

RCX

STAR ROUTER // CONTROL

NEXUS audio matrix and control

DECENTRALIZED INTELLIGENCE OF THE NEXUS SYSTEM AND STAND-ALONE MATRIX WITH FULL REDUNDANCY OPTION

THE RCX CARD IS THE CENTRAL UNIT IN THE NEXUS STAR ROUTER. IT MANAGES THE DEVICE AND PROVIDES THE INTERNAL MATRIX WITH 4.096 X 4.096 CROSSPOINTS. EXTERNAL CONTROL SYSTEMS CAN BE CONNECTED TO THE NEXUS NETWORK VIA VARIOUS INTERFACES. THE RCX CARD CAN BE REDUNDANTLY EQUIPPED, WHICH IS WHAT THE SAFETY CONCEPT OF THE NEXUS SYSTEM IS ALL ABOUT.



The RCX card is the central board of any NEXUS Star Router, acting as the central management and control card for the other modules in it. It also contains the central real time audio hardware matrix (4.096 x 4.096 signals @48k, 2k x 2k @96k) for the Star Router base devices audio routing. Like the XCPU in a NEXUS TDM type base device, the RCX hosts 256 programmable cells for the NEXUS modular's internal Logic control system. It also provides physical control interfaces for external control systems: STAGETECs GUI clients ("Matrix5.exe" ...) plus 3rd party controller products (Ethernet, USB, RS232 and RS422).

Up to 16 audio modules (RFOCs, RMF, RIF67, RMC(Q), RMD(Q)) can be equipped in each Star Router of a NEXUS modular system plus one RSYNC card per star in a dedicated sync only slot. Each of the 16 audio slots (8 left, 8 right; RSYNC and 2x RCX slots in between) provides a fixed reserved capacity of audio signals to and from the RCX's audio hardware matrix: 256 @48k, 128 @96k. The left and right hand audio slot sections each provide an independent bus system to interconnect audio core processing boards RMC(Q) to max. 7 x RMD(Q) on each side, forming independent audio cores for two independent audio mixing consoles.

CONNECTIONS

RMF	1 x 8 TE		
BNC	1 x	Wordclock	Input
BNC	1 x	Wordclock	Output
D-Sub 9 socked female	2 x	RS-232, RS-422	Bidirectional
RJ45	1 x	IP	Bidirectional
USB	1 x	USB	Bidirectional

System state fail-safe memory

A battery-buffered memory protects the entire system at all times.

Supports redundant operation

Any Star Router in a NEXUS modular system may contain an optional second RCX card to provide local hardware redundancy in hot standby mode with continuous internal real time status update: In case of failure of the master RCX or manual push button usage, the standby RCX takes over and restores identical operation state of that Star Router.

Extensive internal and external synchronization options

The NEXUS system clock can be output via the BNC interfaces and the system clock can be adjusted to external sources.


TECHNICAL DATA
CPU

Type	Motorola MCF547x
Clock rate	Core: 200 MHz bus: 50/100 MHz

RS 232 interface

Data rate	38,4 Kbps typical max. 115,2 Kbps
Cable length	Max. 10 m (recommended)

RS 422/485 interface

Data rate	38,4 Kbps typical max. 115,2 Kbps
Input levels	Max. -7...12 V
I/O impedance	120 Ω
Cable length	Max. 100 m over 110-Ω line; ±20 %

USB interface

Version	Compliant with USB 1.1, Type B standard-compliant wiring, galvanically isolated
Data rate	12 Mbps
Cable length	Max. 5 m over 90-Ω line; ±15 %

Wordclock in

Level	1...5 V
Impedance	75/500 Ω (switchable)
Sample rates	44,1 kHz, 48 kHz, 88,2 kHz, 96 kHz
Required wordclock-rate stability	< ±150 ppm (±50 ppm typical, compliant with AES 11, Grade 2)

Wordclock out

Level	2,4 V on RL = 75 Ω
Sample rates	44,1 kHz, 48 kHz, 88,2 kHz, 96 kHz
Frequency stability	Max. ±10 ppm, ±5 ppm typical (internal generator) Output port adjustable to AC or DC (jumper-selected)

Ethernet (RJ 45)

Data rate	10/100 Mbps
Cable length	Max. 100 m, CAT5e or better recommended

Operation conditions

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

Storage conditions

Temperature range	0 °C up to +70 °C
Humidity	Max. 90%, non-condensing

Power supply

Voltage	+4,75...5,25 V
Current	1...3 A (depending on configuration)

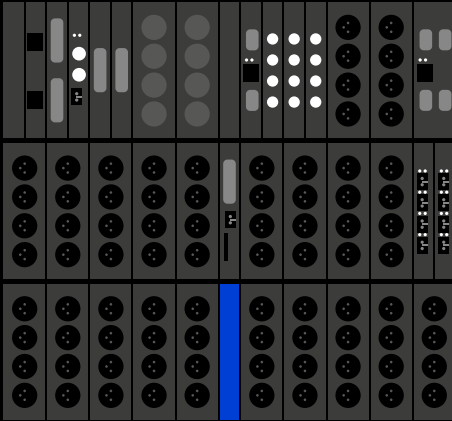
Mechanical data

Weight	0,27 kg
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NEXUS // NETWORKED AUDIO MATRIX

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

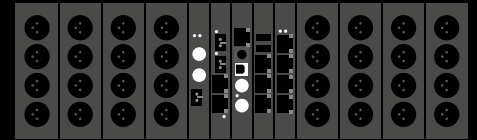
Every installation is unique, requiring a system that aligns perfectly with its specific requirements. Our commitment to customised solutions ensures that each scenario receives the ideal system configuration. Are you looking for a modular design that offers flexibility and seamless expansion? Or do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