(12) UK Patent Application (19) GB (11) 2 201 865 (13) A

(43) Application published 7 Sep 1988

(21) Application No 8702933

(22) Date of filing 10 Feb 1987

(51) INT CL⁴
H04Q 7/04

(52) Domestic classification (Edition J):
H4L DSX
U1S 2105 H4L

(56) Documents cited
GB 1514941 GB 1355803

(58) Field of search
H4L
Selected US specifications from IPC sub-classes
H04B H04Q

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(54) Mobile radio telephone system

(57) A mobile radio telephone system includes a plurality of fixed transmitting and receiving means located in different regions, a multiplicity of mobile telephones which are able to communicate with the fixed receiving and transmitting means and recorded message generating means for generating a plurality of recorded messages, each of which is associated with one or more of the plurality of fixed transmitting and receiving means. The system is arranged such that the same input by a telephone user into the telephone leads to transmission of that recorded message which is associated with the fixed transmitting and receiving means through which the communication with the telephone takes place. As an alternative to providing recorded message generating means, there may be a central station at which an operator is located and the central station may include indicating means to indicate to the operator the fixed transmitting and receiving means through which the telephone is connected, thereby providing an indication of the location of the caller.

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The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1982.

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Mobile Radio Telephone System

This invention relates to a mobile radio telephone system and in particular to such a system in which regional information, for example concerning traffic conditions, is available to a user of a mobile telephone.

A conventional method of providing information concerning local traffic conditions is to broadcast the information. A disadvantage of such a system is that if the information is broadcast over a large region then much of the information is not relevant to many persons who receive it and if the information is broadcast over only a relatively small region then it is necessary for a person to retune their receiver when moving from one region to another.

According to the invention there is provided a mobile radio telephone system including:

a plurality of fixed transmitting and receiving means located in different regions,

a multiplicity of mobile telephones which are able to communicate with each of the fixed transmitting and receiving means, and

recorded message generating means for generating a plurality of recorded messages, each of which is associated with one or more of the plurality of fixed transmitting and receiving means,

the arrangement being such that the same input by a telephone user into the telephone leads to transmission of that recorded message which is associated with the fixed transmitting and receiving means through which the communication with the telephone takes place.

The present invention therefore provides a mobile radio telephone system in which a user of a telephone is able to obtain a recorded message prepared specifically for the region in which he is located by dialling one number which is the same for all regions. Thus there is only one number for the user to remember and there is no need for the user himself to be aware of his location.

The present invention is particularly, but not exclusively, applicable to a cellular radio telephone system. The term "cellular radio telephone system" as used herein means a system in which communication with a mobile telephone can be retained when the telephone moves from one region to another and switches from communication with one fixed transmitting and receiving means to communication with another. In such a cellular system, each cell is usually relatively small and therefore the recorded message can be drawn up for a correspondingly small region; indeed it may be that the individual cells are so small in at least some cases that it is appropriate to allocate the same recorded message to a number of neighbouring cells.

The information provided by the recorded message

may wholly or partly comprise traffic information. Other information that may be provided includes news and weather information and details of services, such as garages or restaurants, in the region. It is also possible for the mobile telephone to be provided with some kind of display and/or printer and in this case maps or other information for display and printing may be provided.

The recorded message generating means may comprise a plurality of separate means, each located in the region of an associated fixed transmitting and receiving means, but it will usually be more convenient for the recorded message generating means to be located at one or just a few sites with a plurality of different recorded messages being provided at the or each site.

In such a telephone system it is to be anticipated that the majority of telephones will be mobile but it is within the scope of the invention for some fixed telephones to be provided.

According to another aspect of the invention there is provided a mobile radio telephone system including:

a plurality of fixed transmitting and receiving means located in different regions,

a multiplicity of mobile telephones which are able to communicate with each of the fixed transmitting and receiving means, and

a central station to which a mobile telephone is connected upon a given input into the telephone by a user, the central station including indicating means to indicate via which fixed transmitting and receiving means, or via which of a group of adjacent fixed transmitting and receiving means, the telephone is connected.

A system of the kind defined in the paragraph immediately above enables a user of a mobile telephone to talk to an operator at the central station who is provided with an indication of the location of the caller. This can enable the operator to give the caller information of particular relevance to a caller in that location.

The indicating means preferably provides a visual indication, for example a flashing light on a screen depicting a map, of the location of the transmitting and receiving means via which the telephone is connected.

By way of example one particular embodiment of the invention will now be described.

In the United Kingdom there already exist cellular radio telephone systems. The described embodiment of the invention operates within one of those systems. The transmitting and receiving means of adjacent cells operate at different frequencies. A multiplicity of mobile telephones are provided, some of which may be fixed in vehicles and others of which may be

carried by their users.

In accordance with the invention, there is a central station at which a plurality of recorded messages are stored and which is connected to each of the fixed transmitting and receiving means. Each recorded message contains traffic and other information related to a particular region which is covered by one or more of the transmitting and receiving means. When a user of a telephone dials a given number, which may be a special short number such as 444, he is connected to the central station and receives the recorded message associated with the particular transmitting and receiving means through which the communication has been made. A method by which the user may be connected to receive the appropriate recorded message is already known and will not be described further here as that method does not itself form part of the present invention.

Another facility that may also be provided is as follows. When a user dials another number he may be connected to the central station but to an operator rather than to a recorded message. The operator can be provided automatically with an indication of the cell in which the user is located, for example by a flashing light on a screen showing a map and the operator can then provide the user with information concerning that locality.

It is also possible for the recorded message

service to be made available to a user of the public service telephone network (PSTN). Each recorded message may have a respective associated telephone number providing an alternative route for accessing that particular recorded message and potential users of the system may be provided with a map on which the telephone numbers are printed over the areas with which the recorded messages are associated. This allows a user to access the information through the PSTN and to obtain information concerning a region other than the one in which he is currently located.

Claims:

1. A mobile radio telephone system including:

a plurality of fixed transmitting and receiving means located in different regions,

a multiplicity of mobile telephones which are able to communicate with each of the fixed transmitting and receiving means, and

recorded message generating means for generating a plurality of recorded messages, each of which is associated with one or more of the plurality of fixed transmitting and receiving means,

the arrangement being such that the same input by a telephone user into the telephone leads to transmission of different recorded messages according to which fixed transmitting and receiving means provides the communication with the telephone.

2. A system according to claim 1, the system being a cellular radio telephone system.

3. A system according to claim 1 or 2 in which the information provided by the recorded message wholly or partly comprises traffic information.

4. A system according to any preceding claim in which the recorded message generating means comprises a plurality of separate means, each located in the region of an associated fixed transmitting and receiving means.

5. A system according to any of claims 1 to 3 in

which the recorded message generating means is located at one site with a plurality of different recorded messages being provided at the site.

6. A mobile radio telephone system substantially as herein described.

7. A mobile radio telephone system including:

a plurality of fixed transmitting and receiving means located in different regions,

a multiplicity of mobile telephones which are able to communicate with each of the fixed transmitting and receiving means, and

a central station to which a mobile telephone is connected upon a given input into the telephone by a user, the central station including indicating means to indicate via which fixed transmitting and receiving means, or via which of a group of adjacent fixed transmitting and receiving means, the telephone is connected.

8. A system according to claim 7 in which the indicating means provides a visual indication of the location of the transmitting and receiving means via which the telephone is connected.

9. A system according to claim 8 in which the visual indication comprises a flashing light on a screen depicting a map.

Published 1988 at The Patent Office, State House, 66/71 High Holborn, London WC1R 4TP. Further copies may be obtained from The Patent Office, Sales Branch, St Mary Cray, Orpington, Kent BR5 3RD. Printed by Multiplex techniques ltd, St Mary Cray, Kent. Con. 1/87.