OTS-1Ref

Reference Oscillator Link

Optiva® SERIES Professional Media Transport | SATCOM

Features

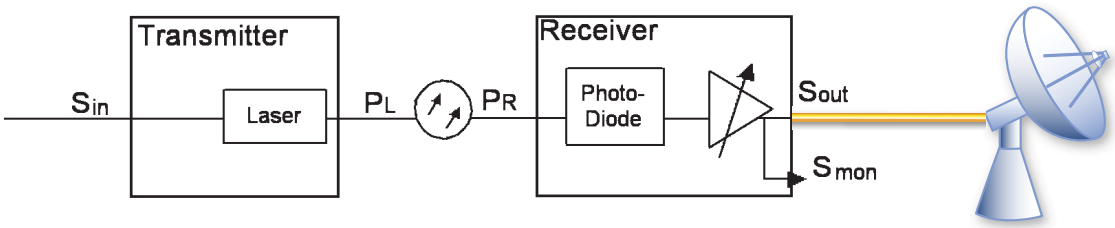
- 1 to 20 MHz optimized for reference signals
- 15dB adjustable gain range provides perfect level match for signal distribution
- Designed for high level signal input
- 50 Ohm BNC
- Receiver RF power monitoring via LED, SMA & remote monitoring
- SNMP monitoring and control
- High-dynamic-range, optically-isolated DFB lasers run cooler and require less power
- Fits in Optiva® enclosures, which support Daisy Chain™ video, audio and data links.
- Hot swap redundant power supplies virtually eliminate downtime
- 16, 4, 2, & 1 slot enclosures available

1MHz to 20MHz Reference Oscillator Link

Optiva® reference oscillator fiber intra-facility links are a high performance, cost-effective alternative to coaxial cable. They provide a secure means of transporting low frequency timing and reference signals allowing all transport signals to be phase locked to a single distributed source. Employing fiber optic links provides much longer transmission distances than copper cables, which simplifies network design, eases installation and even enhances immunity from EMI, RFI and lightning. These transmitters and receivers take the high RF performance and diverse features of Emcore's Ortel technology and combines them into a compact package compatible with the Optiva® OT-CC-16 chassis. The enhanced low frequency performance ideally suits the OTS-1Ref optical transport modules for use in applications in conjunction with L-band signal, video, or data signals anywhere between studio and trasmission. The OTS-1Ref is the perfect complement to the wide range of Optiva® products.

System Design

Optiva® is a completely modular hot-swappable platform. Both 19" rack mount and compact tabletop or wall-mountable enclosures are available. The 19" rack-mount enclosure (Model OT-CC-16) can support up to 16 insert cards and provides a single power supply (Model PS-200), or a dual-redundant, hot-swappable power supply option. Compact enclosures are available with 1, 2 or 4 slots. The one slot (OT-DTCR-1) and two slot (OT-DTCR-2) enclosures both use an external power supply (PS-9012) and optionally have a standard 2-pin DC power connector for more custom applications. The four-slot 1 RU enclosure (OT-CC-4) uses an integrated power supply. The Optiva® family's existing wide range of video, audio and data transport products include a unique Daisy-Chain™ feature that multiplexes multiple electrical inputs onto a single fiber, thus resulting in an extremely capable, yet conveniently flexible, signal transport system.



P 626 293 3400 E satcom-sales@emcore.com W www.emcore.com

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Performance Highlights

	Parameter	Min	Typical	Max	Units
Link	Frequency Range	1	-	20	MHz
	RF link Gain (1dBo optical loss, RX gain at max)[1]	2	12	-	dB
	Fiber Distance	0	-	20	Km
	Optical Loss	0	-	8	dBo
	Air Temperature	-10	-	50	˚C
TX	RF input	-	0	15	dBm
	TX Gain (TG) at 10 MHz[1]	-18	-13	-	dB (W/A)
	RF Flatness (1-20 MHz)	-	0.5	2	dB PP
	Input IP3 (0dBm per tone, 10&11 MHz)	30	34	-	dBm
	Carrier to Noise Ratio, (3dBm RF input, 10 MHz)	130	136	-	dB/Hz
	Spur Free Dynamic Range (1dBo loss)	105	> 111	-	$dB/Hz^{2/3}$
	RF return loss	-	-15	-10	dB
	Optical Power	5	6	7	dBmo
	DC Power	- -	12 110	- 150	V mA
RX	RX Gain (RG), at 10 MHz[1]	22	27	-	dB (A/W)
	Gain Flatness (max gain) 1-20 MHz	-	0.5	2	dB PP
	RF Return Loss	-	-19	-15	dB
	Output IP3 (10&11 MHz)	24	30	-	dBm
	Output P 1dB @ 10 MHz	-	15	-	dBm
	Optical Input Optimal	-12 -6	- -	10 10	dBmo dBmo
	DC Power	- -	12 150	- 200	V mA

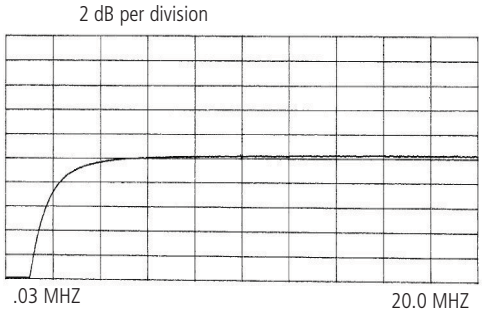
1. Link RF $Gain_{dB}$ = TG + RG – 2*$FiberLoss_{dBo}$ (assumes Rin = Rout)

2. dBmo & dBo indicate optical power & loss to minimize confusion with RF dBm & dB

Ordering Information

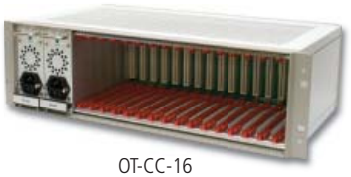
Product Code	Specifications
OTS-1RefT/B5-1306-SA-IC	Transmitter, 1-20 MHz, BNC 50 ohm, 1310 nm, 6dBm (typ), SC/APC
OTS-1LT/B5-1303-SA-IC	Transmitter, 50-3000 MHz, BNC 50 ohm, 1310 nm, 3dBm (min), SC/APC
OTS-1LT/B7-1303-SA-IC	Transmitter, 50-2500 MHz, BNC 75 ohm, 1310 nm, 3dBm (min), SC/APC
OTS-1LT/S5-1303-SA-IC	Transmitter, 50-3000 MHz, SMA 50 ohm, 1310 nm, 3dBm (min), SC/APC
OTS-1RefR/B5-SA-IC	Receiver, 1-20 MHz, BNC 50 ohm, SC/APC
OTS-1LR/B5-SA-IC	Receiver, 50-3000 MHz, BNC 50 ohm, SC/APC
OTS-1LR/B7-SA-IC	Receiver, 50-3000 MHz, BNC 75 ohm, SC/APC
OTS-1LR/S5-SA-IC	Receiver, 50-3000 MHz, SMA 50 ohm, SC/APC
OPV-CTLR-IC	NMS SNMP Controller Card & MIB for Optiva Family
OTP-1ETR-A2/A2-LC	Optical Tcvr, 1Ch, Ethernet, SM, Dual LC
OT-CC-16-01	Chassis, 19 in Rack Mount, 16 Slot, 3RU, Rear Access
PS-200-NA	Power Supply, 12 Vdc, 100 to 240 Vac, 50/60 Hz, N. Amer. AC Cord, for OT-CC-16
OT-CC-4-1U-NA	Chassis w/ built-in Power Supply, 1 RU, 4 slots, 110 - 240Vac, N. Amer. AC , Cord
OT-DTCR-1 / OT-DTCR-2	Chassis, flange-mount, w/ Power Supply, 1 slot / 2 slot

Typical Response



OTS-1R (TX & RX)

Enclosure Options



OT-CC-16

OT-CC-4

OT-DTCR-2 OT-DTCR-1

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