

MD-996-00002 Disciplined Oscillator Module



Features

- 1PPS and 10 MHz output signals
- 15nSec accuracy (one sigma)
- Automatic self-survey for improved timing accuracy
- TRAIM (Timing Receiver Autonomous Integrity Monitoring) assured high PPS integrity
- Contact factory for hold over specifications

Description

The MD-996-0002 Disciplined Oscillator Module is based upon the Trimble's proven Thunderbolt™ platform and utilizes Vectron's high quality Ovenized Quartz Crystal Oscillators (OCXO). This module has an embedded 12-channel GPS receiver and provides both 10MHz and 1 PPS signal output that is synchronized to GPS or UTC time. The MD-996-0002 provides 15 nanosecond accuracy and tight holdover performance. The MD-996-0002 can be used in a variety of precision timing applications and as always, Vectron is capable of customizing a solution for any application.

Application

- 3G Basestations (WCDMA, CDMA2000)
- LTE
- WiMAX Basestations
- Digital Video Broadcast
- E911 Location Systems
- General Timing and Synchronization
- Military Radio

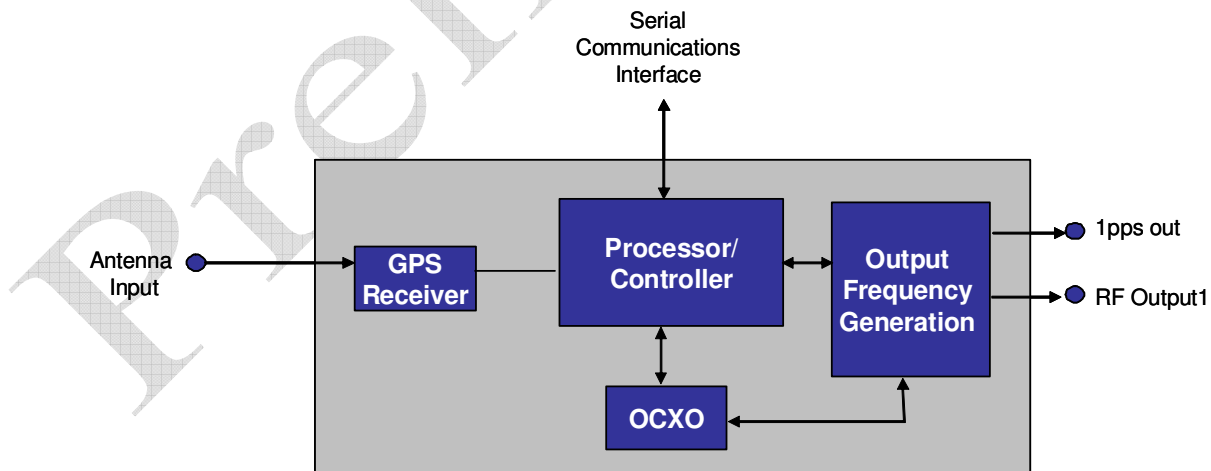


Figure 1. Functional Block Diagram

MD-996-0002 Disciplined Oscillator Module

Performance Specifications ¹	
General	L1 frequency, C/A code (SPS) 12-channel, continuous tracking receiver
Update Rate:	1 Hz
1 PPS Accuracy	GPS 15 nanoseconds (one sigma) without SA
Output Frequency	10 MHz
Accuracy	1.6×10^{-12} (one day average)
Harmonics	-40 dBc max
Spurious	-70 dBc max
Phase Noise	10 Hz -115 dBc 100 Hz -130 dBc 1 KHz -135 dBc 10KHz -145 dBc 100KHz -145 dBc
Allan Deviation	1s 1.4e-11 10s 2E-11 100s 2E-11 1000s 5E-12
Power Supply	24V and return (19V-34V)
Power Consumption	12Watts cold, 8Watts steady state

Interface Specifications	
1 PPS	Connector: BNC TTL levels into 50 ohms 10 microsecond-wide pulse with the leading edge synchronized to GPS within 20 nanoseconds (one sigma) in static, time-only mode. Rising time: <20 nanoseconds Pulse shape affected by distributed capacitance of interface cable/circuit.
10 MHz	Connector: BNC
Antenna Interface	BNC
I/O	DB-9/M connector
Power	2 pin locking connector Molex 39-30-1020
Serial Protocol	Trimble Standard interface Protocol (TSIP) binary protocol @ 9600, 8-None-1

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Notes:

1. Contact the factory for custom stability requirements.

For all Inquiries, Please Contact:



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Preliminary