

The invention relates to a broadcast receiving system as described in the preamble of Claim 1.

Broadcast receiving systems for the reception of television- and/or radio broadcasts via wireless transmission or via cable generally comprise a receiving device, and frequently also a video- and/or audio recorder.

In such systems, in particular when audio- and/or video recorders are present and in the absence of a suitable operator, but also generally when the user of such systems is present, the desire exists to receive and/or record specified, selected broadcasts. For this purpose it is known to equip the respective recorder or the respective receiving device with a time switch, a so-called timer, which switches on the recorder or receiver at a specified time and for a specified period of time, optionally with simultaneous tuning to a specified receiving channel. This approach has the disadvantage that in the event that the start of a broadcast is delayed, an unnecessary recording operation takes place or the inserted magnetic tape runs out at the end, and undesired broadcasts are viewed and/or heard, with the result that the user generally loses valuable time.

These disadvantages can be avoided by the video-programme-system (VPS) recently introduced in Germany (see for example EP-A- 112 598). For radio transmissions, comparable procedures are known under the name of the radio-data-service (RDS). In both cases, in respect of each broadcast a code signal, characteristic of this broadcast, the so-called VPS- or RDS- signal is transmitted, which at the receiving end is compared with a code programmed by the user.

In the case of identity a switching voltage is generated which thus switches on the receiver precisely at the actual

starting time of the broadcast precisely for the actual duration of the broadcast. This is extremely advantageous. If the desired broadcast is to commence for example at 20.00 hours, but is postponed on this particular occasion, the switching on of the receiver for the desired broadcast is also delayed accordingly. If the transmission originally scheduled for 20.00 hours then finally starts at 20.30 hours, the transmission is then received and/or recorded precisely for its actual duration.

The aim of the invention is to offer a considerable degree of comfort and service to the user of a broadcast receiving system of the type described in the introduction.

This aim is fulfilled by the invention described in Claim 1. Advantageous further developments of the invention are described in the sub-claims.

The invention is based on the following consideration. In accordance with the respective transmitting standard, the aforementioned code signal is a signal which appears precisely during the duration of the broadcast to which it is assigned. By means of the RDS- or VPS- signal, it is thus basically possible, during the broadcast, to automatically switch a consumer device off or on in transmitter- or broadcast-controlled fashion or to carry out other remote-control procedures.

In accordance with the invention, this possibility is advantageously exploited in order to switch on or off or to control additional consumer devices during a specified broadcast, which consumer devices are more or less closely associated with the broadcast reception, in particular the viewing or listening. The switching on or off of the consumer devices is effected, for example, for reasons of

security, comfort, power saving, and the disconnection also of non-technical, in particular undesired disturbances.

With a switching voltage derived from the RDS- or VPS code signal at the receiving end, preferably the following switching functions can be executed: switching on or off of a special television light, an electronic babysitter, a burglar alarm, a servo-bar, an additional heating apparatus, an optical alarm system or a door bell, or the opening of a cover concealing the screen, or the opening or closing of a cover which serves to darken the room in which the receiving system is operated, such as for example a door, blind, curtain or shutter, the switching off or dimming of the room lighting, which generally is too bright, the switching off of the front door bell, or disturbing audio- or video equipment, or a reduction in the volume of a telephone bell.

Further advantageous features and details of the invention will be explained in the following in the form of a preferred exemplary embodiment, making reference to the drawing.

In the Figure an antenna 2 is connected to a commercially available television receiver 1. The television receiver 1 is connected to a VPS- control device 4 via a data bus 3. The control device 4 is connected via a power supply plug 5 to a voltage source (not shown) and is equipped with a plurality of terminals 6. The terminals 6 are connected to a series of different consumer devices.

The mode of operation is as follows: The code values of a desired broadcast can be programmed with an input keyboard 7 of the control device 4. Via the data bus 3 or via a separate antenna and input stage (not shown), the control device 4 receives the transmitted VPS code signals received in the television receiver 1. When the broadcast, whose

code has been input into the keyboard 7, is received, the television receiver 1 or also a video recorder is switched on. At the same time, for the respective duration of this broadcast, a supply voltage at the terminals 6 is switched on or also switched off.

In the illustrated example, for the duration of the broadcast, with a switching voltage obtained from the VPS code signal, a television light 8 serving to protect the television viewer's eyes is switched on, a room light 9 which is generally too bright for television viewing purposes is switched off, a burglar alarm 10 is actuated in order to close all the main doors and entrances, a front door bell system 11 is switched off in order to avoid disturbances, for example a bell line 11' shown in broken lines between a push button 11b provided in a bell push housing 11a and a front door bell 11c is interrupted, an electronic babysitter 12 (shown symbolically) for the emission of acoustic or optical warning signals is switched on, and in particular a servo-bar 13 represented only very insubstantially in the drawing, is activated, i.e. electromechanically opened, illuminated and moved towards the user. Simultaneously to the television light 8, a drive device for a curtain 14 arranged in the front of the screen 15 of the television receiver 1 is switched on, so that the screen 15, which is concealed by the curtain 14, is exposed for the duration of the broadcast. At the same time, loudspeakers attached to the housing of the television receiver 1 by means of a snap-in-snap-out mechanism are telescopically extended in the lateral direction in order to increase the stereo base.

Thus the consumer devices connected to the control device 4 are switched on or off during the broadcast depending upon their nature. Therefore each terminal 6 is assigned a change-over switch 16 with two keys "+" and "-". If the "+"

key has been actuated, the consumer device connected to the respective terminal 6 is switched on during the broadcast. If the "-" key has been actuated, the consumer device connected to the respective terminal 6 is switched off during the broadcast.

The control device 4 can also be contained in the television receiver 1 or in a recorder. It can also have the form of a separate accessory device which can be connected to the mains, to the receiver, and to the consumers controlled by the RDS- or VPS-signal.

Claims

1. A broadcast receiving system, in particular a radio- and/or television receiving system, with a device for the operation, controlled at the transmitting end, of a device at the receiving end by means of a code signal which is transmitted for the entire duration of a broadcast and is characteristic of this broadcast, characterised in that the broadcast receiving system is designed such that the code signal serves to control consumer devices (8 - 13) which do not form part of the immediate broadcast receiving circuit, where the system is assigned a control device (4) which comprises a mains terminal (5), a terminal (6) for a broadcast receiving device (1), a keyboard (7) for programming a desired broadcast, and terminals (6) for the consumer devices (8 - 13).

2. A system as claimed in Claim 1, characterised in that the terminals (6) for the consumer devices (8 - 13) are each assigned a change-over switch (16), by the actuation of which (keys "+" or "-") the respective connected consumer device (8 - 13) can selectively be switched on or off by the code signal.

3. A system as claimed in Claim 1, characterised in that the code signal serves to control electrical, mechanical, pneumatic or hydro-pneumatic consumer devices (8 - 13).

4. A system as claimed in Claim 1 or 2, characterised in that the code signal serves to switch on or off lighting units (8, 9) or to change their brightness or colour in a predetermined fashion.

5. A system as claimed in Claim 1 or 2, characterised in that the code signal serves to switch on monitoring- and



security devices, such as an electronic babysitter (12) or burglar alarms (10).

6. A system as claimed in Claim 1 or 2, characterised in that the code signal serves to switch off consumer devices which may disturb the television reception, such as front door bell system (11), telephone, audio equipment.

7. A system as claimed in Claim 1 or 2, characterised in that the code signal serves to control, in a predetermined fashion, convenience consumer devices, such as servo-bar (13), heating system, facilities for the severely handicapped.

8. A system as claimed in Claim 1 or 2, characterised in that the code signal serves to open a cover concealing the screen (15) of a television receiver (1), such as a door, blind, curtain (14) or shutter.

9. A system as claimed in Claim 1 or 2, characterised in that the control device (4) is installed in a broadcast receiving device, an audio- or a video recorder.

10. A control device for a system as claimed in Claim 1 or 2, characterised in that the control device (4) has the form of an accessory device.