



XFOC

Fiber Network Interface Card



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

The adaptable fiber optic network card for building NEXUS systems

The XFOC card allows NEXUS base devices to be connected via fiber optic cables. This makes it possible to create complex networks whose topology has virtually no limits.

A NEXUS network consists of basic devices connected to each other by fiber optic cables. The XFOC modules make it possible to integrate a base device as a new node into such a system and thereby form networks of any topology. Of course, redundant cabling is supported.

Each XFOC card has four standard SFP ports that can be equipped with different, commercially available SFP fiber modules: the flexible and cost-effective possibility to work with multimode and singlemode fibers of almost any length and even with different fiber types in different network sections. The automatic detection of synchronization and coding errors caused by the XFOC cards enables error-free operation, even if the quality of the lines should ever be reduced. With only 6 samples of latency between base devices, a NEXUS system offers the fastest and most secure connections in audio networks and even allows automatic rerouting of connections in the event of failure of important optical fibers.

Exchangeable standard SFP modules

The ports of the XFOC 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.

Support of card redundancy

In card redundancy, routing is performed by two XFOC boards in the same base device to maintain communication, even if one board fails.

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.

Support of any network topologies

The network topologies are freely selectable and, for example, a circular or star-shaped connection structure can be set up.

Building simple and complex networks from NEXUS base devices

As the interface between the individual NEXUS base units, the XFOC fiber optic board forms the basis for setting up any NEXUS network. All connection variants are possible, from circular to star-shaped topologies. A different NEXUS base unit can be connected to each of the four fiber ports of the XFOC card because all 256 channels can be transmitted. Complex networks are thus set up, with cross and ring connections: on the one hand to compensate for the failure of individual lines, and on the other hand to maintain the capacity of the bus circuit boards for I/Os, since the XFOC has no routing function. The XRT routing and fiber optic board was developed for such purposes because it has its own matrix of 8448 sources on 8448 sinks and is therefore also suitable for daisy-chaining and as a star point, as previously only known from the Star Router.

Connections

XFOC_07	1 x 4TE		
SFP	4x	Nexus-Format	bidirektional

Technical specifications

Connections

Audio channels	256, duplex channels per port (32 Bit)
Communication channel	1, duplex channel per port
Sync channel	1, duplex channel per port
Transmission rate per fiber	max. 1250 MBit/s

Recommended glass fibre

multimode	Graded-index fiber 62,5/125 µm or Graded-index fiber 50/125 µm
single mode	Graded-index fiber 9/125 µm

LWL transceiver, 850 nm

	Standard version LC for spanning distances of up to 220/500 m
Mode	multimode
Wavelength	830...860 nm, nom. 850 nm
Optical power (transmitter)	-9,5...-4 dBm @ 50/62,5-µm optical fiber
Optical sensitivity (receiver)	-17...0 dBm
Distance	max. 500 m @ 50-µm optical fiber(220 m @ 62,5-µm-Faser)

LWL transceiver, 1300 nm

	on request, for spanning distances of up to 100 km
Mode	Singlemode, multimode, automatic detection
Wavelength (transmitter)	1285...1350 nm, nominal 1300 nm
Optical power (transmitter)	-9,5...-3 dBm @ 9-µm optical fiber
Wavelength (receiver)	1260...1580 nm
Optical sensitivity	-20...-3 dBm
Distance	max. 550 m @ 50/62,5-µm optical fiber; (up to 5000 m @ 9-µm optical fiber)

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	ca. 1,3 A

Mechanical data

Weight	0,25 kg
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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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