

X6R

STANDALONE CONVERTER UNIT WITH ETHERNET-ANALOGUE – AES/EBU

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OVERVIEW

The 8-in-1 X6R is a converter unit with the highest degree of flexibility when it comes to I/O configuration. Five different card types enable the card slots to be customised 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 – is to AES/EBU or a sample rate converter for AES3 input signals is required. Eight different versions are available.

The X6R 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.

In cooperation with OPTOCORE's DD32E, the X6R 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, via the OPTOCORE CONTROL software.

The X6R 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—giving FOH and monitor engineers the freedom to adjust their mic preamps directly at their own console—can now be a thing of the past.

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

The X6R with analogue mic input, line input and line output cards allows a customised I/O configuration. Two card slots can be equipped with two different cards, and therefore six 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, -4dB,0dB,+10dB 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 X6R 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.

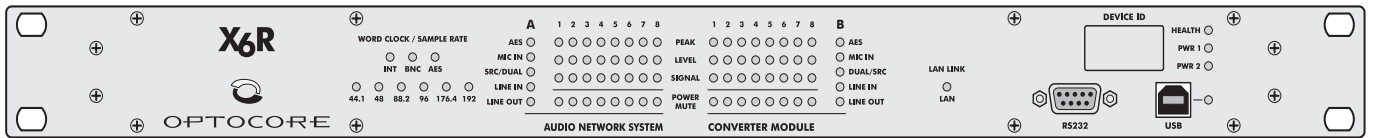
With two AES/EBU ports the digital signals are split as well. The second port allows the transmission of the analogue inputs together with the incoming AES/ EBU signals to other devices with digital interfaces.

The Word Clock IN and OUT enables the synchronisation of the units to an external source and is 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.

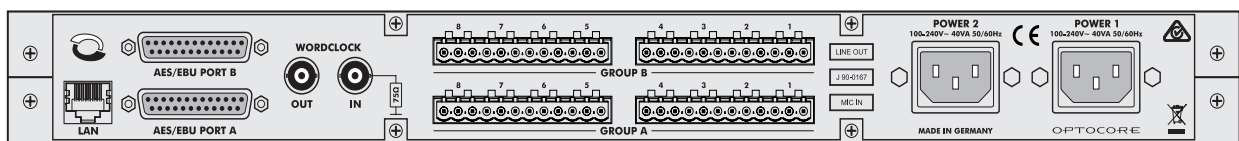
Up to four X6R can be connected to the four principal ports of one DD32E, enabling the exchange of 32 AES/EBU signals (64 channels) and control data. The ports include two control data channels. The X6R units can be operated and controlled via the OPTOCORE network with OPTOCORE CONTROL, without the necessity 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.

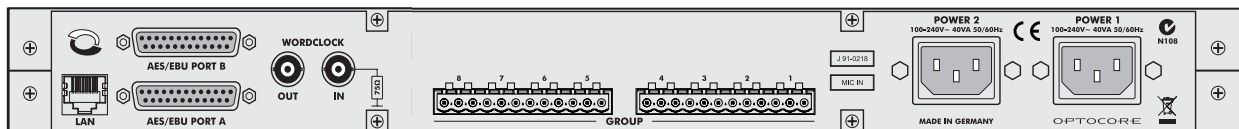
SCHEMATICS



Rear Panel X6R with Analogue Input - and Output Cards



Rear Panel X6R with Dual Microphone Card



FEATURES

- 16 channel converter unit in a 1 RU enclosure
- Card slots for customised I/O configuration
- 5 types of cards with Euroblock connectors:
 - 8 mic inputs with one preamp
 - 8 mic inputs with two independent preamps each
 - 8 line inputs
 - 8 line outputs
 - 8 AES/EBU I/O with sample rate converters
- Sample rates up to 192 kHz
- Full integration into OPTOCORE network by DD32R-FX
- Mic inputs with selectable gain (-4 dB to +66 dB in true analogue 1 dB steps) and 48 V phantom power
- 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 Sample Rate Converter Card			
Audio ports	Connector: 4 x D-Sub25, Configuration: Software switchable I/O in 8-channel blocks; audio routing			
LAN Links	1 RJ45 LAN port Protocol: FastEthernet, Transmission, data rate: Full duplex, 10/100 Mbps Cable length: CAT5, CAT5E, CAT6, CAT7 ≤ 100 m			
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			