



# HubBox HB-R20



## Single-channel 3G-, HD-, and SD-SDI Optical Receiver for SMPTE 297-2006 Video Applications

Utah Scientific's HubBox HB-R20 is an optical receiver for converting signals from a single optical fiber to SDI. The HB-R20 supports 3G-, HD-, and SD-SDI and data rates from 50Mbps to 3Gbps. The unit is housed in an extremely compact and rugged aluminum case, making it ideal for both studio and portable applications.

The HubBox 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
- LEDs displaying power and SDI lock status
- Locking DC jack
- Optical output on LC/PC connector
- Ability to provide reclocked SDI outputs
- PIN receiver technology
- Excellent performance with SDI-Checkfield test signal at 3G-, HD-, and SD-SDI
- May be used in conjunction with another HB-T1310 or the 100-XFD system to form a complete fiber transmit/receive system

## Part Number Options

Part Number	Temperature
HB-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 outputs	1			
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

## 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 = $10^{-12}$ , TX <sub>EXT</sub> ≥ 7dB)		-19	-17	dBm
Optical receiver sensitivity @ 1.5Gbps (HD-SDI Checkfield, BER = $10^{-12}$ , TX <sub>EXT</sub> ≥ 7dB)		-19	-17	dBm
Optical receiving window	1260		1620	nm

Specifications are subject to change without notice

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