X6R-FX-INTERCOM

INTERCOM – SANE - IC422/IC485/ICAES NET-WORK INTERCOM FIBER INTERFACE UNIT FOR OPTOCORE FIBER NETWORKS

12 in 1, the X6R-FX is a converter unit with the highest degree of flexibility concerning the I/O configuration which can be directly integrated in a OPTOCORE Fibre Network and in a 64 channels SANE CAT5 network by OPTOCORE.

OVERVIEW

The X6R-FX-INTERCOM has been developed to seamlessly integrate intercom systems into Optocore and SANE, synchronous audio, video and control networks.

The X6R-FX-INTERCOM is based on the V3R/X6R-FX series hardware platform and is the result of technical partnerships with some of the world's leading intercom manufacturers.

The X6R-FX-INTERCOM is available in three different hardware configurations; IC422 for Clear-Com and IC485 for RTS/Telex and ICAES for AES/EBU based systems e.g. Riedel, Clear-Com.

The X6R-FX-INTERCOM is equipped with 8 RJ45 four-wire Intercom Ports that are duplicated with reversed wiring. 8 ports are wired for connection to intercom key-panels or interfaces and 8 ports for connection to the intercom matrix. ICAES is equipped with 4 ports.

The pinout of the Intercom Ports is compatible with Clear-Com (IC422), RTS Telex (IC485) or Riedel (ICAES) devices (device dependent) without the need for special cables and adapters. Any standard CAT5 cable can be used to allow for simple and cost efficient cabling.

Each Intercom Port can be independently routed to any Optocore device on the network, using the Optocore Control software.

The X6R-FX-INTERCOM can be used as a generic networked audio line level input and output converter or digital AES/EBU I/O.

The X6R-FX-INTERCOM is a rackmountable 1RU device.

The X6R-FX-INTERCOM is a silent, convection cooled device.

The X6R-FX-INTERCOM seamlessly integrates into the OPTOCORE OPTICAL DIGITAL NETWORK SYSTEM. Intercom audio and control data from Clear-Com, RTS/Telex, Riedel intercom key-panels, interfaces and matrixes are transmitted transparently over Optocore and SANE networks.

The X6R-FX-INTERCOM is capable of receiving and transmitting any of the 1024 intercom and audio channels on the Optocore network or the 64 intercom and audio channels available on the SANE network.

The X6R-FX-INTERCOM can be operated over the Optocore network using the Optocore Control software, without any external data cabling. System control is provided with LAN, USB or RS232 connectors on all Optocore devices

The Word Clock IN and OUT allows the network to be synchronized from an external source. The Optocore network is capable of distributing high quality, low-jitter clock around a facility to synchronize external devices. For stand-alone applications, Optocore devices are equipped with an internal word clock generator.

The FPGA (field programmable gate array) based concept of the internal logic circuitry and microprocessors allows for field upgradeability of the device, ensuring a future proof state-of- the-art device.

SCHEMATICS
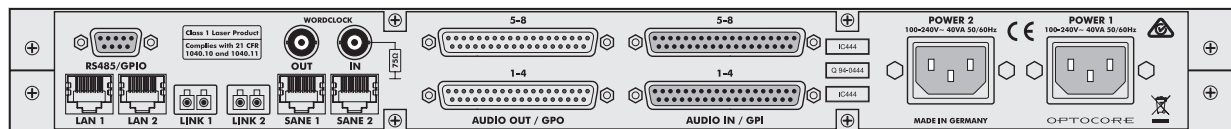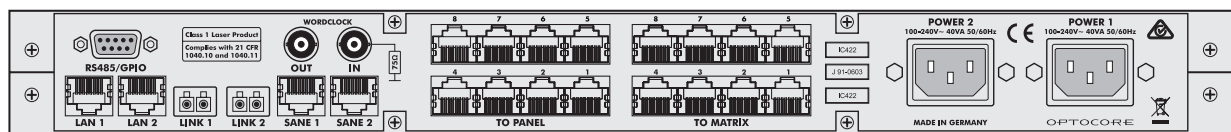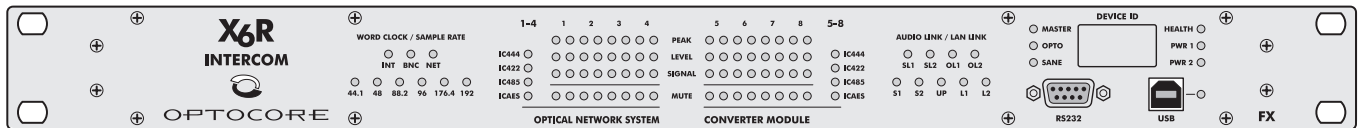
FEATURES

- 8 Four-Wire Intercom Ports compatible with ClearCom (IC422), RTS/Telex (IC485), AES/EBU based (ICAES)

- Duplicated Four-Wire Intercom Port wiring with reversed I/O and Rx/Tx

- Individually routable inputs and outputs

- Seamless transport of audio and control data

- Sample rates up to 192 kHz

- Full integration into SANE and Optocore networks

- Optocore FX module

- - 2 x Optocore 2Gbps ports - 2 x SANE/LAN ports

- - 2 x LAN ports

- - 4 x RS485/422 ports

- - Word Clock I/O

- Optionally redundant power supplies

- Passively cooled device

- Full control with the Optocore Control software

- LAN, USB and RS232 ports for configuration and control

- Upgradeable internal logic

- Comprehensive front panel status indicators

TECHNICAL SPECIFICATIONS

INTERCOM ports	Hardware standard: IC422/IC485: FCC-RJ45	8 x inputs, 8 x outputs
Analog Line Input	Impendance, Gain / steps Maximum input level SNR THD+N @ -1 dBFS	10 kΩ +18 dBu 115 dB (A-weighted) ≥ 100 dB
Analog Line Output	Impendance, Gain / steps Maximum input level SNR THD+N @ -1 dBFS	45 kΩ +18 dBu 115 dB (A-weighted) ≥ 98 dB
Serial I/O	EIA / TIA - 422 EIA / TIA - 485	
AES ports with ICAES	Convention EIA / TIA -422	
Data rate Impedance Drive level Zero level Sense level CM-voltage at bus terminals	Depending on selecter sample rate Termination Source Output Referring to GND Input Referring to GND	Up to 30 Mbit/s per channel 120 Ω-switchable / ≥ 96 k Ω ≤ 10 Ω, Multi-drop feature ≥ 2 Vpp + 1.7 V ≥ 400 mVpp - 7 V ... + 12 V
Fiber Ports	**2 Duplex optical LINKs** Protocol: OPTOCORE - 1024 audio channels, IP, data, sync Connector: 2 hot-swappable SFP modules Transmission, data rate: Dual ring, full duplex, 2Gbps data rate Cable lengths: Multimode 50 µm ≤ 350m, 　　　　　　Singlemode 9 µm ≤ 20km; 　　　　　　other lengths available on request with custom SFP	
SANE Links	**2 RJ45 SANE links** Protocol: SANE - 64 audio channels and 100Mbps LAN Transmission, data rate: Full duplex, 200 Mbps Cable length: CAT5, CAT5E, CAT6, CAT7 ≤ 100m	
LAN Links	**2 RJ45 LAN links** Protocol: FastEthernet, switch function across the entire OPTOCORE and Sane network Transmission, data rate: Full duplex, 10/100 Mbps Cable length: CAT5, CAT5E, CAT6, CAT7 ≤ 100m	
Auxiliary Ports	**4 RS485/422 channels** Connector: D-Sub9, Convention EIA/TIA-485, 120 Ohm termination	