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(71) Applicant (*for all designated States except US*): **TELIT MOBILE TERMINALS S.P.A.** [IT/IT]; Viale Stazione di Prosecco, 5/b, I-34010 Sgonico (IT).

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): **GIACHIN, Paolo** [IT/IT]; Via Papiniano, 2, I-34100 Trieste (IT).

(74) Agent: **FARAGGIANA, Vittorio**; Ingg. Guzzi e Ravizza s.r.l., Via V. Monti, 8, I-20123 Milano (IT).

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(54) Title: INTERPHONE APPARATUS WITH CONNECTION TO A CELLULAR TELEPHONE

(57) Abstract: An interphone apparatus comprises two headphones (11) each associated with a microphone (12) and an electronic circuit (13) for sending on command the audio signal of each microphone to the headphone associated with the other microphone. The electronic circuit comprises a connector (20) for connection with a corresponding connector (21) of a cellular telephone (19) for exchanging on command with the latter the respective audio signals in such a manner as to send to the telephone the audio signal of at least one of said microphones for its transmission and to send to at least one of said two headphones the audio signal received by the telephone. The electronic circuit comprising in addition means (15, 16, 17, 18) of sending to at least one of said headphones a call signal received from the telephone and commands (15, 16, 18) for sending to the telephone a signal for activation of the communication in response to a received call.



WO 01/03413 A2

"Interphone apparatus with connection to a cellular telephone"

The present invention relates to an innovative interphone
5 apparatus for use by motorcyclists with characteristics of integration with a cellular telephone.

In the prior art, interphone apparatuses for motorcyclists comprising a pair of headphones with associated microphone are known. The driver and passenger wear the headphones
10 and microphone under the helmet to be able to speak with each other.

The general purpose of the present invention is to permit integration of the interphone system with a cellular telephone to allow easy use of the latter.

15 In view of this purpose it was sought to provide in accordance with the present invention an interphone apparatus comprising two headphones each associated with a microphone and an electronic circuit for sending on command the audio signal of each microphone to the headphone
20 associated with the other microphone characterized in that the electronic circuit comprises a connector for connection with a corresponding connector of a cellular telephone for exchanging on command with the latter the respective audio signals in such a manner as to send to the telephone the
25 audio signal of at least one of said microphones for its transmission and to send to at least one of said two headphones the audio signal received by the telephone with the electronic circuit comprising in addition means of sending to at least one of said headphones a call signal

received from the telephone and commands for sending to the telephone a signal for activation of the communication in response to a received call.

To clarify the explanation of the innovative principles of the present invention and its advantages compared with the
5 prior art there is described below with the aid of the only annexed drawing a possible embodiment thereof by way of non-limiting example applying said principles.

With reference to the figure an interphone apparatus
10 denoted as a whole by reference number 10 comprises two headphones 11 each associated with a respective microphone 12 and an electronic circuit 13 for sending on command through amplifier circuits 14 the audio signal of each microphone to the headphone associated with the other
15 microphone.

The circuit 13 comprises a connector 20 for connection with a corresponding connector 21 of a cellular telephone 19 for exchanging with it on command the respective audio signals so that through an interface circuit 18 and a distribution
20 circuit 17 one can send to the telephone the audio signal of at least one of said microphones for its transmission by the cellular telephone and sending to at least one of said two headphones the audio signal received by the telephone. The electronic circuit 13 also comprises means 16 for
25 sending to at least one of said headphones a call signal received from the telephone and sent through the connector 20 to the interface circuit 18.

The interphone also comprises controls 15 for sending to the telephone through the connector 20 a communication

activation signal in response to a received call and for controlling distribution of the audio signal both at input and output to one, to the other or to both the headphones and to the respective microphone. The controls 15 can be
5 connected to the circuit 13 through an external flexible cable to be advantageously arranged in a readily accessible position while the box of the apparatus 13 can be arranged in another position. Similarly, the connector 20 can be connected to the circuit 13 by means of a suitable flexible
10 electrical cable.

Advantageously the apparatus 10 comprises a plug 23 for receiving electrical power by connection to the electrical system 24 of the motor vehicle and to supply electrical power on said connector 20, possibly through a power
15 adapter 22, for the cellular telephone.

On the basis of the description given, those skilled in the art can readily imagine the internal electrical circuits of the apparatus which are accordingly not further shown nor discussed.

20 It is now clear that the predetermined purposes have been achieved.

In using the apparatus it suffices to connect a cellular telephone to the connector 20 and put on the headphone and microphone. The passenger and driver can thus speak
25 together normally. Upon arrival of a telephone call the user hears the call signal in the headphone and can decide whether to answer the call or not. If he answers the call it is forwarded to one or the other or both of the users depending on the selection set. During the telephone

conversation it is also always possible to reroute the communication to one or the other or both headphones.

Naturally the above description of an embodiment applying the innovative principles of the present invention is given
5 by way of non-limiting example of said innovative principles and is not to be construed as a limitation of the scope of the exclusive right claimed here.

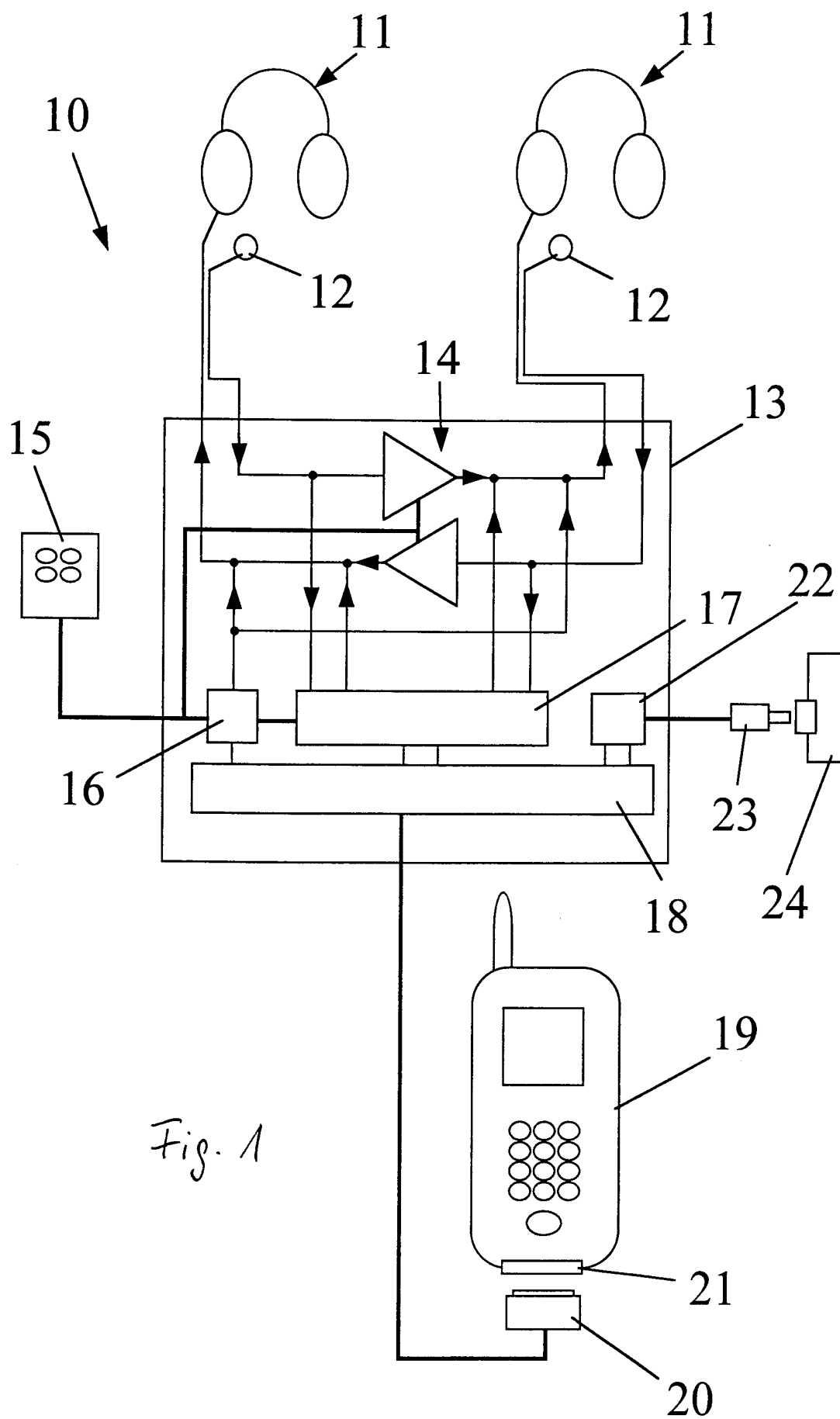
CLAIMS

1. Interphone apparatus comprising two headphones (11) each associated with a microphone (12) and an electronic circuit (13) for sending on command the audio signal of each microphone to the headphone associated with the other microphone characterized in that the electronic circuit comprises a connector (20) for connection with a corresponding connector (21) of a cellular telephone (19) for exchanging on command with the latter the respective audio signals in such a manner as to send to the telephone the audio signal of at least one of said microphones for its transmission and to send to at least one of said two headphones the audio signal received by the telephone with the electronic circuit comprising in addition means (15,16,17,18) of sending to at least one of said headphones a call signal received from the telephone and commands (15,16,18) for sending to the telephone a signal for activation of the communication in response to a received call.

2. Apparatus in accordance with claim 1 characterized in that it comprises additional commands (15) for distribution on command of the audio signal from and to the telephone to one, to the other or to both of the headphones and to the respective microphone.

3. Apparatus in accordance with claim 1 characterized in that it receives electrical power through its own plug (23) designed to be connected to the electrical system of a

motor vehicle and to supply electrical power to said
connector (20) for a cellular telephone connected thereto.

*Fig. 1*