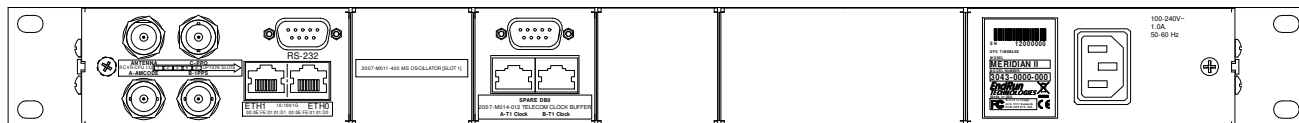


GPS-Synchronized T1/E1 Primary Reference Source

Specifications



Meridian II Rear Panel with One Telecom Option Module Installed

GPS RECEIVER:

- L1 Band - 1575.42 MHz.
- 12 Channels, C/A Code.
- 15 dB minimum gain at receiver input.
- Static and dynamic (shipboard) operating modes.
- Timing Receiver Autonomous Integrity Monitoring (TRIM).
- TNC connector (female) on rear panel, Zin = 50Ω. 5 volts DC to antenna.

ANTENNA:

- 40 dB gain LNA with band-pass filter for out-of-band interference rejection.
- Rugged, all-weather housing capable of operation over -40° to +85°C.
- Mounting kit: 18" long, 3/4" PVC pipe with clamps.
- 50' low-loss RG-59 cable. Optional lengths up to 1000' with preamplifiers.
- TNC connector (female), Zout = 50Ω, antenna power = +5V.

LOCAL OSCILLATOR:

Optional Oscillators Temperature Stability from 0° to 70° C:

- Medium Stability-OCXO 4x10⁻⁹
- High Stability-OCXO 1x10⁻⁹
- Ultra Stable-OCXO 5x10⁻¹⁰
- Rubidium 1x10⁻⁹
- High Stability Rubidium 1x10⁻¹⁰

See [Oscillator Options](#) datasheet for more information.

FREQUENCY ACCURACY:

- Locked to GPS: 6×10^{-14}
- Holdover: 1×10^{-10} (US-OCXO) for 24 hours (-5°C max delta). See holdover performance chart on first page for specifications on other oscillators.

TELECOM CLOCK OUTPUT CHARACTERISTICS:

- Meets the requirements of ANSI T1.101 and ITU-T G.811 pertaining to PRS operation.
- Quantity: Two outputs minimum. Can be expanded up to eight outputs.
- Signal: Any combination of E1, T1 or Composite Clock.
- Frequency: 1.544 Mbps (T1) and/or 2.048 (E1) and/or 64 kbps (Composite Clock).
- Synchronization: Phase locked to the internal system 10 MHz.
- Pulse Shape: Conforms to ITU-T G.703.
- MTIE/Jitter/Wander: Conforms to ITU-T G.811/G.823 when locked (E1, Composite Clock) and ANSI T1.101, ITU-T G.811/824 when locked (T1).
- See [Telecom Clock Option](#) datasheet for more specifications.

1 PPS TIMING CHARACTERISTICS:

The following accuracy and stability specifications assume a stationary platform, 4 satellite lock, and antenna installation with a full view-of-the-sky.

- Accuracy: 10 nanoseconds RMS to UTC(USNO) when locked*.
- Stability: TDEV 10 ns @ $\tau < 10^5</math> secs, $\sigma_y(\tau) < 6 \times 10^{-14}</math> @ $\tau = 10^5</math> secs.$$$
- Positive TTL pulse into 50Ω (standard) or RS-422 levels (option).
- User-Selectable Width: 20 us, 1 ms, 100 ms, 500 ms.
- User Calibration: +/- 500 us, 1 ns resolution.

* See [GPS-UTC Timing Specifications](#) for details.

TIMECODE CHARACTERISTICS:

- Signal: Amplitude-modulated (AM), 3:1 ratio, 1 kHz carrier, 1 Vrms into 50Ω.
- User-Selectable Formats: IRIG-B, NASA-36, or 2137.

ALPHANUMERIC DISPLAY/KEYPAD:

- Display: Brilliant 16x280 dot-matrix vacuum-fluorescent.
- Keypad: Enter, Back, Edit, Right, Left, Up, Down, Help.

SYSTEM STATUS INDICATORS:

- Sync LED: Green LED pulses to indicate GPS lock status.
- Alarm LED: Red LED indicates a serious fault condition.

SERIAL I/O PORT:

- RS-232 serial I/O on DB9M jack for secure, local terminal access.
- Parameters fixed at 19200 baud, 8 data bits, no parity, 1 stop bit.

NETWORK I/O:

- Two rear-panel RJ-45 jacks.
- 10/100/1000Base-T Ethernet.

NETWORK PROTOCOLS:

- IPv4/IPv6.
- SNTP, NTP v2, v3, v4, MD5/autokey authentication, broadcast/multicast mode.
- SSH client/server with "secure copy" utility, SCP.
- SNMP v1, v2c, v3 with Enterprise MIB.
- HTTPS (Web Interface).
- TIME and DAYTIME server.
- TELNET client/server. FTP and DHCP clients. SYSLOG.

FIRMWARE UPGRADES:

- Software is field-upgradeable and provided free-of-charge

POWER:

- 90-264 VAC, 47-63 Hz, 1.0A Max. @ 120 VAC, 0.5A Max. @ 240 VAC.
- 3-Pin IEC 320 on rear panel, 2 meter cord included.

SIZE:

- Chassis: 1.75"H x 17"W x 11.2"D.
- Weight: 5 pounds.
- Antenna: 2.5"H x 3.5" diameter.

ENVIRONMENTAL:

- Temperature: 0° to +50° C.
- Humidity: 5% to 90%, non-condensing.

COMPLIANCE:

- CE, FCC, RoHS, WEEE.

OPTIONS:

- Dual-Redundant Power Supplies.
- Alarm Output (Open Collector).
- PTP/IEEE-1588-2008 (v2) Grandmaster. 8 ns hardware time stamping.
- 5 & 10 MHz Low-Phase-Noise Frequency Outputs.
- -48, 12, 24, 125 VDC Inputs.
- Direct Digital Synthesizer (DDS) output. User-selectable rates 1.544 MHz, 2.048 MHz, or any rate between 1 Hz and 10 MHz.

Refer to the [Meridian II Options](#) datasheet for more information.

Other options are available. Call us with your requirements.

