## Product Features

- **16 channel converter unit in a 1 RU enclosure**

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

- **5 types of cards with Euroblock connectors:**
  **- 8 mic inputs**
  **- 8 line inputs**
  **- 8 line outputs**
  **- 8 mic inputs with two independent preamps each**
  **- 8 AES/EBU inputs 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**

- **1 digital AES/EBU I/O and 1 digital AES/EBU split port**

- **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**

8 in 1, the X6R is a converter unit with the highest degree of flexibility concerning the I/O configuration. Five 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. 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, 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 to give FOH and monitor engineers the freedom to adjust their mic preamps directly at their own console can be a past.

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

The X6R with 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 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.

## X6R Versions

- **16 microphone inputs**
- **16 line inputs**
- **16 line outputs**
- **8 microphone and 8 line inputs**
- **8 microphone inputs and 8 line outputs**
- **8 line inputs and 8 line outputs**
- **8 microphone inputs with two independent preamps each**
- **8 AES/EBU inputs (16 audio channels) with sample rate converters**
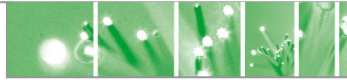
The line inputs are equipped with selectable channel levels of -9 dB, -4 dB, 0 dB, +10 dB and the line output with a selectable channel level of -4 dB, 0 dB, -6 dB, -10 dB round off the device. The high quality of the preamps, A/D- and D/A converters make the X6R units ideal for the incorporation into 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 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.

Up to four X6R can be connected to the four principle 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.
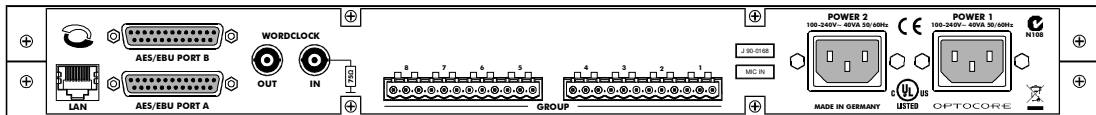
### Front Panel X6R
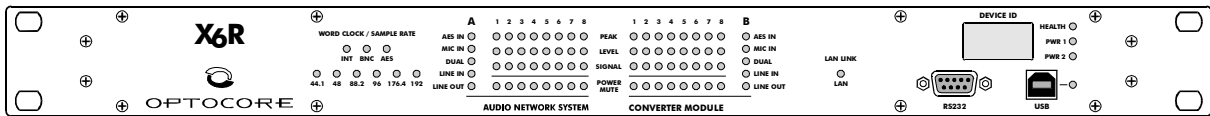


### Rear Panel X6R with Analogue Input- and Output Cards
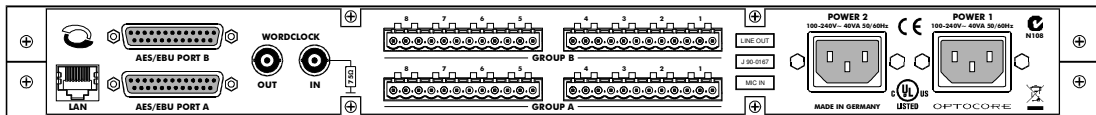


### Rear Panel X6R with Dual Microphone or Sample Rate Converter Card



### 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 | | | |
| **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 | |