V3R-TP

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

V3R-TP is a converter unit with the highest degree of flexibility concerning the I/O configuration in a 64 channels SANE CAT5 network by OPTOCORE, which can be integrated in a OPTOCORE Fiber Network

OVERVIEW

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

The V3R-TP 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-TP can be seamlessly integrated into the OPTOCORE OPTICAL DIGITAL NETWORK SYSTEM with the use of the FX devices and SANE ports or DD32R-FX and AES/EBU ports. All parameters of the converters can be remotely controlled and monitored with the same software application as all the other OPTOCORE devices, the OPTOCORE CONTROL software. Furthermore, by connecting the TP devices, the user can build a stand-alone CAT5 based network.

The V3R-TP 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-TP 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 true 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, 0dB,-6dB, -10dB round off the device.

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

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 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.

Up to eight V3R-TP can be connected to the four principal ports of one DD32R-FX enabling the exchange of 32 AES/EBU signals (64 channels) and control data. The ports include two control data channels.

The VR3-TP units can be operated and controlled via the OPTOCORE network with OPTOCORE CONTROL, without the necessity of any external data cable. For the control in stand-alone applications the USB, RS232 or LAN port on the front and 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
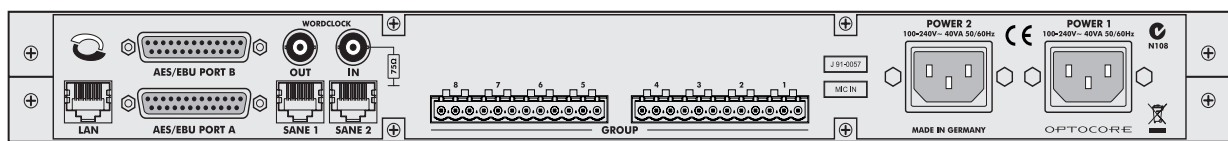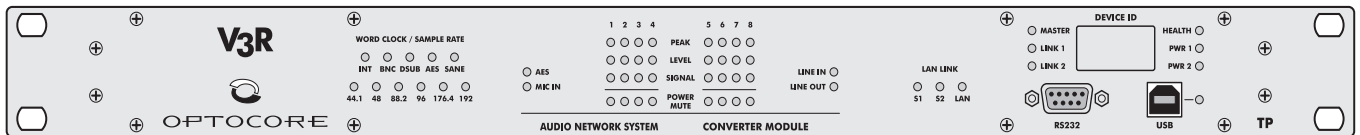
FEATURES

- 8 channel converter unit in a 1 RU enclosure for OPTOCORE Fiber Network and SANE CAT5 Network by OPTOCORE with AES/EBU ports

- Card slots for customised 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 network

- Mic inputs with selectable gain (-4 dB to +66 dB in true analogue 1 dB steps) and 48 V phantom power

- 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

TECHNICAL SPECIFICATIONS

Analogue Audio Mic Inputs	ADC			
Impedance, Gain / steps Maximum input level SNR THD+N @ -1 dBFS	Single and Dual @-4dBGain @-4dBGain @-4dBGain	4.5kΩ +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	10kΩ +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**			
Impendance, Gain / steps Maximum input level SNR THD+N @ -1 dBFS	@+4dBGain @+4dBGain @+4dBGain	22Ω +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			
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 ≤ 100m			
LAN Links	**1 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 ≤ 100m			
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: RxD, TxD / 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			