

RMF

STAR ROUTER // DIGITAL-AUDIO

NEXUS MADI interface

THE 4X MADI INTERFACE CARD FOR NEXUS STAR ROUTERS

THE RMF MADI CARD IS THE CONSISTENT SCALING OF THE XMF MADI CARD FOR NEXUS BASE DEVICES. AS A ROUTER CARD, IT ALLOWS UP TO FOUR MADI UNIVERSES TO BE INTEGRATED INTO A NEXUS NETWORK. THE FOUR PORTS, BOTH BNC AND SFP PORTS FOR LC-DUPLEX FIBER OPTICS, ARE CONNECTED DIRECTLY TO THE MATRIX OF THE STAR ROUTER AND CAN BE ROUTED FROM THERE SYSTEM-WIDE.



The RMF router card was developed for applications in which a particularly large number of audio channels are to be transferred from external systems to a NEXUS network. It has four independent MADI interfaces, each with a BNC socket and an SFP module slot on the front panel. On the output side, both connections operate in parallel, while on the input side the priority of a connection can be defined. The SFP ports can be equipped with the standard SFP module required for each application, supporting a wide range of scenarios with both singlemode and multimode fiber optic cables.

56 and 64 channel MADI formats are supported and incoming audio streams are automatically detected. The RMF card also supports legacy mode, where the MADI connection works at twice the sampling rate, i.e. up to 96 kHz, but half the number of channels. In transparent mode, AES additional data can be transferred and read out and are available for further use by the user. For example, they can be output to an XTI board anywhere else in the network or displayed in the NEXUS operating program. The RMF card can also receive compressed or encoded audio signals and transmit them transparently over the NEXUS network. It is certified by Dolby Laboratories for the transmission of Dolby-E.

4 separate MADI interfaces

The RMF board can receive and transmit up to 256 channels via four independent MADI interfaces.

Combined version with BNC input, BNC output and LC optical connection

The card has both BNC and optical LC connectors via which the MADI signal can be fed into the base unit. The preferred input can be selected in the operating software; in automatic mode, the module automatically recognizes which connection is used.

Adjustable digital gain in the inputs

The input signals can be amplified or reduced with a digital gain adjustable in 1dB steps.

Support of MADI legacy audio at 96 kHz

MADI data streams in legacy format can also be received and sent without any problems. By halving the number of channels, the sampling rate can be doubled.

Transparent transmission of additional data in the AES3 data stream

The NEXUS network is able to transparently transmit an AES3 data stream including the additional data. If no data is available in transparent mode, Nexus internal data is output. In the case of additional data on only one channel, the data is taken over by the other channel.

Automatic detection of the number of channels in the MADI data stream

When evaluating the MADI additional data, the number of received channels is automatically recognized.

Integrated loop mode

For test purposes or to provide NEXUS outputs as NEXUS sources for advanced routing, there is a loop mode that has the same effect as a cable connecting the output and input.

Audio Tie Line between two separate NEXUS networks

Separate NEXUS networks are set up in larger installations, mainly for maintenance reasons. When exchanging audio signals between separate NEXUS networks, the RMF I/O card provides the interface for up to 256 channels in both directions, allowing large quantities of channels to be transmitted via MADI. In addition, the clock contained in the MADI data stream offers an excellent possibility for synchronization.

CONNECTIONS

RMF	1 x 4 TE		
BNC	4 x	MADI	Input
BNC	4 x	MADI	Output
SFP	4 x	MADI	Input



TECHNICAL DATA

Data formats

MADI	24 Bit
RMF inputs	4 independent ports, optical and electrical formats 1...64 channels per port, 48 kHz (1...32 channels, 96 kHz), legacy mode supported, auto-switchover
RMF outputs	4 independent ports, optical and electrical formats 1...64 channels per port, 48 kHz (1...32 channels, 96 kHz), legacy mode supported (enabled using control software)

Coaxial input

Input impedance	75 Ω
Version	Galvanically isolated differential input ports
Input signal *	The signal applied to the electrical input should be within the following tolerance range

Electrical output

Version	Galvanically isolated differential output ports
Output impedance	73...77 Ω (nom. 75 Ω)
Output voltage	0,3...0,8 VPP, 75 Ω load, 20/80% of the amplitude
Rise/fall time	1...3 ns

Cabling specifications electrical

Impedance	73...77 Ω
Attenuation	Max. 0,1 dB/m, 1...100 MHz
Cable length	Max. 50 m

Cabling specifications optical

Core diameter	59,5...65,5 μm (nom. 62,5 μm)
Sheathing diameter	123...127 μm (nom. 125 μm)
Bandwidth	Max. 500 MHz km, 1.300 nm
Spanning distance	Max. 2 km
Attenuation	Max. 0,9 db/km, 1.300 nm (only cabling)

Features

Data rate	125 Mbps typical
Sample rates	44,1 kHz, 48 kHz, 88,2 kHz, 96 kHz

Operation conditions

Temperature range	0 $^{\circ}\text{C}$ up to +50 $^{\circ}\text{C}$
Humidity	Max. 90%, non-condensing

Storage conditions

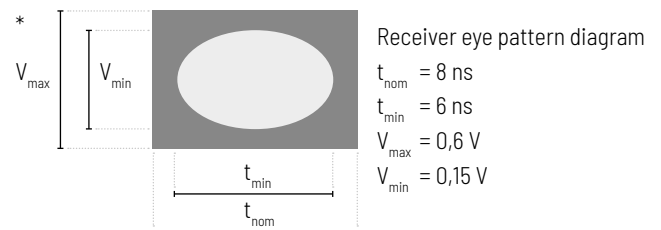
Temperature range	-35 $^{\circ}\text{C}$ up to +70 $^{\circ}\text{C}$
Humidity	Max. 90%, non-condensing

Power supply

Voltage	+4,75...5,25 V
Current	Approximately 1 A (module without optical modules) Approximately 150...300 mA per optional module, depending on version

Mechanical data

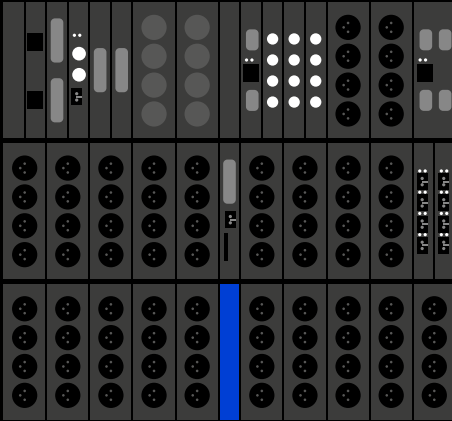
Weight	0,44 kg
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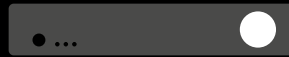
NEXUS // NETWORKED AUDIO MATRIX

NOW, IT'S TIME FOR YOU TO DEFINE YOUR SYSTEM'S FUTURE.

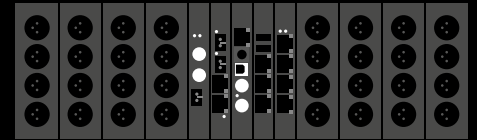
Every installation is unique, requiring a system that aligns perfectly with its specific requirements. Our commitment to customised solutions ensures that each scenario receives the ideal system configuration. Are you looking for a modular design that offers flexibility and seamless expansion? Or do you prefer the stability and simplicity of a fixed system? Perhaps a combination of both, blending flexibility with permanence, will best meet your needs. Would you like to continue using your proprietary system or network via IP? NEXUS supports both options, keeping you always up-to-date with maximum freedom and performance. With STAGETEC, our NEXUS networked audio matrix systems will serve as the reliable heartbeat of your installation.



NEXUS modular



NEXUS compact



NEXUS 4split

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