

ViaLiteHD[®] – Low Frequency Timing Reference Link

Low Frequency Timing Reference RF over fiber Link

- Suitable for Timing / Synchronisation and Satcom applications
- TEMPEST / INFOSEC, EMC, EMP and secure data centre installations
- Low frequency IRIG-B option (down to 100 Hz)
- Transmits all analogue RF timing reference signal formats
- Wide range of gain options
- Transmission distances of >50km
- SNMP interface for:
 - Remote monitoring
 - System programming and control



The **ViaLiteHD** Low Frequency Timing Reference fiber optic link is designed to distribute an accurate central timing and frequency reference signal to remote locations in new or existing single mode fiber networks.

The wide bandwidth of 10 kHz to 50 MHz allows transmission of various timing reference standards which include:

- MSF
- DCF
- IRIG-B with 100Hz option
- HBG-75 kHz
- eLoran

Features/Options

- Electrical connectors: 50 Ω SMA and MCX, 75 Ω BNC and MCX (format dependant)
- Optical connectors: SC/APC, LC/APC, FC/APC and E2000/APC
- Rack chassis Blind mate connectivity: 50 Ω SMA / 75 Ω BNC and LC/APC
- 5 V or 12 V internally-generated voltage feed to RF connector (Transmitters only).

Applications

Radio Timing input for:

- Network time servers Backup
- Cellular base stations
- GPS test systems Backup

Formats

- 3U Rack chassis
- 1U Rack chassis
- Blue OEM and Blue2 Link
- Yellow OEM

Technical Specification

	Units	Note	Low frequency timing reference link
Transmitter (Tx)			HRT-T1-8R-06-S1310 (Example)
Receiver (Rx)			HRR-T1-8R-06 (Example)
Frequency range	MHz		0.01 – 50
Impedance, RF connector			50 Ω SMA
VSWR	(Typ)		1.5:1
Link gain (Tx gain / Rx gain), default	dB (Nom)	^a	0 (-25 / +25)
Tx gain adjustment range	dB (Typ)		15.5
Tx gain adjustment from default gain	dB (Typ)		-6.0 to +9.0
Rx gain adjustment range	dB (Typ)		15.5
Rx gain adjustment from default gain	dB (Typ)		-5.5 to +10.0
Gain adjustment step size Rx and Tx	dB (Typ)		0.5
Flatness, full band	dB (Typ)	^{a h}	± 0.2
Flatness, full band	dB (Max)		± 0.5
Gain stability over temperature, Link	dB (Max)	^a	± 3
Gain stability	dB (Typ)		0.25 @ 24 hrs
P1dB input	dBm (Typ)	^{a k}	10
P1dB input at minimum Tx gain	dBm (Typ)	^{a k}	13
IP3 input, at default gain	dBm (Typ)	^{a k}	22
Noise figure, at default gain	dB (Typ)	^{a k}	32
Noise figure, at maximum Tx gain	dB (Typ)	^{a k}	30
Noise figure, 5 dB optical loss	dB (Typ)	^{c k}	37
SFDR	dB / Hz $\frac{2}{3}$ (Typ)	^a	109
Maximum RF input power without damage	dBm		20
LNA power			No LNA Power (for this example version)
Power Tx	W (Typ)		1.9
Power Rx	W (Typ)		1.3
Optical connector			SC/APC
Optical wavelength	nm		1310 nm $\pm$ 20 nm (1550 nm / CWDM options)
Laser type			DFB – Distributed feedback laser
Optical power output	dBm (Typ)		4.5
Summary alarm output			Open drain alarm: OPEN: Alarm, CURRENT SINK: OK
Operating temperature			-10 °C to +50 °C
Storage temperature			-40°C to +70 °C
Humidity	RH		95 % non-condensing humidity



^a nominal input power @ 0 dB optical loss
^b nominal input power @ 1 dB optical loss
^c nominal input power @ 5 dB optical loss
^h default gain setting
^k Measured @ 10MHz
 All tests @ 25 °C after 15 minutes warm up

Optional Accessories

Part Number	Description
74084 (Blue OEM format – non 6GHz) 	TTL input, 15-Way Molex connector to BNC Male connector, 1 metre. Combined with Blue OEM PSU (HPS-CS-3). Can be used for IRIG timing signals.
74085 (Blue OEM format – non 6 GHz) 	TTL output, 15-Way Molex connector to BNC Male connector, 1 metre. Combined with Blue OEM PSU (HPS-CS-3). Can be used for IRIG timing signals
54402 	Mains Power cord, C7-C14, IEC 60320, 2 metres, 6A, 250 V. For use with P/N 74084 and 74085.
73870 (HRK chassis format)	TTL input, 9-way D-Type Male connector to BNC Male connector, 6 metres. Can be used for IRIG timing signals.
73871 (HRK chassis format)	TTL output, 9-way D-Type Male connector to BNC Male connector, 6 metres. Can be used for IRIG timing signals.