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(54) **Handover procedure in a dual-mode telecommunication network**

(57) A dual mode terminal 20 comprises a combined mobile station 21 and a cordless telephone 22 and may communicate with both a base station of a mobile radio system and a base station of the cordless telephone system. In a terminal initiated handover of a call from the cordless telephone system to a base station of the mobile radio system, the cordless telephone part obtains from the mobile station measurements of received signal strengths of the mobile system base stations in the neighborhood. These are forwarded via a base station of the cordless telephone system to the mobile exchange of the mobile system in a handover request message. The mobile exchange selects a suitable base station for handover based on the measurements and informs the mobile station part of the terminal about the identity of the selected base station via the cordless telephone part.

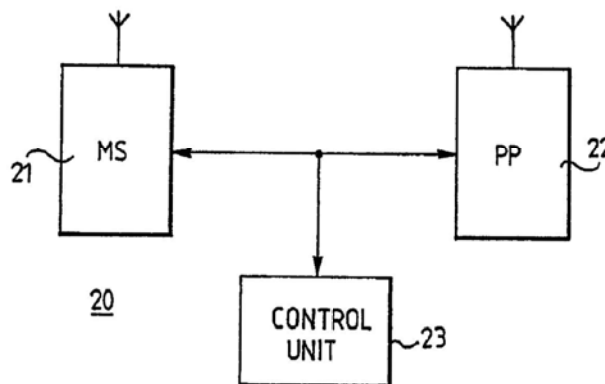


FIG. 2

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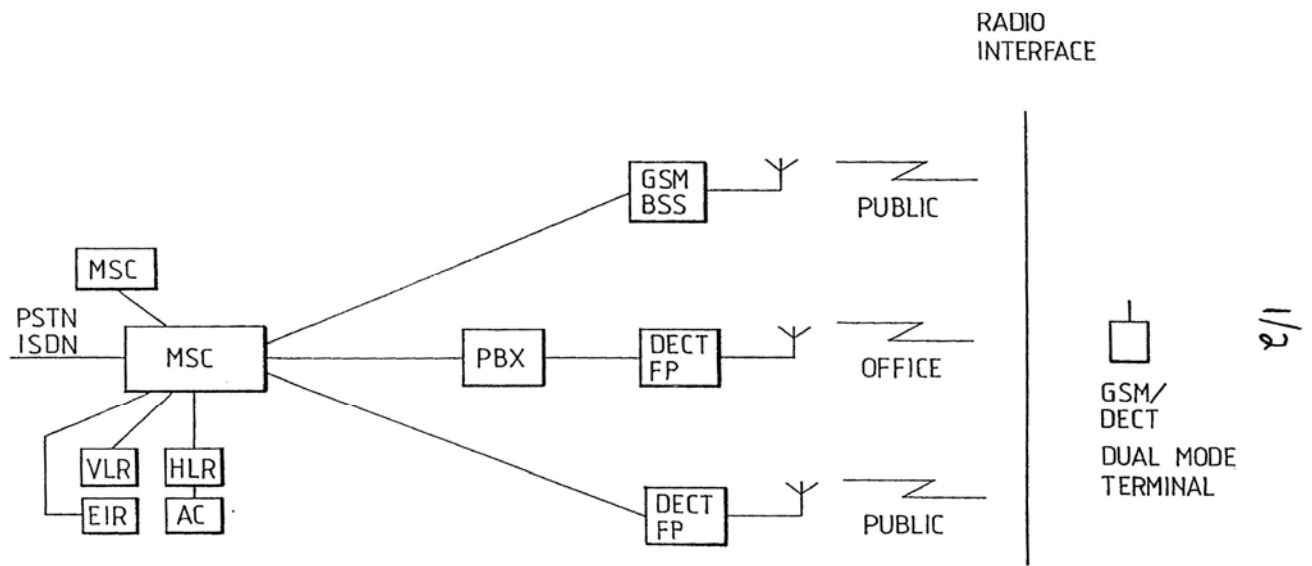


FIG. 1

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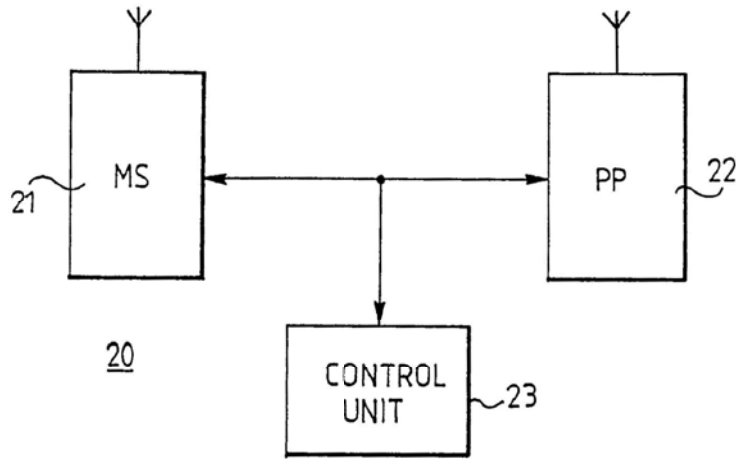


FIG. 2

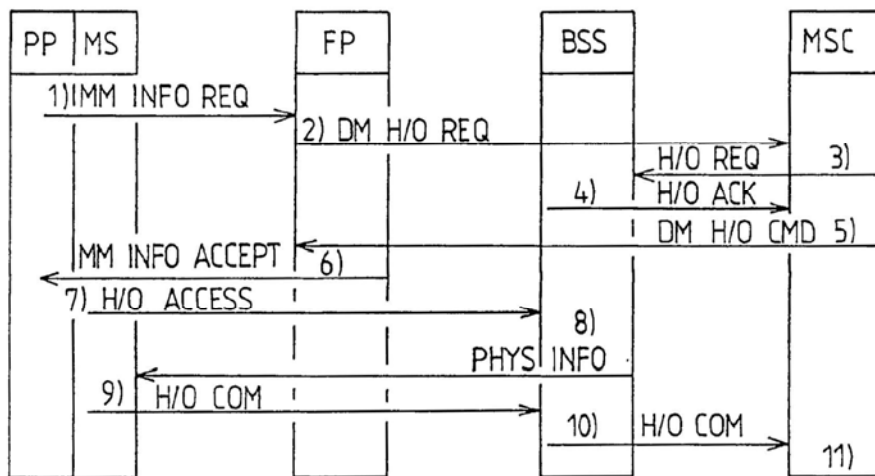


FIG. 3

Dual mode subscriber terminal and a handover procedure of the dual mode subscriber terminal in a mobile telecommunication network

5 The invention relates to a mobile telecommunications system including a fixed network comprising mobile exchanges, base stations for mobile stations, and cordless telephone base stations connected to and under control of said mobile exchanges. In particular, the present
10 invention relates to a method for performing handover from the cordless telephone base stations to base stations for mobile stations.

 Conventional cordless telephones operate as an extension to the Public Switched Telephone Network (PSTN). A
15 cordless telephone system consists of a portable handset and a base station (a fixed part) connected to PSTN. The first cordless telephone systems were analog systems, such as CT1. Recently digital cordless telephone systems, such as CT2 and DECT (Digital European Cordless Telephone) have
20 been introduced. When a cordless telephone is a subscriber of PSTN, a cordless telephone is accessed by dialing the telephone number associated with the fixed subscriber connection to which the base station is connected. Also the subscriber has access to the PSTN only via the home
25 base station. In CT2 and DECT, also a telepoint service is introduced, whereby subscriber to the service can make calls away from home via a public base station. Also a common air interface for cordless telephones was introduced to facilitate roaming between systems and so to improve
30 service coverage for the use.

 There has also been a proposal to combine a cordless telephone system with a cellular mobile telecommunications system to further improve the roaming capabilities by means of utilization of the mobility
35 control of the cellular network. When combined with the

mobile telecommunications systems, the roaming of the cordless telephone handsets within the cordless telephone systems is fully supported. However, the cordless telephone handset is not able to utilize the more extensive radio coverage of the supporting cellular network or to perform handover to or from the cellular network. This disadvantage is due to several reasons.

5
10 Firstly, the radio interfaces of cordless telephone systems and the mobile radio systems are usually incompatible.

15 Secondly, the handover procedures are different. In cordless telephone systems, the handover procedure is usually initiated by the portable terminal. More particularly, when a cordless telephone terminal considers it necessary to change from one base station to another, the terminal scans the frequency band and selects the appropriate base station for the handover. In most of the mobile telephone systems the handover is controlled by the network. The mobile station only measures the quality of the radio connection and forwards the measuring results to the fixed network. One of the network elements, for example a mobile exchange, makes a decision for handover on the basis of the obtained information.

20
25 It is an object of the invention to provide a subscriber terminal capable of communicating with both a fixed part of a cordless telephone system and a base station of the mobile radio system.

30 It is a further object of the invention to provide a method for performing handover from a fixed part of a cordless telephone system to a base station of a mobile telecommunications system.

35 One aspect of the invention is, in a mobile telecommunications system including a fixed network comprising mobile exchanges, first base stations connected to said mobile exchanges, and second base stations of a cordless

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