

CDMA Atomic Time Receiver

Overview

An exciting new way of obtaining precision, Universal Coordinated Time (UTC) has come of age. Made possible by the rapidly expanding, global deployment of Code Division Multiple Access (CDMA) mobile telecommunications systems. The CDMA base stations act as repeaters for the global positioning system (GPS). The transmission standard requires that the time transmissions be within ten millionths of a second of the UTC time standard. The spread spectrum CDMA radio signal is easily received inside buildings without the need for an external antenna, as with GPS.

Generally speaking, if you are able to use a cell phone, even marginally, in a specific location, then the CDMA receiver will work.

The CDMA receiver must be deployed in a 'cellular' IS-95 CDMA coverage area. 'Cellular' is a commonly used term that implies that the frequency band for the base station carrier transmissions is 824-895 Mhz.

Configuration

The CDMA receiver is contained within the body of the clock with a small stub antenna on top.

Your time display should already be factory configured if equipped with a CDMA atomic time receiver. This configuration can be changed at any time. The following modes are useful when configuring the time display.

Mode 21-n - (n=display position 1-24) This is the time offset from UTC. It ranges from -12 to +12

Mode 24-n - (n=display position 1-24) Daylight Savings code - a value of 1 implements U.S. rules

Mode 20-n=16 - (n=display position 1-24) Displays CDMA diagnostics - The first two digits will display "00" or "06". When first powered-up, the "00" will blink every few seconds as it attempts to receive a time signal. When a CDMA is locked onto the time signal a "06" will display constantly. These two digits are followed by a space, then a 0, or an alternating 0 and 1. Once the receiver is locked onto the time signal, this digit will alternate between 0 and 1 once per second.

The decimal point to the right of the minutes on the first display will illuminate once the receiver is locked onto a signal. The light will go out if the displayed time becomes greater than ten milliseconds from the time standard.

Mode 32-15=3 - Enables CDMA reception - If this value is changed, power down the clock for a few seconds and power it back up to initialize the CDMA receiver.