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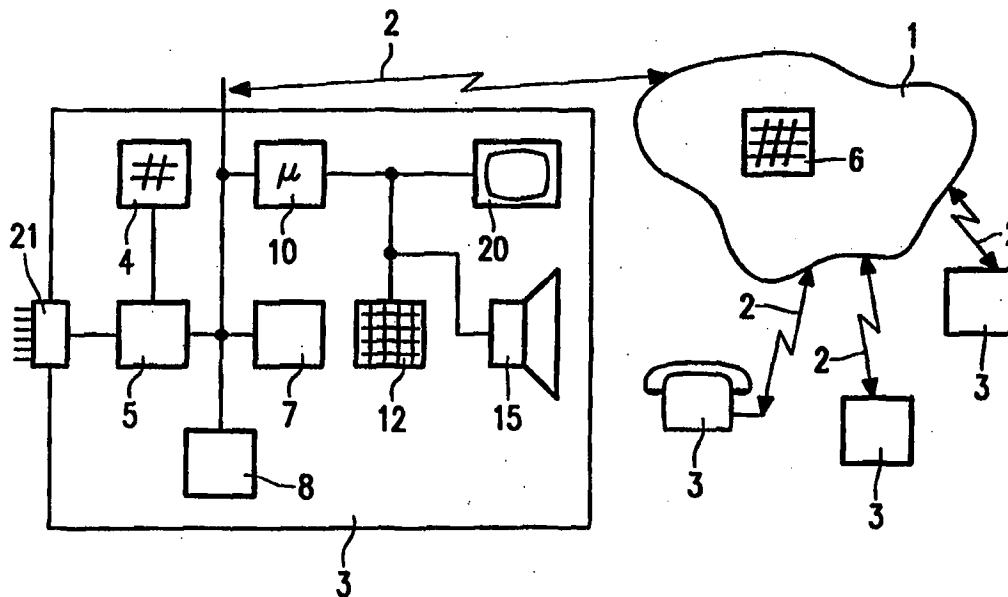
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(54) Title: TELECOMMUNICATION DEVICE AND A METHOD FOR PROVIDING RINGING INFORMATION



## (57) Abstract

A telecommunication device is disclosed comprising a ringing information memory means, and a ringing information memory updating means for updating the ringing information content which has the form of, for example, melodies. The ringing information memory updating means comprises a communication link between the telecommunication device and a remote database containing a variety of alternative forms of user selectable and downloadable ringing information. This reduces the amount of memory capacity necessary in the telecommunication device, which can be a telephone, although it does not restrict the freedom of choice of a user to select his preferred songs, melodies and the like.

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The present invention relates to a telecommunication device comprising a ringing information memory and a ringing information memory updating means coupled to the ringing information memory.

5 The present invention further relates to a method for providing ringing information.

Such a telecommunication device and method are known from DE-U-9402141. The known telecommunication device concerns a telephone, facsimile and modem  
10 or the like, and comprises a memory containing ringing information such as voice, music etcetera, which ringing information is stored in the ringing memory for being read out and played when the device rings. This memory in the telecommunication device contains several different kinds of ringing information, which is selectable there from. In addition the known telecommunication device comprises locally provided ringing information updating means  
15 such as a microphone, a serial input interface, and memory registration means. Thus a proper type of ringing information can be input in the ringing information memory so as to update the ringing information. However this obstructs the possibility of changing to those melodies, which are not available to an individual user of the telecommunication device, and which could be popular at a certain moment in time. In addition only a limited number of  
20 melodies can be prepared and stored in the ringing memory, because of the limited qualifications and means available to every individual user of the telecommunication device. Furthermore certain preferred melodies will not be registerable or can not be registered with a required degree of professionalism or quality or are simply not available or within the reach of a nominal user of the telecommunication device.

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It is an object to provide a mult selection, high quality ringing information extend/change feature to a telecommunication device such as a telephone, without however increasing price and volume of the memory in the telecommunication device.

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To this end the telecommunication device according to the invention is characterised in that the ringing information updating means comprises a public database containing a variety of alternative forms of ringing information. It is an advantage of the telecommunication device according to the present invention that the size of the ringing  
5 information memory therein can be reduced to a size necessary to contain, at wish just, one ringing information item, such as a melody, song, music, speech or phrase. This reduces the memory size, volume, and price as well as, the necessary hardware to read out said memory. In addition this memory reduction does however not reduce, but extend the number and the variety of user selectable ringing information items, because the content of the ringing  
10 memory means in the form of ringing information is updatable from the publicly available database, at wish on a regular basis. So the personal touch and the diversity of adjustments on this point to the wishes of each individual owning a telecommunication device can be honoured in a recognisable, individualised way, without expanding hardware or hardware requirements beyond the technical means normally available to an average user. This high  
15 quality, multi diverse extension can be implemented very simple on for example a personal, mobile, cellular, or cordless telephone, facsimile or automatic telephone answering machine etcetera. The public database can be managed by a manufacturer of the telecommunication device, or any other professionally suitable instance.

In an embodiment the telecommunication device according to the  
20 invention is characterised in that the ringing information memory updating means is connected to the data base via a long distance communication link. Such a database can comprise one or more remotely situated databases, which are connectable directly to the telecommunication device and to the ringing information memory, but preferably there is a database which can be consulted, generally upon payment of an appropriate remuneration, by  
25 means of a generally long distance communication link to each subscriber of the telecommunication device, in order to select and at wish download his favourite ringing item.

In a further embodiment the telecommunication device according to the invention is characterised in that there is provided in selection means, in particular user friendly menu driven, preferably easily software implemented, selection means coupled to the  
30 database for selecting user defined forms of ringing information.

In a further elaboration the telecommunication device according to the invention is characterised in that it comprises video display means. The advantage thereof is that the user can select his preferred ringing information items, such as melodies, songs etcetera by name. This reduces the trespassing on communication time over the communica-

tion link.

At present the invention will be elucidated further together with the  
5 additional advantages with reference to the accompanying drawing. In the drawing:

Fig. 1 shows a possible implementation of in particular the telecommuni-  
cation device according to the present invention; and

Fig. 2 shows in a flowchart a possible sequence of events, which can take  
place between the telecommunication device of figure 1 and a network containing a database.

10 Throughout the figures the same reference numerals are used for the same  
features.

In an exemplary way figure 1 shows a network 1, such as for instance a  
15 telephone network or ISDN network, which connects through a communication link 2, a  
number of telecommunication devices, such as telephones 3 as depicted, telefacsimiles,  
etcetera. In a usual fashion the telephones are capable of communicating with one another.  
Each telephone 3 is provided with a ringing information memory 4, wherein information or  
data is stored about the sound a telephone makes when it rings. Each telephone 3 is also  
20 provided with ringing information memory updating means 5, which means 5 are connected  
to the memory 4, in order to be able to update the content of the memory 4. The memory  
updating means 5 is connected via the communication link 2 to a database 6, which is present  
somewhere in the network 1. The database is filled with alternative forms of ringing  
information such as melodies, songs, sound, soundtracks, speech etcetera. The communica-  
25 tion link 2 is connected to means 7 for downloading at least one or the alternative forms of  
ringing information to the ringing information memory 4. There is provided in selection  
means 8 connected to the memory updating means 5 and via the communication link 2 to the  
database 6 in order to be capable of selectively providing ringing information items from the  
database 6 to the memory 4 in a way to be described with reference to the flowchart of  
30 figure 2.

Figure 2 shows a flowchart for elucidating one possible way of imple-  
menting the updating of the ringing information present in the ringing information memory 4.  
Of course there are several other ways of implementing the ringing information updating  
feature described here, which will be apparent to the man skilled in the relevant art. Block 9

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