

TELEPHONE DEVICE

The present invention relates to a telephone device of the type specified in the preamble of Claim 1.

Known telephone devices of this type have a line selector unit which, as the result of a keypad operation, permits the selecting of all available lines.

In the case of certain organizational structures, in which, for example, peripheral telephone device units are to communicate exclusively with an exchange, the conventional telephone units of the above-mentioned type are unsuitable, on the one hand, because they permit a free line selection and thus a telephoning which is not desirable in the addressed organizational structure. Controlling this situation results in significant expenditures. On the other hand, specifically because of the free line selection, these conventional telephone devices require excessive expenditures for such purposes, and in some cases, the line selection itself is too complicated.

A typical example of an organizational structure of the above-mentioned type, in the case of which an operating simplicity on peripheral devices is of decisive significance, is

that in which a mother can communicate with her children at any time, whether at school or on a playground. Such an organizational structure may exist in field offices with respect to an exchange, etc.

It is an object of the present invention to suggest a telephone device of the above-mentioned type which, while it can be produced at reasonable cost, takes into account the above-mentioned requirements. In the case of a telephone device of the above-mentioned type, this is achieved according to the characterizing part of Claim 1.

In the following, the invention will be explained by means of embodiments illustrated in the figures.

Figure 1 is a view of a signal flow / action block diagram of a telephone device according to the invention;

Figure 2 is a view of a signal flow / action block diagram of a telephone device according to the invention in a preferred embodiment;

Figure 3 is a view of an example of the implementation of the telephone device according to the invention as a clip for children;

Figure 4 is a schematic view of a simple communication structure implemented by means of the telephone device according to Figure 1;

Figure 5 is a schematic view of a simple communication structure implemented by means of the telephone device of Figure 2 according to the invention.

The telephone device according to the invention is a so-called radio telephone which operates on the respective local radio telephone network, such as the Natel Network, the GMS Network, the USA Network or the Japanese network. As customary in the case of such telephone devices, it has a radio unit 1 for this purpose, which has transmitting and receiving units for the radio signal S. Furthermore, an electric/acoustic transducer is provided, preferably in the form of a microphone 3, as well as an electric/acoustic transducer, preferably in the form of a loudspeaker 5. As schematically illustrated in Figure 1, correspondingly, the microphone 3 is connected with an input of the radio unit 1 and the loudspeaker 5 is connected with an output of the radio unit 1. Furthermore, a memory unit 7 is operatively connected with the radio unit 1, which memory unit 7 contains the device identification number and thus identifies the device for arriving calls.

Furthermore, telephone devices of this type have a line

selecting identification unit, in the case of which, normally in a keypad-controlled manner, the desired line can be selected for outgoing calls. According to the invention, in the case of the device according to the invention, the line selecting identification unit consists of a read-only memory (ROM) 9, by means of which preferably only a single line selecting number is identified.

In this case, the memory unit 7 may directly contain the selection number assigned by the network operator to the device, as the device identification number.

Also the read-only memory 9 may directly contain the line selecting number of the wanted receiving station.

However, in a preferred embodiment according to Figure 2, the memory unit 7 contains a code - PIN code - fixedly assigned to the device.

The read-only memory 9 also preferably contains a fixedly assigned code, preferably the same PIN code. As a result, as illustrated in Figure 2, only one memory unit 7/9 may therefore be provided for the addressed PIN code.

In the case of the first embodiment according to Figure 1, the line selecting memory 9 can preferably be removed in a

modular manner, for example, by a servicing facility, and another memory module can be inserted for changing the line selecting number in a defined receiving station. As the result of a keypad confirmation, preferably and as illustrated schematically in Figure 1, of only a single key 11 at the device, the stored number AAA ...of the receiving station is transmitted by the memory unit 9 to the radio unit 1 for the line selection. The memory unit 7 is loaded with the call number identifying the device.

In contrast, in a preferred embodiment according to Figure 2, the communication is structured as follows:

The exchange records, assigned to the device code (PIN code), the line selecting number of the receiver assigned to the telephone device according to the invention.

Upon a key pressure on the device according to the invention, the latter sends a signal to the exchange which corresponds to the PIN code. From it, the exchange identifies the calling telephone device and establishes by way of a normal line selection the connection between the identified device and the intended one receiver connection which is identified together with this device.

Inversely, in the case of incoming calls for the telephone

device according to the invention, the exchange establishes, particularly starting from the above-mentioned selected receiver station, the connection to the telephone device by means of a call signal corresponding to the PIN code.

In the case of the latter, preferred implementation form according to Figure 2, the device-identifying code can be fixedly assigned to the device; the desired receiving station is ordered for the specific device code at the exchange.

Such an extremely simple telephone device, which permits only the selecting of a single line, is extremely suitable for an operation by children or for an operation by other circles of people, in which an error-proof fast operation, as, for example, for alarm purposes, is required. Such groups of people may perform invaluable services in watch organizations, during sports activities, for example, during mounting climbing, sailing and diving.

For use, for example, by children, in Figure 3, the device according to the invention is integrated in a plug-type clip and the single key 11a to be operated is provided at a clearly defined, easily remembered point. Such a device is also excellently suitable for use as a carrier of advertising.

Figure 4 schematically illustrates the communication

structure, in the case of which two peripheral units $P_{1,2}$, for example, of the two children, can in each case be called by the wanted distant station G, for example, at the mother's, by means of the respective device identification number stored at the device according to the invention, corresponding to 7 of Figure 1. Subsequently, the distant station G, such as the mother, can speak with the respective child. If a situation occurs in which, for example, the child wants to communicate with the mother, it must only operate the line selecting key 11 or 11a, whereupon, according to Figure 1, the fixedly programmed number of the distant station, again called AAA in Figure 4, is dialed and the communication connection with the distant station Z is then established. As illustrated, at the distant station G, a normal telephone device is used which has a hunting capability, while devices according to the invention are used on the periphery which can dial only the number of the distant station G, and this takes place by a simple activating operation.

According to Figure 5, the communication on the preferred device according to Figure 2 with an exchange Z is established only by way of a signal corresponding to the PIN code, which exchange Z, corresponding to the PIN code, establishes the connection with the predetermined distant station G. Inversely, when the PIN code of a calling distant station G is identified, the exchange Z establishes the communication with the telephone device according to the invention identified by means of the PIN

code. As illustrated by broken lines, the predetermined distant stations G are assigned to the individual PIN codes at the exchange Z. Naturally several distant stations G may be authorized to make calls to a telephone device according to the invention, while preferably only one distant station is identified as the receiver station by a telephone device according to the invention or a PIN code.

By means of the telephone device according to the invention, a communication device for a mobile use is therefore suggested which can be used independently of its location in the manner of a radio telephone but comprises no integrated selection unit.

The suggested communication device is extremely small and can be used in different designs in connection with carriers of advertising or without them and in different shapes for a professional as well as for a private application, for example, as a communication connection between a mother and a child. The connections from the device according to the invention are established without a knowledge of numbers or letters, only by pressing a button. The telephone device according to the invention also prevents that undesirable telephone connections can be established. If the device is lost or cannot be found, it will be of no value to a third person and cannot be used by this third purpose for his own purposes.

As described above, the device according to the invention without a selection unit establishes, by means of the pushing of a button, an analog or digital connection by way of an existing radio network or a radio network to be established. This connection may be established directly or by way of an exchange. In particular, the inclusion of radio networks, which already exist worldwide and have infrastructures, permits a low-cost operating structure.

As mentioned above, such an extremely simple telephone device, which in a preferred embodiment permits only the dialing of a single line, is extremely well suitable for being operated by children, for being operated by handicapped, old or sick persons or for being operated by other groups of persons for whom this should be possible in an error-proof and rapid manner, as for triggering an alarm.

CLAIMS:

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1. Telephone device comprising

- a transmitter/receiver unit (1) tuned to the frequency of the local radio telephone exchange, and operatively connected therewith,

- an electro/acoustic transducer (5),
- an acoustic/electric transducer (3),
- a line selection activation unit (9),
- a telephone device memory unit (7),

characterized in that the line selection activation unit (9) is formed by a read-only memory unit whose read-out is activated for the initialization of the line selection by means of a manually operable key arrangement (11).

2. Telephone device according to Claim 1,

characterized in that the read-only memory unit (9) is designed for storing a line selecting number (AAA...) or for storing a code identifying the line selecting number.

3. Telephone device according to one of Claims 1 or 2,

characterized in that the read-only memory unit comprises a modularly exchangeable or non-exchangeable memory unit fixedly assigned to the telephone device.



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4. Telephone device according to one of Claims 1 to 3,
characterized in that it is constructed as a clip.

5. Use of the telephone device according to one of Claims 1
to 4 as a carrier for advertising.

