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DECLARATION IN SUPPORT

In support of the (Convention) Application made by:

DEUTSCHE THOMSON-BRANDT GMBH, of Hermann-Schwer-Strasse 3,
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of Germany
for a patent for an invention entitled:

TRANSMITTER CONTROLLED ACTUATION

I (~~WE~~) ROBERT EINSEL

of and care of the applicant company do solemnly and sincerely declare as follows:

~~a) I am (We are) the applicant(s) for the patent~~

~~XX~~

b) I am (We are) authorised by the applicant(s) for the patent to make this declaration on its behalf.

Delete the following if not a Convention Application.

The basic application(~~s~~) as defined by section 141 (~~142~~) of the Act was (~~was~~) made

on 8 August 1985 in Federal Republic of Germany

~~XX~~

~~XX~~

~~XX~~

~~XX~~

by DEUTSCHE THOMSON-BRANDT GMBH

The basic application(s) referred to in this paragraph is (~~are~~) the first application(s) made in
a Convention country in respect of the invention the subject of the application.

~~a) I am (We are) the actual inventor(s) of the invention~~

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~~is~~(are) the actual inventor(s) of the invention and the facts upon which
the applicant company
is (~~are~~) entitled to make the application are as follows:

THE APPLICANT IS A PERSON WHO WOULD IF A PATENT WERE GRANTED
UPON AN APPLICATION MADE BY THE INVENTOR BE ENTITLED TO HAVE
THE PATENT ASSIGNED TO HIM UNDER THE PROVISION OF S34(1) (fa)
OF THE ACT

Declared at Hannover this 05th day of April 19 88

Signed

ppa 12 Einsel

Status Confidential Clerk

Robert Einsel

Declarant's Name Deutsche Thomson-Brandt GmbH

F. B. RICE & CO PATENT ATTORNEYS

This form is suitable for any type of Patent Application. No legalisation required.

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DEVICE LOCATED AT THE RECEIVER END FOR ACTUATION CONTROLLED FROM THE TRANSMITTER END

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(56) Prior Art Documents
DE 3313799
EP 0118104

(57) Claim

1. A device for providing transmitter-controlled actuation of equipment at the receiving end of a communications system in which an identification signal is employed to characterize a broadcast, comprising:

first means, at the receiving end, for starting the equipment without relying on the identification signal, and

second means, at the receiving end and operable when the equipment has been started by the first means, for controlling the further operation of the equipment in a predetermined operating mode by using the identification signal, the second means including a memory,

third means for initially storing only initially received data corresponding to at least a portion of the identification signal in the memory when the equipment is started by the first means, and

fourth means for comparing the stored data with corresponding data of a subsequently received

identification signal and, for the entire time that the stored data coincides with the corresponding data in the subsequently received identification signal, causing the equipment to be operated in the predetermined operating mode.

9. A circuit for controlling an entertainment apparatus which is responsive to a received signal having a sequence of program segments, the received signal including an identification signal portion which characterizes each program segment as long as the respective program segment lasts and which changes when one program segment is followed by the next program segment, the entertainment apparatus having first and second states and having manually operable control means for shifting the entertainment apparatus from the first state to the second state, said circuit comprising:

first means for initially storing at least part of the identification signal portion of only the initially received signal when the control means is manually operated to shift the entertainment apparatus from the first state to the second state; and

second means for comparing the at least part of the identification signal portion stored in the first means with a corresponding at least part of the identification signal portion of a subsequently received signal, and for returning the entertainment apparatus to the first state when a program segment ends.

PCT

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 International Bureau



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Mit internationalem Recherchenbericht.

Vor Ablauf der für Änderungen der Ansprüche zugelas-
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 derungen eintreffen.

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This document contains the
 amendments made under
 Section 49 and is correct for
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 PATENT OFFICE

(54) Title: DEVICE LOCATED AT THE RECEIVER END FOR ACTUATION CONTROLLED FROM THE
 TRANSMITTER END

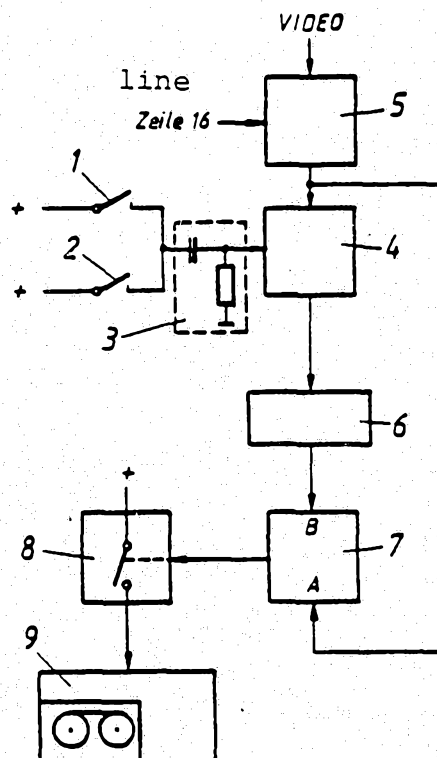
(54) Bezeichnung: EMPFÄNGERSEITIGE EINRICHTUNG ZUM SENDERSEITIG GESTEUERTEN BETÄTIGEN

(57) Abstract

Device located at the receiver end for controlling the actuation of a re-
 ceiver apparatus from the transmitter end, which uses an identification signal
 that characterizes a transmission and is transmitted throughout the duration
 of the transmission. When the apparatus starts to operate independently of
 the identification signal, or when the device is actuated at the commencement
 of the transmission or during the latter, means provided at the receiving end
 control the continued operation of the apparatus in a specific operating mode
 with the aid of the identification signal. The receiving apparatus can be a
 broadcast receiving apparatus, especially a television or radio receiving set,
 an audio or video recorder.

(57) Zusammenfassung

Eine empfängerseitige Einrichtung zum senderseitig gesteuerten Betäti-
 gen eines empfängerseitigen Gerätes durch ein während der gesamten Dauer
 eines Sendbeitrages übertragenes, diesen Sendbeitrag charakterisierendes
 Kennsignal. Bei nicht durch das Kennsignal gestartetem Betrieb des Gerätes
 und bei Beginn oder während des Sendbeitrages erfolgreichem Aktivieren der
 Einrichtung steuern empfängerseitig vorgesehene Mittel den weiteren, in ei-
 ner vorbestimmten Betriebsart erfolgenden Betrieb des Gerätes durch das
 Kennsignal. Als empfängerseitiges Gerät kann ein Rundfunkempfangsgerät,
 insbesondere ein Fernseh- oder Hörfunkempfangsgerät, ein Audio- oder ein
 Videorecorder vorgesehen sein.



DEVICE AT THE RECEIVING END FOR
TRANSMITTER CONTROLLED ACTUATION

The invention relates to a device at the receiving
end for transmitter controlled actuation of equipment at
5 the receiving end by means of an identification signal
transmitted for the entire duration of a broadcast and
characterizing this broadcast, with operation of the
equipment in a predetermined operating mode not started by
the identification signal. Such a device serves, for
10 example, to permit accurate recording of a broadcast
characterized by the respective identification signal.
The identification signal is transmitted as additional
information together with the audio and/or video signal,
possible via a so-called auxiliary carrier, a so-called
15 data line in the video signal or the like.

EP-A3-0,118,104 discloses a device of the
abovementioned type. As disclosed in that publication,
operation of the equipment in a predetermined operating
mode not started by the identification signal is effected
20 in that, at a given point in time, a comparison operating
mode is started by means of a timer to compare the
transmitted identification signal data with the data of
the desired program. As soon as the identification signal
corresponding to the desired program is detected during
25 the comparison, the predetermined operating mode - i.e.,
the further comparison - is no longer continued but is
terminated.

The present invention provides a device for providing
transmitter-controlled actuation of equipment at the
30 receiving end of a communications system in which an
identification signal is employed to characterize a
broadcast, comprising:

first means, at the receiving end, for starting the
equipment without relying on the identification signal, and
35 second means, at the receiving end and operable when



the equipment has been started by the first means, for controlling the further operation of the equipment in a predetermined operating mode by using the identification signal, the second means including a memory,

5 third means for initially storing only initially received data corresponding to at least a portion of the identification signal in the memory when the equipment is started by the first means, and

10 fourth means for comparing the stored data with corresponding data of a subsequently received identification signal and, for the entire time that the stored data coincides with the corresponding data in the subsequently received identification signal, causing the equipment to be operated in the predetermined operating
15 mode.

20 The present invention further provides a circuit for controlling an entertainment apparatus which is responsive to a received signal having a sequence of program segments, the received signal including an identification signal portion which characterizes each program segment as long as the respective program segment lasts and which changes when one program segment is followed by the next program segment, the entertainment apparatus having first and second states and having manually operable control
25 means for shifting the entertainment apparatus from the first state to the second state, said circuit comprising:

30 first means for initially storing at least part of the identification signal portion of only the initially received signal when the control means is manually operated to shift the entertainment apparatus from the first state to the second state; and

35 second means for comparing the at least part of the identification signal portion stored in the first means with a corresponding at least part of the identification signal portion of a subsequently received signal, and for



returning the entertainment apparatus to the first state when a program segment ends.

The present invention yet further provides a circuit for controlling an apparatus for recording information
5 carried by a received signal having a sequence of program segments, the received signal including an identification signal portion which characterizes each program segment as long as the respective program segment lasts and which changes when one program segment is followed by the next
10 program segment, the apparatus having a recording mode and a non-recording mode and having a record key which is manually operable to shift the apparatus from non-recording mode to recording mode, comprising:

first means for storing at least part of the
15 identification signal portion of only the initially received signal when the record key is manually operated to shift the apparatus from the non-recording mode to the recording mode; and

second means for comparing the at least part of the
20 identification signal portion stored in the first means with a corresponding at least part of the identification signal portion of the received signal, and for returning the apparatus to the non-recording mode when a program segment ends.

25 The device according to the invention offers the advantage of keeping the equipment at the receiving end in the predetermined operating mode for essentially only precisely the duration of the broadcast being received at the moment when the device was activated.

30 This may advantageously result in a reduction of the consumption of electric energy, in the case of recorders also, in particular, in a reduction of the wear of moving parts and/or better utilization of the record carriers, for example audio or video tapes, cassettes, diskettes or
35 the like.



Further advantages, features and details of the invention will become evident from the description below of an embodiment with reference to the drawing figure which depicts actuation of a video recorder from the transmitting end by means of the device according to the invention.

The video recorder (VCR) 9 shown in the drawing figure includes a key (not shown in detail) for the recording mode ("record key") and a key for the so-called "quick-start".



When the record key is depressed, video recorder 9 is set into the recording mode until another selection is made while depressing the quick start key sets the recorder into the recording mode for a certain period which can be set, for example, in 30-minute increments.

Actuation of the record or quick start keys simultaneously closes a contact 1 or 2, respectively, thus placing a positive voltage + across a differentiating member 3 composed of a capacitor and a resistor connected to ground. The pulse then generated via differentiating member 3 briefly opens a gate 4 for a video signal present at the input of a line selector 5. Line selector 5 selects the sixteenth line of the video signal, the so-called data line, in which an identification signal characterizing a particular broadcast - also called a video program system or VPS signal - is transmitted.

Data contained in this identification signal are stored in a memory 6. It is not necessary that all data contained in the identification signal be written into the memory. For example, the data characterizing the transmitting station being received or the associated country of the transmitting channel may be left unconsidered if no changes are made



during the recording mode in the frequency tuning of video recorder 9.

For the entire duration of the respective broadcast, the identification signal characterizing this broadcast does not change. The data contained in the identification signal or the data in the identification signal deemed necessary in the sense mentioned above are fed to an input A of a comparison stage 7. The data stored in memory 6 are present at another input B of comparison stage 7.

As long as the informations present at the two inputs A and B are identical or, as mentioned above, the data of interest in the present case are identical, comparison stage 8 switches through and holds the video recorder in the recording mode. It may be provided that switching stage 8 can be operated only if it has previously been activated in a manner not shown in detail in the drawing, for example, has been connected to a voltage supply by way of a switch.

As soon as the identification signal changes - in the data of interest here - because, for example, the broadcast is finished or interrupted or there is some interference in the transmission, a comparison of the data present at inputs A and B of comparison stage 7 becomes negative. Thus,



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comparison stage 7 turns off the recording mode in the desired manner by way of switching stage 8 and perhaps even turns off the video recorder as a whole.

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THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:-

1. A device for providing transmitter-controlled actuation of equipment at the receiving end of a communications system in which an identification signal is employed to characterize a broadcast, comprising:

first means, at the receiving end, for starting the equipment without relying on the identification signal, and

second means, at the receiving end and operable when the equipment has been started by the first means, for controlling the further operation of the equipment in a predetermined operating mode by using the identification signal, the second means including a memory,

third means for initially storing only initially received data corresponding to at least a portion of the identification signal in the memory when the equipment is started by the first means, and

fourth means for comparing the stored data with corresponding data of a subsequently received identification signal and, for the entire time that the stored data coincides with the corresponding data in the subsequently received identification signal, causing the equipment to be operated in the predetermined operating mode.

2. A device according to claim 1, wherein the fourth means comprises means for keeping the equipment at the receiving end in the predetermined operating mode only as long as the stored data coincide with the corresponding data of the subsequently received identification signal.

3. A device according to claim 1, wherein the third means comprises at least one switch which is actuated when the equipment is started by the first means.

4. A device according to claim 1, wherein the equipment at the receiving end is a recording device, and wherein the predetermined mode of operation is the recording mode.

5. A device according to claim 4, wherein the first



means comprises a key for quickly initiating the recording mode.

6. A device according to claim 1, wherein the equipment at the receiving end comprises means for receiving a broadcast signal.

7. A device according to claim 6, wherein the signal is a television signal.

8. A device according to claim 4, wherein the recording device is a VCR.

9. A circuit for controlling an entertainment apparatus which is responsive to a received signal having a sequence of program segments, the received signal including an identification signal portion which characterizes each program segment as long as the respective program segment lasts and which changes when one program segment is followed by the next program segment, the entertainment apparatus having first and second states and having manually operable control means for shifting the entertainment apparatus from the first state to the second state, said circuit comprising:

first means for initially storing at least part of the identification signal portion of only the initially received signal when the control means is manually operated to shift the entertainment apparatus from the first state to the second state; and

second means for comparing the at least part of the identification signal portion stored in the first means with a corresponding at least part of the identification signal portion of a subsequently received signal, and for returning the entertainment apparatus to the first state when a program segment ends.

10. The circuit of claim 9, wherein the first ^{means} ~~name~~ comprises a memory, a switch which is actuated when the control means is manually operated, and means for storing at least part of the identification signal portion of the



received signal in the memory when the switch is actuated.

11. The circuit of claim 10, wherein the second means comprises a comparator having an input port which receives the contents of the memory and another input port which receives the corresponding at least part of the identification signal portion of the subsequently received signal.

12. The circuit of claim 9, wherein the second means comprises a comparator having an input port which receives the at least part of the identification signal portion stored in the first means and another input port which receives the corresponding at least part of the identification signal portion of the subsequently received signal.

13. The circuit of claim 9, wherein the entertainment apparatus comprises means for recording information carried by the received signal.

14. The circuit of claim 13, wherein the received signal is a video signal and that means for recording is a VCR.

15. A circuit for controlling an apparatus for recording information carried by a received signal having a sequence of program segments, the received signal including an identification signal portion which characterizes each program segment as long as the respective program segment lasts and which changes when one program segment is followed by the next program segment, the apparatus having a recording mode and a non-recording mode and having a record key which is manually operable to shift the apparatus from non-recording mode to recording mode, comprising:

first means for storing at least part of the identification signal portion of only the initially received signal when the record key is manually operated to shift the apparatus from the non-recording mode to the recording mode; and



second means for comparing the at least part of the identification signal portion stored in the first means with a corresponding at least part of the identification signal portion of the received signal, and for returning the apparatus to the non-recording mode when a program segment ends.

16. The circuit of claim 15, wherein the first means comprises a memory, a switch which is actuated when the record key is manually operated, and means for storing at least part of the identification signal portion of the received signal in the memory when the switch is actuated.

17. The circuit of claim 16, wherein the second means comprises a comparator having an input port which receives the contents of the memory and another input port which receives the corresponding at least part of the identification signal portion of the subsequently received signal.

18. The circuit of claim 15, wherein the second means comprises a comparator having an input port which receives the at least part of the identification signal portion stored in the first means and another input port which receives the corresponding at least part of the identification signal portion of the subsequently received signal.

19. The circuit of claim 15, wherein the received signal is a video signal and the apparatus for recording information is a VCR.

DATED this 5th day of February 1990

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Applicant:

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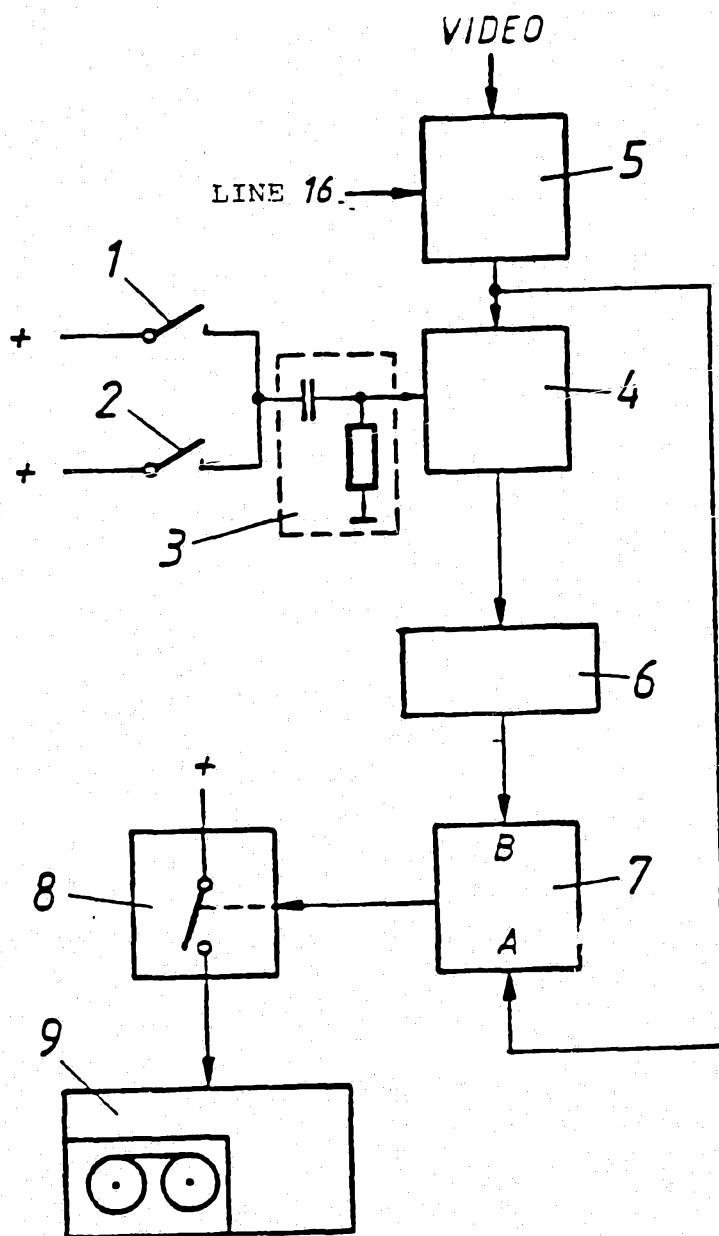


ABSTRACT

DEVICE AT THE RECEIVING END FOR TRANSMITTER
CONTROLLED ACTUATION

The invention relates to a device at the receiving end for the transmitter controlled actuation of equipment at the receiving end by means of an identification signal transmitted for the entire duration of a broadcast and characterizing this broadcast. If the equipment has not been started by the identification signal and if the device is actuated at the beginning or during the broadcast, means provided at the receiving end control the further operation of the equipment in a predetermined operating mode by means of the identification signal. The equipment at the receiving end may be a broadcast receiver, particularly a television or radio receiver, an audio or video recorder.





INTERNATIONAL SEARCH REPORT

International Application No PCT/EP 86/00461

I. CLASSIFICATION OF SUBJECT MATTER (If several classification symbols apply, indicate all) ³		
According to International Patent Classification (IPC) or to both National Classification and IPC		
Int.Cl. ⁴ : H 04 N 5/782//H 04 N 7/087		
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁴		
Classification System	Classification Symbols	
Int.Cl. ⁴	H 04 N	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁵		
III. DOCUMENTS CONSIDERED TO BE RELEVANT ¹⁴		
Category [*]	Citation of Document, ¹ with indication, where appropriate, of the relevant passages ¹⁷	Relevant to Claim No. ¹³
X	DE, C, 3313799 (INSTITUT FÜR RUNDFUNKTECHNIK GMBH) 20 June 1984, see the whole document --	1,2,4-7
X	EP, A, 0118104 (INTERNATIONAL STANDARD ELECTRIC CORP.) 12 September 1984, see page 4, line 17 - page 13, line 14 --	1,2,4-7
A	Nachrichtentechnische Zeitschrift, volume 35, no 6, June 1982, Schwäbisch Gmünd (DE) H. Eckard Krüger et al.: "Das digitale Fernsehkennungssystem ZPS", lines 368-376, see the whole document --	1,2
A	EP, A, 0041121 (BLAUPUNKT-WERKE GMBH) 9 December 1981 -----	
[*] Special categories of cited documents: ¹⁵ "A" document defining the general state of the art "E" earlier document but published on or after the international filing date "L" document cited for special reason other than those referred to in the other categories "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but on or after the priority date claimed "T" later document published on or after the international filing date or priority date and not in conflict with the application, but cited to understand the principle or theory underlying the invention "X" document of particular relevance		
IV. CERTIFICATION		
Date of the Actual Completion of the International Search ²		Date of Mailing of this International Search Report ²
10 December 1986 (10.12.86)		22 January 1987 (22.01.87)
International Searching Authority ¹		Signature of Authorized Officer ²⁰
EUROPEAN PATENT OFFICE		

ANNEX TO THE INTERNATIONAL SEARCH REPORT ON

INTERNATIONAL APPLICATION NO.

PCT/EP 86/00461 (SA 14308)

This Annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report. The members are as contained in the European Patent Office EDP file on 05/01/87

The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE-C- 3313799	20/06/84	EP-A- 0122626	24/10/84
EP-A- 0118104	12/09/84	DE-A,C 3307885	13/09/84
		JP-A- 59229929	24/12/84
EP-A- 0041121	09/12/81	DE-A- 3020787	17/12/81
		JP-A- 57024179	08/02/82

For more details about this annex :
see Official Journal of the European Patent Office, No. 12/82