FOXCOM

Complete RF-2-Fiber Solutions

Sat-Light Gold Series

Time & Reference Distribution System

- 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

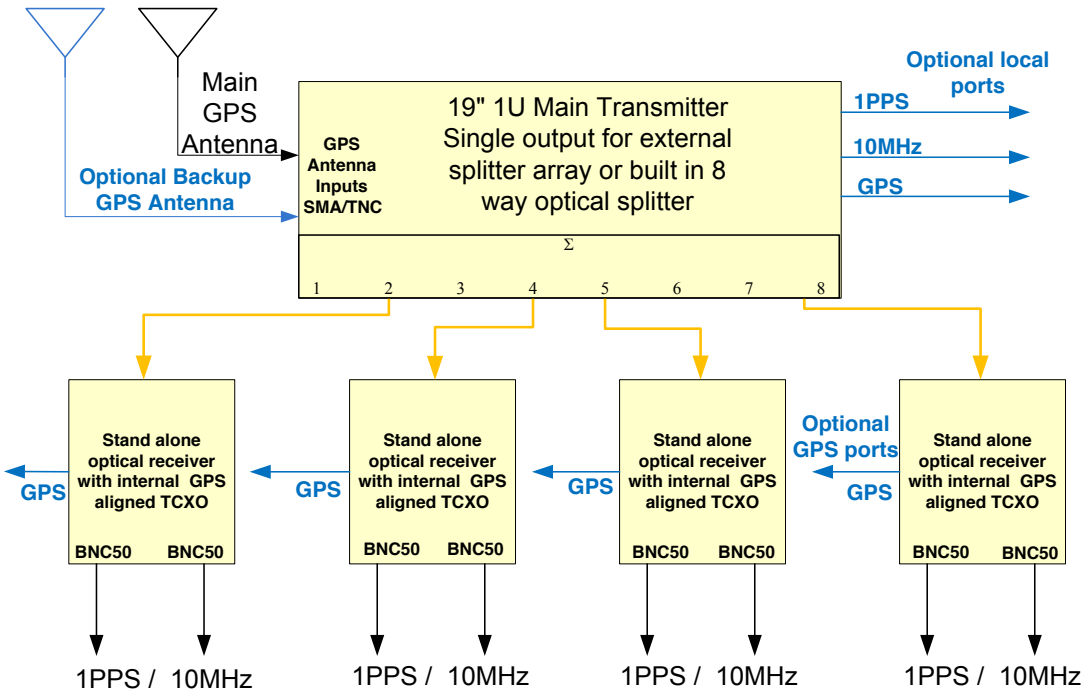
Foxcom's new reference signal and time distribution system is the next step toward creating a completely synced satellite facility.

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.

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.

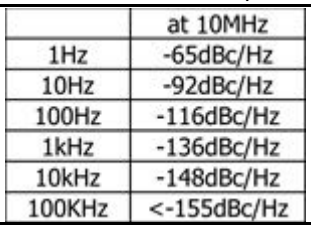
The optical receivers are GPS based and equipped with TCXO for constant operation even when fiber cable is down.



Transmitter Specification

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 Specification

10MHz Reference & 1PPS	
10MHz Power output	+10dBm
10MHz Stability (0°c to +60°C)	±0.1PPM (Internal TCXO without GPS)
10MHz Phase Noise	
10MHz RF Output connector	BNC
1PPS RF output connector	BNC
1PPS Jitter	<0.135Ps
1PPS output	3.3VDC (LVTTL 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

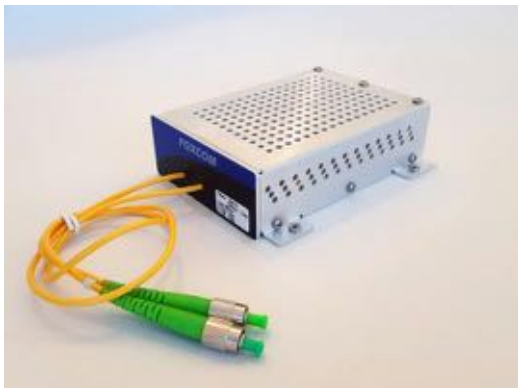
Model Number	**Description**.
TDS-GPS-01-SC-B5-08-03-TX	1PPS, 10MHz and GPS distribution optical transmitter, 8 optical output ports & SMA/BNC RF connectors. 2 redundant GPS Ant inputs, FC-APC optical connector, local TCXO Based 1PPS & 10MHz signal outputs. Dual 100-220V 50/60Hz AC Hot swappable power 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.

Israel Corporate HQ, 16 Hataasia Street, Har Tov A Ind. Zone, Beit Shemesh 99052. Tel: +972-2-589-9888
Fax: +972-2-589-9898 sales@foxcom.com
US Sales Office, 222 Prince George Street, Suite 110, Annapolis, MD 21401. Tel: 1-609-514-1800
Fax: 609-514-1881 www.foxcom.com

FOXCOM
Complete RF-2-Fiber Solutions

Sat-Light Gold Series

Optical Delay Line



Features & Benefits

- Enhanced transmission performance
- Customizable compact fiber spool
- High-quality fiber with a low bend radius
- Versatile use for multiple applications
- Compatible with Foxcom Satellite transmitters

Product Description

Optical Delay Line is implemented for multiple testing purposes, such as diversity sites, radar applications, distance simulation and signal processing. By simulating signal transmissions using our Delay Line, you can enhance the performance between transmitters and receivers. The new Foxcom Optical Delay Line is compatible with the Foxcom Sat-Light/Platinum line.

Foxcom Optical Delay Line is customizable in fiber length and size, and boasts a compact, miniature fiber spool design that is easily incorporated into any situation. This product is made from sophisticated, high-quality fiber with a minimal bend loss and a low bend radius.
Optical Delay Line is available as a standalone unit. You can also consider combining our rack mount Delay Line unit with a receiver and transmitter to produce a complete RF-over-Fiber Delay System.

Optical Specifications

Attenuation	
Attenuation at 1310 nm	≤ 0.35 dB/km
Attenuation at 1383 nm	≤ 0.35 dB/km
Attenuation at 1550 nm	≤ 0.22 dB/km
Attenuation at 1625 nm	≤ 0.24 dB/km

Israel Corporate HQ, 16 Hataasia Street, Har Tov A Ind. Zone, Beit Shemesh 99052. Tel: +972-2-589-9888 Fax: +972-2-589-9898
US Sales Office, 296 Broad Ave, NJ 07631, Englewood, NJ·08540. Tel: 609-514-1800 Fax: 609-514-1881
sales@foxcom.com | www.foxcom.com

Cutoff Wavelength	
Cable Cutoff wavelength (λccf)	≤ 1260 nm

Mode Field Diameter	
Wavelength (nm)	**MFD (µm)**
1310	8.8 ± 0.4
1550	9.8 ± 0.5

Chromatic Dispersion	
Wavelength (nm)	**Chromatic Dispersion (ps/[nm.km])**
Zero Dispersion Wavelength (λ0)	1300–1324 nm
Slope (S0) at λ0	≤ 0.092 ps/(nm² .km)

Typical Values

Miscellaneous	
Nominal Zero Dispersion Slope	0.089 ps/(nm² .km)
Effective group index @ 1310 nm	1.467
Effective group index @ 1550 nm	1.467
Effective group index @ 1625 nm	1.468
Rayleigh Backscatter Coefficient for 1 ns pulse width:	
@ 1310 nm	-79.0 dB
@ 1550 nm	-81.3 dB
@ 1625 nm	-82.0 dB

Environmental and Mechanical Specifications

Attenuation		
Environmental Test	**Test Conditions**	**Induced Attenuation at 1310, 1550 nm (dB/km)**
Temperature cycling	60°C to 85°C	≤ 0.05
Temperature-humidity cycling	10°C to 85°C, 4–98% RH	≤ 0.05
Unit Size		12 x 8.5 x 3.5cm