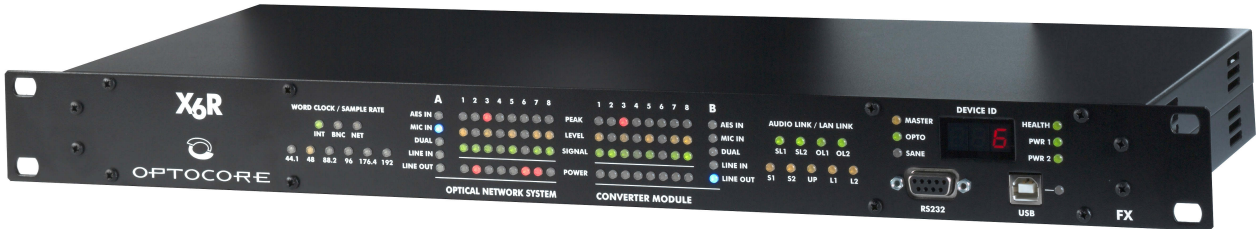


DATASHEET

X6R-FX NETWORK CONVERTER UNIT

ANALOGUE – SANE - FIBRE INTERFACE DEVICE



Product Features

- 16 channel converter unit in a 1 RU enclosure for Optocore Fibre Network and SANE CAT5 Network by Optocore
- Card slots for customized I/O configuration
- 6 types of cards with Euroblock connectors:
 - 8 mic inputs with two independent preamps each
 - 8 line inputs / 8 line outputs
 - 8 AES/EBU inputs with sample rate converters
- 8 AES/EBU in- or outputs switchable in groups of four
- 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

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. Six different card types enable to customise the card slots on the rear of the device, whether the conversion of analogue signals - 16 inputs, 16 outputs, 8 inputs and 8 outputs, dual microphone inputs with two independent adjustable gains – to AES/EBU or a sample rate converter for AES3 input signals is required. Twelve different versions are available.

The X6R-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 X6R-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 X6R-FX with the dual microphone input card relieves all FOH and monitor engineers of the decision about the control of the microphone preamps. Every microphone input incorporates two independent microphone preamps and both can be adjusted individually. Therefore, analogue split boxes and two stage racks to give

FOH and monitor engineers the freedom to adjust their mic preamps directly at their own console can be a past.

The X6R-FX with the sample rate converters enables the connection of audio devices operating the different sample rates.

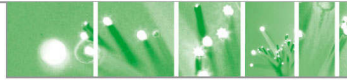
The X6R-FX with AES/EBU I/O, analogue mic input, line input and line output cards allow a customised I/O configuration. Two card slots can be equipped with two different cards, so ten combinations with 16 inputs, 16 outputs or 8 inputs and 8 outputs can be produced exactly according to the customer's requirements.

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 X6R-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



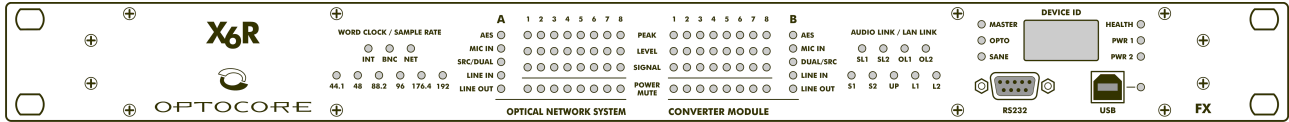
external source and are used to pass on the word clock from one unit to the next. For stand-alone applications, the devices are equipped with an internal word clock.

One X6R-FX can exchange up to 1024 audio channels from the fibre network, 128 audio channels from the SANE network and 16 audio

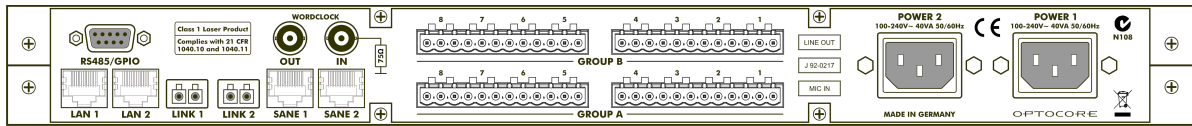
channels from the I/O Cards. The X6R-FX units can be operated and controlled via the Optocore network with Optocore Control, without the necessity of any external data cable. For control in stand-alone applications, USB, RS232 or LAN port on the front / rear panel can be used.

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.

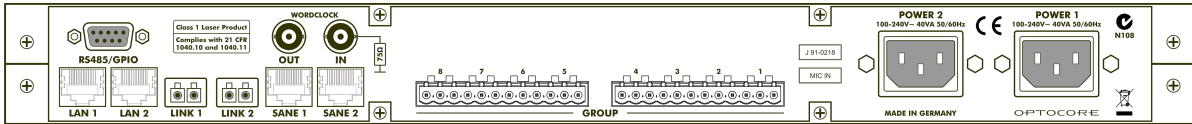
Front Panel X6R



Rear Panel X6R with Analogue Input- and Output Cards



Rear Panel X6R with Dual Microphone, AES/EBU or AES/EBU with Sample Rate Converter Card



Technical Specifications

Analog Audio Mic Inputs	ADC
Impedance, Gain / steps	Single and Dual 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 Protocol	Duplex LC 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