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A Computer-Controlled LORAN-C Receiver for Precision Timekeeping

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Abstract

This report describes the design and construction of a specialized radio timing receiver for the LORAN-C radionavigation system. The computer-controlled receiver provides a precision frequency source of 5 MHz and submultiples, together with a precision timing source of 1-pulse/second synchronized to Coordinated Universal Time UTC(LORAN). It is intended as a laboratory monitor and comparator for precision timekeeping equipment, but also has applications as a precision clock and timing source for computer networks and in other applications requiring precision timekeeping with respect to UTC.

Keywords: precision time and time interval, LORAN-C, timing receiver, disciplined oscillator.

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