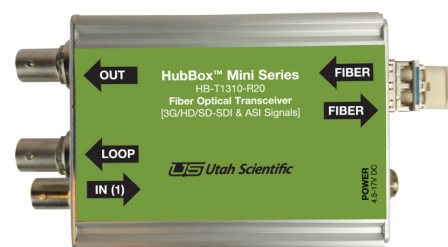


HubBox HB-T1310-R20

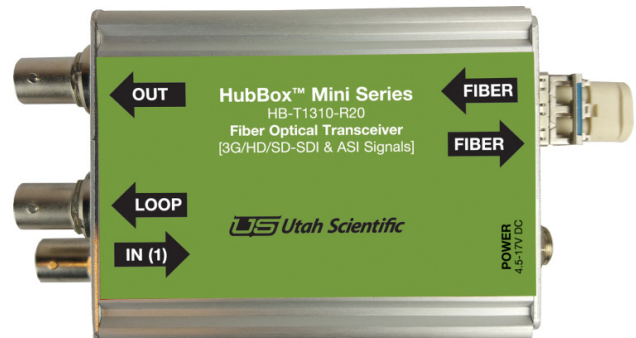
3G-, HD-, SD-SDI Optical Transceiver for SMPTE 297-2006 Video Applications



3G-, HD-, SD-SDI Optical Transceiver for SMPTE 297-2006 Video Applications

The HubBox HB-T1310-R20 is an optical transmitter for converting a single SDI channel to optical fiber, or a single optical signal to SDI. The system supports 3G-, HD-, and SD-SDI as well as DVB/ASI, with support for data rates from 50Mbps to 3Gbps. The HB-T1310-R20 is housed in an extremely compact and rugged aluminum case, making it ideal for both studio and portable applications.

The HubBox HB-T1310-R20 is perfect for use with the Utah Scientific 100-XFD system to drive applications requiring one or two remote signals.



Features

- Multirate reclocking with automatic rate detection and automatic bypass for non-SDI data rates
- Automatic cable equalization
- LEDs displaying power and SDI lock status
- Locking DC jack
- Optical output on LC/PC connector
- Ability to provide reclocked loop-through SDI output
- Delivered with 1310nm Fabry-Perot laser
- Excellent performance with SDI-Checkfield test signal at SD-, HD-, and 3G-SDI
- May be used in conjunction with another HB-T1310-R20 or a 100-XFD system to form a complete fiber transmit/receive system

Part Number Options

Part Number	Temperature
HB-T1310-R20	0° C to +40° C

Absolute Maximum Ratings

Absolute maximum ratings are those values beyond which functional performance might be affected, device reliability is not implied, and damage to the device may occur.

Parameter	Minimum	Maximum	Unit
Storage temperature (non-operating)	-40	+85	°C
Relative humidity (non-condensing)	5	80	%

General Operating Conditions

Parameter	Minimum	Typical	Maximum	Unit
Operating temperature	0		+40	°C
Supply voltage (Vcc)	6		12	V
Dimensions	63.5mm x 84mm x 30mm (excluding connectors)			
Weight	145g			

Electrical Characteristics

Parameter	Minimum	Typical	Maximum	Unit
Supported standards:				
■ SMPTE	292M-2008, 259M-2008, 297M-2006, 424M-2006			
■ DVB ASI	EN50083-9			
■ Laser safety	Class 1 21CFR and IEC60825-1			
Number of inputs	1			
Number of outputs	1 + 1 active loop through			
Typical input cable length equalization	Up to 140m of Belden 1694A @2.97Gbps Up to 200m of Belden 1694A @1.485Gbps Up to 400m of Belden 1694A @270Mbps			
Output signal level	800mVp-p ±10%			
Connectors	BNC			
Impedance	75ohm			
Return loss	≥15 dB [5-1485 MHz], ≥10dB [1485-2970MHz]			
LED indicators	Power and SDI lock			
Data rate	50		3000	Mbps

Transmitter Optical Characteristics

Parameter	Minimum	Typical	Maximum	Unit
Transmitting circuit fiber	Single-mode (9/125μm), Multimode-compatible			
Light source	Fabry-Perot laser			
Optical output power	-6	-2.5	0	dBm
Optical extinction ratio	7			dB
Optical center wavelength	1280	1310	1340	nm
Spectral line width		1.5	3	nm
Optical rise/fall time (20-80%)		115	135	ps

Receiver Optical Characteristics

Parameter	Minimum	Typical	Maximum	Unit
Transmitting circuit fiber	Single-mode (9/125μm), Multimode-compatible			
Receiver technology	PIN			
Optical input overload power	-3		0	dBm
Optical receiver sensitivity @ 3Gbps (3G-SDI Checkfield, BER = 10^{-12} , TX _{EXT} ≥ 7dB)		-19	-17	dBm
Optical receiver sensitivity @ 1.5Gbps (HD-SDI Checkfield, BER = 10^{-12} , TX _{EXT} ≥ 7dB)		-19	-17	dBm
Optical receiving window	1260		1620	nm

Specifications are subject to change without notice

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