

CDMA
WLL
WiMAX



GPS TIMING AND SYNCHRONIZATION PRODUCTS



GOT THE TIME?



THUNDERBOLT E GPS DISCIPLINED CLOCK

Precise time and frequency reference

The Thunderbolt® E GPS Disciplined Clock is designed specifically for precision timing and synchronization of wireless networks. It is a simple, cost-effective, high-performance solution that provides superior performance for applications such as Enhanced 911, network synchronization, and maximizing bandwidth for wireless local loop and WiMAX. The Thunderbolt E clock combines a GPS receiver with a high-quality ovenized oscillator on a single board that rivals the precision of an atomic clock.



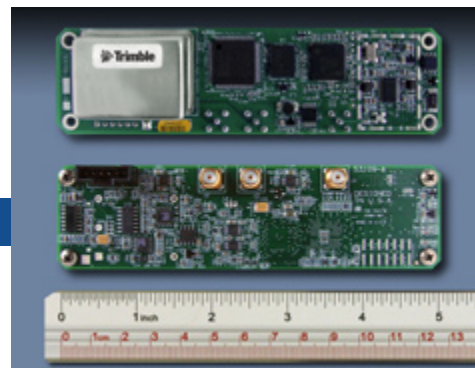
RESOLUTION T EMBEDDED TIMING MODULE

Accurate timing at a low cost

The Resolution T®'s low cost and accurate timing enables worldwide synchronization to GPS/UTC for many applications. This module has been optimized for timing applications where cost and reliability are paramount, such as network packet monitoring and QoS, electrical utility timing, synchronization, and monitoring, base stations, and SCADA applications.

Got the time?

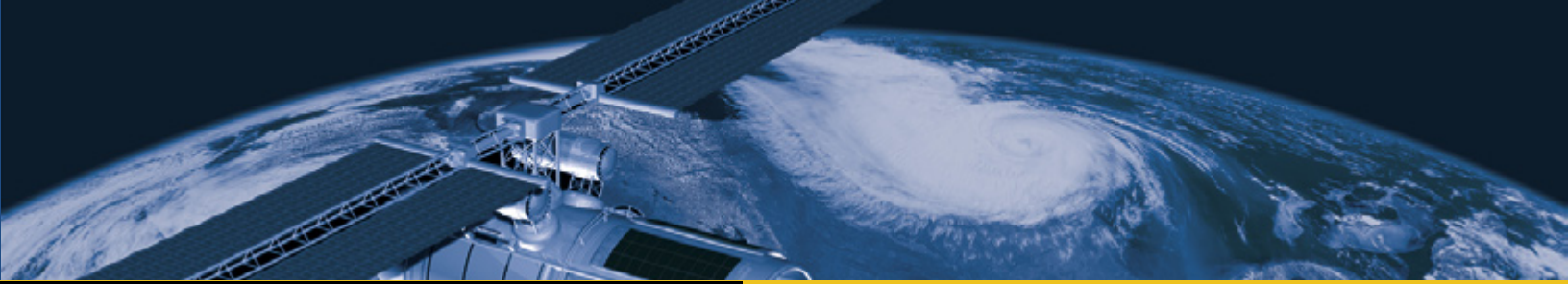
Today's extensive wireless communications networks and computer communication networks require precise timing and synchronization to ensure their proper operation. So do a myriad of portable products. Trimble provides GPS-based timing and synchronization solutions specially suited to these needs. These solutions range



MINI T GPS DISCIPLINED CLOCK

Precise timing embedded into your system

Trimble's Mini-T™ takes GPS disciplined clocks to a new level of integration that provides a simple, cost effective and high performance solution in Trimble's smallest form-factor to date. The Mini-T allows OEMs to embed a low-cost precise time and frequency function reference, in our smallest form-factor yet. Trimble created the Mini-T using clock technology proven in generations of deployed units used in CDMA, WLL, WiMAX, and broadcasting applications. It utilizes the latest in GPS technology, combined with a precision ovenized oscillator for atomic clock precision timing.



from business-card-sized boards to GPS smart antennas to dedicated clock modules — both off-the-shelf and custom. All are based on innovative technology. All have stood the test of time with some of the largest networking and communications companies in the world. And all are from Trimble, the first name in GPS.



BULLET ANTENNA

A rugged complement to any GPS system

Whatever the environment—Trimble's Bullet™ GPS antenna will deliver, year after year. Designed primarily for stationary timing applications, the Bullet Antenna is a perfect solution for manufacturers who need a fixed-site, rooftop GPS antenna. The weatherproof packaging withstands continuous exposure to shock, vibration, extreme temperatures, water and sunlight. The Bullet III antenna is an active GPS antenna with 35 dB preamp (5 V DC) or 30 dB preamp (3.3 V DC).

ACUTIME GOLD GPS SMART ANTENNA

GPS receiver and antenna in a sealed unit

The Acutime™ Gold GPS smart antenna is the ideal solution for precise timing and synchronization of wireless voice and data networks. The Acutime Gold combines a GPS antenna and receiver using Trimble's latest technology in a rugged, waterproof, self-contained unit. It generates a pulse-per-second output synchronized to within 15 nanoseconds of UTC (1 sigma). Trimble TimeTrigger™ technology eliminates the latencies associated with customary primary reference source outputs. The GPS smart antenna provides a cost-effective and independent timing source for any application.



CUSTOM SOLUTIONS

Trimble timing and synchronization products satisfy a very wide range of applications, right off-the-shelf. We also produce custom clocks to meet special requirements for some of the largest networking and communications companies in the world. And we can do it for you.

We will work with you to develop a cost-effective, performance-effective solution for your requirement. Our timing experts can provide a custom solution—based on our proven frequency output (FreqOut™) architecture—to meet your price-point needs for virtually any stability, frequency or PPS output requirement in a variety of form factors. Whatever form your solution takes, you can be sure it will feature Trimble's traditional superior performance, innovation, and proven quality and reliability.

Proven Performance. Trimble technology has been at the forefront of GPS advances for more than 15 years:

- Proven holdover performance meeting CDMA requirements of ± 7 μ sec over 24 hours.
- Unique Kalman filtering for superior performance.
- Continuous advances in integration resulting in fewer components and increased reliability.

Proven Reliability. Trimble has shipped tens of thousands of GPS disciplined clocks for use in a variety of timing and synchronization applications. They are built rugged to stand up to tough environments. They have established an outstanding record of accuracy and reliability. All of our custom clocks feature mean time between failures (MTBF) of well over 200,000 hours.

Why risk your reputation with products that haven't stood this test of time?

Proven Price/Performance. Price is important. Performance is critical. We believe that Trimble timing products consistently offer the best true price to true performance ratio in the industry. For example, our FreqOut architecture produces atomic-clock performance for quartz prices. Trimble timing products have typically been the low-cost leader while still emphasizing quality and performance. And that spells value—to you and to your customers.

So trust Trimble for your custom timing solution. We can help you to be more competitive in your market. Proven architecture, performance, reliability and value all lead to a more cost-effective solution, a quicker time to market, and less risk for you. Don't lose a nanosecond. Call us today or check out our web site at www.trimble.com/timing.



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