

The subject matter of the present invention is a system for measuring the audience rating of transmissions from a broadcasting station. It relates more particularly to the media field where stations of the radio or radio-television type seek to know, in order to fix their advertising tariffs, the size of their audience.

Measurement of the audience rating is at present performed by surveys and by making statistical deductions. The different broadcasting stations or radio-television chains establish their comparative advertising price lists from these statistical measurements. In practice these statistical measurements are obtained as a result of a positive action by the audience. For example, during a transmission, the presenter of the broadcast requests the listeners to write and send a postcard to participate in a lottery. The audience rating is deduced from the number of postcards received corresponding to the transmission in question. The listeners have an interest in sending a postcard insofar as they have a chance of winning a prize, but the random chance of winning a prize is such that very many listeners do not consider it worthwhile to send a postcard. In practice this postcard costs them a slight sum of money and the mathematical expectation of the profit which they can recover from this seems inadequate to them in relation to this expenditure. Consequently the people responsible for the transmission do not have as precise a statistical measurement available as they would like.

In addition, such a method does not make it possible, after obtaining the raw data from counting the postcards, to ascertain easily the geographical distribution of the persons constituting the public for the transmission. For this purpose it would however be possible, optionally, to use the addresses which the persons who had sent the postcards had recorded on the lefthand part of their cards. This is in general their address and, with a high probability, represents the location of listening. However, the use of these addresses necessitates that they be collected in a typed record in order to retranscribe them into a filing system. This recording is tedious. In all cases the inconvenience of this system is such that this data collection cannot be

performed very often. Furthermore, the process itself suffers from its too frequent repetition. In fact, after a few attempts the public becomes tired and no longer responds. Consequently, even from among all the relatively adventurous people who undertake to participate in this game, in the end one finishes by only being able to count on those who are very keen on it. In short, these people do not necessarily represent the true statistical picture of the public for the transmission and of the commercial target which the station wishes to present to its advertisers in its advertising presentations.

Another system for measuring the audience rating is known which is based on the principle of data communication. Through the intermediary of the telephone network listeners can interact with the station and ask questions or intervene. These interventions may occur live during the transmissions in question or optionally outside the broadcasting period. The listeners address themselves to a panel of experts which the station puts at their disposal to make it possible to resolve problems of a private or public nature. This communication, which has a more serious nature than a lottery, is in fact only accessible to a small number of intervening people. The statistical measure of the audience rating is, because of the small number of these people, not very accurate. The communication system just described is verbal: a listener then deals with a speaker in person. The communications may also be written: the questions and/or the answers may be exchanged by a telephone network of the Minitel type. In this case the number of participants may be much larger. This number is on the other hand only representative of the listeners who wish to intervene. It does not take into account the much larger number of members of the audience who only listen. In principle the message transmission operation is separated from a lottery operation: the listeners who use the message communication system are not offered opportunities of winning prizes.

The aim of the invention is to overcome these disadvantages by proposing a system which makes it possible to approach more closely, with more precise statistical evaluation, the number of listeners to the

transmissions. The system of the invention is based on the transmission, initiated by the station, of coded information. The people who constitute the audience for the station in question are given memory cards, principally of the electronic "smart" or magnetic type in which the coded information items transmitted during the transmissions of these stations are intended to be registered. This operation costs the listeners nothing. By a simple manipulation a listener can cause the remote loading of these coded information items in his card and subsequently, perhaps periodically, he can send his card to the station. The station attributes a credit to him, the amount being proportional to the number of coded information items registered and, in some way, to the faithfulness which he has shown to the station. In a way this method of measuring constitutes a lottery where one is sure to win a small amount which is nevertheless sufficient for one to be well paid for the act of validating the registration of the coded information. The returned "smart" cards may contain, in the coded information items registered, the specific nature of the transmissions which have been specifically followed and also, through knowledge of the address of the listener, which is also recorded in the card, the geographical distribution of the centres of interest. The proposed system therefore has the desired advantages of being closer to reality with regard to the number of listeners reached, of indicating the geographical distribution of these listeners over the region and, in addition, of allowing the frequent repetition of surveys so as to examine all the transmissions from the station without risking tiring the listeners.

Consequently, the subject matter of the invention is a system for measuring the audience rating of transmissions from a station, especially a radio station or a radio-television station, characterized in that it comprises:

- memory cards distributed to persons constituting the audience for this station,
- and reading-recording devices for memory cards available to these persons to register in these cards coded information items transmitted during transmissions from this station. Preferably the memory cards contain circuits or electronic "chips".

The invention will be better understood on reading the following description with reference to the accompanying drawings. These are given solely by way of illustration and in no way limit the invention.

Figure 1 shows an embodiment of a radio method of putting into operation the measuring system of the invention.

Figure 2 shows a preferred alternative embodiment of the invention in which the transmission of coded information is performed by telephonic means.

Figure 1 shows a system for measuring the audience rating in accordance with the invention. A station 1 emits by radiowave radiation or by radio beams an emission 2 to receiving stations 3 belonging to persons who constitute the audience for the station 1. Each listener or television viewer is equipped with a dedicated memory card or "smart" card 4 adapted to be inserted in a reading-recording device 5 for memory cards. The reading-recording device 5 is provided to record in the cards coded information items transmitted during transmissions from this station. In one example, the coded information items comprise logical data, as series of 0 and 1, emitted in pulse form in the same frequency band as the transmission. Preferably the system, in its radio version, comprises a decoder 6 coupled to a receiver 3 for performing an automatic decoding of transmissions from the station and for allowing registration of coded information. In practice one of the two devices, the reading-recording device 5 or the decoder 6, or even both of them, may be functionally coupled to the receiver 3 so as only to be in service when this receiver 3 is itself in operation, that is to say when the listener in fact listens to transmissions from the station.

So as to simplify the procedures for activating the decoder 6, the transmission may comprise, before the sending of the coded information, the broadcast of a characteristic indicator of the coded information which follows it. This indicator may be musical and comprise a sequence of easily recognisable notes. A detector of the indicator 7

may then cause the automatic activation of the decoder 6. However, in order in this case to prevent the listeners leaving their receivers connected even in their absence, a device for manual validation is provided in series in the path of transmission of the coded information from the receiver 3 to the reading-recording device 5. This validation device comprises a button 9 for manual validation of the transmission. When the time arrives the listener validates the registration of the coded information. The memory card 4 may comprise a plurality of memory zones, for example 10 to 13, for containing information relating, on the one hand, to the identity, or at least the place of residence, of the listener and, on the other hand, to the successively enregistered coded information items. At the end of a fixed period, for example every month, the listener sends his card to the station and the latter returns it to him some time later together with a recompense proportional to the number of coded information items which are registered in it.

Figure 2 shows a preferred alternative embodiment of the system of the invention. In this the reliability of performing the registration of the coded information in the cards is improved. Above all, in this alternative the measurement of the audience rating is performed almost in real time. In this system, too, a station 1 transmits emissions 2 to receiving stations 3 belonging to the listeners. The latter are also equipped with memory cards 4. However, the transmission of the coded information items is not performed in parallel by radio broadcasting on the frequency band of the transmission. It is performed on a telephonic network. The listeners possess for this purpose a terminal 14 for connection to a telephonic data communication network 15 managed by a public or private organisation for telephonic communications. The station 1 also controls a server 16 adapted to intervene in the network 15. Measurement of the audience rating takes place in the following manner. At a particular time in a transmission, the audience rating of which it is desired to measure, a characteristic indicator of the imminence of the transmission of the coded information items to be enregistered is transmitted. The listeners who hear it then insert their memory card 4 in a memory card reading-recording device 17 functionally connected to their

telephone set 18 and to the data communication network 15. This functional connection is obtained either directly or through the intermediary of a modem contained in an exchange console 19 of the Minitel type. The devices 17, 18 and 19 form part of the terminal 14. Having inserted their cards 4, the listeners then seek to make a connection with the server 16. For this purpose they simply dial the number of the network 15 channel to which they wish to be connected, using the dialling device 20 of the telephone set 18. Once connected, using the programming buttons 21 of the console 19 they dial the code of the server 16. As soon as these operations are completed the network 15 puts the terminal 14 in connection with the server 16. The server 16 can then send instructions to the memory card reading-recording devices 17 so that they can register in the inserted memory cards the coded information items. These coded information items are sent by the server itself.

This manner of operating calls for two comments. Firstly the connection by telephone is not free: charges are made for the benefit of organisations which manage the telephone communication network and for the benefit of the supplier of the service. It may be supposed that the supplier will make a gift in return for pro rata charges raised for his benefit because the supplier depends on the station. However, the organisation which manages the telephone communications has no reason to accept it. Consequently the recompense to which the listener should be entitled should be greater than the cost of this pro rata contribution. Secondly, this inconvenient effect has, however, an advantage: the contribution reimbursed by the station may be a flat rate. This induces the listeners to cut their connection with the server 16 as soon as the coded information has been transmitted. The listeners are thus induced to cut their telephonic connection without waiting for, and thus paying during too long a period, new coded information items to be transmitted by the supplier. This makes it possible to avoid listeners leaving their telephone set connected. This permanent connection would falsify the statistical measurement and would risk a high cost to the station. Moreover by acting in this way the listeners neutralise their telephone sets for too long a time.

In order to simplify the operation of distributing recompenses, the coded information items may quite simply represent account units of a payment credit. In this case the memory card 4 should also be able to contain a microprocessor 22 for adding, as they are issued, the account units sent by the server. Traders under contract to the station 1 may then undertake to compensate the listener pro rata for the number of account units which the card 4 which he presents to them contains. Given the idea of an account unit covering a small quantity of information, it will be understood that the simplest procedure may not make it possible to know which particular types of transmissions have interested the listeners. In fact the account units have been added together no matter what the nature of the radio transmission during which they were transmitted. However, by using the previously mentioned distribution of memory zones of the memory card, and by programming the server 16 for this purpose, it is possible to cause account units acquired during the course of transmissions of different types to be accumulated in different zones of the memory.

The card 4 may, in addition to keeping account of the account units, comprise a personalised code 23 which may be retransmitted by the reading-recording device 17 on the network 15 when a communication with the server 16 is established. Under these conditions the server 16 may then perform a drawing of lots of these personalised codes and assign to one of these listeners chosen by chance a more substantial gift than the basic recompense. The system of the invention thus also allows operation as a lottery. So as to recompensate preferentially the good listeners, or at least those who regularly undertake to participate in the measurement of the audience rating, the microprocessor 22 may also be programmed to only send the code 23 if the number of account units stored in the card 24 is sufficient: for example if it exceeds a threshold set in advance.

In order to simplify the statistical evaluations the server 16 comprises, in a known manner, means for measuring when, how much, and to whom it has sent coded information. The "when" information provides

details about the type of transmission for which the survey was made. The "how much" information directly measures the audience rating. The "to whom" information deduced from the geographical distribution of the listeners, which is known to the server, for example by the sending of a personalised code of the same type as the code 23 or by the sending by the listener of a password specific to the listener, makes it possible to improve the knowledge which the station has about its audience. This procedure makes it possible to avoid the regular return by the listeners of their memory cards to the station 1 in order for the information which they contain to be unloaded.

In addition, the division of the memory of the memory card 4 may make it possible to distribute gifts offered by a specific advertiser. For example at the end of the presentation of an advertising message the characteristic indicator may be transmitted and, at the time when the server 16 is connected to the terminal 14, a question relating to the advertiser may be asked. If a correct reply is received from the listener the server 16 knows to send him a coded information item recognising his interest in the products presented in the advertisement. This process makes it possible to measure statistically and reliably the impact of an advertisement. This coded information item thus corresponds to a gift paid for by the advertiser. In the case of very simple advertisements it may not be necessary to reply to a question. In this case the advertiser may take the decision to recompense those who make a connection with the server 16 after the indicator which has followed his advertisement. This procedure makes it possible to measure statistically and reliably the impact of an advertisement.

When the amount of information contained in the cards, accumulated little by little, has been utilised, either by the station to which the cards have been returned by post or by the data communication network of the preferred alternative embodiment, or by traders or advertisers who are associated with the station 1 and who use the account units as a means of payment, it is necessary to erase the memories of the memory card 4. This erasure may be performed in many ways. In the embodiment

shown in Figure 2 this erasure may be brought about by the server 16 after it has taken off all the useful information contained in the cards and after it has, for example, exchanged them for units of account.



CLAIMS

1. A system for measuring the audience rating of transmissions from a station (1), especially a radio station or a radio-television station, comprising

- memory cards (4) distributed to persons constituting the audience for this station,
- and reading-recording devices (5) for memory cards (4) available to these persons to register in these cards coded information items transmitted during transmission from this station,

characterized in that it also comprises:

- a telephonic communication/data communication server (16),
- telephone sets (20) at the disposition of the persons, connected to the reading-recording devices of these persons and connectable (15) to the server (16),
- means (14, 19) for causing through the intermediary of the server the introduction of coded information items into the cards inserted in the connected reading-recording devices (5).

2. A system as claimed in claim 1, characterized in that the reading-recording devices comprise:

- means (6) for decoding transmissions from the station to allow automatic registration of coded information.

3. A system as claimed in claim 2, characterized in that the reading-recording devices comprise:

- automatic means (7) for bringing into operation decoding means,

and,

- manual means (8, 9) for validating this bringing into operation.

4. A system as claimed in any one of claims 1 to 3, characterized in that the coded information items represents account units of a coded payment credit and in that the memory cards comprise means (22) for summing these units.



5. A system as claimed in any one of claims 1 to 4, characterized in that the memory card comprises a logic circuit (22, 23) for retransmitting a personalised codeword to the server.

6. A system as claimed in any one of claims 1 to 5, characterized in that the memory card comprises a logic circuit for retransmitting a personalised codeword to the server after the sum of the account units registered exceeds a threshold value.

7. A system as claimed in any one of claims 1 to 6, characterized in that the memory card comprises:

- means for decoding coded information,
- and means for assigning these information items to different zones (10, 13) of the memory depending on the decoding of this information.

8. A system as claimed in any one of claims 1 to 7, characterized in that it comprises means (6) for erasing information registered in the memory cards.