



RFOC

Fiber optic interface card



A U D I O E X C E L L E N C E

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 board 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 multi-mode and single-mode 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 without problems, 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 cards, 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. Multimodemodules are used as standard, which allow a transmission with a range of 500m. Alternatively, single-modem modules with a range of up to 100Km 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 basic devices. In combination with the integrated routing matrix of the RCX card with 4,096x4,096 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.

Connections

RFOC_02	1x 4TE		
SFP	4x	Nexus-fiberglass protocol	bidirektional

Technical specificationsw

	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	1,250 Mbps (max.)
Fibre optic transmitter, multimode (for distances up to 500 m)	
optische Leistung	9.5 to -3 dBm at 50/125 µm Fiber
Fibre optic transmitter, singlemode (for distances up to 100 km)	
Optical power	9.5 to -3 dBm at 9/125 µm Fiber
advice	
	The multimode and singlemode transmitters are classified as CLASS1 LED/LASER PRODUCT.
Fibre optic receiver, multimode	
optical sensitivity	20 to -3 dBm at 50/125 µm Fiberr
Fibre optic receiver Singlemode	
optical sensitivity	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
single mode	Singlemode fiber 9/125 µm
Operation conditions	
Temperature range	0 °C bis +50 °C
max humidity	max. 90 %, non-condensing
Storage conditions	
Temperature range	-35 °C bis +70 °C
max humidity	max. 90 %, non-condensing
Power supply	
Voltage	+4,75...5,25 V
Current	approx. 0.8 A (RFOC02 module without optical modules) approx. 150...300 mA per optical module, depending on version
Mechanical data	
Weight	0,44 Kg

Stage Tec NEXUS: A global reference!*



*The map shows selected reference locations. To date more than 1,000 Stage Tec NEXUS systems have been delivered and installed worldwide.

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