



RFOC

STAR ROUTER // SYSTEM-MODULE

NEXUS network optical interface

THE ROUTER CARD WITH SFP MODULES FOR SETTING UP NEXUS FIBER OPTIC NETWORKS

THE RFOC CARD IS THE COUNTERPART TO THE XFOC NETWORK CARDS IN NEXUS BASE DEVICES. STANDARD SFP MODULES ALLOW THE VERY FLEXIBLE INTEGRATION OF THE STAR ROUTER INTO NEXUS NETWORKS OF ANY TOPOLOGY. DUE TO THE HIGH SWITCHING CAPACITY OF THE STAR ROUTERS, RFOC CARDS CAN BE USED TO FORM A STAR POINT IN THE NETWORK, VIA WHICH MANY BASIC DEVICES CAN BE CONNECTED TO EACH OTHER CENTRALLY.



The RFOC card offers four standard SFP ports via which a NEXUS network can be set up with other Star routers and base devices using flexibly selectable fiber optic transmission modules. Thanks to the many SFP modules available, both multimode and singlemode fiber optic cables can be used. Line lengths up to 100 km are supported. Like all NEXUS router cards, the RFOC card exchanges 256 audio channels with the Star router's matrix. These channels can be distributed via the four ports of the board to other connected base devices in the NEXUS network. Since several RFOC cards can be used together, there are many possibilities to design network topology, redundancy and increased channel numbers. Above all, the comprehensive redundancy concept is one of the points for which the NEXUS system is famous. Thus, redundant fiber optic connections can not only be laid redundantly on two ports of a card, but also distributed on two RFOC modules, in order to even achieve card redundancy, which makes it possible to even change cards, e.g. for maintenance purposes during operation. As with a NEXUS system, the switchover is inaudible.

The data stream exchanged via the RFOC ports naturally also contains the necessary information for synchronization and all transparently transmitted control protocols. This saves additional, complex cabling or, if necessary, allows some external signals to be sent spontaneously via the NEXUS installation. The module has excellent error detection, the connection status of each port is monitored and errors such as jitter are detected and signalled via the LEDs on the front panel.

Modular connector system

The ports of the RFOC card can be equipped with interchangeable SFP fiber optic modules to meet different applications. The modules can be included in the delivery or fitted by the user. Multimode LWL is used as standard, which allows a range up to 500 m. Alternatively, singlemode modules with a range of up to 100 km can also be used.

Redundant configuration of ports possible

If two basic devices are connected redundantly, the signals are sent over both lines, so that in the event of an accident the signals can be switched over with sample accuracy and without crackling.

Sample-accurate switching in case of failure of redundant connections

In both port-based redundancy and card redundancy, signal switching is not audible and can only be detected by a message from the operating software.

Optionally activatable re-routing in case of failure of non-redundant connections

When the optional rerouting is enabled and a fiber optic connection fails or is disconnected, the board automatically searches for another route to the destination. This happens with an interruption of the data stream.

Connection of NEXUS I/Os to the Star router

The RFOC module contributes significantly to the naming of the Star router, which can be star-shapedly linked to base devices. In combination with the integrated routing matrix of the RCX card with 4.096 x 4.096 crosspoints, a communicative control center is created, which is at the center of many NEXUS base devices. With the exception of the MADI-I/O card RMF, no digital or analog interfaces are provided for the Star router, so that the RFOC module establishes the essential connection to the NEXUS base devices to make audio signals accessible to the router. By combining several cards of this type, large fiber-optic networks can be realized, making the Star router's mixing console engine accessible to the rest of the NEXUS system.


TECHNICAL DATA

Unless otherwise specified, the specifications relate to one RFOC port (transmitter/receiver unit).

Audio connections

Audio channels	128 duplex audio channels (30 Bit, 96 kHz), configuration-specific
Channel of communication	1 duplex control/communication channel per port
Synchronization channel	1 duplex synchronization channel per port
Data rate	Max. 1.250 Mbps

Optical power fibre optic transmitter

Multimode	9,5 to -3 dBm at 50/125 µm fiber (for distances up to 500 m)
Singlemode	9,5 to -3 dBm at 9/125 µm fiber (for distances up to 100 km)

Advice: The multimode and singlemode transmitters are classified as CLASS1 LED/LASER PRO-DUCT.

Optical sensitivity fibre optic receiver

Multimode	20 to -3 dBm at 50/125 µm fiber
Singlemode	20 to -3 dBm at 50/125 µm fiber

Recommended glass fibre

Multimode	Gradient fibre 50/125 µm or gradient fibre 62,5/125 µm
Singlemode	9/125 µm fiber

Operation conditions

Temperature range	0 °C to +50 °C
Humidity	Max. 90 %, non-condensing

Storage conditions

Temperature range	-35 °C to +70 °C
Humidity	Max. 90 %, non-condensing

Power supply

Voltage	+4,75...5,25 V
Current	Approximately 0,8 A (RFOC-02 module without optical modules) approximately 150...300 mA per optical module, depending on version

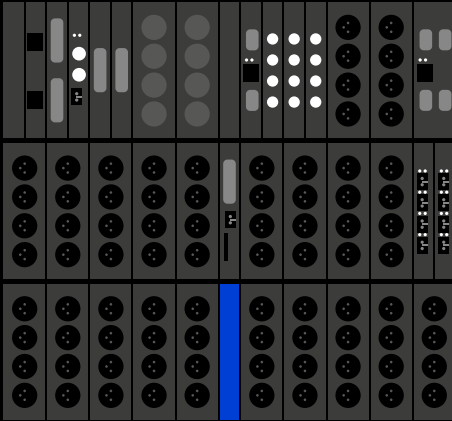
Mechanical data

Weight	0,44 kg
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NEXUS // NETWORKED AUDIO MATRIX

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

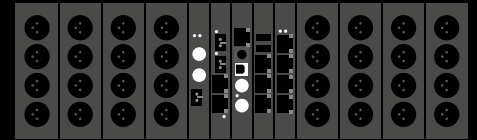
Every installation is unique, requiring a system that aligns perfectly with its specific requirements. Our commitment to customised solutions ensures that each scenario receives the ideal system configuration. Are you looking for a modular design that offers flexibility and seamless expansion? Or do 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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