



V3R-FX

ANALOGUE – SANE - FIBER INTERFACE AND NETWORK CONVERTER UNIT FOR OPTOCORE FIBER NETWORKS

V3R-FX is a converter unit with the highest degree of flexibility with regards to I/O configuration, which can be directly integrated in a OPTOCORE Fiber Network and in a 64 channels SANE CAT5 network by OPTOCORE.

OVERVIEW

The V3R-FX is a converter unit with a high degree of flexibility with regards to the I/O configuration. Three different card types enable customisation of the card slot on the rear of the device for the conversion of analogue signals – eight microphone inputs, eight line inputs or eight line outputs – to OPTOCORE or SANE.

The V3R-FX is especially designed for rack-mounted applications and permanent installation. All cards are equipped with Euroblock connectors. These common installation interfaces provide a simple and cost-efficient connection to other audio equipment.

The V3R-FX is seamlessly integrated into the OPTOCORE OPTICAL DIGITAL NETWORK SYSTEM. All parameters of the converters can be remote controlled and monitored with the same software application as all the other OPTOCORE devices, namely the OPTOCORE CONTROL software.

The V3R-FX units facilitate a high flexibility to provide the number of analogue inputs and outputs required at different positions in temporary or permanent applications. The high quality of the preamps, A/D and D/A converters make the V3R-FX units ideal for incorporation into audio systems. They provide a wide dynamic range with negligible distortion and extremely low noise.

The microphone inputs include microphone preamp, phantom power and selectable gains in analogue 1 dB steps from -4 dB to +66 dB.

The line inputs are equipped with selectable channel levels of -9 dB, -4 dB, +0 dB, +10 dB and the line output with a selectable channel level of +4dB, 0 dB, -6 dB, -10 dB round off the device. The high quality of the preamps, A/D- and D/A converters make the V3R-FX units ideal for incorporation into audio systems even if no OPTOCORE network is established. They provide a wide dynamic range with negligible distortion and extremely low noise.

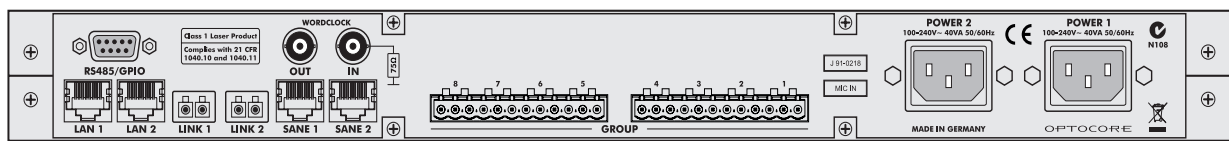
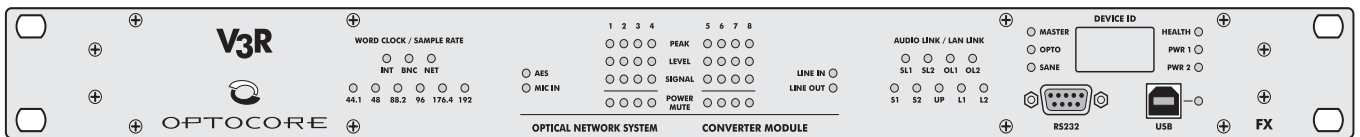
The channels of the SANE Ports and I/O Cards can be directly routed to Optocore fiber network and vice versa.

The Word Clock IN and OUT enable the synchronisation of the units to an external source and are used to pass on the word clock from one unit to the next. For stand-alone applications, the devices are equipped with an internal word clock.

One V3R-FX can exchange up to 1024 audio channels from the fiber network, 64 audio channels from the SANE network and eight audio channels from the I/O Cards. The V3R-FX units can be operated and controlled via the Optocore network with Optocore Control, without the necessity of any external data cable. For control in stand-alone applications, USB, RS232 or LAN port on the front / rear panel can be used.

The FPGA (field programmable gate array) based concept of the internal logic circuitry permits updating of the firmware ensuring a continual state-of-the-art device.

SCHEMATICS



FEATURES

- Eight channel converter unit in a 1 RU enclosure for OPTOCORE Fiber Network and SANE CAT5 Network by OPTOCORE
- Card slots for customized I/O configuration
- Three types of cards with Euroblock connectors:
 - 8 mic inputs
 - 8 line inputs
 - 8 line outputs
- Sample rates up to 192 kHz
- Full integration into SANE and OPTOCORE network
- Mic inputs with selectable gain (-4 dB to +66 dB in true analogue 1 dB steps) and 48 V phantom power
- Two optical 2 Gbps LINK interface with duplex LC connectors
- Two RJ45 SANE Network Ports
- Four RS485/GPIO Ports
- Word clock IN and OUT
- Embedded internal word clock for stand-alone applications
- USB, RS232 and LAN port for configuration and control
- Full remote access with OPTOCORE Control Software
- Upgradeable internal logic
- Comprehensive status control via LED banks on the front

TECHNICAL SPECIFICATIONS

Analogue Audio Mic Inputs	ADC			
Impedance, Gain / steps Maximum input level SNR THD+N @ -1 dBFS	Single and Dual @-4dBGain @-4dBGain @-4dBGain	4.5k Ω +22 dBu 122.5 dB(A) ≤ -102 dB	-4 dB to +66 dB @ +66 dB Gain @ +66 dB Gain @ +66 dB Gain	1 dB steps -48 dBu 81.5 dB(A) ≤ -100 dB
Analogue Audio Line Inputs	ADC			
Impedance, Gain / steps Maximum input level SNR THD+N @ -1 dBFS	@-9dBGain @-9dBGain @-9dBGain	10k Ω +27 dBu 127.5 dB(A) ≤ -102 dB	-9, -4, 0, +10 dB @ +10 dB Gain @ +10 dB Gain @ +10 dB Gain	4 steps +8 dBu 108 dB(A) ≤ -102 dB
Analogue Audio Line Outputs	DAC			
Impedance, Gain / steps Maximum input level SNR THD+N @ -1 dBFS	@+4dBGain @+4dBGain @+4dBGain	22 Ω +22 dBu 123 dB(A) ≤ -100 dB	+4, 0, -6, -10 dB @ -10 dB Gain @ -10 dB Gain @ -10 dB Gain	4 steps +8 dBu 108 dB(A) ≤ -103 dB
Digital AES3 audio in/out	16 AES/EBU Digital Audio Pairs = 32 audio channels with or without Sample Rate Converter Card			
Audio Ports	Connector: 2 x D-Sub25, Configuration: Software switchable I/O in 8-channel blocks; audio routing			
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 \leq 350m, Singlemode 9 μm \leq 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 \leq 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 \leq 100m			

TECHNICAL SPECIFICATIONS

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
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: Rx/D, Tx/D / 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