V3R-FX-INTERCOM

INTERCOM – SANE - FIBER INTERFACE UNIT
FOR OPTOCORE FIBER NETWORKS

V3R-FX-INTERCOM is an 8-channel Intercom and data unit compatible with
ClearCom (IC422) or RTS/Telex (IC485), for OPTOCORE Fiber Network.

OVERVIEW

The V3R-FX-INTERCOM has been developed to seamlessly integrate intercom systems into Optocore and SANE, synchronous audio, video and control networks.

The V3R-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 V3R-FX-INTERCOM is available in two different hardware configurations; IC422 for Clear-Com and IC485 for RTS/Telex.

The V3R-FX-INTERCOM is equipped with four RJ45 4-wire Intercom Ports that are duplicated with reversed wiring. Four ports are wired for connection to intercom key- panels or interfaces and four ports for connection to the intercom matrix.

The pin-out of the Intercom Ports is compatible with Clear-Com or RTS Telex 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 V3R-FX-INTERCOM can be used as a generic networked audio line level input and output converter.

The V3R-FX-INTERCOM is a rack-mountable 1RU device.

The V3R-FX-INTERCOM is a silent, convection cooled device.

The V3R-FX-INTERCOM seamlessly integrates into the OPTOCORE OPTICAL DIGITAL NETWORK SYSTEM. Intercom audio and control data from Clear-Com and RTS/Telex intercom key-panels, interfaces and matrixes is transmitted transparently over Optocore and SANE networks.
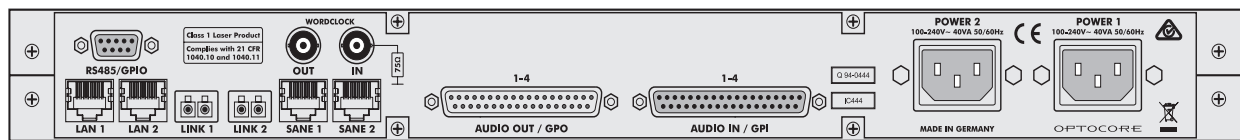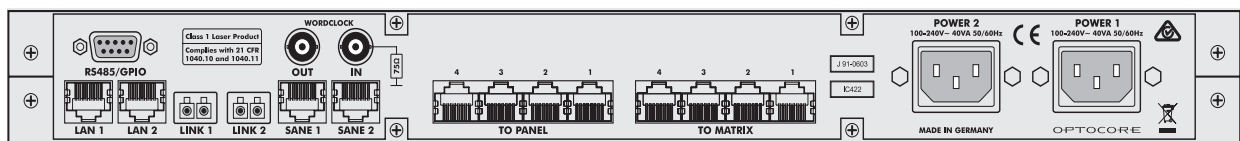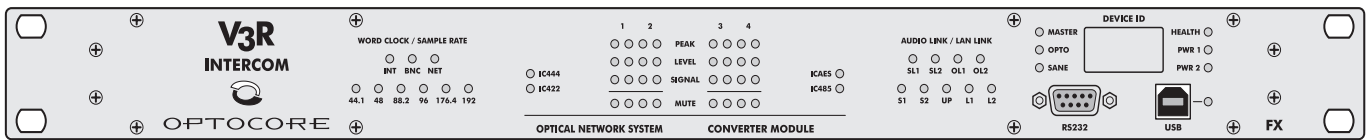
The V3R-FX-INTERCOM is capable of receiving and transmitting any of the 1024 intercom and audio channels on the Optocore network or the 64 intercom and audio channels available on the SANE network.

The V3R-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 synchronised from an external source. The Optocore network is capable of distributing high quality, low-jitter clock around a facility to synchronise 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 solution.

SCHEMATICS

FEATURES

- 4 x 4-Wire Intercom Ports compatible with ClearCom (IC422) or RTS/Telex (IC485)

- Duplicated 4-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

Audio/GPIO ports	Hardware standard: D-Sub 37 Male/Female	
Analogue Line Input	Impendance, Gain / steps Maximum input level SNR THD+N @ -1 dBFS	10 kΩ +18 dBu 115 dB (A-weighted) ≥ 100 dB
Analogue 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	- IC422 - IC485	EIA/TIA–422 EIA/TIA–485
Sane, LAN ports Audio LAN	TIA - 568A/B, Optocore TIA - 568A/B, IEEE - 802.3	200 Mbit/s 10/100 Mbit/s
Auxiliary Ports Data Channels Data rate Impedance	Digital control data Termination Source	4 Up to 10 Mbps 330Ω ≤ 10 Ω
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	
Word Clock	**1 Input, 1 output** Protocol: Word Clock; sample rate: 44,1 / 48 / 88,2 / 96 / 176,4* / 192* kHz Connector: BNC, 75 Ohm termination	

TECHNICAL SPECIFICATIONS

Power Supply	**2 independent power supplies** with function check and automatic switch-over Type: Switch-mode, universal input Mains Voltage: 100-240 V Frequency: 50-60 Hz Power Consumption: 12 W typical
Remote Control	LAN: any LAN or SANE port RS232: Convention EIA / TIA-232: RxD, TxD / 57.600 Baud USB: Interface to PC
Dimensions (WxHxD)	1 RU / 19": 483 x 44 x 200 mm 19.2 x 1.73 x 7.87 inch
Weight	2.7 kg 6.0 lb