V3R-FX
NETWORK
CONVERTER UNIT

ANALOGUE – SANE - FIBRE
INTERFACE DEVICE

Product Features

- **8 channel converter unit in a 1 RU enclosure for Optocore Fibre Network and SANE CAT5 Network by Optocore**

- **Card slot for customized I/O configuration**

- **3 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**

- **2 optical 2 Gbps LINK interface with duplex LC-connectors**

- **2 RJ45 SANE Network Ports**

- **4 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**

The V3R-FX is a converter unit with a high degree of flexibility concerning the I/O configuration. Three different card types enable to customise the card slot on the rear of the device for the conversion of analogue signals - 8 microphone inputs, 8 line inputs or 8 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, 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 the 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 +4 dB, 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 the 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 fibre network and vice versa.
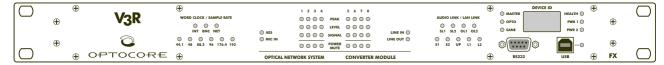
The Word Clock IN and OUT enable the synchronization of the units to an external source and are used to pass on the word clock from one unit to the next. For stand-alone applications, the devices are equipped with an internal word clock.

One V3R-FX can exchange up to 1024 audio channels from the fibre network, 64 audio channels from the SANE network and 8 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.
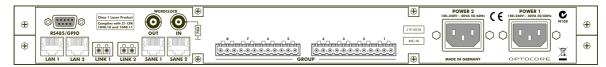
The FPGA (field programmable gate array) based concept of the internal logic circuitry permits updating of the firmware ensuring a continual state-of-the-art device.

Front Panel V3R-FX

Rear Panel V3R-FX

Technical Specifications

Analog Audio Mic Inputs	ADC			
Impedance, Gain / steps		4.5kΩ	-4 dB to +66 dB	1 dB steps
Maximum input level	@ -4 dB Gain	+22 dBu	@ +66 dB Gain	-48 dBu
SNR	@ -4 dB Gain	122.5 dB(A)	@ +66 dB Gain	81.5 dB(A)
THD+N @ -1dBFS	@ -4 dB Gain	≤ -102 dB	@ +40 dB Gain	≤ -100 dB
Analog Audio Line Inputs	ADC			
Impedance, Gain / steps		10kΩ	-9, -4, 0, +10 dB	4 steps
Maximum input level	@ -9 dB Gain	+27 dBu	@ +10 dB Gain	+8 dBu
SNR	@ -9 dB Gain	127.5 dB(A)	@ +10 dB Gain	108 dB(A)
THD+N @ -1dBFS	@ -9 dB Gain	≤ -102 dB	@ +10 dB Gain	≤ -102 dB
Analog Audio Line Outputs	DAC			
Impedance, Gain / steps		22Ω	+4, 0, -6, -10 dB	4 steps
Maximum output level	@ +4 dB Gain	+22 dBu	@ -10 dB Gain	+8 dBu
SNR	@ +4 dB Gain	123 dB(A)	@ -10 dB Gain	108 dB(A)
THD+N @ 0dBFS	@ +4 dB Gain	≤ -100 dB	@ -10 dB Gain	≤ -103 dB
Word clock	Hardware standard 75 Ω / BNC			
Data rate	44.1 kHz – 192 kHz			
Optical Link	Input, Output, Dual – Full bandwidth			
Connection			Duplex LC	
Protocol			Optocore	
Transmission			Full duplex	
Data rate			2 x 2 Gbps	
Optical wave guide cable lengths	Multimode fiber 50 µm		≤ 700 m	
	Monomode fiber 9 µm		≤ 70 km (on request)	
Power supply	2 (optional) independent power supplies with function check and automatic switch-over			
Type	Switch-mode, universal input			
Mains voltage	100...240VAC, 50/60Hz, 25VA-typ, 32VA-peak			
Remote Control				
RS232 / USB / Ethernet	Control Interfaces to PC			
Dimensions			1 RU / 19"	
W x H x D	483 x 44 x 200mm		19.0 x 1.73 x 7.87 inch	
Weight	2.7 kg		6.0 lbs	