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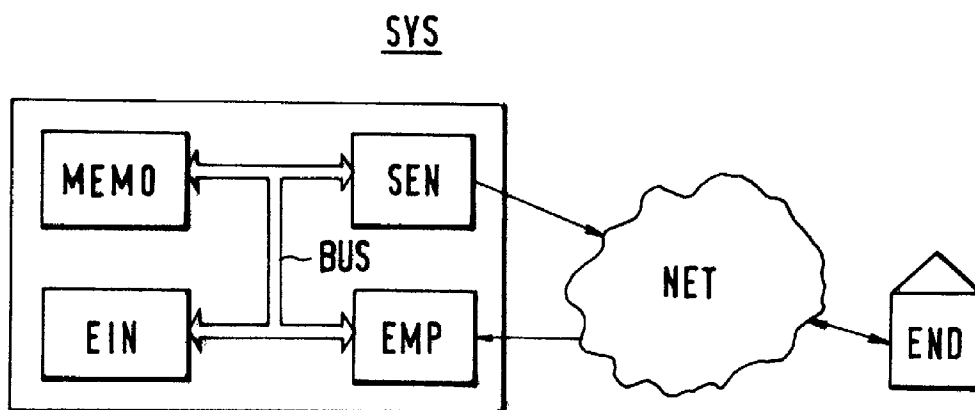
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(54) **SERVEUR OFFRANT UN SERVICE**

(54) **SERVER FOR OFFERING A SERVICE**



(57) L'invention porte sur un serveur (SER) comportant une unité de réception (EMP) pour recevoir les signaux des clients, qui sont transmis de façon téléométrique par le biais du réseau de télécommunication (NET) et qui contiennent les instructions des clients pour monter des suites d'images de plusieurs suites différentes d'images connues provenant d'au moins un bloc d'information image. Les suites d'images connues sont, par exemple, des vidéofilms que le client a enregistré avec son caméscope et transmis au serveur (SER). Les instructions du client, qui portent par exemple sur le montage de son vidéofilm, sont transmises à une unité de traitement (EIN) qui peut les exécuter. Les suites d'images montées sont acheminées jusqu'à une unité de mémoire (MEMO) où elles sont stockées. De plus, l'invention prévoit une unité de transmission (SEN) pour transmettre les suites d'images stockées, par le biais du réseau de télécommunication par exemple, à un client ou à un magnétoscope afin d'enregistrer le vidéofilm monté sur une cassette vidéo.

(57) A server (SER) contains a receiving unit (EMP) for receiving customers' signals which are telemetrically transmitted via a telecommunications network (NET) and contain instructions from the customers for assembling image sequences of several different known image sequences from at least one image information block. The known image sequences are for example video films which the customer has recorded with his camcorder and transmitted to the server (SER). A customer's instructions, which, e.g., concern the editing of his own video film, are transmitted to a processing unit (EIN) which is able to carry out the instructions. The assembled image sequences are routed to a memory unit (MEMO) where they are stored. A transmitting unit (SEN) is furthermore provided to transmit the stored image sequences, e.g., via a telecommunications network, to a customer or to a video recorder for recording the assembled video film on a video cassette.

ABSTRACT OF THE DISCLOSURE

A server (SER) contains a receiving unit (EMP) for receiving customers' signals which are telemetrically transmitted via a telecommunications network (NET) and contain instructions from the customers for assembling image sequences of several different known image sequences from at least one image information block. The known image sequences are for example video films which the customer has recorded with his camcorder and transmitted to the server (SER). A customer's instructions, which, e.g., concern the editing of his own video film, are transmitted to a processing unit (EIN) which is able to carry out the instructions. The assembled image sequences are routed to a memory unit (MEMO) where they are stored. A transmitting unit (SEN) is furthermore provided to transmit the stored image sequences, e.g., via a telecommunications network, to a customer or to a video recorder for recording the assembled video film on a video cassette.

SERVER FOR OFFERING A SERVICE
BACKGROUND OF THE INVENTION

1. Technical Field

5 The invention concerns a server for offering a service to a number of customers.

2. Discussion of Related Art

10 Servers for offering "Near Video-on-demand" (NVOD) and "Video-on-demand" (VOD) services are known for example from the magazine ntz, issue 3/1995, pages 18 to 25. From a program offering video information blocks, mostly video films which are stored in a memory unit in the server, the customer selects one video information block which is immediately transmitted to the respective customer (VOD), or at a time predetermined by the server
15 when the respective customer is able to switch on the next time (NVOD). The customer is therefore limited to the program offered by the server, and thus to a selection from this offered program, and also to the time of the transmission in the case of the NVOD.

20 A video processing unit is known from EP 0240794 A2. The video processing unit is an expensive and voluminous device, whereby image sequences stored on video tapes can be processed, which is also called editing. This includes the cutting, joining, rerecording of image
25 sequences, e.g., by selecting the most suitable settings for assembling image sequences recorded by different cameras in the correct order into a video information block, thus producing, e.g., a high quality video film which is used as master for a movie film. A customer who
30 has recorded image sequences on video tapes has to have these video tapes transported to the place where the video processing installation is located, and wait for the return of the assembled video film. If the customer does not wish to travel himself to the place where the

video processing installation is located, he has little influence on the composition of the video film.

SUMMARY OF THE INVENTION

5 A server of the invention for offering a service to a number of customers, which avoids the above-cited drawbacks, is provided with a receiving unit to receive signals which are telemetrically transmitted by customers via a telecommunications network, and contain the customers' instructions for assembling image sequences
10 from several different known image sequences of at least one video information block, and to transmit them to a processing unit which is able to carry out the instructions, and from where the assembled image sequences are routed to a memory unit where they are
15 stored, and a transmitting unit is provided to transmit the stored image sequences.

Such a server allows customers, e.g., private customers who have recorded their own video films with a camcorder, e.g., during a vacation, to telemetrically
20 edit their video films. In this way they can, e.g., cut out jittery scenes, change the chronology of the action and thus assemble a video film whose action was determined in accordance with their own wishes. The customers can also include previously existing image
25 sequences in their individually composed video film, which gives them a further degree of freedom and increases the appeal of the service. The customers do not need to access a video processing installation, also called a video editing place, but can, e.g., communicate
30 with the server from their homes via a telecommunications network, and in this way assemble their video film telemetrically. This can furthermore represent a saving of several days time for the customers, since they do not need to wait for the postal transmission of their video

film, but the assembled video film can be directly transmitted to them via the telecommunications network.

Another advantage of the server is that the customers are able to place orders. For example, a television program often transmits video films in several parts or sequences. If a customer is unavailable at the time when some of the parts are being transmitted, or does not wish to see the video film at the appointed time, or wants to see the entire film, with a video film presented in three parts for example he can instruct the server to record and store all three parts for him, so that the customer can view the entire video film at a time he can determine. The server's processing installation is then for example a data administration, also called a management. The customer can furthermore instruct the server to assemble a video film containing no blocks of advertisement for example. In this way the customer can view the selected film without advertisements at a later time, and/or, e.g., record it himself on a video cassette with his video recorder.

In a preferred configuration of the invention, the server's processing unit is a video processing unit for editing video films containing several image sequences, and the server's receiving unit is able to receive image sequences transmitted by the customers via the telecommunications network, and route them to the video processing unit. The customer therefore does not need to transmit a video tape to the processor by mail, but he can rather transmit the content of the video tape, i.e., the succession of image sequences, to the server via a telecommunications network. This provides the customer with a time advantage and increased security that the image sequences of the video tape will reach the server in an undamaged condition.

The telecommunications network is, e.g., a cable television distribution network with a return channel, which is also simultaneously used for VOD and/or NVOD, where the transmission of the image sequences from the customer to the server takes place via the return channel, or an integrated services digital network called ISDN or B-ISDN, where B stands for broad-band, or another network such as, e.g., a telephone network, data network or the so-called internet, or combinations thereof.

In another preferred configuration, the reception of the image sequences takes place via a broad-band connection and the reception of the instructions via a narrow-band connection. This has the advantage that an expensive transmission via a broad-band connection is only used to transmit the video film to be processed to the server, while the telemetric processing of the video film, which only requires narrow-band control signals, can take place via a cost-effective narrow-band connection.

Furthermore in another configuration, partial areas of the server's memory unit can be used by the customers as files for several assembled image sequences. For example, a customer telemetrically reserves a memory area with a corresponding selectable capacity in the memory unit, which he can then use exclusively, e.g., to establish his own file in which his individual video films are stored and to which he has constant access, secured by a secret number for example. In this way the customer does not need a shelf full of video cassettes at home for example, and he can even dispense with a video recorder altogether. The customer can use the server as an outside video recorder with a connected data management, and can even enter orders which the server carries out for him. The customer can furthermore access his file from any point on earth, since he only needs an

identification number and possibly a secret number to give him access to the server. In this way the customer does not depend on location and can access the server for example from a so-called set-top box of a neighbor or friend, and he can view video films from his file together with the neighbor or friend, and even process the films if he wishes.

In another preferred configuration of the invention, the transmitting unit of the server is designed so that it can transmit individually stored image sequences at one or more times which are telemetrically selected by the respective customer, to one or more addresses which are also telemetrically selected by respective customer. If the customer wants to see a certain video film from his file at a predetermined clock time in the home of his friend, he previously instructs the server accordingly, e.g., by making a telephone reservation. The server can reduce his fees for a previously reserved transmission, as opposed to access at any time, since the load on the network can be better planned ahead of time, so that the customer can be offered a more cost-effective rate for an early reservation.

If the processing unit is able to process VPS programming signals, a reservation can be made in a simple manner by using existing standard control characters. The control characters for VPS programming a three-part television film, e.g., can be obtained from a television magazine, and transmitted to the server by a video recorder and a set-top box for example. Another possibility is that a menu, which is sent out by the server and can be called up and displayed on a customer's television set, contains, e.g., a preview of television films, several of which can be selected by the customer with a remote control for example. The selected television films are registered by means of VPS

programming in the server's video recorders, and stored in the respective customer's file.

BRIEF DESCRIPTION OF THE DRAWING

Two embodiments of the invention are explained in the following with the aid of figures 1 to 4, where:

FIG. 1 is a schematic illustration of a transmission system of the invention with a server, a telecommunications network and a customer's terminal for example;

FIG. 2 is a schematically illustrated assembly of a server of the invention for another transmission system of the invention;

FIG. 3 is a schematically illustrated assembly of a customer's terminal for the transmission system in FIG. 2; and

FIG. 4 shows two diagrams containing image sequences.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

The first embodiment will now be explained with the aid of FIG. 1. It shows a transmission system SYS of the invention with a server SER, a telecommunications network NET and a customer's terminal END for example.

The server SER contains a receiving unit EMP, a processing unit EIN, a memory unit MEMO and a transmitting unit SEN, which are interconnected by an internal bus BUS. The processing unit EIN for example is a data management with a microprocessor.

The server SER is used to provide a service to a number of customers. The service includes providing an assembly of image sequence to each customer in accordance with the telemetrically transmitted instructions from the respective customer.

The customer's instructions are transmitted to the server SER in the form of signals from a terminal END, which is located as a rule in the customer's residence, via the telecommunications network. To that end the customer establishes a dialed connection to the server SER, e.g., via a telephone in a switched telephone network, e.g., by dialing the server SER's call number. In that case the receiving unit EMP contains a number of telephone connections and telephone sets in order to maintain a simultaneously dialed connection with a number of customers. After the dialed connection is established, the customer enters his customer number, e.g., through the telephone keyboard or a computer, in order to utilize the service. The receiving unit EMP contains a detecting unit to identify the entered customer number, and to compare this number with customer numbers stored in the memory unit MEMO. The connection to the server SER only needs to be a narrow-band connection, e.g., 64 kbit/s. The service provides, e.g., that from a program offered by the service provider, the customer makes an individual selection for the assembly of an individual video film containing for example a three-part television film, or a video film he has composed himself from several music video clips. The assembled video film, which includes an image information block with a succession of several image sequences selected by the customer, is temporarily stored in the memory unit MEMO, which, e.g., contains a fully addressable memory, a so-called RAM (Read Access Memory), and can be transmitted to the customer by the transmitting unit SEN, e.g., via a cable television distribution network with a broad-band forward channel of, e.g., 1 Mbit/s, which is separate and independent from the above telephone network. As an alternative, the assembled video film can be recorded by the transmitting

unit in a not illustrated video recorder located in the server SER, so that the video film is recorded on a video cassette which is sent to the customer by mail for example.

5 The second embodiment of the invention will be explained in the following with the aid of FIGs. 2 to 4. FIG. 2 illustrates a server SER of the invention in another transmission system of the invention.

10 The server SER includes a receiving unit EMP, a processing unit EIN, a memory unit MEMO and a transmitting unit SEN which are interconnected, and their assembly corresponds to the elements of the same name in FIG. 1, except for the processing unit EIN, which in the second embodiment is a video processing unit, such as is
15 known, e.g., from EP 0240794 A2.

 The server SER furthermore includes a video-on-demand unit VOD, which makes video films available by request from an offer of video films stored in the memory unit MEMO. The available video films are received, e.g.,
20 by a television transmitter via an antenna, or are transmitted via not illustrated video cassettes and video recorder to the memory unit MEMO, where they are stored in accordance with their addresses. Part of the memory unit MEMO can also be separated from the server SER. If
25 necessary the server SER can then access the separated part of the memory, which can also be part of a memory unit of another server, e.g., via a broad-band glass fiber, i.e., optical fiber connection.

30 The server SER furthermore contains a multiplexer MUX and a demultiplexer DMUX. The multiplexer MUX assembles the signals from the video-on-demand unit VOD and the video processing unit EIN, and routes them to the transmitting unit SEN, from where they are jointly transmitted to the telecommunications network. The
35 telecommunications network is an optical fiber-coaxial

cable network for example, in the form of a tree structure, e.g., a hybrid fiber/cable network. The transmitting unit SEN contains an electrical-to-optical converter for converting the electrical signals of the video-on-demand unit VOD and the video processing unit EIN into optical signals. The optical signals are transmitted to an optical broad-band network termination, where they are reconverted into electrical signals and subsequently routed to a coaxial cable network which is also used for television signals. In this way they reach the terminals of the customers. Via a return channel, each customer is able to send broad-band and narrow-band signals from a terminal to the server SER. These signals are received by the receiving unit EMP, where they are converted from optical to electrical and then routed to the demultiplexer DMUX. In the demultiplexer DMUX the received signals are divided into signals which are destined for the video processing unit EIN. The divided signals are then routed to the respective VOD and EIN units.

The new service provides that the customer can now transmit a video film he produced himself to the server SER via the return channel of the glass fiber-coaxial cable network, so that it can be processed telemetrically with the aid of the video processing unit EIN. The transmission of the video film to be processed takes place via a broad-band connection, e.g., 1 Mbit/s. A more cost-effective narrow-band connection, e.g., 64 kbit/s, is sufficient for transmitting the control characters for the processing.

After the video film is received it is digitized, unless it is already available in digitized form, and temporarily stored in the memory unit MEMO. The digitized digital video film is then transmitted in real time to the customer, who can, e.g., perform the

following functions by means of control characters:
forward and reverse winding, freeze frame, marking a
place from where the cut-off starts, marking the place
where the cut-off ends, selection of a partial area to be
5 inserted in another place, copying partial areas. In
this way the customer telemetrically processes his own
video film. The result of the individually assembled
video film is temporarily stored in the memory unit MEMO.
The stored video film can be transmitted to the customer
10 via the transmitting unit SEN and the optical fiber-
coaxial cable network. Alternatively or additionally,
the customer can reserve a partial area of the memory
unit MEMO as a file and let the server SER store the
assembled video film in this file. The customer then has
15 unrestricted access to this file, e.g., by means of a
secret number, so that customers are unable to utilize
the files of other customers.

FIG. 3 illustrates a customer's terminal END. The
terminal END is used to communicate with the server SER
20 in order to utilize one of its services. The terminal
END includes a so-called set-top box STB, a video
recorder REC, a television set TV and a camcorder CAM.
The set-top box STB has interfaces for connecting the
set-top box STB with the camcorder CAM, the video
25 recorder REC and the television set TV. For example, a
video film recorded with the camcorder CAM by the
customer is played back through the camcorder CAM and the
set-top box STB and transmitted to the server in FIG. 2.
To that end a connection to the server must first be
30 established via the return channel of the optical fiber-
coaxial cable network. This can take place with an
infrared remote control IR, which controls the set-top
box STB. The required control signals for processing the
video film are also produced by the infrared remote
35 control IR. The video film transmitted by the server is

displayed on the television set TV. In that way the television set TV serves as monitor of the telemetric video processing unit. If the assembled video film is transmitted to the terminal END, it can be recorded by the video recorder REC on a video cassette.

FIG. 4 shows two diagrams containing image sequences. FIG. 4a is a section of a customer's video film to be processed, which was transmitted to the server. The section has four sequential image sequences 1, 2, 3, 4. FIG. 4b is a section of a video film assembled and processed in accordance with instructions from the customer. The section has three sequential image sequences 1, 4, 3. The image sequences which have the same number in FIGs. 4a and b correspond to each other. The image sequence 2 was cut out from the video film because the customer felt it was not usable; it was, e.g., jittery or did not fit into the video film theme. In accordance with the customer's instructions, the image sequence 4 was inserted between the image sequences 1 and 3.

The two embodiments are similar in structure so that parts of the first embodiment can also be used in the second and vice versa. For example a computer monitor could be used instead of a television set in the second embodiment, and the computer keyboard instead of an infrared remote control for entering the control signals.

Patent claims

1. A server (SER) for offering a service to a number of customers, characterized in that a receiving unit (EMP) is provided to receive signals telemetrically transmitted by customers via a telecommunications network (NET), which include customer instructions for assembling image sequences from several different known image sequences of at least one video information block, and to transmit them to a processing unit (EIN) which is able to carry out the instructions, and from where the assembled image sequences are routed to a memory unit (MEMO) where they are stored, and that a transmitting unit (SEN) is provided to transmit the stored image sequences.

2. A server (SER) as claimed in claim 1, characterized in that the processing unit (EIN) is a video processing unit for editing video films with several image sequences, and that the receiving unit (EMP) is able to receive image sequences transmitted by customers via the telecommunications network (NET), and route them to the video processing unit.

3. A server (SER) as claimed in claim 2, characterized in that the reception of the image sequences takes place via a broad-band connection, and the reception of the instructions via a narrow-band connection.

4. A server (SER) as claimed in claim 1, characterized in that parts of the memory unit (MEMO) can be used by the customers as files for several assembled image sequences, by telemetrically reserving a corresponding memory area with a selectable capacity in the memory unit (MEMO).

5 5. A server (SER) as claimed in claim 1,
characterized in that the transmitting unit (SEN) is
configured so that it is able to transmit stored single
image sequences at a time which is telemetrically
selected by the respective customer, to an address which
is also telemetrically selected by the customer.

6. A server (SER) as claimed in claim 1,
characterized in that VPS programming signals can be
processed by the processing unit (EIN).

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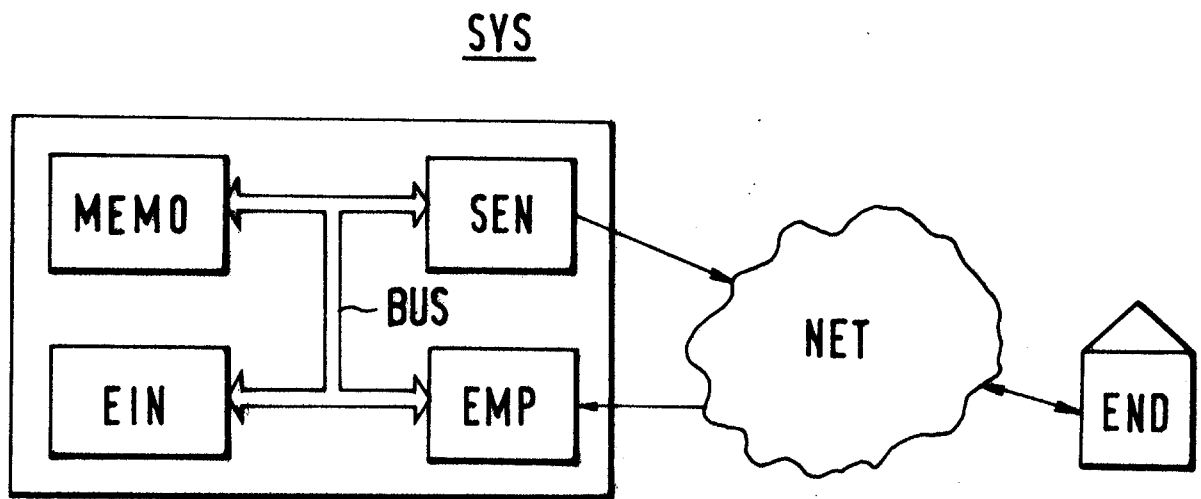


Fig.1

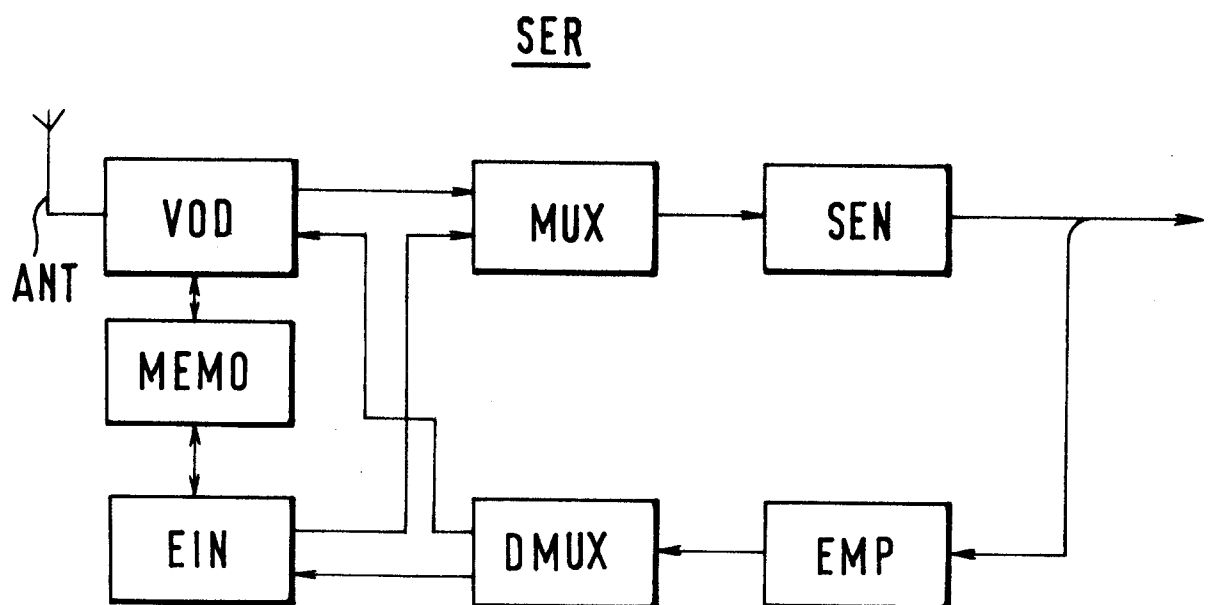
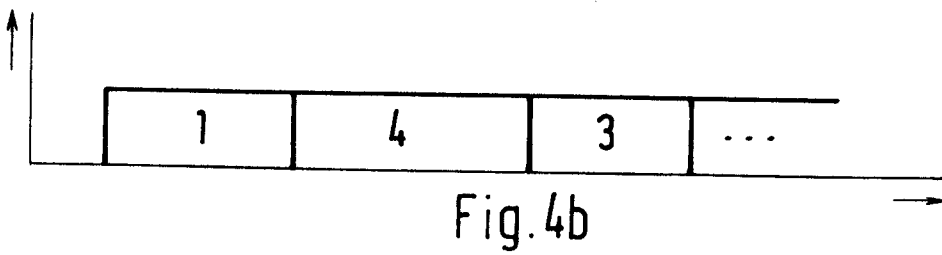
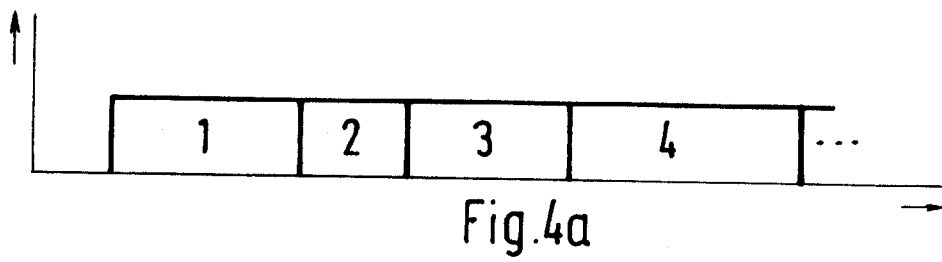
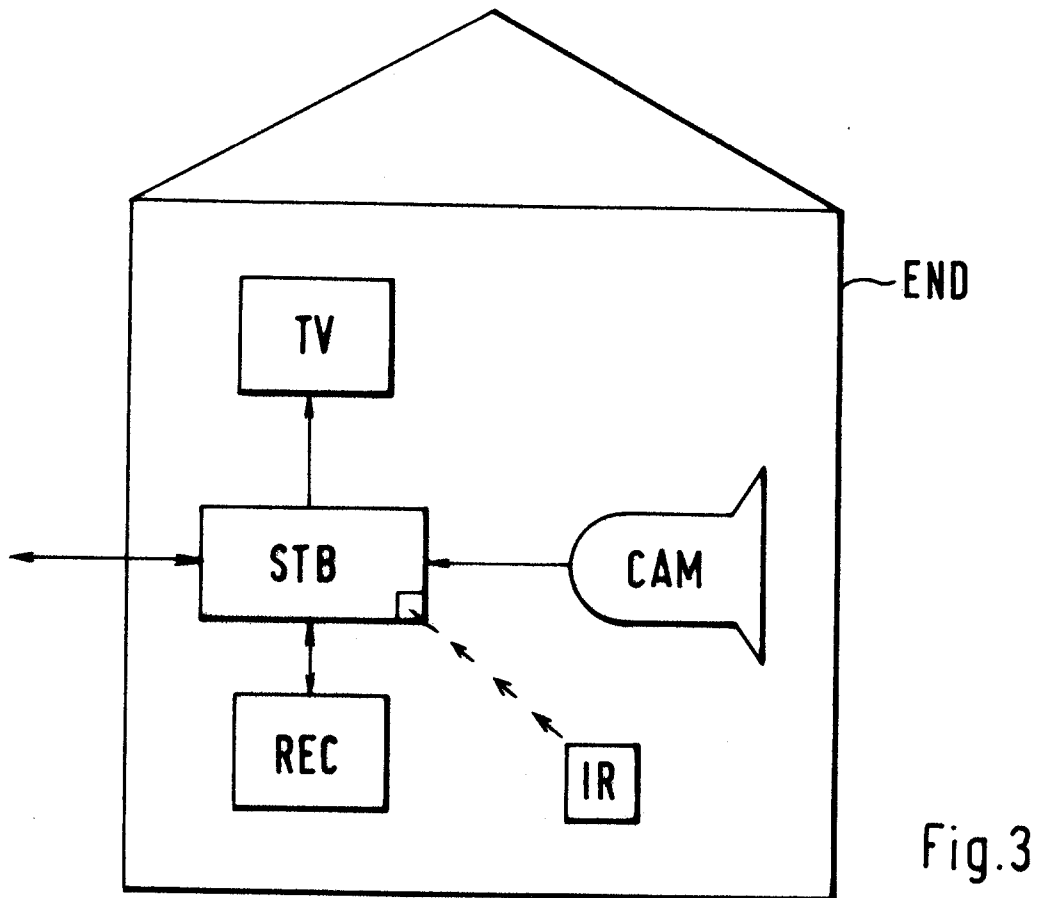


Fig.2

2/2



SYS

