

## HubBox HB-T1310-R20

3G-/HD-/SD-SDI Optical Transceiver for SMPTE 297-2006 Video applications

### Data Sheet



#### Description

1 channel of SDI to Optical and 1 channel of Optical to SDI conversion. For 3G-/HD-/SD-SDI and DVB/ASI. Supports data rates from 50Mbps to 3Gbps.

It is housed in an extremely compact and rugged aluminium case ideally suited to both studio and portable applications.

The HubBox is perfect for using with the miniHUB system where one or two signals are required remotely.

#### 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 is not intended, 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			

#### Features

- Multi-rate reclocking with automatic rate detection and automatic bypass for non SDI data rates
- Automatic Cable Equalisation
- LEDs display power and SDI lock status
- Locking DC jack
- Optical output on LC/PC connector
- Provides reclocked loop-through SDI output
- Delivered with 1310nm Fabry-Perot laser
- Excellent performance with SDI-Checkfield test signal at SD-, HD- and 3G-SDI
- Use in conjunction with another HB-T1310-R20 or the miniHUB system for a complete fibre transmit/receive system

## Electrical Characteristics

Parameter	Minimum	Typical	Maximum	Unit
Supported standards:				
• SMPTE	292M-2008, 259M-2008, 297M-2006, 424M-2006			
• DVBASI	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), Multi Mode compatible			
Light source	Fabry-Perot laser			
Optical output power	-6	-2	0	dBm
Optical extinction ratio	5			dB
Optical center wavelength	1290	1310	1330	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), Multi Mode compatible			
Receiver technology	PIN			
Optical input overload power	-3			dBm
Optical receiver sensitivity @ 3Gbps (3G-SDI Checkfield, BER = 10 <sup>-12</sup> , TX <sub>EXT</sub> ≥ 7dB)		-19	-17	dBm
Optical receiver sensitivity @ 1.5Gbps (HD-SDI Checkfield, BER = 10 <sup>-12</sup> , TX <sub>EXT</sub> ≥ 7dB)		-19	-17	dBm
Optical receiving window	1260		1620	nm

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