

ABSTRACT

ELECTRONIC TIMEKEEPING DEVICE WITH REDUCED ADJUSTMENT
DATA STORAGE REQUIREMENT

To produce a time-base signal for timekeeping, an oscillator circuit generates an oscillator clock signal, which is counted cyclically with a programmable cycle length to establish a time-base cycle. The time-base signal is set and reset once in each time-base cycle. The oscillator clock signal is also counted with a fixed cycle length to establish an adjustment cycle, which is longer than the time-base cycle. In each adjustment cycle, the length of one or more time-base cycles is altered by a total amount determined by adjustment data stored in a non-volatile memory, then the time-base cycle length is restored to its nominal value. The average frequency of the time-base signal can be adjusted by writing appropriate adjustment data in the non-volatile memory.

Figure 1

