



Time & Reference Distribution

Time & Reference Distribution System



Features & Benefits

- Reference signal, PPS and GPS distribution over a single fiber
- Phase free reference signal & PPS with no Jitter
- Receivers works even when fiber is down
- Electromagnetically isolated
- Up to 2Km of fiber

Product Description

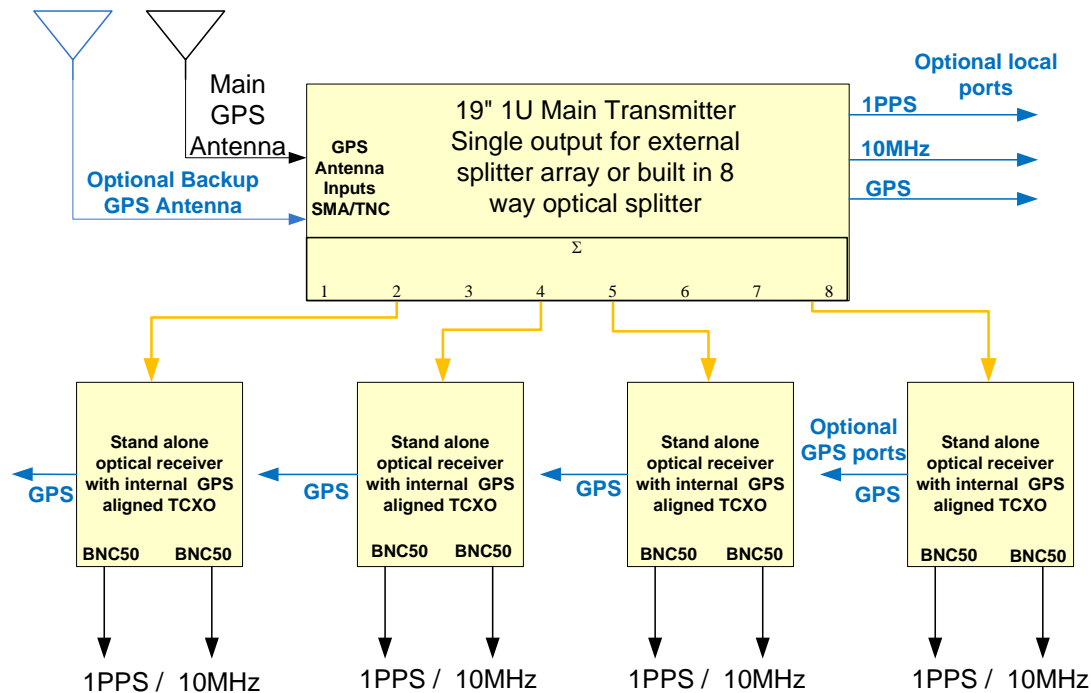
Global Foxcom's reference signal and time distribution system is the next step toward creating a completely synced satellite facility.

The importance of a master 10MHz main reference on satellite equipment is well known. 10MHz signals are used to sync BUC/Modem & LNB with the rest of the equipment to enable accurate modulation and demodulation when using an advanced modulation scheme. In satellite applications, 1PPS signals are usually shared to ensure accurate timing of dish tracking, which is crucial when dealing with orbiting satellites.

Global Foxcom's RF-over-Fiber technology is the ideal solution for minimizing phase noise and jitter when transporting 10MHz and 1PPS signals from a main source to different radar subcomponents.

The system is composed of a centralized transmitter, which supports up to 8 remote receivers, and offers substantial benefits, such as lower time delay, electrical isolation, decreased weight and minimized cost. The optical receivers are GPS based and equipped with TCXO for constant operation even when fiber cable is down.

Time & Reference Distribution



Transmitter Specifications

GPS	
GPS support	GPS L1, (1575.42MHz)
GPS receiver	65 Channels, QZSS, SBAS, WAAS, EGNOS, MSAS capable supports position and hold over clock determined mode
GPS input connector	SMA
GPS Powering	3.3VDC/5VDC (selectable)
GPS sensitivity	Acquisition -145dBm, Tracking -162dBm
GPS TTFF	Cold start <32Sec, Warm/Hot start -1Sec
ADEV	10s: <7E-011, 10Ks: <2E-012 (GPS Locked @ 25°C)
Optional local output PPS & 10MHz connectors	BNC50
Optical	
Operating wavelength	1550nm
Number of optical outputs	8
Power output/Port (Combined)	-4.5dBm
Optical connector Type	FC-APC
Mechanical & Electrical	
Operating voltage	100-220VAC
Power consumption	<30Watt
Unit size	19" 1U
Unit weight	5Kg (TBD)

Receiver Specifications

10MHz Reference & 1PPS															
10MHz Power output	+10dBm														
10MHz Stability (0°C to +60°C)	±0.1PPM (Internal TCXO without GPS)														
10MHz Phase Noise	<table border="1"> <tr> <td></td> <td>at 10MHz</td> </tr> <tr> <td>1Hz</td> <td>-65dBc/Hz</td> </tr> <tr> <td>10Hz</td> <td>-92dBc/Hz</td> </tr> <tr> <td>100Hz</td> <td>-116dBc/Hz</td> </tr> <tr> <td>1kHz</td> <td>-136dBc/Hz</td> </tr> <tr> <td>10kHz</td> <td>-148dBc/Hz</td> </tr> <tr> <td>100KHz</td> <td><-155dBc/Hz</td> </tr> </table>		at 10MHz	1Hz	-65dBc/Hz	10Hz	-92dBc/Hz	100Hz	-116dBc/Hz	1kHz	-136dBc/Hz	10kHz	-148dBc/Hz	100KHz	<-155dBc/Hz
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10MHz RF Output connector	BNC														
1PPS RF output connector	BNC														
1PPS Jitter	<0.135Ps														
1PPS output	3.3VDC (LVTTTL CMOS)														
1PPS Timing accuracy from GPS receiver	<8ns to UTC RMS (1-sigma) GPS Locked														
1PPS Holdover stability (1week with GPS)	<±0us over 3 hour Period @ 25°C														
Optical															
Required optical input	>-6dBm														
Optical connector type	FC-APC														
Mechanical & Electrical															
Operating voltage	12VDC														
Power consumption	<10Watt														
Unit size	208x138x50mm														
Unit weight	0.5Kg														

Ordering Information

Model Number	Description.
TDS-GPS-01-SC-B5-08-03-TX	1PPS, 10MHz and GPS distribution optical transmitter, 8 optical output ports & SMA/BNC RF connectors. 2 redundant GPS Ant inputs, FC-APC optical connector, local TCXO Based 1PPS & 10MHz signal outputs. Dual 100-220V 50/60Hz AC Hot swappable power supply.
TDS-RGP-01-SC-B5-00-00-RX	GPSDO-based, 1PPS and 10MHz stand-alone optical receiver. Equipped with TCXO oscillator, TTL 1PPS output & +10dBm 10MHz reference RF power output. Supplied with 12VDC 2A AC-DC adapter powered.

Contact Us for More Ordering Options