

# HUBbox™ MkII NV30-T1310-R17-05

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 2Mbps to 3Gbps.

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

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

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

### Part Number Options

Part Number	Temperature
HUBbox MkII NV30-T1310-R17-05	-20°C to +55°C

### Features

- AutoSFP® functionality
- 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 Fabry-Perot laser
- Typical Link lengths at 2.97Gbps:
  - Up to 30km @ 9µm SMF
- Excellent performance with SDI-Checkfield test signal at SD-, HD- and 3G-SDI
- Use in conjunction with HUBbox™ MkII NV30-T1310-R17-05 or the miniHUB system for a complete fibre transmit/receive system

### 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	145g			

## Electrical Characteristics

Parameter	Minimum	Typical	Maximum	Unit
Supported standards:				
• SMPTE	292M-2008, 259M-2008, 297M-2006, 424M-2006			
• DVBAISI	EN50083-9			
• 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 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, 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), 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
Typical link length with 9µm SMF:				
@ 2.97 Gbps	10	30		km
@ 1.485 Gbps	20	30		km
@ 270 Mbps	30	30		km

## 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)		-20	-19	dBm
Optical receiver sensitivity @ 1.5Gbps (HD-SDI Checkfield, BER = 10 <sup>-12</sup> , TX <sub>EXT</sub> ≥ 7dB)		-22	-20	dBm
Optical receiving window	1260		1620	nm

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