button, such as category view button **234** of by time page **218** (**FIG. 16**). By category page **258** contains category list **260**, which may be presented in the form of category icons **262**. A user can click an individual category icon **262** in category list **260** to obtain a list of program information based on the selected category.

[**0110**] When a category is selected, the user is presented with category program list page **264**, as shown in **FIG. 20**. In category program list page **264**, program listings **266** may be arranged in time and channel order, beginning with the current time and date. Program listings **266** contain the channel information for each program adjacent to the program title. If a user wishes to view program information for a given channel, the user may click on one of the displayed channels. The user is then presented with a program list that is restricted to programs appearing on the selected channel.

[0111] If desired, the program list that is displayed in category program list page 264 may be limited to programs appearing in the next 24 hour period. The user may view information for later days by clicking on the appropriate day in calendar buttons 270.

[0112] Search page 272 of FIG. 21 is presented when the user selects search option 216 from program guide menu page 194 (FIG. 15) or when the user clicks on a search view button, such as search view button 234 in by time page 218 (FIG. 16). Search field options 274 allow the user to select a search field, such as title, actor, category, description, rating. A search text string is entered in search text box 276.

[0113] After search text has been entered in search text box 276 and one of search field options 274 has been selected, the requested search is performed (e.g., by web server 20 (FIG. 1) or web server 86 (FIG. 3)) and the user is provided with search results page 278 of FIG. 22. Search results page 278 contains program listings 280 that satisfy the search criteria specified using search page 272 (FIG. 21). For example, the program listings 280 in FIG. 22 resulted from a search for the text string "Gibson" in the actor search field, as shown by search criteria bar 282.

[0114] The user may reach movie guide menu page 196 (FIG. 23) from go national option 138 (FIGS. 4 and 8) or go satellite option 140 (FIGS. 4 and 8). If the user selects go local option 136 (FIG. 4) and successfully completes registration page 162 (FIG. 9), the user may reach movie guide menu page 196 (FIG. 23) by selecting movie guide option 192 on local cable site page 170 (FIG. 10). Each of these paths to movie guide menu page 196 requires that slightly different user selections be made.

[0115] Go local option 136 (FIG. 4) requires that a user specify a particular local region (or cable system operator) of interest to reach local cable site page 170 (FIG. 10). To reach movie guide menu page 196 (FIG. 23) from local cable site page 170, the user selects movie guide option 192.

[0116] Go national option 138 (FIGS. 4 and 8) requires that a user select a desired time zone (e.g., eastern, central, mountain, or pacific). To reach movie guide menu page 196 from welcome page 124 (FIG. 4) or pick again page 152 (FIG. 8), the user selects movie guide option 290.

[0117] Go satellite option 140 (FIGS. 4 and 8) requires that the user select a desired satellite provider 286. To reach movie guide menu page 196 from welcome page 124 (FIG. 4) or pick again page 152 (FIG. 8), the user selects movie guide option 292.

[0118] Regardless of which option is used to reach movie guide menu page 196, information is preferably retained by the system 10 or 78 that indicates which selections have been made by the user. Retaining this information allows subsequently displayed program listings and other information to be automatically customized to reflect the user's selections.

[0119] As shown in FIG. 23, movie guide menu page 196 contains hot picks option 294, movie cruiser option 296, main event option 298, and interview option 300. When the user selects one of these options by clicking on the associated icon, the user is presented with a corresponding web page for that feature.

[0120] If the user selects hot picks option 294, the user is provided with hot picks page 302, as shown in FIG. 24. Hot picks page 302 contains images 304, 306, 308, and 310 of popular programs for which promotional materials are available. Images 304 and 308 typically contain program titles. Images 306 and 310 typically contain actor stills. The programs for which images 304, 306, 308, and 310 are displayed may be automatically selected in accordance with their upcoming frequency on the pay-per-view services. The upcoming frequency may be calculated based on the number of expected occurrences of a given program in a predetermined period of time (e.g., seven days). The predetermined period may be commenced starting with the current date and time, thereby allowing for a seamless crossing of the monthly barrier. The information used to determine which program images are displayed is preferably customized based on the selections (local, national, satellite, etc.) previously made by the user.

[0121] When the user clicks on one of images 304, 306, 308, or 310, the user is taken to program information page 240 (FIG. 30), which allows the user to obtain additional information, such as video clips and interview segments on the selected program. When a user clicks on pay-per-view link 312 or pay-per-view link 314, the user is taken to pay-per view page 316 (FIG. 26), which provides the user with pay-per-view program listings for the selected program.

[0122] When the user selects movie cruiser option 296, the user is presented with movie cruiser page 318, as shown in FIG. 25. Movie cruiser page 318 lists the pay-per-view and premium channels that are available to the user (based on previous selections). In particular, movie cruiser page 318 contains pay-per-view channel options 320 and premium channel options 322.

[0123] If the user selects one of pay-per-view options 320, the user is taken to pay-per-view page 316, as shown in FIG. 26. Pay-per-view page 316 contains program listings 324 for pay-per-view events. Multiple pay-per-view programs may be simultaneously listed in a grid format or may be listed as shown in FIG. 26 for a selected pay-per-view channel (i.e., channel 35). As with several other pages, page 316 contains program information box 325, which contains program information when a program from program listings 324 has been selected by the user. Clicking on box 325 (or a closer look icon in box 325) takes the user to program information page 240 (FIG. 30).

[0124] If the user selects one of premium channel options 322 on page 318 (FIG. 25), the user is taken to premium services page 326, as shown in FIG. 27. Premium services page 326 contains program listings 328 for premium events. Multiple premium service programs may be simultaneously listed in a grid format or a single program may be listed as shown in FIG. 27 for a selected premium service (i.e., the Disney® channel). Program information box 330 provides program information for a program that has been selected by the user. In the example of FIG. 27, the user has clicked on "Pete's Dragon." Clicking on program information box 330 (or a closer look icon in box 330) takes the user to program information page 240 (FIG. 30), where the user can view additional information on the selected program (i.e., information on the movie Pete's Dragon).

[0125] When the user selects main event option 298 from movie guide menu page 196 (FIG. 23), the user is presented

with main event page 332, as shown in FIG. 28. Main event page 332 lists premium or pay-per-view sports events and other special events. By clicking on an event (e.g., event 334), the user may be presented with an associated program information page (such as page 240 of FIG. 30), provided that additional information on the event is available. Alternatively, the user may be directly presented with pay-per-view order page 336 (FIG. 31).

[0126] When the user selects interview option 300 from movie guide menu page 196 (FIG. 23), the user is presented with interview page 338, as shown in FIG. 29. Interview page 338 contains still images 340 of various subjects. As with other pages in the Internet program guide service, the subjects presented on interview page 338 are customized to reflect the user's selected type of service (e.g., the user's selection of a particular cable system operator or the user's selection of national service or a particular satellite service). Accordingly, images 340 relate to interviews for the movies and other programs currently available to the user. The determination of which interview images 340 are to be made available on interview page 338 may be based on a calculation of the most frequently scheduled upcoming programs in a predetermined time period (e.g., in the upcoming week). If desired, interviews corresponding to programs not currently available to the user may also be provided. The user may select a given interview by clicking on one of images 340. The user is then taken to program information page 240 (FIG. 30).

[0127] As shown in FIG. 30, program information page 240 contains detailed information on a selected program (e.g., the movie Birdcage). Program information page 240 preferably contains image 342, which may initially be presented as a still image of the program title (e.g., from a JPEG or GIF file). When a user clicks on image 342, an associated video clip is presented. Program information page 240 also contains title 344, actor information 346, and program description 348. Additional information may include content information 350 and genre information 352. If desired, information may be provided on the director, year of release, and other relevant items. Additional actor information may be supplied (e.g., in the form of biographical information and related video clips accessed by clicking on actors 346).

[0128] Interview icon 354, commentary icon 356, and promotional clip icon 358 represent available services. The user can view video clips of interviews on the selected program (i.e., the movie Birdcage) by clicking on the appropriate file-type option associated with a given service. For example, file options 360, 362, and 364 are associated with an interview service (represented by interview icon 354). Clicking on file option 360 allows the user to view interview video clips using a protocol appropriate for an MOV file (e.g., using the QuickTime application). Clicking on file option 362 or 364 allows the user to view interview video clip using a protocol appropriate for an AVI or MPG (MPEG) file (e.g., using the ActiveMovie application). Commentary icon 356 and promotional clip icon 358 have associated file options (e.g., MOV, AVI, and MPG options) that allow the user to view commentary or promotional video clips for the selected program.

[0129] Program information page 240 contains information tied to the program selected by the user on previous

pages. The user may reach program information page 240 by various paths. For example, the user may select a program from program listings 220 in by time page 218 (FIG. 16) by clicking on the desired program title. The user may also select a pay-per-view or premium program from pay-per-view page 316 (FIG. 26) or premium services page 326 (FIG. 27) by clicking on the appropriate listing. When the user reaches program information page 240, program information is provided for the selected program. Icons and other indicators are used to identify which services are available for the selected program. For example, if no commentary video clips are available for a given program, then the file options below commentary icon 356 may be omitted. Similarly, if no video still is available for a movie, image 342 can be omitted.

[0130] Program information page 240 contains program listings 366, which provide program title, channel, and time and date information for the selected program. In the example shown in FIG. 30, the movie Birdcage is appearing on channel 35 (a pay-per-view channel) on three days in the next weekly period. When the user clicks on a pay-per-view entry in program listings 366, the user is taken to order page 336 (FIG. 31).

[0131] As shown in FIG. 31, order page 336 contains instructions 368 on how to order a pay-per-view event. Order page 336 also contains telephone number query box 370 and personal identification number box 372. The user may place an order for a pay-per-view event by clicking on place order button 374. Information entered by the user into boxes 370 and 372 is used to verify the user's identity and account status. Once the user's information has been verified, the selected pay-per-view event may be delivered to the user's multimedia system.

[0132] The way in which pay-per-view event orders are processed depends on the particular hardware used to deliver services to the user. Order and account verification information is generally electronically submitted to the headend cable system operator or a third party order fulfillment processor linked to the headend system. Equipment in the headend processes the order automatically and arranges for the delivery of the pay-per-view event to the user. Typically, the headend equipment directs equipment (such as a set-top box or similar integrated component) in the user's multimedia system to display the ordered event.

[0133] In system 78 of FIG. 3, web server 86 at cable system headend 88 may be used to receive and process pay-per-view orders submitted using order page 336. After processing the order, web server 86 can direct conventional pay-per-view equipment at headend 88 to authorize the display of the ordered pay-per-view event using set-top box 116.

[0134] Similar techniques for delivering pay-per-view events may be used with other hardware arrangements such as those shown in FIGS. 1-3. If desired, after web server 86 has processed the user's pay-per-view order, web server 86 can communicate authorization information to processing unit 60 (FIG. 2) in the user's multimedia system 58 (FIG. 2). Processing unit 60 (FIG. 2) can direct video unit 64 (FIG. 2) to decode and display the pay-per view event from among the received television signals 74 (FIG. 2) based on the authorization information.

[0135] Order page 336 can be provided with user-selectable options for recording programs and for reminding the

user when selected programs are about to be broadcast. For example, order page 336 may contain a clickable record button. Selecting the record option by clicking on the record button directs multimedia system 58 (FIG. 2) to record the selected program (by controlling recording unit 68 of video unit 64 with processing unit 60) when the selected program is being aired. Similarly, order page 336 may contain a clickable reminder button. Selecting the reminder option by clicking on this button directs multimedia system 58 to remind the user of the upcoming selected program (e.g., 10 minutes before the scheduled broadcast time) by automatically tuning to the desired channel, by displaying a reminder message, or by issuing an audible reminder. Reminder messages may also be generated by web server 20 or 86 and transmitted to multimedia system 58 by e-mail.

[0136] If desired, these selectable recording and reminder features can be incorporated into other pages, such as program information page 240, one of the pages containing television program listings, or a page presented to the user after clicking on place order button 374.

[0137] When a user clicks on an advertisement (typically an image) in one of the web pages associated with the program guide service, the user may be taken directly to a more detailed advertisement page. Alternatively, the user may be taken to advertiser showcase page 376, as shown in FIG. 32. Advertiser showcase page 376 contains clickable images, such as images 378, 380, and 382, which are linked to more detailed advertising pages. Advertiser showcase page 376 also may contain an advertiser logo image, such as image 390. Text bar 392 contains clickable text fields that duplicate the selections available by clicking on images.

[0138] The advertiser logo image in advertiser showcase page 376 may be linked to the web site of the advertiser. For example, image 390 may be linked to a web site for UPN, so that if the user clicks on image 390, the user will be taken to the UPN web site.

[0139] If the user clicks on an image such as images 378, 380, or 382 in advertiser showcase page 376, the user is presented with advertisement page 394, as shown in FIG. 33. Advertisement page 394 contains detailed information related to the subject matter of the image that was selected from advertiser showcase page 376 (FIG. 32). In the example of FIG. 33, additional information is provided on the program "The Sentinel," because this program was selected in advertising showcase page 376 by clicking on image 382. If desired, advertisement page 394 can contain appropriate links to further advertisement pages or to the advertiser's home page.

[0140] FIG. 34 is a site map of the television program guide service. The service can be accessed from service provider home page 396. Selecting the television program guide service from home page 396 takes the user to welcome page 124. If the user selects the go local option and no service is available, no service page 150 and pick again page 152 are presented. If the user selects the go local option and service is available, the user is taken to registration page 162. If maps 146 (FIG. 5) and 148 (FIG. 6) are used to define the local area of interest, the maps may be provided in path 398 between welcome page 124 and registration page 162.

[0141] Selecting an advertisement by clicking on its image may typically be done on any page containing an advertise-

ment. In the example of FIG. 34, selecting an advertisement on registration page 162 takes the user to advertiser showcase page 376. Selecting an image on advertiser showcase page 376 takes the user to advertisement page 394.

[0142] Completing the registration form on registration page 162 allows the user to proceed to local cable site page 170. From local cable site page 170, the user can view community events page 178 by selecting the community events option. By selecting the cable feedback option, the cable operator option, or the local weather option, the user can access cable feedback page 182, cable operator page 186, or local weather page 188.

[0143] If the user selects the go national option on welcome page 124, the user is taken to program guide menu page 194 or movie guide menu page 196, depending on whether the user selected the program guide or movie guide option. Similarly, if the user selects the go satellite option on welcome page 124, the user is taken to program guide menu page 194 or movie guide menu page 196, depending on whether the user selected the program guide or movie guide option. The user can also reach program guide menu page 194 or movie guide menu page 196 from pick again page 152 or local cable site page 170. If the user reaches program guide menu page 194 from either pick again page 152 or local cable site page 170, the local area of interest to the user is retained by the system, so that subsequently displayed program guide listings can be customized to the user's local area.

[0144] When the user is at program guide menu page 194, selecting the program guide channel option tunes the system directly to program guide television channel 400. Similarly, selecting the movie guide channel option tunes the system to movie guide television channel 402. Selecting the time option from program guide menu page 194 takes the user to by time page 218. If a program is selected that is currently being broadcast and is therefore available for the user to view, a direct tune option may be displayed on by time page 218 or any page containing program listings. Selecting the direct tune option tunes the user's television unit directly to selected television channel 404.

[0145] Selecting the channel option from program guide menu page 194 takes the user to by channel page 242. When the user selects a desired channel, channel program list page 250 is displayed. Selecting the category option from program guide menu page 194 takes the user to by category page 258. When the user selects a desired category, category program list page 264 is displayed.

[0146] When the user at program guide menu page 194 selects the search option, search page 272 is presented. Search page 272 allows the user to enter search terms and to initiate a search of a program database. After the search is performed, search results page 278 is displayed.

[0147] Selecting the movie guide option from welcome page 124, pick again page 152, or local cable site page 170 presents the user with movie guide menu page 196. If the user selects the interview option, the user is presented with interview page 338. When the user selects an interview from interview page 338, the user is taken to program information page 240 to view the interview. If the user selects the hot picks option from movie guide menu page 196, the user is presented with hot picks page 302. When the user selects a

hot pick from the displayed images on hot picks page **302**, the user is taken to program information page **240** to view a promotional video clip for the hot pick. If the user selects the main event option from movie guide menu page **196**, the user is presented with main event page **332**. When the user selects a given event from main events page **332**, the user is taken to program information page **240** to view information on that event. Alternatively, the user may be taken to order page **316** to place an order for the event.

[**0148**] Selecting the movie cruiser option from movie guide menu page **196** presents the user with movie cruiser page **318**. The user can view pay-per-view page **316** by selecting the pay-per-view option. The user can view premium services page **326** by selecting the premium option. Programs may be selected by the user from either pay-per-view page **316** or premium services page **326**. In either case, the user is taken to program information page **240** to view additional information on the selected program.

[**0149**] Program information page **240** allows the user to view multimedia material on a given program, interview, event, etc. The content of program information page **240** depends on the path taken to reach program information page **240** and the options selected by the user. Program information page **240** contains options that allow the user to select a program to view. When the user makes such a program selection, the user is presented with order page **336**.

[**0150**] 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 providing web pages of information to a user of an Internet television program guide system, the method comprising:

providing web pages of program listings from a web server to a user multimedia system over an Internet communications link, wherein the web pages of program listings include program listings for scheduled pay-per-view programs;

providing a pay-per-view program information web page for a pay-per-view program listing selected by the user to the multimedia system over the Internet communications link; and

providing a selectable option for allowing the user to order the selected pay-per-view program over the Internet communications link.

2. The method of claim 1, wherein the pay-per-view program information web page includes at least one selectable option for allowing the user to view a video clip related to the selected pay-per-view program before ordering the selected pay-per-view program.

3. The method of claim 2, wherein the at least one selectable option is a selectable image.

4. The method of claim 2, further comprising providing the user with an opportunity to specify a file-type for the video clip.

5. The method of claim 1, wherein the pay-per-view program information web page includes at least one scheduled time listing for which the selected pay-per-view program is to be broadcast.

6. The method of claim 5, wherein each of the at least one scheduled time listing is a selectable hyperlink.

7. The method of claim 1, wherein the selectable option is a hyperlink, the method further comprising:

providing an order web page from the web server in response to the user selecting the hyperlink; and

allowing the user to order the selected pay-per-view program with the order web page.

8. The method of claim 7, further comprising providing instructions on how to order the selected pay-per-view program on the order web page.

9. The method of claim 8, wherein the instructions include a customer service telephone number and procedures for obtaining a personal identification number.

10. The method of claim 7, wherein the order web page prompts the user to enter user-specific information used to verify the user's identity.

11. The method of claim 10, wherein the user-specific information is a personal identification number.

12. The method of claim 10, wherein the user-specific information is a telephone number.

13. The method of claim 10, further comprising electronically submitting order and verification data entered on the order web page to a cable system operator for processing.

14. The method of claim 10, further comprising electronically submitting order and verification data entered on the order web page to a third party order fulfillment processor linked to a cable headend.

15. The method of claim 14, further comprising:

automatically processing the order and verification data using equipment at the cable headend; and

arranging for delivery of the selected pay-per-view program.

16. The method of claim 15, further comprising using equipment at the cable headend to direct the multimedia system to display the selected pay-per-view program.

17. The method of claim 10, further comprising:

processing the order and verification data entered on the order web page with the web server; and

transmitting authorization information from the web server to equipment located at the user's premises to allow display of the selected pay-per-view program.

18. An Internet television program guide system for providing web pages of information to a user, the system comprising:

means for providing web pages of program listings from a web server to a user multimedia system over an Internet communications link, wherein the web pages of program listings include program listings for scheduled pay-per-view programs;

means for providing a pay-per-view program information web page for a pay-per-view program listing selected by the user to the multimedia system over the Internet communications link; and

means for providing a selectable option for allowing the user to order the selected pay-per-view program over the Internet communications link.

19. The system of claim 18, wherein the pay-per-view program information web page includes at least one selectable option for allowing the user to view a video clip related

to the selected pay-per-view program before ordering the selected pay-per-view program.

20. The system of claim 19, wherein the at least one selectable option is a selectable image.

21. The system of claim 19, further comprising means for providing the user with an opportunity to specify a file-type for the video clip.

22. The system of claim 18, wherein the pay-per-view program information web page includes at least one scheduled time listing for which the selected pay-per-view program is to be broadcast.

23. The system of claim 22, wherein each of the at least one scheduled time listing is a selectable hyperlink.

24. The system of claim 18, wherein the selectable option is a hyperlink, further comprising:

means for providing an order web page in response to the user selecting the hyperlink; and

means for allowing the user to order the selected pay-per-view program with the order web page.

25. The system of claim 24, further comprising means for providing instructions on how to order the selected pay-per-view program on the order web page.

26. The system of claim 25, wherein the instructions include a customer service telephone number and procedures for obtaining a personal identification number.

27. The system of claim 24, wherein the order web page prompts the user to enter user-specific information used to verify the user's identity.

28. The system of claim 27, wherein the user-specific information is a personal identification number.

29. The system of claim 27, wherein the user-specific information is a telephone number.

30. The system of claim 27, further comprising means for electronically submitting order and verification data entered on the order web page to a cable system operator for processing.

31. The system of claim 27, further comprising means for electronically submitting order and verification data entered on the order web page to a third party order fulfillment processor linked to a cable headend.

32. The system of claim 31, further comprising:

means for automatically processing the order and verification data using equipment at the cable headend; and

means for arranging for delivery of the selected pay-per-view program.

33. The system of claim 32, further comprising means for using equipment at the cable headend to direct the multimedia system to display the selected pay-per-view program.

34. The system of claim 27, further comprising:

means for processing the order and verification data entered on the order web page with the web server; and

means for transmitting authorization information from the web server to equipment located at the user's premises to allow display of the selected pay-per-view program.

35. A machine-readable medium for use in providing web pages of information to a user of an Internet television program guide system, comprising machine program logic recorded thereon for:

providing web pages of program listings from a web server to a user multimedia system over an Internet

communications link, wherein the web pages of program listings include program listings for scheduled pay-per-view programs;

providing a pay-per-view program information web page for a pay-per-view program listing selected by the user to the multimedia system over the Internet communications link; and

providing a selectable option for allowing the user to order the selected pay-per-view program over the Internet communications link.

36. The machine-readable medium of claim 35, wherein the pay-per-view program information web page includes at least one selectable option for allowing the user to view a video clip related to the selected pay-per-view program before ordering the selected pay-per-view program.

37. The machine-readable medium of claim 36, wherein the at least one selectable option is a selectable image.

38. The machine-readable medium of claim 36, further comprising machine program logic recorded thereon for providing the user with an opportunity to specify a file-type for the video clip.

39. The machine-readable medium of claim 35, wherein the pay-per-view program information web page includes at least one scheduled time listing for which the selected pay-per-view program is to be broadcast.

40. The machine-readable medium of claim 39, wherein each of the at least one scheduled time listing is a selectable hyperlink.

41. The machine-readable medium of claim 35, wherein the selectable option is a hyperlink, further comprising machine program logic recorded thereon for:

providing an order web page from the web server in response to the user selecting the hyperlink; and

allowing the user to order the selected pay-per-view program with the order web page.

42. The machine-readable medium of claim 41, further comprising machine program logic recorded thereon for providing instructions on how to order the selected pay-per-view program on the order web page.

43. The machine-readable medium of claim 42, wherein the instructions include a customer service telephone number and procedures for obtaining a personal identification number.

44. The machine-readable medium of claim 41, wherein the order web page prompts the user to enter user-specific information used to verify the user's identity.

45. The machine-readable medium of claim 44, wherein the user-specific information is a personal identification number.

46. The machine-readable medium of claim 44, wherein the user-specific information is a telephone number.

47. The machine-readable medium of claim 44, further comprising machine program logic recorded thereon for electronically submitting order and verification data entered on the order web page to a cable system operator for processing.

48. The machine-readable medium of claim 44, further comprising machine program logic recorded thereon for electronically submitting order and verification data entered on the order web page to a third party order fulfillment processor linked to a cable headend.

49. The machine-readable medium of claim 48, further comprising machine program logic recorded thereon for:

automatically processing the order and verification data using equipment at the cable headend; and

arranging for delivery of the selected pay-per-view program.

50. The machine-readable medium of claim 49, further comprising machine program logic recorded thereon for using equipment at the cable headend to direct the multimedia system to display the selected pay-per-view program.

51. The machine-readable medium of claim 44, further comprising machine program logic recorded thereon for:

processing the order and verification data entered on the order web page with the web server; and

transmitting authorization information from the web server to equipment located at the user's premises to allow display of the selected pay-per-view program.

52. A method for providing web pages of information to a user of an Internet television program guide system, the method comprising:

providing web pages of program listings from a web server to a user multimedia system over an Internet communications link;

providing a program information web page for a program listing selected by the user to the multimedia system over the Internet communications link, wherein the program information web page includes at least one selectable option for allowing the user to view a video clip related to the selected program; and

providing the video clip to the multimedia system over the Internet communications link in response to the user selecting the at least one selectable option.

53. The method of claim 52, wherein the at least one selectable option is a selectable image.

54. The method of claim 52, further comprising providing the user with an opportunity to specify a file-type for the video clip.

55. The method of claim 52, wherein the video clip is a preview for the selected program.

56. The method of claim 52, wherein the video clip is an interview related to the selected program.

57. The method of claim 52, wherein the video clip is a promotion related to the selected program.

58. An Internet television program guide system for providing web pages of information to a user, the system comprising:

means for providing web pages of program listings from a web server to a user multimedia system over an Internet communications link;

means for providing a program information web page for a program listing selected by the user to the multimedia system over the Internet communications link, wherein the program information web page includes at least one selectable option for allowing the user to view a video clip related to the selected program; and

means for providing the video clip to the multimedia system over the Internet communications link in response to the user selecting the at least one selectable option.

59. The system of claim 58, wherein the at least one selectable option is a selectable image.

60. The system of claim 58, further comprising means for providing the user with an opportunity to specify a file-type for the video clip.

61. The system of claim 58, wherein the video clip is a preview for the selected program.

62. The system of claim 58, wherein the video clip is an interview related to the selected program.

63. The system of claim 58, wherein the video clip is a promotion related to the selected program.

64. A machine-readable medium for use in providing web pages of information to a user of an Internet television program guide system, comprising machine program logic recorded thereon for:

providing web pages of program listings from a web server to a user multimedia system over an Internet communications link;

providing a program information web page for a program listing selected by the user to the multimedia system over the Internet communications link, wherein the program information web page includes at least one selectable option for allowing the user to view a video clip related to the selected program; and

providing the video clip to the multimedia system over the Internet communications link in response to the user selecting the at least one selectable option.

65. The machine-readable medium of claim 64, wherein the at least one selectable option is a selectable image.

66. The machine-readable medium of claim 64, further comprising machine program logic recorded thereon for providing the user with an opportunity to specify a file-type for the video clip.

67. The machine-readable medium of claim 64, wherein the video clip is a preview for the selected program.

68. The machine-readable medium of claim 64, wherein the video clip is an interview related to the selected program.

69. The machine-readable medium of claim 64, wherein the video clip is a promotion related to the selected program.

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