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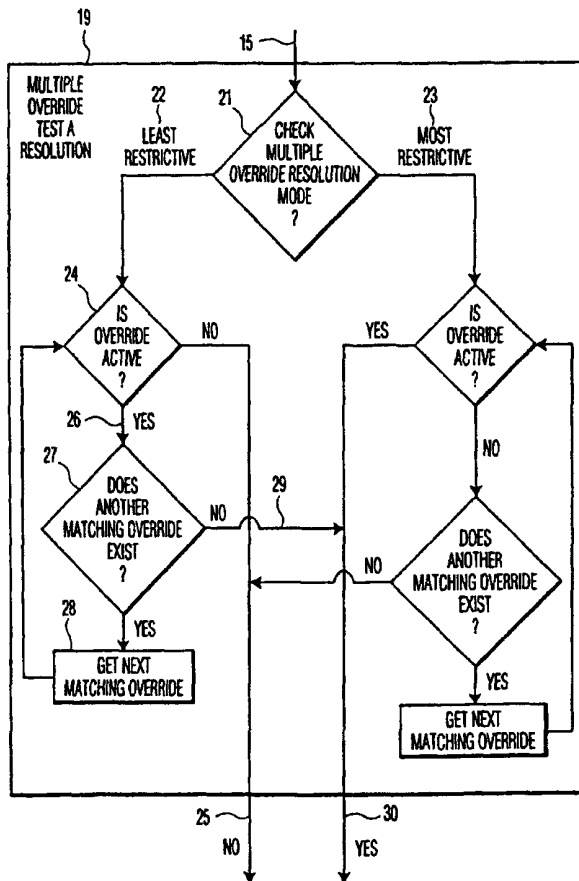
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(54) Title: RATINGS CONTROL SYSTEM WITH TEMPORARY OVERRIDE CAPABILITY AND CONFLICT RESOLUTION FEATURE



(57) Abstract: Video processing system having a blocking system which prevents viewing or recording of programs which exceed ratings, spending, and/or view time limits set by a supervisor who has entered a password accepted by the control system, an override system for entering instructions to temporarily override ratings, spending, and/or view time limits, and/or to permit specific programs to be viewed, and a conflict resolution system for resolving conflicts between or among multiple instructions. Related apparatus and processor are also disclosed.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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RATINGS CONTROL SYSTEM WITH TEMPORARY OVERRIDE CAPABILITY AND CONFLICT RESOLUTION FEATURE

BACKGROUND

This invention relates to systems for blocking viewing or recording of television
5 programs which exceed a ratings, spending, or viewing time limit, or other viewing limit set
by a supervisor.

Video signal processing systems such as television tuners contained in television sets,
video cassette recorders, or cable boxes which are suitable for coupling to a display device
such as a picture tube and which contain circuitry and software designed to prevent viewing of
10 programs containing ratings information below a level set by a supervisor or exceeding
spending limits in pay-per-view systems, are very well known. The programmed processor
allows a supervisor with a password, usually a parent, to set a limit over or outside of which
supervised persons, such as young children, cannot view broadcasts.

A device or system that provides such control permits a supervisor to prevent certain
15 programs and/or scenes from being viewed and heard based on the content of the
program/scenes, the subscription cost, or total viewing time for a period such as a day. For
example, a parent might specify that programs and/or scenes including violent subject matter
should be excluded. A supervisor can also specify a rating limit, such as PG-13, and
programs and scenes exceeding that limit (e.g., R and X rated programs) could not be viewed
20 or heard. The supervisor can also limit the use of pay-per-view or can set a pay-per-view
spending limit. The supervisor can also enter a daily maximum view time. The ratings,
spending and view time can be chosen in a profile, which may also include the name of the
user, or an identification such as "children." In some situations, one or more profiles can be
defined, for example a second profile for "parents," and a third for "babysitter." Each profile
25 may have a different ratings limit, pay-per-view spending limit, and view time limit, and can
only be accessed by the person specified in the profile, i.e., the children can not apply the
parent profile since it is protected by a password.

By decoding program content information included in an auxiliary information
component of a program signal (e.g., Extended Data Services (XDS) data in an NTSC
30 television signal in the United States or PSIP data in an ATSC television signal), a television

receiver containing a "stripper" (or decoder) can "slice" or extract information (e.g., from the vertical blanking interval (VBI) of an NTSC television signal in the United States) to determine the content and rating of television programs and scenes and can compare the content and rating to the limits set by the supervisor. Other data such as spending data or time limits may be received in other ways, for example using the system clock to calculate elapsed active view time.

When the ratings information or other information for a program exceeds a limit set by the supervisor, the processor is designed to blank the screen and mute the audio portion of the broadcast. For television receivers which also have multi-image display capability, the receiver would provide supervisor control for both main and auxiliary pictures when both are displayed. In addition, the receiver may display a message indicating the reason for the interrupted reception and the expected duration of the interruption (e.g., SCENE EXCEEDS CONTENT LIMIT).

In situations where the supervisor wishes to temporarily change the ratings limit, time limit, or spending limit, or to permit viewing of a particular television broadcast, the supervisor must reset the ratings limit, and then remember to restore the original limit. Due to the inconvenience of having to reset the original limit, we have conceived of a system for temporarily overriding the normal limits, as disclosed in a copending patent application entitled RATINGS CONTROL SYSTEM WITH TEMPORARY OVERRIDE CAPABILITY, Attorney Docket Number RCA 89385, filed on even date herewith, hereafter referred to as "Override Invention." Our aforementioned Override Invention provides a video signal processing system such as a television receiver, cable box, or VCR tuner for producing an output signal suitable for coupling to a display device to produce a displayed image, which blocks viewing of programs which are received with embedded ratings information, spending information, and/or view time which is outside a range selected by a supervisor, and permits the supervisor to enter a temporarily revised range or permit specific programs to be viewed; the system then automatically restores the normal limits at the end of the temporary override.

While the Override Invention provides several ways for a supervisor to override the normal viewing limitations, for example by a modified ratings limit for a defined temporary period; an override for a single broadcast program; an override for a specific time period on a regular basis; an override to allow spending to exceed the normal limit for a particular day;

and an override to allow the supervised person to view television for a different time limit, it is herein recognized that choosing more than one override option may present conflicts for the system. The present invention addresses that problem.

SUMMARY OF THE INVENTION

5 The present invention comprises a video signal processing system for producing an output signal suitable for coupling to a display device to produce a displayed image, having a supervisor control system which permits the supervisor to enter ratings, spending, or view time limits and thereby block viewing of any programs which exceed those limits, and also to temporarily override such limits to permit specific programs to be viewed, to make a
10 temporary change in the ratings limit, to temporarily revise a spending limit, and/or to temporarily revise a view time limit. The system permits viewing of programs within the time duration and parameters of the temporarily revised limits, and automatically restores the normal ratings, spending, and/or view time limits at the completion of the overrides. When
15 among such overrides by following either the most restrictive or the least restrictive of the conflicting overrides, depending on either supervisor choice or system default.

As with the Override Invention, children and others who do not have the supervisory password can not change the profiles or temporarily override blocking; and the supervisor who has entered the password accepted by the control system can enter the override system
20 and enter (A) one or more specific broadcast programs to be unblocked, (B) one or more channels to be unblocked for one or more specific time periods, (C) a revised ratings profile for a specific time period, (D) a revised spending, and/or (E) a revised view time limit. The override limits are preferably displayed on a list of active overrides, as with the Override Invention. The list of overrides is available for on screen viewing until the time period is
25 complete. The time period for the override is set by the supervisor, or is derived by the processor from the time a particular program is scheduled to be broadcast.

Preferably the processor is programmed to display a status listing of programs or channels unblocked and the corresponding time periods, or to display the status of the remaining spending authorization for a profile.

According to the present invention, the system default may be preset by the manufacturer to resolve conflicting override instructions by following the most restrictive instruction or the least restrictive instruction. It is preferred, however, to provide a menu option which allows the supervisor to choose to change the conflict resolution default to follow either the least restrictive or most restrictive of the conflicting override instructions.

In another aspect, the invention comprises a ratings control system which blocks programs which are broadcast with ratings information or spending information which is outside a range selected by a supervisor, and which permits a supervisor to enter a password and select a program, channel and time period, and/or overall time period for which the normal ratings control range or spending limit is temporarily revised, which automatically restores the normal ratings control range at the expiration of the selected time period(s) or completion of the selected program(s), and which resolves conflicts between multiple override instructions by following a preset conflict resolution mode of either the most restrictive or least override instruction. Preferably the supervisor can change the conflict resolution mode by toggling between the two modes, i.e., most restrictive or least restrictive.

Another aspect of the invention comprises a processor which normally blocks viewing of programs or recordings outside limits entered by a supervisor, which permits or denies viewing of programs according to temporary override(s) instructions entered by the supervisor, which returns to normal blocking profile after expiration of a time period set by the supervisor, or by removal of the override(s) by the supervisor, or after completion of the programs or recordings permitted in the temporary override(s) instructions, and which resolves two or more conflicting override instructions according to a preset mode of either the most restrictive or the least restrictive override.

It is preferred to present an on-screen guide in the user interface which lists all active overrides. In the case of conflicting overrides, the on screen guide could either indicate a conflict, or automatically resolve any conflict and not display the override which is not being followed.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows, in block diagram form, a preferred system of the invention disclosed in the above-mentioned copending patent application bearing Attorney Docket Number RCA
5 89385, upon which the present invention is based.

FIG. 2 shows, in block diagram form, the override list conflict resolution logic.

FIG. 3 shows an example of an on-screen display of an override menu including the multiple override conflict resolution feature.

DETAILED DESCRIPTION OF THE INVENTION

10 The invention will be illustrated with respect to a preferred embodiment of the invention, but the invention should not be construed as limited thereto. For example, a television receiver will be illustrated, but the invention is also applicable to other types of video processing systems such as those with display devices such as television sets, and to those without display devices such as direct broadcast satellite (DBS) signal receivers and
15 video recorders (VCRs). In general, the invention applies to systems, apparatus and devices which employ ratings control or spending limits or other criteria to permit or deny access to video or audio broadcasts or recordings.

As shown in the block diagram in FIG. 1 wherein a profile is active in the system, the
20 standard viewable test 11 is run by the processor 12 to determine initially if the program is viewable 15 or not viewable 17. The processor receives both current event information 13 and the current user's rating profile 14 which has previously been entered by the supervisor.

In an example of how an override conflict might arise, if the supervisor of the system who has the password wants to allow a certain one hour program to be viewed by the child but
25 the program's rating is above the allowed limit, the supervisor selects "override" and is challenged to enter the correct password to enter an override in the override list 16. The supervisor identifies the program, the start and stop time, and the profile in cases where the system allows alternative profiles. In this example the supervisor also wants to override the normal view time to temporarily permit up to three hours of viewing on weekdays, and so the

supervisor enters a menu selection via the on-screen display and overrides the view time. In this example of a conflict, the viewer has already used up 2½ hours of the 3 hours view time override when the specially permitted one hour program is about to be broadcast. The system is now presented with a conflict between allowing the one hour program and the half hour of remaining view time per the view time override.

Referring to FIG. 1, the override test logic 18 illustrated is programmed to use information in the override list 16 and apply override list 16 and apply override test A 19 if the standard limits test 11 would permit 15 viewing, or override test B 20 if the normal limits test 11 would not permit 17 viewing. Override test A is illustrated in FIG. 2. Within test A and test B are multiple override conflict resolution routines illustrated in FIG. 2 wherein the system processor 21 first checks which mode is active, i.e., either the least restrictive 22 or most restrictive 23.

Assuming the least restrictive mode is active, either by system default or by supervisor choice, the system logic first checks whether an override is active. If no, then no blocking is imposed 25. If yes 26, then the system then checks for another matching override 27 and, if any, then “gets” it 28, or if not 29 then permits 30 the program.

Referring now to FIG. 3, an example of a screen displayed at the command of a supervisor who has entered an accepted password contains a list of programs being broadcast at a particular time, listing channel, system, program info, start time, stop time, and status. “Active” refers to programs being currently viewed, “running” refers to programs which are specifically permitted, and “paused” refers to programs which are specifically denied. The “override parameters” list contains the currently imposed limits with regard to “rating,” “content advisory,” “view time,” “channel list,” and “profile.” By using a remote controller, the supervisor can move the cursor to any of the parameters and change them, for example by using the “channel up” and “channel down” keys on the remote controller. The “current override mode” feature is illustrated as “most restrictive,” meaning that in the event of a conflict between two or more different override parameters as applied to a specific program, the system is set to impose the most restrictive one, i.e., the one which would deny viewing and not follow the override which would permit viewing. The “current override mode” may be toggled by the supervisor to “least restrictive,” which would result in the system permitting viewing of a program which is within any of the override parameters.

While this invention has been illustrated and explained in sufficient detail so that those skilled in this art can readily make and use it, various alternatives, modifications, and improvements which are within the scope and spirit of the invention should become apparent.

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CLAIMS

1. An apparatus comprising a video signal processing system for producing an output signal suitable for coupling to a display device to produce a displayed image, the video
5 processing system having a blocking system which prevents viewing or recording of programs which exceed ratings, spending, and/or view time limits set by a supervisor who has entered a password accepted by the control system, an override system for entering instructions to temporarily override ratings, spending, and/or view time limits, and/or to permit specific programs to be viewed, and a conflict resolution system for resolving
10 conflicts between or among multiple instructions.
2. Apparatus according to claim 1 wherein the conflict resolution system allows the supervisor to select to resolve conflicts according to either the most restrictive or the least restrictive resolution.
3. Apparatus according to claim 1 further including means to display a status listing of
15 programs or channels unblocked and the corresponding time periods according to the instructions and, in the event of conflicts between multiple instructions, further according to the conflict resolution.
4. Apparatus according to claim 1 wherein the video signal processing system for producing an output signal comprises a television receiver, cable box, or a video cassette recorder
20 (VCR) tuner.
5. System for controlling viewing or recording of television programs by a supervisor comprising (A) establishing a first set of ratings, spending, and/or view time limits, (B) establishing a conflict resolution system, (C) receiving override instructions from a supervisor which specify one or more permitted television programs, one or more
25 permitted channels to be unblocked for one or more specific time periods, modified view time limits, and/or a revised ratings range for one or more specific time periods, (C) blocking viewing or recording of television programs outside of the first set of limits as modified by the override instructions and, in the event of conflicts between multiple override instructions, resolving the conflicts according to the conflict resolution system.

6. System according to claim 5 wherein the conflict resolution system can be preset by the supervisor to resolve conflicts according to the most restrictive resolution or the least restrictive resolution.
7. A processor which normally blocks viewing of programs or recordings outside a viewer profile entered by a supervisor, which permits or denies viewing of programs according to temporary override(s) instructions entered by the supervisor, which returns to normal blocking profile after expiration of a time period set by the supervisor, or by removal of the override(s) by the supervisor, or after completion of the programs or recordings permitted in the temporary override(s) instructions, and which resolves conflicts between multiple override instructions according to a preset prioritization.

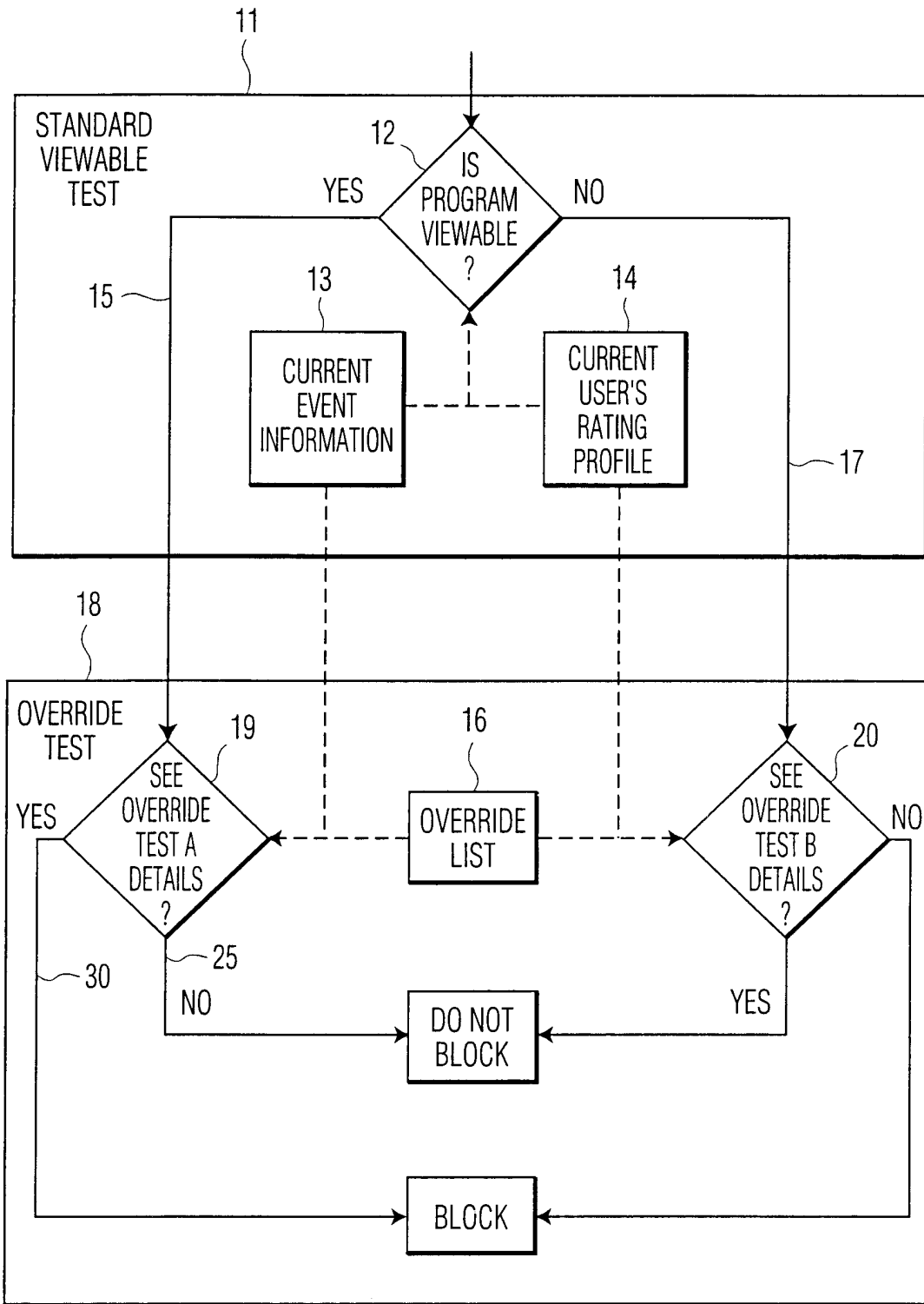


FIG. 1

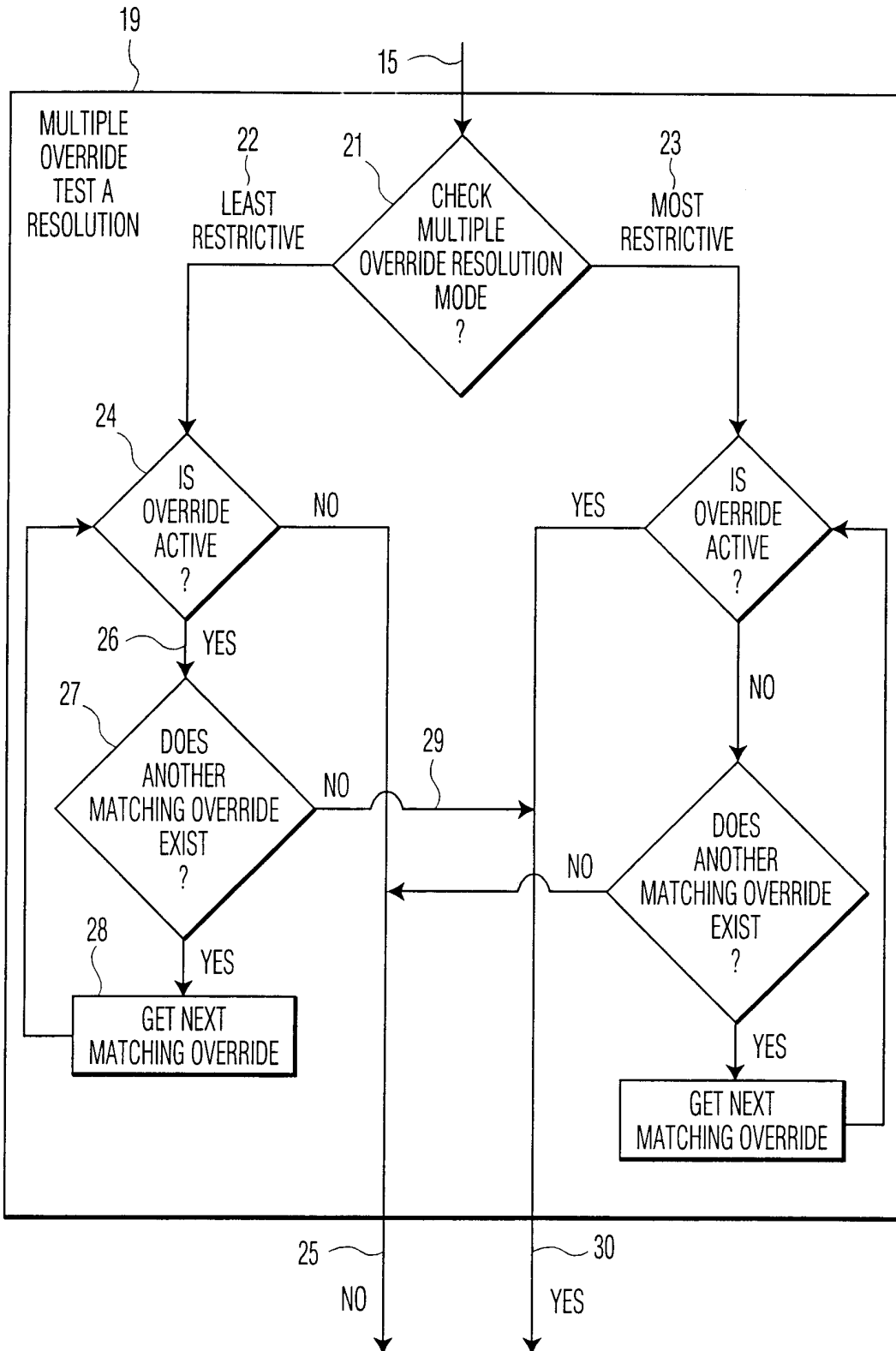


FIG. 2

OVERRIDE LIST SCREEN

CHANNEL	SYSTEM	PROGRAM INFO	START TIME	STOP TIME	STATUS
101	SAT 1	SIT COM	10:00AM 1/2/99	11:00AM 1/2/99	ACTIVE
107	SAT 2	NEWS 2	1:00PM 2/2/99	2:30PM 2/2/99	PAUSED
ALL	ALL		1:00PM 4/2/99	2:30PM 4/2/99	RUNNING
200	SAT 1	MOVIE XXX	1:00PM 2/2/99	2:30PM 2/2/99	RUNNING
200	SAT 1	MOVIE 2	2:00PM 2/2/99	4:00PM 2/2/99	RUNNING
404.50	CABLE	MOVIE 3	1:15PM 2/2/99	4:00PM 2/2/99	RUNNING
•••	•••	•••	•••	•••	•••

OVERRIDE PARAMETERS
1) RATING OVERRIDE: R CONTENT ADVISORY: R
2) SPENDING OVERRIDE: \$10.00
3) VIEW TIME OVERRIDE: UNLIMITED
4) CHANNEL LIST OVERRIDE: YES
5) PROFILE OVERRIDE APPLIES: CHILD

STATUS MODIFIER BUTTONS:

ACTIVATE	PAUSE	DELETE
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CURRENT OVERRIDE MODE: MOST RESTRICTIVE

FIG. 3

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/34149

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04N7/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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A	the whole document	2-4,6
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Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

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Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

Interr. Application No

PCT/US 00/34149

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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