BroaMan Mux22-IVT/ICAES

3G/HD/SD-SDI video I/O unit with built-in CWDM module, intercom I/O and data

Video, Audio,
Data interface

Product Features

- **3G/HD/SD-SDI capacity**
  - 8 3G/HD/SD-SDI ports
- **3G/HD/SD-SDI modules**
  - Dual Input with adaptive EQ
  - Dual Output
  - Reclocker for each input or output
  - All modules with or without redundancy
- **Intercom module**
  - 4 four wire ports for AES/EBU intercom (ICAES)
- **Built-In CWDM module**
- **Fiber 1310nm auxiliary port for 3rd party devices and protocols**
- **Full integration into SANE and Optocore network**
- **Optocore module with 2 LAN ports and 2 SANE/LAN ports**
- **4x RS485 or GPIO or optional 4x Dual RS422 ports**
- **Tri/Bi-Level sync with Word Clock**
- **Redundant power supplies**
- **Full control with Optocore control software**

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

Complete BroaMan systems are built from a collection of modules that include coaxial and optical I/O, routers, repeaters, and optical multiplexers. Using the modular BroaMan building blocks, any system configuration can be realised.

BroaMan systems are built around three main product series – Repeat48, Mux22 and Route66. Repeat48 series offers basic E-O-E conversion as well as fiber multiplexing. The Mux22 series is a flexible and small-sized redundant video, audio, data transport and basic routing platform. Route66 enables customisable routing solutions as well as E-O-E conversion and multiplexing.

The Mux22 can be used as a video and data (Ethernet, RS485/422 or GPIO) device with 8 3G/HD/SD video ports configured with the required number of inputs and outputs in group of two and an AES/EBU intercom (digital audio with embedded control data).

The Tri/Bi-level video clock input and output module installed in the device enables to sync from external video reference sources and distribute it through out the network.

The Mux22 seamlessly integrates into the OPTOCORE OPTICAL DIGITAL NETWORK SYSTEM. 4-wire intercom AES/EBU signals 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 Mux22 is equipped with a CWDM module with auxiliary fiber ports to allow for connection of external fiber systems, such as Optocore, to the CWDM module. All video, audio and data channels can be multiplexed onto a single duplex fiber. Mux22 is populated with SDI I/O and multiplexers at the time of manufacturing, according to customer's specifications.

Mux22 is equipped with a built-in redundant power supply with an automatic switchover. All fiber links can be delivered as redundant with an automatic switchover in case of fiber failure.
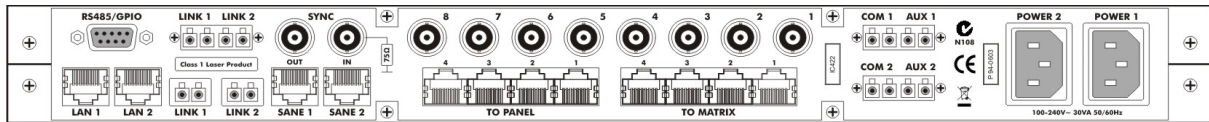
Mux22 units can be used in multiple different applications, starting from a very simple point-to-point links between OB truck and remote location. Mux22 can also be used in a redundant ring topology or with BroaMan Route66 units, as a part of large routing solution.

Line Drawings

Front panel
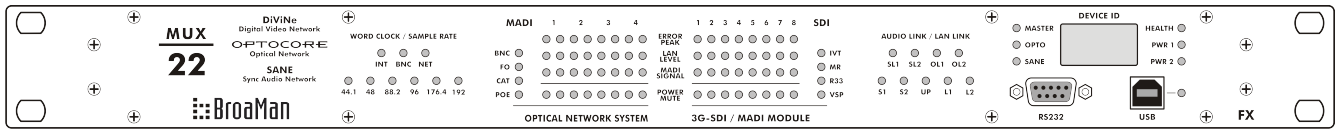
Back panel

Technical Specifications

Video		
Standards	SD, ED, HD, Dual Link, 3G	
Complies with SMPTE	259M, 292M, 344M, 372M, 424M	
Interface	SDI – Serial Digital Interface	
INTERCOM ports	**Hardware standard: ICAES**	
Data rate	Depending on selected sample rate	Up to 30 Mbit/s per channel
Impedance	Termination	120 Ω-switchable / ≥ 96 kΩ
	Source	≤ 10 Ω, Multi-drop feature
Drive level	Output	≥ 2 V_{pp}
Zero level	Referring to GND	+ 1.7 V
Sense level	Input	≥ 400 mV_{pp}
CM-voltage at bus terminals	Referring to GND	- 7 V … + 12 V
Optical Connection	**Complies with 21 CFR 1040.10 and 1040.11**	
Connection	LC	
Data rate	Dependent on the Video data rate – no bandwidth restriction	
Fiber cable lengths	Standard singlemode transceiver	≤ 10 km
	Special singlemode transceiver	≤ 80 km (on request)
SANE, LAN ports	**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	330 Ω
	Source	≤ 10 Ω
Word Clock	**Hardware standard BNC - 75 Ω**	
Data rate	Dependent on sample rate	Up to 192 kHz
Impedance	Output	Output ≤ 5 Ω
	Input	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		
Type	Switch-mode, universal input	
Mains voltage	100… 240 V	50 60 Hz
Frequency	50 60 Hz	
Cooling	Passive, via surface and ventilation openings on both sides of the device	
Dimensions	**1 RU / 19"**	
W x H x D	19.0 x 1.73 x 7.87 inch	
Weight	Dependent on configuration	

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