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(54) Title: METHOD AND APPARATUS FOR ACTIVATING A HIGH FREQUENCY CLOCK FOLLOWING A SLEEP MODE WITHIN A MOBILE STATION OPERATING IN A SLOTTED PAGING MODE

(57) Abstract: A technique is described for activating an active-mode high frequency clock (102) following a sleep period for use within a mobile station wherein selected components of the mobile station operate using a low power, low frequency sleep-mode clock (104) during the sleep period and the faster high frequency active-mode clock (102) during non-sleep periods. In one embodiment, the technique is implemented by a device having a wake-up estimation unit (108) for estimating a wake up time using the sleep-mode clock (104) and a frequency drift compensation unit for compensating for any error in the estimated wake up time caused by frequency drift in the sleep-mode clock (104). An off-set time compensation unit (112) is also provided for compensating for a lack of precision in the low frequency sleep-mode clock (104) resulting in a possible error in the estimated wake up time. The lack of precision can result in an initial timing off-set error at the beginning of the sleep period and a final timing off-set error at the end of the sleep period. Both the frequency drift compensation unit (110) and the off-set time compensation unit employ a high frequency transition-mode clock signal for use in calculating the time required to adjust the wake-up time. The transition-mode clock (106), which may have the same frequency as the active-mode clock (102), is employed only at the beginning and end of the sleep period and is deactivated throughout most of the sleep period to reduce power consumption.

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