



BroaMan Mux-22

12G/3G/HD/SD-SDI VIDEO I/O UNIT WITH BUILT-IN CWDM MODULE, ANALOGUE OR DIGITAL AUDIO I/O AND DATA

BroaMan (Broadcast Manufactur), the Germany-based broadcast network specialist provides scalable, protocol independent, routing, repeating, transport and distribution of multiple professional video signals, such as 12G/3G/HD/SD-SDI, over optical fibre.

OVERVIEW

The MUX-22 can be used as a video and data (Ethernet, RS485/422 or GPIO) device with up to 16 12G/3G/HD/SD video ports configured with the required number of inputs and outputs or it can be delivered as a mixed unit with up to eight 12G/3G/HD/SD-SDI channels and an audio (analogue or digital MADI or AES/EBU) or intercom for Clear-Com and RTS boards.

The Tri/Bi-level video clock input and output module can be installed in the device on request. The output can be derived from any source in the system.

The MUX-22 seamlessly integrates into the OPTOCORE OPTICAL DIGITAL NETWORK SYSTEM. Analogue audio, 4-wire intercom for Clear-Com or RTS user panels or matrices, MADI or AES/EBU are sent transparently through the optical network together with video, Ethernet and serial data. Each audio and data channel can be routed to and from every device on the network using the OPTOCORE CONTROL software. The software also enables the monitoring of video signals displaying the status of each SFP built into the device.

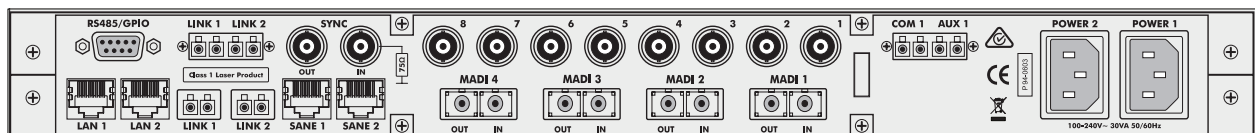
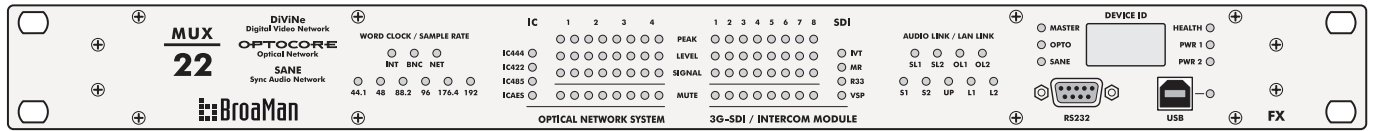
The MUX-22 is equipped with a CWDM modules with auxiliary fibre ports to allow for connection of external fibre systems, such as Optocore, to the CWDM module. All video, audio and data channels can be multiplexed onto a single fibre. MUX-22 is populated with SDI I/O and multiplexers at the time of manufacturing, according to customer's specifications.

MUX-22 is equipped with a built-in redundant power supply with an automatic switchover. All fibre links can be delivered as redundant with an automatic switchover in case of fibre failure.

MUX-22 units can be used in multiple different applications, starting from a very simple point-to-point links between OB truck and remote location. MUX-22 can also be used in a redundant ring topology or with BroaMan Route66 units, as a part of large routing solution.

SCHEMATICS

SHOWN WITH MADI MODULE



FEATURES

- Up to 16 12/3G/HD/SD-SDI capacity
 - Intelligent MicroMux I/O module
 - Dual Input with adaptive EQ
 - Dual Output
 - Optional reclocker for each input or output
 - All modules with or without redundancy
- Selectable audio/sync modules
 - Intercom module – 4 four wire ports for Clear-Com (IC422) or RTS (IC485) or generic intercom (IC444) with 4 Line In, 4 Line Out, 4 GPI and 4 GPO
 - MADI module – 4 duplex SC MADI ports
 - 16 AES/EBU ports on Phoenix or RJ45 connector
 - Analogue module – 8 Mic In or 8 Line In or 8 Line Out
 - Vsync8 module – 8x Word Clock, Black Burst (bi-level) or Tri-Level BNC 1Vpp, BNC 3Vpp, PAL/SECAM, NTSC, 720p59.94, 720p50, 1080i29.97, 1080i25 with Line, Frame, Pixel, Percent and Degree shift option
- Built-In CWDM module
- 2 fibre auxiliary ports for 3rd party devices and protocols
- Full integration into SANE and Optocore network
- Optocore module with 2 LAN ports and 2 SANE/LAN ports
- RS485 or optional GPIO port
- Word Clock or optional Tri/Bi-Level sync
- Redundant power supplies
- Full control with OPTOCORE Control Software

TECHNICAL SPECIFICATIONS

Video		
Standards	SD, ED, HD, Dual Link, 3G, 12G	
Complies with SMPTE	259M, 292M, 344M, 372M, 424M, ST 2082	
Interface	SDI - Serial Digital Interface	
Audio Ports		
Analogue	8 x Mic In or 8 x Line In or 8 x Line Out	
Intercom	IC422 - 4-wire Clear-Com intercom standard IC485 - 4-wire RTS intercom standard IC444 - 4 Line In / 4 Line Out / 4 GPI / 4 GPO	4 x input, 4 x output, 4 x RS422 4 x input, 4 x output, 4 x RS485 with relays/optocoupler, +5/12V
Digital	4 x Duplex MAD1 or 16 x AES/EBU	
Optical Connection		
Connection	LC	
Data rate	Dependent on the Video data rate – no bandwidth restriction	
Fibre cable lengths	Standard singlemode transceiver Special singlemode transceiver	≤ 10 km ≤ 80 km (on request)
SANE & LAN ports		
Convention	Convention	
Audio	TIA - 568A/B, Optocore - 200 Mbit/s	
LAN	TIA - 568A/B, IEEE - 802.3 - 10/100 Mbit/s	
Auxiliary Ports		
Convention	EIA / TIA-485	
Data channels	Digital control data	4
Data rate		Up to 10 Mbps
Impedance	Termination Source	330 Ω ≤ 10 Ω

Word clock	Hardware standard 75 Ω / BNC	
Data rate	Depending on used sample rate 44,1 / 48 / 88,2 / 96 / 176,4 / 192 kHz	
Impedance	Output	≤ 5 Ω
	Input	75 Ω
Drive level	Output	≥ 1 V _{pp}
Zero level	Referring to GND	+ 1.7 V
Sense level	Input	≥ 400 mV _{pp}
Remote Control		
RS232	EIA / TIA – 232	57 600 Baud
USB	USB 2.0 – Device	12 Mbit/s
LAN	IEEE – 802.3	10/100 Mbit/s
Power Supply	2 independent PSUs with function check and automatic switch-over	
Type	Switch-mode, universal input	
Mains voltage	100-240 V	
Frequency	50-60 Hz	
Cooling	Passive, via surface and ventilation openings on both sides of the device	
Dimensions (WxHxD)	1 RU / 19": 483 x 44 x 200 mm / 19.2 x 1.73 x 7.87 inches	
Weight	2.83 kg / 4.41 lbs	