



THUNDERBOLT E GPS DISCIPLINED CLOCK

KEY FEATURES

- Double-ovenized quartz oscillator provides stable 10 MHz and 1 PPS output to maximize bandwidth
- Combined GPS receiver and 10 MHz oscillator on one board
- High volume manufacturing provides reliable low-cost products
- Meets holdover specifications of 8 μ s over 24 hours



PRECISE GPS CLOCK FOR WIRELESS INFRASTRUCTURE

The Trimble® Thunderbolt® E GPS Disciplined Clock is Trimble's latest offering for GPS synchronization devices targeting the wireless infrastructure. This fifth-generation GPS clock combines a 12-channel GPS receiver, control circuitry, and a high-quality double-ovenized oscillator on a single board, providing increased integrity and reliability at a lower size and cost.

The Thunderbolt E's level of integration makes it a perfect solution for precise timing applications in the wireless industry. Among its uses are synchronizing the E911 positioning infrastructure, and providing precise time and frequency for WiMax and LTE-TDD applications, along with digital broadcast applications.

The architecture is comparable to systems currently used to maintain the tough CDMA, WiMax, and LTE-TDD holdover specification. The Thunderbolt E is available in its enclosure, or as an OEM board.

The Thunderbolt E GPS clock outputs a 10 MHz reference signal and a 1 PPS signal with an over-determined solution synchronized to GPS or UTC time. The PPS output accommodates applications requiring sub-microsecond timing.

The Trimble T-RAIM (Time-Receiver Autonomous Integrity Monitor) algorithm is used to monitor satellites to ensure signal integrity.

Matching the Thunderbolt E GPS Clock with the Trimble Bullet™ antenna creates a system that provides reliable performance in hostile R/F environments. The system can be easily calibrated for different cable lengths.

The high level of integration and volume production techniques make the Thunderbolt E GPS Disciplined Clock an extremely cost-competitive timing solution for volume synchronization applications.

