

ABSTRACT

A METHOD OF TIME MEASUREMENT IN A COMMUNICATIONS SYSTEM,
A COMMUNICATIONS SYSTEM AND A RECEIVING APPARATUS FOR
USE IN THE SYSTEM

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In certain signal transmission systems such as selective call systems it is desired to stamp the date and time of the receipt of a call addressed to a receiver. For battery powered equipments such as radiopagers it is not practical to provide a clock because it will require resetting after each battery change. Fairly accurate times can be obtained by the system base station transmitting date and time message signals at regular intervals. However due to signal formatting delays and signal propagation delays, both of which are variable, the time indicated in a received time message signal is incorrect relative to real time. A radiopager includes a timing stage which is able to measure real time relative to a time reference. In order to obtain the best time reference, a comparison is made between the real time difference ($Tr_n - Tr_{ref}$) between the times of receipt Tr_{ref} , Tr_n of a current time reference signal and a more recently received time message signal Ts_{ref} , Ts_n , and the time difference ($Ts_n - Ts_{ref}$) between the times Ts_{ref} , Ts_n indicated in the corresponding time message signals, and depending on the result either the time reference signal Ts_{ref} is confirmed as the current time reference signal or the more recently received time message signal is substituted as a new current time reference signal causing the real time clock to be reset so as to relate the real time to the new current time reference signal.

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