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. Support data rates from 270Mbps to 11.88Gbps.

The HUBbox™ 12G is equipped with AutoSFP® functionality, similar to miniHUB and OC-4B-SDI. This makes the HUBbox™ 12G extremely flexible. Simply by replacing the SFP it can easily be changed into a dual receiver or dual transmitter. Also dual BNC's per channel has been added to the design, giving dual outputs or loop-trough.

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

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

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 Equalisation
- 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 the miniHUB system for a complete fibre transmit/receive system

Part Number Options

Part Number	Temperature
HUBbox 12G NV120-T1310-R14-10	-20°C to +55°C

General Operating Conditions

Parameter	Minimum	Typical	Maximum	Unit
Operating temperature	-20		+55	°C
Supply voltage (Vcc)	11		27	V
Dimensions	63.5mm x 84mm x 30mm (excluding connectors)			
Weight	200g			

Electrical Characteristics

Parameter	Minimum	Typical	Maximum	Unit
Supported standards:				
• SMPTE	292M-2008, 259M-2008, 297M-2006, 424M-2006, ST 2082-1, ST 2081-1			
• 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-throuh 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}, $TX_{EXT} \geq 7dB$)			-14	dBm
Optical receiver sensitivity @ 2.97Gbps (3G-SDI Checkfield, BER = 10^{-12}, $TX_{EXT} \geq 7dB$)			-17	dBm
Optical receiver sensitivity @ 1.5Gbps (HD-SDI Checkfield, BER = 10^{-12}, $TX_{EXT} \geq 7dB$)			-18	dBm
Optical receiving window	1260		1620	nm

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