EXHIBIT A

US005988078A

United States Patent [19]

Levine

[11] Patent Number: 5,988,078

[45] Date of Patent: Nov. 23, 1999

[54] METHOD AND APPARATUS FOR RECEIVING CUSTOMIZED TELEVISION PROGRAMMING INFORMATION BY TRANSMITTING GEOGRAPHIC LOCATION TO A SERVICE PROVIDER THROUGH A WIDE-AREA NETWORK

[75] Inventor: Michael R. Levine, Boca Raton, Fla.

[73] Assignee: Gemstar Development Corp., Pasadena, Calif

[21] Appl. No.: 08/947,950

[22] Filed: Oct. 9, 1997

Related U.S. Application Data

[63] Continuation of application No. 08/287,343, Aug. 8, 1994, Pat. No. 5,692,214, which is a continuation-in-part of application No. 07/848,338, Mar. 9, 1992, abandoned, which is a continuation-in-part of application No. 07/802,249, Dec. 4, 1991, abandoned

[51] Int. Cl.[6] G06F 13/14; H04N 7/03

[52] U.S. Cl. 110/8; 348/13; 348/460; 709/218

[58] Field of Search 395/200; 348/13, 348/460; 709/218; 710/8

[56] References Cited

U.S. PATENT DOCUMENTS

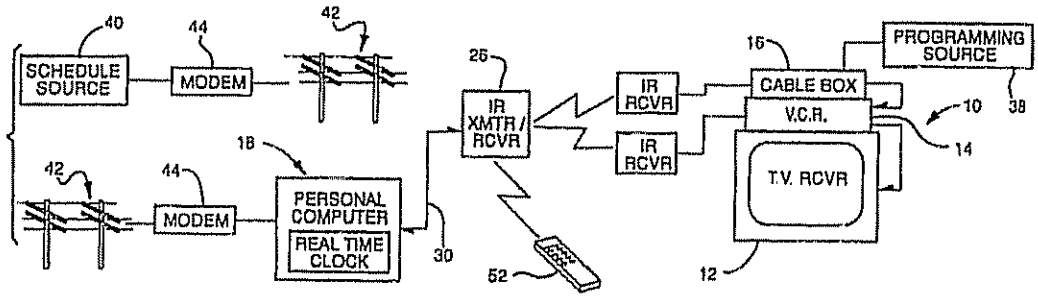
4,521,914	6/1985	Petrovic	455/158.5
4,630,108	12/1986	Gomersall	348/13
4,734,765	3/1988	Okada et al.	348/107
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5,223,924	6/1993	Strubbe	358/86
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5,382,983	1/1995	Kwoh et al	348/716
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Primary Examiner—Thomas C Lee
Assistant Examiner—Albert Wang
Attorney, Agent, or Firm—Gifford, Krass, Groh, Sprinkle, Anderson & Citkowski, PC

[57] ABSTRACT

A personal computer is used to assist in the selection of television programs to be recorded at future times and to control a video tape recorder to implement the selected recordings. An application program allows the computer to receive data representing a schedule of future programs. The operator can perform data base operations on the data to obtain listings of programs of particular interest. A program to be recorded is selected by moving a cursor into position with the display of the program listing on the computer. An output device generates infrared signals to control the video tape recorder and a cable box to tune and record a selected program.

10 Claims, 3 Drawing Sheets



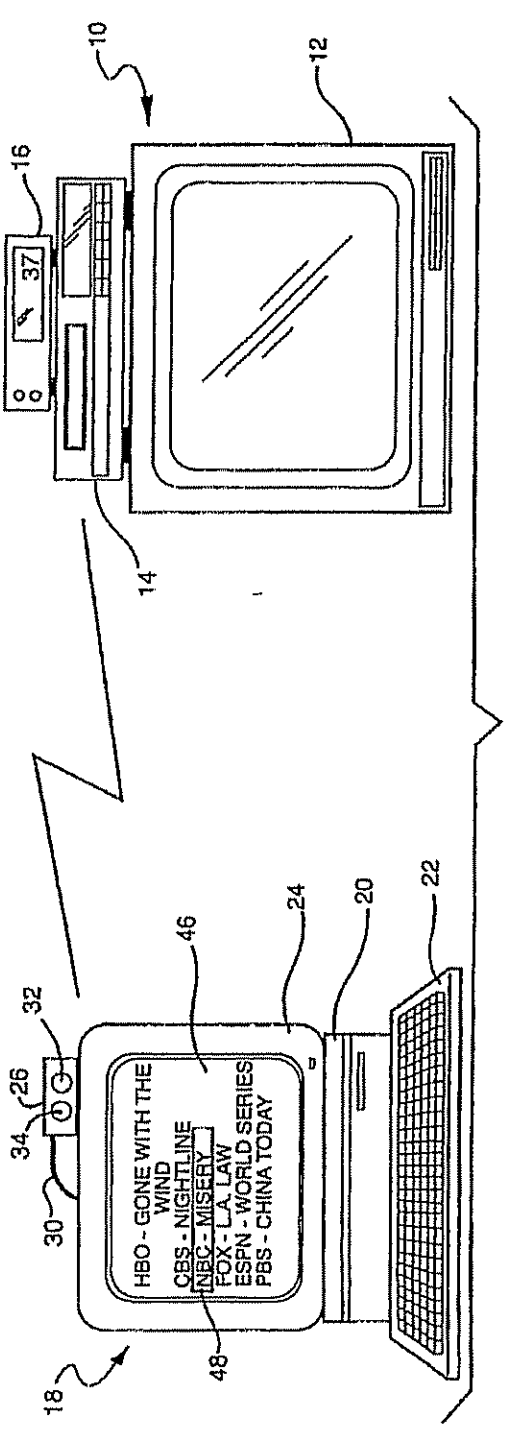

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12
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34
30
46
24
20
22
HBO - GONE WITH THE WIND
CBS - NIGHTLINE
NBC - MISERY
FOX - LA LAW
ESPN - WORLD SERIES
PBS - CHINA TODAY
48
18

FIG - 1

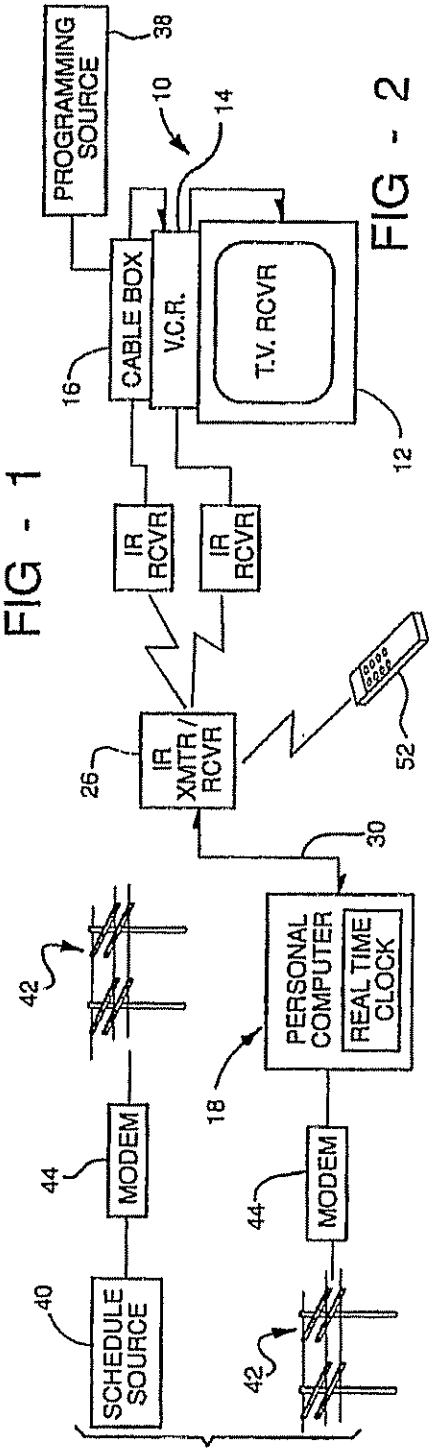

PROGRAMMING SOURCE
38
10
14
CABLE BOX
V.C.R.
T.V. RCVR
16
12
IR RCVR
IR RCVR
IR XMTR / RCVR
26
52
30
PERSONAL COMPUTER
REAL TIME CLOCK
18
42
MODEM
44
MODEM
44
SCHEDULE SOURCE
40
42

FIG - 2

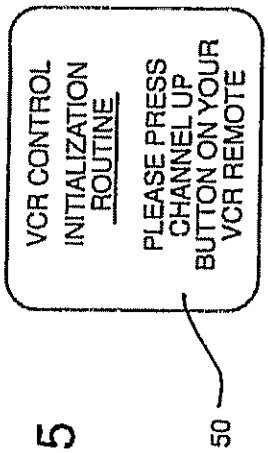


FIG - 5

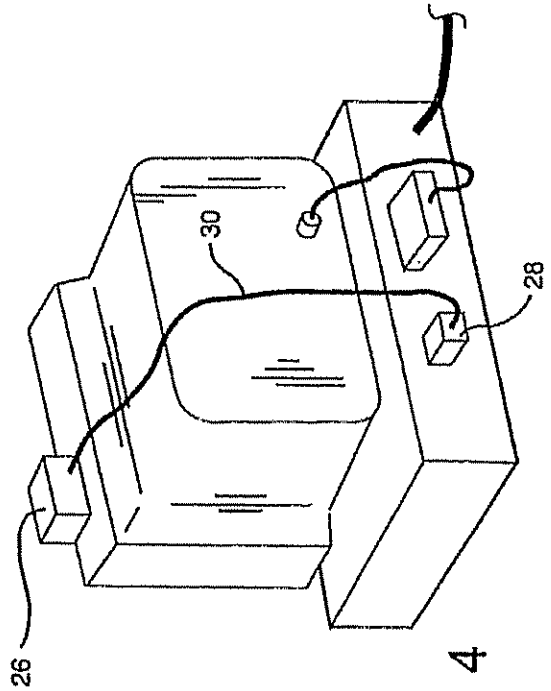


FIG - 4

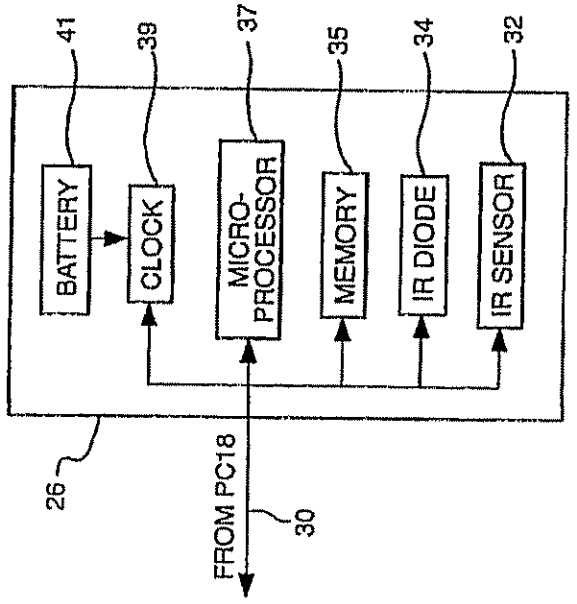


FIG - 3

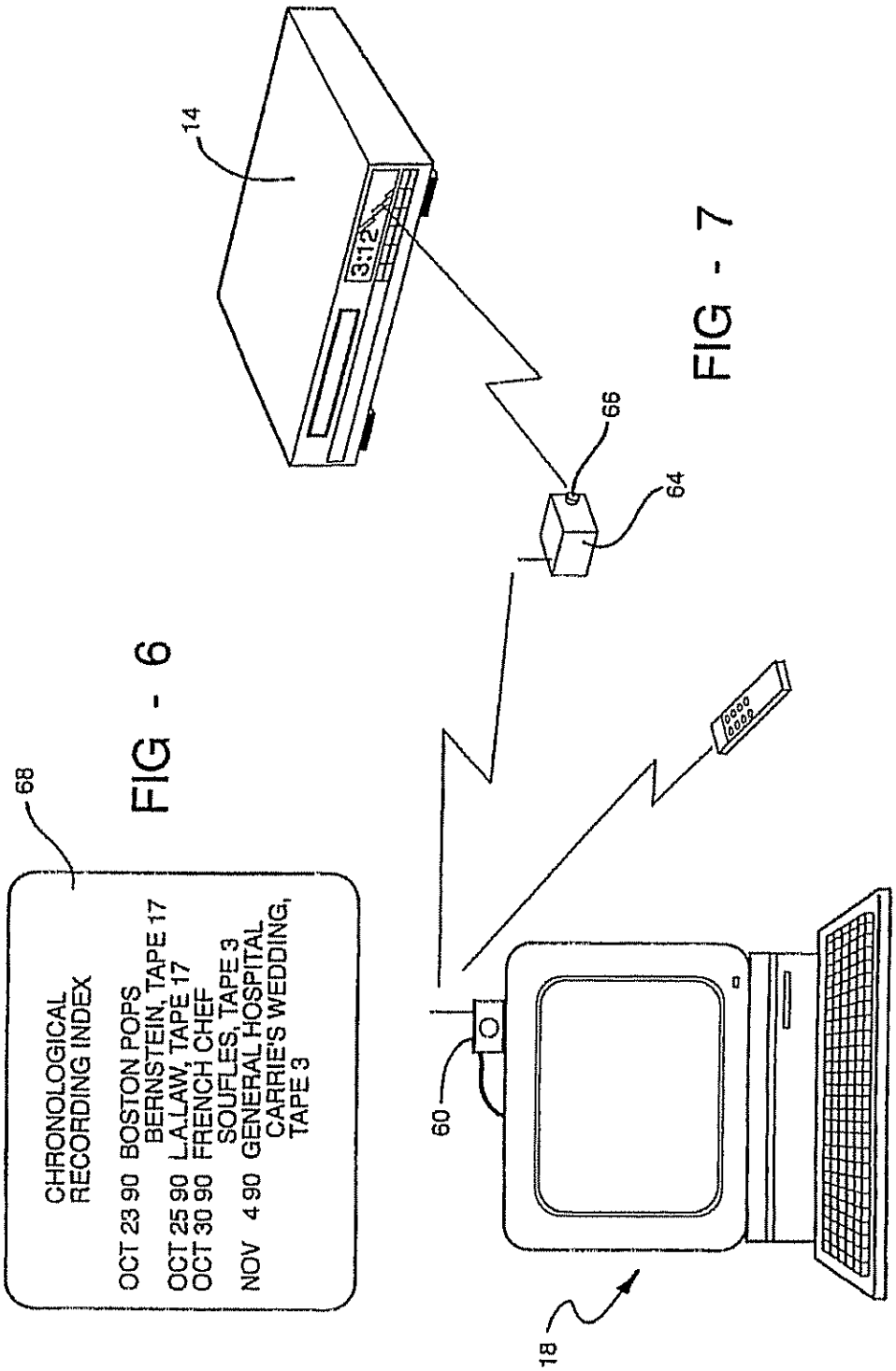

14
3:12
66
64
60
18
68
CHRONOLOGICAL
RECORDING INDEX
OCT 23 90 BOSTON POPS
BERNSTEIN, TAPE 17
OCT 25 90 LA LAW, TAPE 17
OCT 30 90 FRENCH CHEF
SOUFLES, TAPE 3
NOV 4 90 GENERAL HOSPITAL
CARRIE'S WEDDING,
TAPE 3

FIG - 7

FIG - 6

METHOD AND APPARATUS FOR RECEIVING CUSTOMIZED TELEVISION PROGRAMMING INFORMATION BY TRANSMITTING GEOGRAPHIC LOCATION TO A SERVICE PROVIDER THROUGH A WIDE-AREA NETWORK

RELATED APPLICATIONS

This is a continuation of application Ser. No. 08/287,343, filed Aug. 8, 1994, now U.S. Pat. No. 5,692,214 which is a continuation-in-part of Ser. No. 07/848,338, filed Mar. 9, 1992, now abandoned, which is a continuation-in-part of Ser. No. 802,249, filed Dec. 4, 1991 (now abandoned).

FIELD OF THE INVENTION

This invention relates to a method and apparatus for controlling a video recorder to allow the unattended recording of future occurring programs using a personal computer and more particularly to such a method and apparatus which provides a display of a schedule of future programming available to the recorder on the personal computer.

BACKGROUND OF THE INVENTION

My U.S. Pat. No. 4,908,713 discloses a system for providing a schedule of future video programming available to a video recorder to a database memory located at the recorder so that the operator may display selected sections of the future schedule as an aid in choosing programs for recording. The schedule may be provided to the memory and updated either by broadcasting schedule information or by delivering disposable memories to the system on a subscription basis. Other of my applications disclose such systems in which the video recorder is programmed for unattended recording of a future program by simply pointing a cursor at the listing of that program on the schedule display. Since the system already stores the data required to record the program, it is unnecessary for the operator to re-enter the same data. My application Ser. No. 802,249 further discloses such a system in which the local memory stores the identification of programs that have been recorded and allows their display in order to select previously recorded programs for viewing.

These systems greatly simplify the problems of selecting programs for recording, actually performing the recording process, and viewing recorded programs. They suffer from the disadvantage of adding hardware and software to existing video cassette recorders or cable boxes which do not contain a schedule memory and a database program for selecting particular entries on the memory for display.

SUMMARY OF THE INVENTION

The present invention allows the implementation of the electronic schedule memory and cursor-based programming on a conventional video recorder through use of an associated personal computer which communicates with the video recorder via infrared signals of the type used for remote control of the video recorder. The infrared signals are preferably generated by a transmitter connected to an output port of the personal computer and are driven by signals generated by an application program run by the personal computer. The same transmitter may control the tuner of an associated cable box.

Future programming schedule information may be provided to the personal computer from a remote database by telephonic communication, by broadcast, or by subscription provision of disposable memories. The schedule information may be displayed on the monitor of the personal computer under control of a database program allowing chronological, alphabetical or topical selection and the operator may move a cursor on the display screen to point to a particular program to select it for future recording. The remote transmitter connected to the personal computer output port can send signals to the video recorder at the time the selection is made, allowing the future unattended programming memory of the video recorder to initiate the recording of a specific channel at the proper time or the remote may exercise control over the video recorder at the time the recording is to be made.

The personal computer transmitter may be instructed as to the particular code systems used by the video recorder remote control either by information transmitted from a remote database provider based on the identification of the make of the video recorder by the computer use, or through use of an initialization program which displays commands to the computer operator on the monitor of the personal computer directing the operator to press selected buttons on the remote transmitter provided with the video recorder. The computer program thus learns and stores the required remote codes. In the same manner, the personal computer can control an associated cable tuner to ensure that the channel specified for recording is provided to the VCR. The personal computer program can also store and display an index of programming that has been recorded by the system.

Through use of the method and apparatus of the present invention the advantages of an electronic schedule guide and cursor-controlled programming of the video recorder may be achieved without the provision of a specialized form of cassette recorder or cable box.

Other objectives, advantages and applications of the present invention will be made apparent by the following detailed description of the preferred embodiment of the invention. The description makes reference to the accompanying drawings in which:

DETAILED DESCRIPTION OF THE DRAWINGS

FIG. 1 illustrates a personal computer and television viewing system including a TV receiver, a video recorder and a cable box, implementing the preferred embodiment of the present invention;

FIG. 2 is a schematic diagram of the preferred embodiment of the invention;

FIG. 3 is a schematic diagram of the IR transmitter/receiver;

FIG. 4 is a perspective view of the rear of a personal computer illustrating the method of attachment of an infrared transmitter and receiver to an I/O port of the computer;

FIG. 5 is an illustration of a screen displayed on the personal computer monitor during an initialization procedure; and

FIG. 6 is an illustration of a personal computer screen displaying an index of recorded programs and the tape cassettes on which each is recorded; and

FIG. 7 is an illustration of a second embodiment of the invention in which the personal computer and video recorder are located remotely from one another and the output signals from the personal computer are transmitted by radio to an infrared transmitter for control of the video recorder.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIG. 1, the preferred embodiment of the invention employs a television recording and receiving

system, generally indicated at 10, comprising a conventional television receiver 12, a video cassette recorder 14 and a cable tuner and descrambler box 16. A variety of known forms of interconnection can be made between the cable box 16, the recorder 14 and the television receiver 12 to allow either the recording or viewing of programs tuned by the cable box 16 or the simultaneous viewing of one program and the recording of another. The present invention is equally applicable to broadcast receiver systems which do not employ a cable box and to satellite receivers

The video recorder 14 will normally be of the type employing an infrared remote control (not shown) as will the tuner in the cable box 16. The VCR 14 may, but need not necessarily, incorporate a future, unattended recording memory which includes a real time clock (not shown).

The method and apparatus of the present invention further utilizes a conventional personal computer, generally indicated at 18, incorporating a main computer housing 20, a keyboard 22 and a monitor 24. The term "personal computer" is used broadly to incorporate work stations, minicomputers and portable units

The personal computer 18 is conventional but is provided with a special application program to implement the present invention. The organization of this application program is well within the skill of a programmer using the functional description of the program provided herein

An infrared transmitter and receiver 26 is connected to an I/O port of the personal computer, preferably a parallel port, by a male connector 28 and a cable 30. The infrared unit 26 incorporates a conventional infrared signal detector 32 and an infrared emitter 34. In alternative embodiments the signals could represent other forms of electromagnetic or supersonic transmission, "infrared" is hereinafter used to define the generic form of signals.

The infrared signals emitted by the unit 26 are picked up by the infrared remote receiver of the video recorder 14 and may also be picked up by the infrared recorder of the cable box 16 to control its tuner.

The application program is loaded into the personal computer via a diskette or the like. The program requires as data the schedule of future programming available to the system 10 from a programming source 38, such as a cable or the like, for a particular period of time such as a week or month

In the preferred embodiment of the invention the schedule information is provided to the personal computer 18 from a remote database 40, which may constitute a database provider such as "COMPUSERVE," "PRODIGY" or the like. This information may be customized for the cable service 38 available to the system through an initialization routine in which the computer operator keys in the postal ZIP code of his location and, if necessary, an identification of the cable service provider. The head end database uses this information to provide the computer 18 with the schedule of programming for that service. The operator of the personal computer system 18 may communicate with the schedule source over phone lines 42 using modems 44 at each end. Alternatively, the personal computer could employ a program in which the system automatically communicates with the schedule source 40 at predetermined periods, such as each morning at 4:00 a.m. or the like, to update the schedule stored in the personal computer 18. As another alternative, diskettes could mailed out to the personal computer on a subscription basis or the schedule information could be provided to the personal computer via cablecast or broadcast.

Through use of a database program employing menus, submenus and the like, the operator may obtain a display of programming for a particular period of time, such as that illustrated at 46 in FIG. 1. To select a listed program for future recording the operator may move a cursor 48 into super-position with the listing. Alternatively, two or three digit numbers could be associated with each listing and the operator could signal a programming selection by hitting an appropriate number on the keyboard 22.

In the preferred embodiment of the invention this selection transfers information relating to the programming selection to a memory 35 within the IR unit 26 (FIG. 3). The unit 26 also includes a microprocessor 37, a real time clock 39 and a power supply battery 41. The microprocessor 37 continually compares the present time signal from the clock 39 with the start time of the programs to be recorded as stored in the memory 35 and sends an appropriate infrared code to the VCR 14 (and, if appropriate, the cable box 16) at the start time. A similar signal at the programmed conclusion time of the program terminates the recording. This arrangement eliminates the need for the computer to continually remain in the on state.

In alternative embodiments of the invention employing programmable cable tuners or programmable satellite receivers, the infrared transmissions could be used to program these units.

Alternatively, the control signals to the IR unit 26 may be provided in real time by the computer 18 under control of its internal clock. The IR unit might then simply consist of an IR diode connected to the personal computer 18 by a long wire so the diode may be placed near the receiver 10. At the time the recording is to be initiated, the personal computer transmits signals from an I/O port through the cable 30 to the infrared transmitter/receiver 26. The unit 26 then send signals to the video cassette recorder 14, which tune the set to the required channel and initiates the recording. Signals might also be sent to the cable box 16 to cause it to tune to the appropriate channel. As a third alternative, when the operator makes a programming selection, the information relating to that selection, including channel and the start and stop time could be immediately sent from unit 26 to video cassette recorder 14 to program the recorder for the future unattended recording of the desired program

Alternatively the unit 26 may be detachable from the computer 18 so that after it is loaded with data on programs to be recorded it may be detached and moved into proximity with the receiver system 10, which may be located in another room.

To perform the transmission function, the personal computer 18 requires information as to the nature of the remote control codes used by the video recorder 14 and the cable box 16 if that is additionally to be controlled. Preferably, this information is provided from the remote database 40 during an initialization routine in which the operator keys in the identification of the make and model of the VCR and cable box. Alternatively, to acquire this information, the application program for the personal computer may go through an initialization routine using screens of the type illustrated at 50 in FIG. 5. These screens advise the computer operator to press selected buttons on the remote control transmitter 52 for the VCR 14 or the transmitter for the cable box 16. The personal computer application program- receives signals from the IR sensor 32 and stores these codes for use in transmitting control signals to the video recorder 14 and the cable box 16. The application program may alternatively store a database of the control codes for popular video

recorders or cable boxes and thus allow the unit to be identified by only pressing one or two selected keys, or it may require the operator to go through all of the keys in order to develop the appropriate remote control schedule.

In another embodiment of the invention the unit 26 includes sound detection apparatus. This provides several advantages, including the ability to receive information in acoustic form either from the personal computer or over a telephone line, for example using an acoustic coupler. An increasing number of conventional personal computers are now provided in standard form with a sound generating capability, and even if not factory supplied, numerous sound-generating modules and add-on cards are widely available as options. With such a capability residing in the personal computer, information may be transmitted from the personal computer to the module 26 in acoustical form. For example, information pertaining to a program to be recorded may be delivered in this manner, as well as any control code information required for proper activation and/or tuning of other system components, including the video recorder or cable box, to ensure that the proper channel is tuned at the appropriate time.

The ability to accept an acoustical signal may further facilitate an entirely wireless implementation of module 26, and may also enable module 26 to be partially or completely compatible with automated VCR programming techniques, including the VCRPlus™ system which is currently being marketed commercially. With VCRPlus™ program listings include a multi-digit numerical code which is entered by an operator to bring about the automatic, unattended recording of a particular program without the need for entering a more sophisticated sequence of information such as program start time, stop time, channel tuning, and so forth, as is presently entered through typical on-screen programming sequences. Certain of the VCRPlus™ modules contain acoustic couplers, enabling them to be programmed over a standard telephone line. Utilizing this capability, a customer dials a service telephone number and informs a representative or uses touch tone codes to enter information such as VCR make/manufacturer, cable tuner make/manufacturer, and geographic information, for example, in the form of a zip code. Given this information, the system then down-loads the appropriate control codes to be used by the VCRPlus™ module to ensure that the entry of a VCRPlus™ numerical code records the desired program for that user in their particular geographic area.

The present invention may take advantage of some or all of the VCRPlus™ features or similar features of any similar automated programming system. If the database received and stored in the personal computer by the present invention includes encoded program information such as VCRPlus™ codes, these may be delivered directly from the personal computer to the module 26 instead of more detailed program-related information. Although presently available VCRPlus™ control units typically only receive control code information in acoustic form, with the numerical code associated with a desired program entered via keypad, such units contain all of the hardware necessary to accept the numerical code in acoustic form as well. In such a case, then, with the present invention storing a large database of programs in the personal computer, the VCRPlus™ code alone may be delivered to the remote unit 26 to bring about the desired programming sequence. In the event that the unit 26 includes a sound detection capability, the numerical code may be transmitted by the personal computer to the module 26 in acoustic form, in addition to the remote-control codes, which may also be delivered in acoustic form, either from the personal computer or over a phone line as is currently the case with the VCRPlus™ system. In the event that the personal computer is used to transmit the control codes to the module 26, regardless of the form in which such codes are delivered, a look-up table may be provided to the personal computer either in disk form or through a separate telephonic connection, and upon entry of equipment make/model and any required geographic information by the operator through the keyboard provided on the personal computer, a look-up may be carried out by the computer so that the appropriate control codes are used for all equipment involved.

The embodiment of the invention illustrated in FIG. 7 is utilized in systems where the cassette recorder 14 is located a large distance from the personal computer 18, such as in another room of the house. In this system the remote I/R transmitter 26 is replaced by a radio transmitter 60. The radio signals are received by a remote receiver 64 disposed physically in front of the video recorder 14. Receiver 64 includes an infrared transmitter 66 and the received radio signals are transmitted into serial infrared commands which are transmitted by the unit 64 to the infrared receiver of the video recorder 14.

The application program for the remote television receiver 18 may also maintain a database of the programs that have been recorded by the system and allow display of these programs on the monitor of the personal computer. The identifying information may include codes as to the nature of the program such as a tennis match, comedy, movie or the like to allow menu-driven database operations to be used in the selection of programming for viewing. The information may record storage location of the programming, in terms of video cassettes, which the operator may enter into the system via the keyboard. A typical screen of this index is illustrated at 68 in FIG. 6.

Having thus described my invention, I claim:

1. In a television distribution arrangement wherein a plurality of geographically dispersed television viewing locations receive television programming from a source of such programming, a method of receiving information specific to the type of programming available to a particular one of the viewing locations, the method comprising the steps of:

providing a computerized unit at the particular viewing location, the unit including an operator input and a modem;

establishing a connection to a wide-area network through the modem;

transmitting, from the computerized unit, information to a service provider through the wide-area network regarding the geographical location of the particular viewing location; and

receiving, from the service provider, information specific to the type of programming available to the particular viewing location.

2. The method of claim 1, wherein the information transmitted to the service provider includes the Zip Code associated with the particular viewing location.

3. The method of claim 1, wherein the information received from the service provider includes a schedule of the television programming available to the particular viewing location.

4. The method of claim 1, wherein the computerized unit is interfaced to a display, and wherein the method further includes the step of displaying the information specific to the type of programming available to the particular viewing location.

5. The method of claim 1, wherein the computerized unit further includes a memory for storing the information specific to the type of programming available to the particular viewing location.

6. A method of receiving customized television programming schedule information, comprising the steps of:

providing, at a television viewing location, a controller interfaced to a bidirectional modem and a display device;

establishing a connection to a wide-area network through the modem;

transmitting, from the television viewing location, information to a service provider through the wide-area network regarding the geographical area of the viewing location;

receiving, from the service provider, television programming schedule information specific to the viewing location; and

viewing the information on the display device.

7. The method of claim 6, wherein the information transmitted to the service provider through the wide-area network regarding the geographical area of the viewing location is the Zip Code associated with the viewing location.

8. A system enabling a viewer of a television receiver to download information specific to the type of television programming available to the receiver, the system comprising:

an electronic terminal unit including an operator input, a bidirectional modem, and a controller in communication with the operator input and the modem, the controller being programmed to perform the following functions:

a) establish a connection to a service provider through the modem,

b) receive information through the operator input pertaining to the geographic location of the television receiver,

c) transmit the information pertaining to the geographic location of the television receiver to the service provider, and

d) receive, from the service provider, the information specific to the type of television programming available to the receiver.

9. The system of claim 8, further including an electronic television interface in communication with the controller, the controller being further programmed to affect the operation of the television receiver in accordance with the information specific to the type of television programming available to the receiver.

10. The system of claim 8, further including a memory in communication with the controller for storing and retrieving the information specific to the type of television programming available to the receiver.

* * * * *

EXHIBIT B

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

TV GUIDE ONLINE, INC. AND TV GUIDE ONLINE, LLC, Plaintiffs, v. TRIBUNE MEDIA SERVICES, INC., Defendant.	C.A. No. 05-725-KAJ

CLAIM CONSTRUCTION ISSUE IDENTIFICATION

Pursuant to paragraph 12 of the Court's March 10, 2006 Scheduling Order, Plaintiffs TV Guide Online, Inc. and TV Guide Online, LLC (collectively "TV Guide" or "Plaintiffs") submit the following list of claim term(s)/phrases and proposed constructions. TV Guide reserves the right to supplement or amend this identification and the proposed constructions as appropriate or in light of TMS's proposed constructions. For those terms or phrases not defined herein, TV Guide presently asserts that those terms and phrases need no further explanation or definition for ultimate inclusion in a jury instruction. If Tribune Media Services ("TMS") offers proposed definitions for such terms or phrases, TV Guide will consider TMS's proposed constructions and reserves the right to offer different definitions in accordance with the procedure set forth in the Scheduling Order.

Proposed Terms and Constructions

U.S. Patent No. 5,988,078

Term or Phrase	Patent Claims	TV Guide's Proposed Construction
"viewing location"	1-7	"residence or other building at which a television signal can be received"
"transmitting"	1-7	"sending electronically"
"transmit"	8, 10	"send electronically"
"receiving"	1-7	"receiving electronically"
"receive"	8, 10	"receive electronically"
"modem"	1-8, 10	"data signal conversion device that connects data terminal equipment to a communication line"
"controller"	8, 10	"a programmable electronic device"
"information . . . regarding the geographical location of the particular viewing location"	1-5	"geographical information regarding the residence or other building at which a television signal can be received"
"information . . . regarding the geographical area of the viewing location"	6-7	(same as above)
"information . . . pertaining to the geographic location of the television receiver"	8, 10	"geographical information pertaining to the residence or other building at which a television receiver is located"

Frederick L. Cottrell, III (#2555)
Jeffrey L. Moyer (#3309)
Steven J. Fineman (#4025)
RICHARDS, LAYTON & FINGER PA
One Rodney Square
920 North King Street
Wilmington, Delaware 19801
(302) 651-7700
cottrell@rlf.com
moyer@rlf.com
fineman@rlf.com

Attorneys for Plaintiffs TV Guide Online, Inc. and TV Guide Online, LLC

OF COUNSEL:

Robert C. Morgan
Christopher J. Harnett
Ching-Lee Fukuda
Stuart W. Yothers
Danielle C. Schillinger
FISH & NEAVE IP GROUP
ROPES & GRAY LLP
1251 Avenue of the Americas
New York, New York 10020
(212) 596-9000

Ronald E. Naves, Jr.
Sr. Vice President
Legal Affairs and Litigation
Gemstar-TV Guide International, Inc.
6922 Hollywood Boulevard
Hollywood, California 90028
(323) 817-4600

Dated: October 16, 2006

CERTIFICATE OF SERVICE

I hereby certify that on October 16, 2006 the foregoing document was Hand Delivered to the following:

Richard K. Herrmann, Esquire
Mary B. Matterer, Esquire
Morris James Hitchens & Williams
222 Delaware Avenue, 10th Floor
Wilmington, DE 19899-0951

I hereby certify that on October 16, 2006, I have sent by Electronic Mial, the foregoing document to the following non-registered participant:

Mark A. Pals, P.C., Esquire
Kirkland & Ellis, LLP
200 East Randolph Drive
Chicago, IL 60601

Steven J. Fineman (#4025)

EXHIBIT C

Yothers, Stuart

From: Hadley, Susan C. [SHadley@morrisjames.com] on behalf of Herrmann, Richard K. [RHerrmann@morrisjames.com]

Sent: Monday, October 16, 2006 4:44 PM

To: Yothers, Stuart; Cottrell, Frederick L.; Fineman, Steven; Harnett, Christopher J.; Morgan, Robert C.; Moyer, Jeffrey

Subject: TV Guide v. TMS - TMS' proposed claim constructions

Attachments: 1471676_1.DOC

Please see attached chart showing TMS' proposed claim constructions.

RKH

Richard K. Herrmann
Morris James Hitchens & Williams LLP
222 Delaware Avenue, 10th Floor
Wilmington, DE 19801
302.888.6800
direct dial 302.888.6816
rherrmann@morrisjames.com

Proposed Constructions of Disputed Claim Terms

Claim Term	TV Guide's Proposed Construction	TMS' Proposed Construction
Television viewing location/particular viewing location		The physical spot where a television set is positioned and watched by a user.
Operator input		A keyboard or other device for entering data into a computer.
Modem		A device that converts digital signals to analog signals (and vice versa) and allows a computer to exchange data over a standard dial-up telephone line
Receiving/receive		Having data transferred to a computer such that a user can manipulate the transferred data.
Controller		A device that controls the transfer of data between a computer and a peripheral device such as a monitor.
Download		Copying data from one computer to another computer such that a user can manipulate the data copied.
Electronic terminal unit		A computer.
Electronic television interface		A television set.

Case 1:05-cv-00725-SLR-LPS Document 221-2 Filed 10/15/2007 Page 17 of 61

EXHIBIT D

REDACTED

EXHIBIT E

REDACTED

EXHIBIT F

Yothers, Stuart

From: Pullan, Theresa [TPullan@morrisjames.com]
Sent: Friday, January 19, 2007 1:32 PM
To: Yothers, Stuart; Cottrell, Frederick L.; Fineman, Steven; Fukuda, Ching-Lee; Harnett, Christopher J.; Morgan, Robert C.; Moyer, Jeffrey
Cc: Herrmann, Richard K.
Subject: TV Guide v. TMS (05-725) / Claim Construction Chart
Attachments: _claim construction chart 011807.pdf

Attached please find your service copy of TMS' revised claim construction chart.

Morris James LLP

Theresa Pullan
Paralegal
tpullan@morrisjames.com
500 Delaware Ave., Ste. 1500 | Wilmington, DE 19801-1494
Mailing Address P.O. Box 2306 | Wilmington, DE 19899-2306
T 302 888 6997 F 302 571 1750
www.morrisjames.com

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TMS' Revised Proposed Constructions of Disputed Claim Terms
January 18, 2007

Claim Term	TMS' Proposed Construction
Television viewing location/particular viewing location	The specific room within a building where a television set is positioned and watched by a user
Operator input	A keyboard or other device for manually entering data into a computer.
Modem	A data signal conversion device that converts digital signals to analog signals (and vice versa) and allows a computer to exchange data over a standard dial-up telephone line
[Receiving/receive] information specific to the type of programming available to the particular [viewing location/television receiver][1]	Having data transferred to a computer such that a user can perform database-type manipulations directly on the transferred data without being connected to the original source of the data.
Controller	An electronic device for manipulating information including at least memory for storing and executing computer programs and I/O ports for connecting to peripheral devices, such peripheral devices including modems and display devices.
Controller being programmed to perform	Computer application programs are installed on the "controller," as defined above, prior to its use by a user to perform.
Available to a particular one of the viewing locations	Deliverable from a programming source to a specific "television viewing location," as defined above.
Wide-area network	A data communication network that is not a local area network.
Information regarding the geographical location of a particular viewing location	Any information, irrespective of how the information is encoded, that expressly indicates in geographic language (e.g., name of a continent, country, province, state, city, town region, street address, zip code, area code, etc.) the approximate portion of the planet in which a particular "television viewing location," as defined above, is located.
Schedule of the television programming	A list, not necessarily ordered in any way, containing at least one item of television programming.

[1] This claim term was previously identified as "receive/receiving," both in TMS' Proposed Constructions, exchanged October 16, 2006, and in the Expert Report of Dr. Gary S. Tjaden Regarding Invalidity of United States Patent No. 5, 988,078. TMS' proposed construction remains the same, and this revision to the disputed claim term does not change Dr. Tjaden's opinions regarding invalidity.

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TMS' Revised Proposed Constructions of Disputed Claim Terms
January 18, 2007

Claim Term	TMS' Proposed Construction
Memory for storing the information	A device that can retain computerized information for retrieval later.
Receive information through the operator input	Signals produced by the operator input in response to user actions and transferred to the controller in the electronic terminal unit.

Case 1:05-cv-00725-SLR-LPS Document 221-2 Filed 10/15/2007 Page 23 of 61

EXHIBIT G

REDACTED

EXHIBIT H

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EXHIBIT I

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EXHIBIT J

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

#6/C BH 12/14/98

In re application of: Levine

Serial No.: 08/947,950 Group No.: 2782

Filed: October 9, 1997 Examiner: K. Kim

For: METHOD AND APPARATUS FOR RECEIVING CUSTOMIZED TELEVISION PROGRAMMING INFORMATION

AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

In response to the Office Action dated July 29, 1998, please amend the above-referenced application as follows:

IN THE SPECIFICATION

Page 1, line 3, after "1992," insert --now U.S. Patent No. 5,692,214--.

Remarks

The claims of this application are being resubmitted in unamended form for reconsideration on several grounds. First, the Examiner will note that this application claims priority to earlier applications, certain of which predate the filing dates of the cited references. In particular, the priority date of the instant application predates the filing dates of the Alten et al, Mankovitz and Kwoh et al patents, though it is noted that all three provide related U.S. application data. However, in the case of Alten et al and Mankovitz, the earlier U.S. applications are continuations-in-part, such that a more comprehensive analysis as to when the prior

GIFFORD, KRASS, GROH, SPRINKLE, PATMORE, ANDERSON & CITKOWSKI, P.C. 280 N. WOODWARD AVENUE, STE. 400, BIRMINGHAM, MICH. 48009-5394 (248) 647-6000

art introduced new matter may need to be undertaken relative to Applicant's own dates of invention and reduction to practice.

In addition to questions as to priority, it is Applicant's position that Alten et al does not disclose or suggest, even in combination with Mankovitz, U.S. Patent No. 5,703,795, Applicant's invention as claimed. In particular, all of Applicant's independent claims include the step or apparatus associated with transmitting, from a viewing location, information to a service provider through a wide-area network regarding the geographical location of the particular viewing location. Though the Examiner cites column 1, lines 9-17 and column 7, lines 31-52 of Alten et al, Applicant can find no support in either one of these passages which would form a reasonable grounds for rejection of Applicant's claims. Column 1, lines 9-17 of Alten et al states only that the invention of Alten et al relates to an improved electronic program guide "that provides the user with a more powerful and convenient operating environment" by making navigation more efficient. And although column 7, lines 31-52 state that the date a provider may contain information about programs or services available in a particular market, geographical or otherwise, the Alten patent is silent as to the transmission of geographical information from the viewer location to the service provider.

It is noted that the Examiner's analysis on page 3 of the Office Action is silent with regard these aspects of Applicant's invention. While conceding that Alten et al does not exclusively teach a transmission through a wide-area network via a modem, the Examiner seems to be disregarding the fact that, according to

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Applicant, such transmission also occurs according to Applicant's claims from the viewer location to the service provider in regards to geographical location. Thus, whether or not Alten et al discloses transmission through a WAN via a modem, which the Examiner admits it does not, it certain does not touch upon the receipt of information flowing from the opposite direction.

In rejecting claims under 35 U.S.C. §103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. See In Re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 5569, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657,664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In Re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992)

In this case, the Examiner has not provided any substantive

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reason why Mankovitz (or other patents used to reject other groups of claims) should be combined with Alten et al to arrive at Applicant's claimed invention, other than the Examiner's argument that "Alten et al contemplates all known transmission methods," citing Alten et al at column 7, lines 53-59 and column 8, lines 16-21. However, this argument, in and of itself, does not provide sufficient justification to reject Applicant's claims which include various other features in combination. Applicant takes issue with the combination of Alten and Mankovitz in view of Kwoh et al for similar reasons. The Examiner admits on page 4 of the Office Action that Alten et al in view of Mankovitz does not explicitly teach the use of the zip code for selection purposes, but on page 5 of the Office Action the Examiner states that since zip code information is "already collected in the Mankovitz system," it would be "available information" and, therefore, available for Applicant's purposes as claimed. However, there is no support, outside of Applicant's own disclosure, upon which to draw such a conclusion.

Based upon the foregoing, Applicant believes all pending claims remain in condition for allowance, and notice to that affect is solicited at this time. Questions regarding this application should be directed to the undersigned attorney at the telephone and facsimile numbers provided.

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Respectfully submitted,

By: _____

John G. Posa
Reg. No. 37,424
Gifford, Krass, Groh, Sprinkle,
Patmore, Anderson & Citkowski
280 N. Old Woodward Ave.
Suite 400
Birmingham, MI 48009
(734) 913-9300

Date: Nov. 30, 1998

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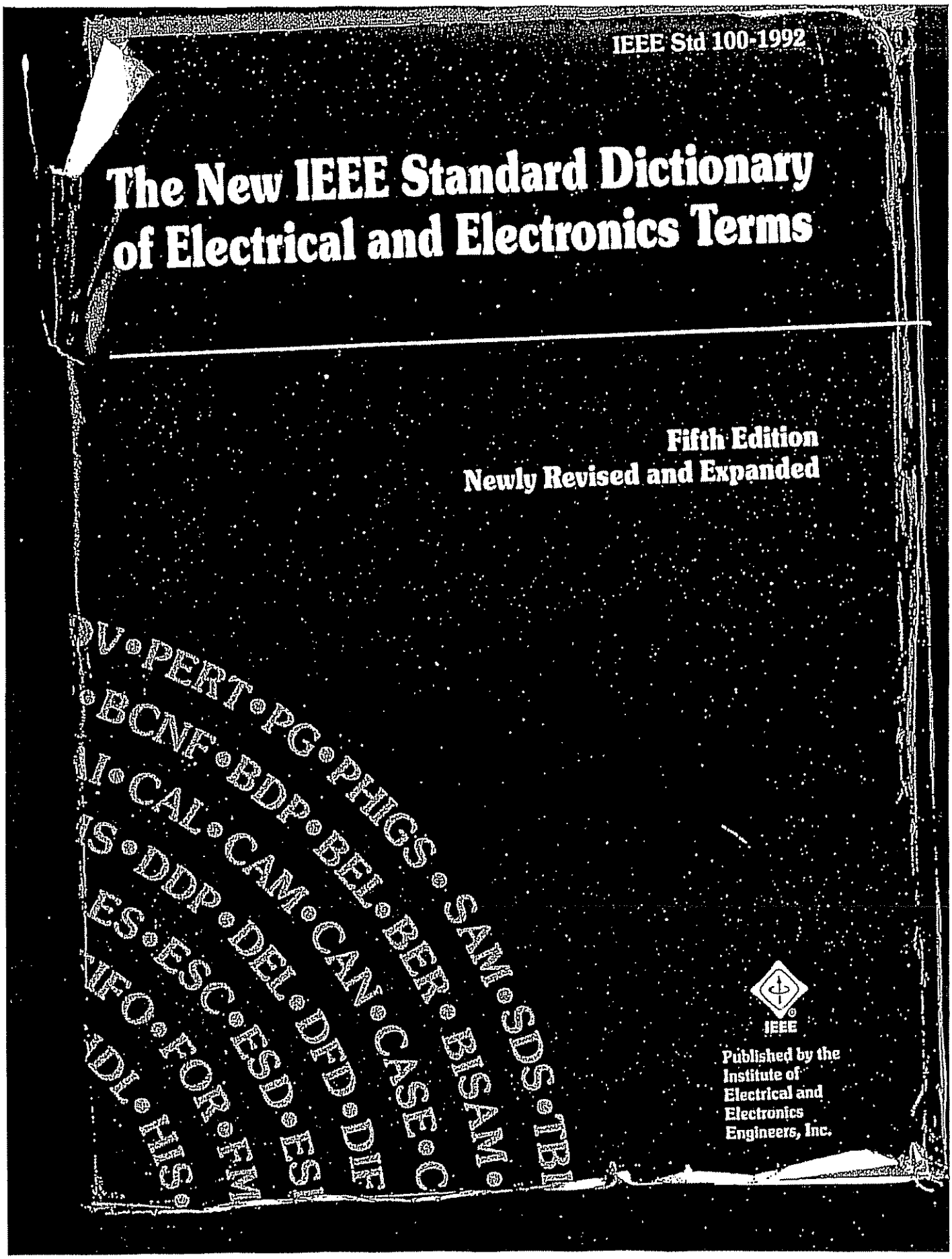
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Sheryl L. Hammer

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EXHIBIT K


IEEE Std 100-1992
The New IEEE Standard Dictionary of Electrical and Electronics Terms
Fifth Edition
Newly Revised and Expanded
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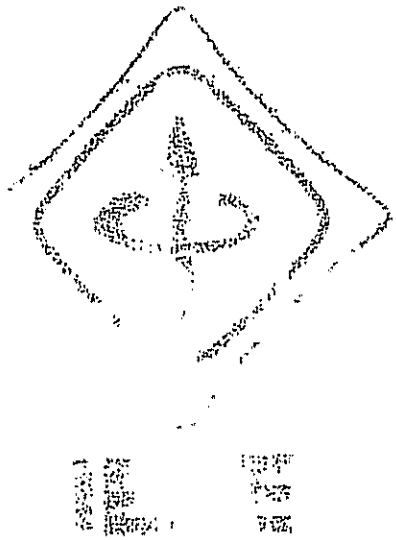
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Fifth Edition

Gediminas P. Kurpis, Chair

Christopher J. Booth, Editor



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January 15, 1993

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Acronyms and Abbreviations

The Acronyms and Abbreviations Section was added to this dictionary to help the user identify some of the acronyms and abbreviations that have become part of the engineering vocabulary. It is not intended to aid in the proliferation or creation of new acronyms and abbreviations or to encourage their indiscriminate usage.

0V RTN: zero volt return (signal ground reference)
1GL: first generation language
2GL: second generation language
3GL: third generation language
4GL: fourth generation language
5GL: fifth generation language

A

A/m: ampere per meter (unit of magnetic field strength)
A/N: alphanumeric
A: ampere
A: asynchronous (type of line)
AAAS: American Association for the Advancement of Science
AAES: American Association of Engineering Societies
AB: Aeronautical Board
ABC: automatic bandwidth control
ABC: automatic brightness control
ABM: asynchronous balanced mode
AC: Advisory Committee
AC: analog computer
AC: automatic control
ac: alternating current
ACA: adjacent channel attenuation
ACB: air circuit breaker
ACI: automatic card identification
ACO: alarm cut-off
ACS: auxiliary cooling system
ACS: auxiliary core storage
ACSR: aluminum cable steel reinforced
ACT: automatic code translation
ACU: automatic calling unit
ACUI: automatic calling unit interface
ACV: alarm check valve
A-D: analog to digital
ADC: analog-to-digital converter
ADC: automatic data collection
ADL: automatic data link
ADMSC: automatic digital message switching centers
ADP: automatic data processing; automated data processing; administrative data processing
ADPC: automatic data processing center
ADS: automatic depressurization system
ADU: automatic dialing unit
AEC: American Engineering Council
AEC: Atomic Energy Commission
AES/CoS: Control Systems Panel (IEEE, AES)
AES/CrS: Crew Stations Panel (IEEE, AES)
AES/ETS: Electrical Test Systems Panel (IEEE, AES)
AES/GAP: Gyro Accelerometer Panel (IEEE, AES)
AES/GTF: Ground Test Facilities Panel (IEEE, AES)
AES/IA: Integrated Avionics Panel (IEEE, AES)
AES/ISS: Inertial Sensors and Systems Panel (IEEE, AES)
AES/MEP: Mobile Electric Power Panel (IEEE, AES)
AES/RN: Radar Navigation Panel (IEEE, AES)
AES/RS: Radio Systems Panel (IEEE, AES)
AES/SS: Space Systems Panel (IEEE, AES)
AF: audio frequency
AFB: antifriction bearing
AFC: automatic frequency control
AFS: audio frequency shift
AGA: American Gas Association
AGC: automatic gain control
AGDS: American Gage Design Standard
AH: ampere hour
AI: artificial intelligence
AICE: American Institute of Consulting Engineers
AIChE: American Institute of Chemical Engineers
AIME: American Institute of Mechanical Engineers
AIS: alarm indication signal
AKWIC: author and keyword in context
ALC: automatic load control
ALD: analog line driver
ALP: automated language processing

IROD: instantaneous readout detector
IRS: isotope removal service
IS: incomplete sequence (relay)
IS: information science
IS: information separator
IS: interference suppressor
ISA: international standard atmosphere
ISAM: indexed sequential access method
ISB: independent sideband
ISD: International Subscriber Dialing
ISDN: integrated services digital network
ISFET: ion-sensitive field-effect transistor
ISI: in-service inspection
ISI: intersymbol interference
ISL: integrated Schottky logic
ISO: International Organization for Standardization
ISP: information structure perspective
ISR: interrupt service routine
ISS: information storage system
ISSN: international standard serial number
IST: international standard thread (metric)
IT: Information Theory (IEEE Society)
IT: input translator
IT: instantaneous trip (device)
IT: insulating transformer
ITV: industrial television
IU: interference unit
IUNDH: in-service unit derated hours
IV&V: independent verification and validation
IV: intermediate voltage
IZ: isolation zone

J

J/g: joules/gram
J/I: power-to-current transducer
J: joule
JCL: job control language
JI: power indicator
JR: power recorder
JSAC: Journal for Selected Areas in Communication (IEEE)

K

K: cathode (vacuum tube)
K: kelvin
k: Boltzmann's constant
k: kilo- (prefix for 10^3)
KAS: keep alive signal
KDR: keyboard data recorder
KE: kinetic energy
KeV: kilo-electron-volt
kgm: kilogram-meter
kg/m³: kilogram per cubic meter
kHz: kilohertz
KLIC: key letter in context
kMc: kilomegacycle (obsolete)—use gigahertz (GHz)
KOPS: kilo-operations per second—i.e., thousands of operations per second
KPIC: key phrase in context
kvar: kilovar
KWAC: keyword and context
kWh: kilowatt-hour
KWIC: keyword in context
KWOC: keyword out of context

L

LAM: lines per minute
LAN: local area network
LANNET: large artificial neuron network
LAPD: limited axial power distribution
Laser: light amplification by stimulated emission of radiation
lb: pound (1 lb = 16 ounces = 453.59 grams)
LBO: line buildout
LC-MARC (or LCMARC): Library of Congress MAchine-Readable Cataloging
LC: inductance-capacitance
LC: level control
LC: line connector
LC: line of communication
LC: liquid crystals
LCC: life cycle cost
LCD: liquid crystal display
LCS: loop control system

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LD: level drive
LD: long distance
LDB: light distribution box
LDC: line drop compensator
LDDS: low density data system
LDR: low data rate
LED: light-emitting diode
LEF: light-emitting film
LEO: Lasers and Electro-Optics (IEEE Society)
LF: low frequency (30 to 300 kHz)
LFC: laminar flow control
LFO: low-frequency oscillator
LH: left-hand
LH: liquid hydrogen
LHC: level hand/automatic control station
LI: Longitudinal Interference Working Group (IEEE, COM)
LIFO: last-in, first-out
LKY: Lefschetz-Kalman-Yakubovich (lemma)
LL: low level
llc: logical link control
LMS: least-mean-square
ln: natural logarithm (base e = 2.7183...)
LO: local oscillator
LO: lock-on
LO: lunar orbiter
LOF: loss of flow
LOF: loss of frame
LOF: lowest operating frequency
LOFA: loss of frame alignment
log: logarithm (base 10)
LORAN: long range navigation
LOS: line of sight
LOS: loss of signal
LOX: liquid oxygen
LP: linear programming
LP: low pass
LP: low pressure
LPD: linear power density
LPM: lines per minute
LR: level recorder
LR: load ratio
LS: level switch
LSAP: link layer service access point
LSB: least significant bit
LSB: low speed breaker (relay)
LSB: lower sideband
LSD: low-speed data
LSI: large scale integration
LSM: linear synchronous motor
LSR: load shifting resistor
LSTTL: low-level Schottky transistor-translator logic
LT: level transmitter
LT: line telecommunications
LT: low tension
LTC: long time constant
LTS: long-term stability
LTTL: low-power transistor-transistor logic
LV: low voltage
LVDT: linear variable differential transformer
LVP: low voltage protection
lx: lux (1 lux = 1 lumen/m^2)

M

M: mega - (prefix for 10^6)
m: milli - (prefix for 10^{-3})
MAC: media access control
MAC: Membership Affairs Council (IEEE COM)
MAD: multiple access device
MAG/ET: Electronic Transformers Committee (IEEE, IM)
MAG/Mag Rec: Magnetic Recording Committee (IEEE, MAG)
MAG/Relay Mag: Relay Magnetics Committee (IEEE, IM)
MAG: Magnetics (IEEE Society)
MAGAMP: magnetic amplifier
MAN: metropolitan area network
MAR: memory address register
MARC: MAchine Readable Cataloging
MASER: microwave amplification by stimulated emission of radiation
MAT: machine-aided translation
MAU: medium attachment unit
max: maximum
Mb/s: megabits per second
MBD: magnetic-bubble device
MBM: magnetic bubble memory
MBT: metal-base transistor
MC: magnetic core

USITA: United States Independent Telephone Association
USNC: United States National Committee (IEC)
USWB: U.S. Weather Bureau
UT: universal time
UV: ultraviolet
UV: under voltage

V

V: volt, voltmeter, vacuum tube (in U.K., valve)
VA: Veterans Administration
VA: voltampere
VAM: voltammeter
V&V: verification and validation
VARACTOR: variable-reactance diode
VARISTOR: variable resistor
VBD: voice band data
VBD: voice band data
VC: voice coil
VC: voice conference
Vc: voltage common
VCCS: voltage-controlled current source
VCD: variable capacitance diode
VCM: common mode voltage
VCO: voltage-controlled oscillator
VCR: video cartridge (cassette) recorder
V/D: voice/data
Vdc: volts dc
VDD: version description document
VDM: differential mode voltage
VF: variable frequency
VF: voice frequency
VFO: variable frequency oscillator
VFR: visual flight rules
VHF: very high frequency
VLF: very low frequency (3 to 30kHz)
VLSI: very large scale integration
VM: velocity modulation
VM: voltmeter
VMOS: virtual memory operating system
VN: noise voltage
VOCODER: voice-operated coder
VP: vertical polarization
VP: voltage plus
VR: voltage regulator
VS: signal voltage
VS: variable speed
VSAM: virtual sequential access method
VSB: vestigial sideband
VT: vacuum tube
VT: Vehicular Technology (IEEE Society)
VT: vertical tabulation character
VT: virtual tributary
VT: voltage transformer
VT/Lnd: Land Transportation Committee (IEEE. VT)
VU: voice unit

W

W: watt
W: write
WADEX: word and author index
WAN: wide area network
WATS: wide area telephone service
WB: wide band
WBD: wide-band data
WBDL: wide-band data link
WDM: wavelength division multiplexing
WG: waveguide
WG: wire gage
WM: wattmeter
WP: word processing; word processor
WPM: words per minute
WPOM: word processing output microfilm
WPS: words per second
WW: wire-wound

X

X rayi energetic high-frequency electromagnetic radiation
XCONN: cross connection
XO: crystal oscillator
XOR: exclusive OR
XTAL: crystal

imation, representation, or idealization of selected aspects of the structure, behavior, operation, or other characteristics of a real-world process, concept, or system. *Note:* Models may have other models as components. (B) To serve as a model as in (A). (C) To develop or use a model as in (A). 610.3-1989

(4) (computer graphics). An accurate and complete graphical representation of an object. *See also:* **modeling system.** 610.6-1991

modeling. Technique of system analysis and design using mathematical or physical idealizations of all or a portion of the system. Completeness and reality of the model are dependent on the questions to be answered, the state of knowledge of the system, and its environment. *See:* **system.** [63]

modeling system. A system in which a computer graphics model can be defined or transformed using world coordinates. 610.6-1991

model space. The coordinate system used by a computer graphics model. 610.6-1991

model validation. The process of determining the degree to which the requirements, design, or implementation of a model are a realization of selected aspects of the system being modeled. *See also:* **fidelity.** *Contrast with:* **model verification.** 610.3-1989

model verification. The process of determining the degree of similarity between the realization steps of a model; for example, between the requirements and the design, or between the design and its implementation. *Contrast with:* **model validation.** 610.3-1989

modem (1) (data transmission). A contraction of MOdulator-DEModulator, an equipment that connects data terminal equipment to a communication line. [599-1985]

(2) (supervisory control, data acquisition, and automatic control). A MOdulator/DEModulator device which converts binary digital data to and from the signal form appropriate for the respective communication channel. C37.1-1987

(3) (broadband local area networks). A modulator-demodulator device. The modulator encodes digital information onto an analog carrier signal by varying the amplitude, frequency, or phase of that carrier. The demodulator extracts digital information from a similarly modified carrier. A modem transforms digital signals into a form suitable for transmission over an analog medium. 802.7-1989

mode mixer. *See:* **mode scrambler.** 812-1984

mode of operation (rectifier circuit). The characteristic pattern of operation determined by the sequence and duration of commutation and conduction. *Note:* Most thyristor converters and rectifier circuits have several modes of operation, which may be identified by the shape of the current wave. The particular mode obtained at a given load depends upon the circuit constants. *See:* **rectification; rectifier circuit element.** 444-1973

mode of propagation (waveguides). A form of propagation of guided waves that is characterized by a particular field pattern in a plane transverse to the direction of propagation, which field pattern is independent of position along the axis of the waveguide. *Note:* In the case of uniconductor waveguides the field pattern of a particular mode of propagation is also independent of frequency. *See:* **waveguide.** 146-1980w, 148-1959w

mode of propagation, ionospheric. Representation of a transmission path by the number of hops between the end points of the path, the ionospheric layers producing the ionospheric reflections being indicated for each hop. Example: 1F + 1E represents a hop with an ionospheric reflection in the F region followed by a reflection at the ground, followed, in turn, by a hop with a reflection from the E region. 211-1990

mode of propagation. A form of electromagnetic wave that can advance and can transport energy along the axis of a transmission line without change in the form of the electromagnetic field pattern in successive transverse sections (except for a monotonic decrease in amplitude along the direction of propagation, due to energy dissipation, which is present to some degree in every transmission line). 1004-1987

mode of resonance (waveguide). A form of natural electromagnetic oscillation in a resonator, characterized by a particular field pattern. 146-1980w

mode of vibration (vibratory body, such as a piezoelectric crystal unit). A pattern of motion of the individual particles due to (1) stresses applied to the body; (2) its properties; and (3) the boundary conditions. Three common modes of vibration are (A) flexural, (B) extensional, and (C) shear. *See:* **crystal.** [119]

mode scrambler (fiber optics). (A) A device for inducing mode coupling in an optical fiber. (B) A device composed of one or more optical fibers in which strong mode coupling occurs. *Note:* Frequently used to provide a mode distribution that is independent of source characteristics or that meets other specifications. *Syn:* **mode mixer.** *See:* **mode coupling.** 812-1984

mode shape. A plot of the displacements of various points in which the vibrating structure at a particular instant in time. *Note:* With each natural frequency of a vibrating structure there is associated a characteristic mode shape. C37.122-1983

mode stripper. *See:* **cladding mode stripper.**

mode transducer (waveguide components). A device for transforming an electromagnetic

puter program; execution; instruction; proof of correctness. 729-1983

program level. The magnitude of program in an audio system expressed in volume units. 151-1965w

program library (software). *See:* **software library.** 610.12-1990

program listing. A printout or other human readable display of the source and, sometimes, object statements that make up a computer program. 610.12-1990

programmable (programmable instrumentation). That characteristic of a device that makes it capable of accepting data to alter the state of its internal circuitry to perform a specific task(s). 488.1-1987

programmable breakpoint. A breakpoint that automatically invokes a previously specified debugging process when initiated. *See also:* **code breakpoint; data breakpoint; dynamic breakpoint; epilog breakpoint; prolog breakpoint; static breakpoint.** 610.12-1990

programmable controller. Solid state control system with programming capability that performs functions similar to a relay logic system. 1020-1988

programmable digital computer (programmable digital computer systems in safety systems of nuclear power generating stations). A device that can store instructions and is capable of the execution of a systematic sequence of operations performed on data that is controlled by internally stored instructions. 7432-1982w

programmable equipment (supervisory control, data acquisition, and automatic control). A remote or master station having provision for [illegible] more of its operations specified by a program contained in a memory device. [illegible]-1987

programmable measuring apparatus (programmable instrumentation). A measuring apparatus that performs specified operations on command from the system and may transmit the results of the measurement(s) to the system. 488.1-1987

programmable stimuli (test, measurement, and diagnostic equipment). Stimuli that can be controlled in accordance with instructions from a programming device. [2]

programmed check. A check procedure designed by the programmer and implemented specifically as a part of his program. *See:* **check, automatic; check problem; mathematical check.** [20], [85]

programmed control (industrial control). A control system in which the operations are determined by a predetermined input program from cards, tape, plug boards, cams, etc. *See:* **control system, feedback.** [60]

programmed instruction. A self-instructional method using materials that lead the student through a systematic sequence of steps to a predetermined learning objective. 610.2-1987

programmer (1) (power switchgear). An arrangement of operating elements or devices that initiates, and often controls, one or a series of operations in a given sequence. C37.100-1981

(2) (test, measurement, and diagnostic equipment). (A) A device having the function of controlling the timing and sequencing operations; and (B) a person who prepares sequences of instructions for a programmable machine. [2]

programmer-comparator (test, measurement, and diagnostic equipment). (A) A device that reads commands and data from a sequential program usually on tape or cards; (B) sets up delays, switching, and stimuli, and performs measurements as directed by the program; and (C) compares the results of each measurement with fixed programmed tolerance limits to arrive at a decision. Often numerous other operations, such as branching on no-go or other conditions, are included. [2]

programmer manual. A document that provides the information necessary to develop or modify software for a given computer system. Typically described are the equipment configuration, operational characteristics, programming features, input/output features, and compilation or assembly features of the computer system. *See also:* **diagnostic manual; installation manual; operator manual; support manual; user manual.** 610.12-1990

Programmer's Hierarchical Interactive Graphics System (PHIGS). A computer graphics standard that provides a complete graphics system designed for interactive three-dimensional applications using complex data structures and modeling. It was developed by the American National Standards Institute (ANSI). 610.6-1991

programming (1) (electronic computation). The ordered listing of a sequence of events designed to accomplish a given task. *See:* **linear programming; multiprogramming; automatic programming.** [2], [61], [84]

(2) (power supplies). The control of any power-supply functions, such as output voltage or current, by means of an external or remotely located variable control element. Control elements may be variable resistances, conductances, or variable voltage or current sources. *See:* **power supply.** [41]

programming delay (power switchgear). A relay whose function is to establish or detect electrical sequences. C37.100-1981

programming language (software). A language used to express computer programs. *See also:* **assembly language; high-order language;**

EXHIBIT L

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BR 11-23-93

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Levine

Serial No.: 07/848,338 Group No.: 2317

Filed: March 9, 1992 Examiner: S. Kim

For: PERSONAL COMPUTER BASED SCHEDULE GUIDE AND CONTROLLER FOR VIDEO RECORDER

RECEIVED
NOV 22 1993
GROUP 2300

AMENDMENT

Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Sir:

In response to the Office Action dated August 13, 1993, please amend the above-identified application as follows.

With regard to the filing date, the present application contains new matter relative to its parent cases, and, for this reason, is being filed as a continuation-in-part in accordance with 35 U.S.C. § 120, MPEP § 201.08, as opposed to MPEP § 201.07. As disclosed in the Background of the Invention of the present application, parent application to which the present application relates discloses a system providing a schedule of future programming available to a video recorder including a database memory so that the operator may display selected portions of the future schedule as an aid in choosing programs for recording. The present application adds to this subject matter the placement of the database memory within a general-purpose personal computer including a remote-control transmitter connected to an I/O port of the personal computer. Given the relationship and continuity between the present application and the parent application to

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which it relates, Applicant believes he is entitled to the benefit of priority date under 35 U.S.C. § 120.

IN THE CLAIMS

1. (Amended) A system for programming a video recorder [of the type] having an electromagnetic remote control, for the [future,] unattended recording of programming from a video programming source connected to the video recorder, comprising:

a personal computer;

means within said personal computer for storing a database of future programming schedules including information relating to program identification and start time;

an electromagnetic radiation transmitter connected to an I/O port of the personal computer; and

an application program for the personal computer operative to cause generation of signals by said electromagnetic transmitter operative to program the video recorder to record a particular video program in accordance with information contained within said database being selected by a user of said personal computer [available to the video recorder on said source of said video programming at a particular future time].

2. (Amended) The system for programming of claim 1 wherein said personal computer includes a real time clock, and said application program includes means for comparing [the output of the] a time value generated by said real time clock with

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[stored information relating to the time of the occurrence of video programming adapted to be recorded by the video recorder and means] said start time of a video program for energizing the electromagnetic transmitter for providing appropriate control signals to the video recorder at such time as the output of the real time clock coincides with said stored time of recording.

3. (Amended) The programming system [of recording] of claim 1 wherein said [video recorder] electromagnetic radiation transmitter further includes a real time clock and means for storing data relative to a program to be recorded including the start time of such program and circuitry within said [video recorder] transmitter compares the output of the real time clock with the stored start times of programs to be recorded and energizes the video recorder at the time of the occurrence of the program to be recorded.

Cancel claim 4.

5. (Amended) The programming system [of recording] of claim [4] 1 further including means for updating the database of future programming scheduling.

Claim 6, line 1, after "The" insert --programming--, and delete "of recording".

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7. (Amended) The programming system [of recording] of claim 6 wherein said current schedule information is transmitted from said remote source of current schedule information via a telephone line[s].

Claim 8, ~~line~~ 1, after "The" insert --programming--, and delete "of recording".

10. (Amended) The method of programming a video recorder having an electromagnetic remote receiver to record programming available to the video recorder at a particular future time comprising:

connecting an electromagnetic transmitter to an output port of a personal computer; [and]

storing in the personal computer a database of future programming schedules; and

providing the personal computer with an application program which causes the output port to generate signals to said electromagnetic transmitter causing said video recorder to record [said] a program [at said particular future time] selected from said database by a user of said personal computer.

11. (Amended) The method of programming of claim 10 wherein said personal computer includes a real time clock and said [application program] database of future programming schedules includes [means for storing] the start time of future programs to

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be recorded and the electromagnetic transmitter generates a signal to the electromagnetic receiver associated with such video recorder at such time as the output of the real time clock coincides with the start time of the program to be recorded as stored in said application program to initiate operation of the video recorder at that time.

a3

12. (Amended) The method of recording of claim 10 wherein said electromagnetic transmitter [video recorder] includes a real time clock and means for storing the start time of a video program to be recorded and said [electromechanical] electromagnetic transmitter connected to an I/O port of the personal computer transmits signals relating to a future occurring program to be recorded at such time as the operator of the computer selects the program.

Claim 13, lines 5 and 6, replace "the" (second occurrence) with --an--, and delete "of this system".

Cancel claim 15.

a4

16. (Amended) The method of recording to claim 13 wherein said personal computer includes [a memory for storing said schedule of future programs and] a database program allowing the operator to display selected portions of said schedule of future programming on the monitor of the personal computer.

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Remarks

By this amendment, claims 4 and 15 have been canceled, leaving claims 1-3, 5-14 and 16-19 remaining in the application, and are presented for reconsideration in light of the remarks which follow.

Claim 1-19 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The terms listed on page 1 of the Office Action were either deleted or clarified by this amendment, and the Applicant believes that all remaining claims, as amended, now clearly define Applicant's invention.

Claims 1-9 and 17-19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Launey (U.S. Patent 5,086,385). Launey teaches a personal computer capable of controlling multiple appliances within the home. With respect to the control of a VCR, however, the Applicant respectfully disagrees that Launey teaches the limitations of Applicant's claim 1. Firstly, Launey does not disclose how a VCR is to be controlled. Hand-held remote unit 22 in Figure 1 of the Launey patent is used only to send control signals to receiver 20 within Launey's home automation system itself. This transmitter/receiver is not capable of communicating with an external device and, as such, does not meet the limitation in the present application concerning an electromagnetic radiation transmitter connected to an I/O port of the personal computer.

Secondly, Launey does not suggest where schedule

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information concerning future programming available to the VCR is to be stored. It can only be inferred from the Launey patent that such schedule information might be kept in remote database 44 and downloaded through modem 42 to central processor 10 on an as-needed basis, or is simply entered via touch-screens 16 from a printed TV guide. In any case, programming a VCR in accordance with the Launey system is essentially manual, with an operator entering the information relating to a program to be recorded. The Applicant wishes to direct the Examiner's attention to column 16, lines 34-39 in the Launey patent, which reads

> "Using a touch screen 16 or other cursor control device such as a mouse or light pen, the user can dynamically select and/or move graphics elements to indicate a date and time to start and stop any action the home automation system is capable of performing."

Additionally, column 17, lines 24-39 explain that

> "All of the functions which can be remotely controlled on a VCR, in addition to scheduling the VCR, can be controlled from the VCR touch screen of Figure 3C, ... the user can schedule the VCR to operate and record at a predetermined time. By selecting the VCR scheduling function, the scheduling screen shown in Figures 10A-10D would appear on the touch screen for the user to schedule the VCR event."

In contrast, the present invention maintains a database including information relating to programming available to the VCR during a future period, including program identification, start time and so forth. This information may be derived from a remote database via telephonic communication, by broadcast, or by

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subscription provision of disposable memories. In all cases, however, an entire block of schedule information for a given period of time is transferred to the personal computer in accordance with the present invention, thereby enabling an operator to perform database-type manipulations directly on this information, including its use to immediately schedule a particular video program for future recording.

Claims 1 and 10 have been amended to include means within the personal computer for storing a database of future programming schedules. These limitations were previously recited by claims 4 and 15, now canceled. The Applicant respectfully submits that this database, in combination with the electromagnetic radiation transmitter already recited, distinguish claims 1 and 10 over the prior art, including the Launey patent.

With regard to claims 2 and 11, Launey does not teach means necessary to send instructions to a remote controller in order to program a VCR. Column 8, lines 25-30 of the Launey patent, cited by the Examiner, read as follows:

> "A receiver for a hand-held remote control unit may also be connected to the serial interface 14 so that the user may be provided with a hand-held infrared, RF or other type of remote 20 for commanding the central processor to perform the various available tasks."

This simply means that Launey's expandable home automation system may be remote controlled; it doesn't mean that the Launey system can control an external piece of hardware, such as a VCR.

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With regard to claims 3 and 12, a mistake was made in the original drafting of these claims. Instead, of the video recorder including the real-time clock and means for storing the start time of the video program to be recorded, it is the electromagnetic transmitter connected to the I/O port of the personal computer which contains the real-time clock and associated storage unit so that, once programmed, the main personal computer need not remain energized in order for a particular program to be recorded on an unattended basis. Support for this claim is contained in the original specification on page 8, lines 14-26.

With regard to claim 6, Launey does not teach the limitations of this claim. Although it is conceded that the Launey system includes a serial interface which may be connected to a remote database, no suggestion is made that this remote database contains program schedule information. The Launey patent only suggests the retrieval of weather reports, financial reports or sports reports. (See column 21, lines 22-24 of the Launey patent.) As mentioned previously, it can only be presumed that the Launey system is capable of accessing video program schedule information stored within a remote database. In actuality, an operator of the Launey system probably programs the VCR using the touch screen in conjunction with a printed TV guide, though, in any case, Launey does not disclose how a VCR would or could be programmed using the system described in the issued patent.

Claims 10-16 stand rejected under 35 U.S.C. § 103 as

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being obvious over the teachings of Launey. According to the Examiner, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement the method of claim 10-16. With regard to claim 10, it is stated on page 5 of the Office Action that "one would have been motivated to program the central processor for sending commands to the hand-held remote for sending commands to the programmable VCR to program a future event". The Applicant respectfully disagrees, first, because Launey does not teach a bidirectional hand-held remote unit capable of receiving commands from the central processor. Even if it included such a facility, if the Examiner is suggesting that the hand-held remote receive commands from the central processor then somehow re-broadcast these commands to program a VCR, this configuration bears no resemblance to the present application. Similarly, regarding claim 11, the Examiner states "One would have been motivated to use a value of a real-time clock for sending said value to the hand-held remote control before programming the VCR accordingly to said value of a real-time clock." Again, Launey does not teach the ability to transmit anything to an external device, including the hand-held remote unit associated with its system. For the same reason, with regard to claim 12, it would not have been obvious for Launey to send information or central processor 10 relating to the real-time data to the hand-held remote control.

In summary, Launey does not teach or in any way suggest the hardware necessary to execute the functions claimed in the

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present application. With regard to the § 103 rejections, obviousness cannot be established by the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the basis for a rejection. "Obvious to try" is not the standard under which a claim may be rejected under 35 U.S.C. § 103. As such, in light of the foregoing amendments and comments, the Applicant respectfully submits that all claims are now in condition for allowance, and requests timely notice thereof.

Respectfully submitted,

By: _____
John G. Posa
Reg. No. 37,424

Dated: Nov. 16, 1993

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EXHIBIT M

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

TV GUIDE ONLINE, INC. and TV GUIDE ONLINE, LLC,	)	
Plaintiffs and Counterclaim-defendants,	)	
v.	)	C.A. No. 05-725-KAJ
TRIBUNE MEDIA SERVICES, INC.,	)	
Defendant and Counterclaim-plaintiff.	)	

TMS' RESPONSE TO TV GUIDE'S THIRD SET OF INTERROGATORIES

Pursuant to Rule 33 of the Federal Rules of Civil Procedure, defendant Tribune Media Services, Inc. ("TMS") hereby responds to the Third Set of Interrogatories served by plaintiffs TV Guide Online, Inc. and TV Guide Online, LLC (collectively, "TV Guide"). Pursuant to Rule 26(e) of the Federal Rules of Civil Procedure, TMS expressly reserves the right to supplement these responses.

INTERROGATORY NO. 16.

To the extent Defendant is claiming that it does not contribute to the infringement of the '078 patent by others because zap2it.com has substantial non-infringing uses, specify all allegedly substantial non-infringing uses and state the volume, extent, or quantity of such allegedly substantial non-infringing uses.

RESPONSE TO INTERROGATORY NO. 16

TMS hereby incorporates by reference its General Objections as made in TMS' Responses to TV Guide's First Set of Interrogatories, served on April 10, 2006. TMS objects to this interrogatory to the extent it presumes infringement of any valid and enforceable claim of

the '078 patent. TMS, zap2it.com, and users of zap2it.com do not infringe, directly or indirectly, any claim of the '078 patent. Subject to and without waiving its specific and General Objections, TMS responds that no matter how TV Guide tries to interpret the '078 patent claims, zap2it.com will have at least the following substantial non-infringing uses:

I. Users May Access Zap2It.com Away From Their "Viewing Location."

Each claim of the '078 patent requires the user to transmit the geographical location of the television viewing location from a computer situated *"at the particular viewing location."* (*See, e.g.*, claim 1: "providing a computerized unit at the particular viewing location" and "transmitting, from the computerized unit, information to a service provider through the wide-area network regarding the geographical location of the particular viewing location" and claim 6: "transmitting, from the television viewing location, information to a service provider through the wide-area network regarding the geographical area of the viewing location.") During prosecution of the '078 patent, the applicant confirmed that the computerized unit must transmit the geographical location to the service provider *from the television viewing location.* For example, the applicant stated:

- "*All of Applicant's independent claims* include the limitation, in one form or another, of transmitting, *from a computerized unit situated at a viewing location*, information regarding geographical location." May 17, 1999 Amendment in Appl. Ser. No. 08/947,950 (underlining in original; italics added)).

- "In particular, *all of Applicant's independent claims* include the step or apparatus associated with *transmitting, from a viewing location,* information to a service provider through a wide-area network regarding the geographical location, of the particular viewing location." November 30, 1998 Amendment in Appl. Ser. No. 08/947,950 (emphasis added).

- "... the Examiner seems to be disregarding the fact that, according to applicant, *such transmission also occurs according to Applicant's claims from the viewer location* to the service provider in regards to geographical location." *Id.* (emphasis added)

Because users access and use zap2it.com away from their television viewing locations, zap2it.com has a substantial non-infringing use. For example, consider the case of a user

accessing zap2it.com from her work office in Philadelphia to see the television listings for the cable system at her home in Wilmington. In that case, the user does not use a computer at her "television viewing location" in Wilmington to transmit information to zap2it.com. Rather, the computer is at her work office in Philadelphia — miles away from her "television viewing location" in Wilmington, Delaware. That type of use of zap2it.com (i.e., a user transmitting information to zap2it.com from a computer away from her television viewing location) is a substantial non-infringing use.

For information regarding the volume, extent, or quantity of this substantial non-infringing use, TMS identifies, pursuant to Fed. R. Civ. P. 33(d), documents bearing production numbers TMS 0001583-1621, TMS 0032728-40, TMS 0034433-40, TMS 0034500-30, TMS 0034625-32, TMS 0034738-45, TMS 0035200-06, TMS 0035284-90, TMS 0035385-92, TMS 0035473-80, TMS 0035566-83, TMS 0035642-58, TMS 0036870-86, TMS 0037079-95, TMS 0037253-69, TMS 0037366-73, TMS 0054238-43, and TMS 0054368-69.

II. Zap2it.com Users May See Television Listings for Locations Other Than Their "Viewing Location".

Each claim of the '078 patent requires the user to receive from the "service provider" information specific to the type of programming available *to the particular television viewing location* where the computer is located. (*See, e.g.*, claim 1: "providing a computerized unit at the particular viewing location" and "receiving, from the service provider, information specific to the type of programming available to the particular viewing location" and claim 6: "transmitting, from the television viewing location, information to a service provider through the wide-area network regarding the geographical area of the viewing location" and "receiving, from the service provider, television programming schedule information specific to the viewing location.") During prosecution of the '078 patent, the applicant confirmed that the computerized

unit must be located at the particular television viewing location for which programming information is sought. For example, the applicant stated:

- "In particular, *all of Applicant's independent claims* include the step or apparatus associated with *transmitting, from a viewing location,* information to a service provider through a wide-area network *regarding the geographical location, of the particular viewing location.*" November 30, 1998 Amendment in Appl. Ser. No. 08/947,950 (emphasis added).

- "... the Examiner seems to be disregarding the fact that, according to applicant, *such transmission also occurs according to Applicant's claims from the viewer location* to the service provider in regards to geographical location." *Id.* (emphasis added)

Because users may access and use zap2it.com to see television listings for locations other than the location from which they are accessing zap2it.com, zap2it.com has a substantial non-infringing use no matter how TV Guide tries to interpret the '078 patent claims. For example, consider the case of a user accessing zap2it.com from a computer at her home in Wilmington, Delaware to see television listings for Kona, Hawaii, where she will be vacationing. In that case, the user does not see information specific to the type of programming available at the viewing location where the computer is located (i.e., Wilmington, Delaware). Rather, the user sees television listings for Kona, Hawaii — thousands of miles away from the "particular viewing location" in Wilmington, Delaware where her computer is located. That type of use of zap2it.com (i.e., use of zap2it.com to see television listings for locations other than the "particular viewing location" where the user's computer is located) is a substantial non-infringing use.

TMS reserves the right to supplement its answer to this interrogatory once additional facts are known and/or the Court has construed the terms of the patent.

Dated: September 18, 2006

Richard K. Herrmann (I.D. No. 405)
Mary B. Matterer (I.D. No. 2696)
MORRIS JAMES HITCHENS & WILLIAMS
222 Delaware Avenue, 10th Floor
Wilmington, Delaware 19801
302.888.6800
mmatterer@morrisjames.com

Attorneys for Defendant
Tribune Media Services, Inc.

Of Counsel:
Mark A. Pals, P.C.
Linda S. DeBruin
Michael A. Parks
Meredith Zinanni
KIRKLAND & ELLIS LLP
200 East Randolph Drive
Chicago, Illinois 60601
312.861.2000

EXHIBITS N THROUGH T REDACTED IN ENTIRETY