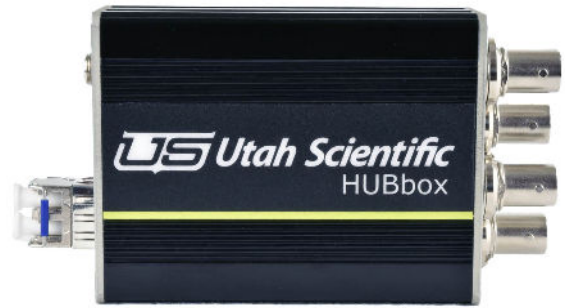


HUBbox™ 12G NV120-T1310-R14-10

Optical Transceiver for UHDTV video applications

Data Sheet



Description

One channel of 12G-SDI to Optical and one channel of Optical to 12G-SDI conversion. For use with 12G-/6G-/3G-/HD-/SD-SDI. Supports data rates from 270Mbps to 11.88Gbps.

The HUBbox™ 12G is equipped with AutoSFP® functionality, similar to the XFD line. This makes the HUBbox™ 12G extremely flexible. Simply by replacing the SFP, it can easily be changed into a dual receiver or dual transmitter. We've also added dual BNCs per channel to the design, giving dual outputs or loop-through.

It is housed in a compact and rugged aluminum case ideally suited to both studio and portable applications.

The HUBbox™ 12G is perfect for using with an XFD system where one or two signals are required remotely.

Part Number Options

| Part Number | Temperature |
|-------------------------------|------------------------------------|
| HUBbox 12G NV120-T1310-R14-10 | -4°F to +131°F (-20°C to +55°C) |

General Operating Conditions

| Parameter | Minimum | Typical | Maximum | Unit |
|-----------------------|---|---------|---------|------|
| Operating temperature | -4 | | +131 | °F |
| Supply voltage (Vcc) | 11 | | 27 | V |
| Dimensions | 2.5" x 3.3" x 1.2" (excluding connectors) | | | |
| Weight | 0.44 lb (200g) | | | |

Features

- AutoSFP® functionality
- Supports 4k and 8k UHDTV
- Dual output or loop-through with reclocked SDI
- Multi-rate reclocking with automatic rate detection and automatic bypass for non SDI data rates
- Automatic Cable Equalization
- LEDs display power and SDI lock status
- Locking DC jack
- Optical LC/PC connector
- Delivered with 1310nm DFB laser and PIN receiver
- Typical Link lengths at 11.88Gbps:
 - Up to 10km @ 9µm SMF
- Excellent performance with SDI-Checkfield test signal
- Use in conjunction with HUBbox™ 12G NV120-T1310-R14-10 or an XFD system for a complete fiber transmit/receive system

Electrical Characteristics

| Parameter | Minimum | Typical | Maximum | Unit |
|--|--|---------|---------|------|
| Supported standards: | | | | |
| <ul style="list-style-type: none"> SMPTE | 292M-2008, 259M-2008, 297M-2006, 424M-2006, ST 2082-1, ST 2081-1 | | | |
| <ul style="list-style-type: none"> Laser safety | Class 1 21CFR and IEC60825-1 | | | |
| Number of IN/OUT BNCs | 2 (transmitter input or receiver output) | | | |
| Number of OUT BNC's | 2 (transmitter loop-through or receiver output) | | | |
| Typical input cable length equalization | Up to 50m of Belden 1694A @ 11.88Gbps 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 | | | |
| LED Indicators | Power, SFP type and SDI lock | | | |
| Data rate | 2 | | 3000 | Mbps |

Transmitter Optical Characteristics

| Parameter | Minimum | Typical | Maximum | Unit |
|-----------------------------------|-----------------------|---------|---------|------|
| Transmitting circuit fiber | Single Mode (9/125µm) | | | |
| Light source | DFB laser | | | |
| Optical output power | -8.2 | | 2 | dBm |
| Optical extinction ratio | 3.5 | | | dB |
| Optical center wavelength | 1260 | 1310 | 1355 | nm |
| Spectral line width (-20dB) | | | 1 | nm |
| Typical link length with 9µm SMF: | | | | |
| @ 11.88 Gbit/s | 10 | | | km |
| @ 2.97 Gbit/s | 10 | 20 | | km |

Receiver Optical Characteristics

| Parameter | Minimum | Typical | Maximum | Unit |
|---|-----------------------|---------|---------|------|
| Transmitting circuit fiber | Single Mode (9/125µm) | | | |
| Receiver technology | PIN | | | |
| Optical input overload power | 0 | | | dBm |
| Optical receiver sensitivity @ 11.88Gbps (12G-SDI, BER = 10 ⁻¹² , TX _{EXT} ≥ 7dB) | | | -14 | dBm |
| Optical receiver sensitivity @ 2.97Gbps (3G-SDI Checkfield, BER = 10 ⁻¹² , TX _{EXT} ≥ 7dB) | | | -17 | dBm |
| Optical receiver sensitivity @ 1.5Gbps (HD-SDI Checkfield, BER = 10 ⁻¹² , TX _{EXT} ≥ 7dB) | | | -18 | dBm |
| Optical receiving window | 1260 | | 1620 | nm |

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