



RCX

Control card



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

The central module in the Star Router: 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 every NEXUS Star Router. It takes over the control and monitoring of all modules in it. Up to 16 I/O modules can be equipped per Star Router, 256 audio channels of which are exchanged with the RCX module. An audio matrix of 4,096 inputs to 4,096 outputs is implemented on the board for this purpose.

Similar to the XCPU boards for NEXUS base devices, the RCX router board also contains the NEXUS Logic Control responsible for this base device and is informed at all times about the overall status of the entire NEXUS system. For external control access, the card has two RS232/RS422 ports on the front panel, a USB port and an Ethernet interface. A computer with the NEXUS „Matrix 5“ operating program or other control systems can be connected here.

It is possible to connect several controllers, also distributed on different routers and base devices, as well as a word clock input and an output at the front. In addition to this sync function, the Star Router can of course synchronize with the NEXUS system clock or generate it itself on the RCX card. In the unlikely event of an RCX board failure, a second board can be redundantly equipped. A simple push of a button on the front panel is all it takes to activate the switchover. There is no noise during switching, as the audio output is automatically muted for a short time.

Ethernet and USB ports

The Ethernet and USB ports are designed for direct or network access with a PC. The Ethernet interface is also the point at which external control systems start to manage NEXUS parameters.

System state fail-safe memory

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

Supports redundant operation

Redundancy operation in combination with a second RCX board is possible to protect the Star-Router against a failure.

Extensive internal and external synchronization options

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

Connections			
RCX_1	1 x 8TE		
BNC	1x	Wordclock	output
BNC	1x	Wordclock	input
D-Sub 9 Socked female	2x	RS-232, RS-422	bidirektional
RJ45	1x	IP	bidirektional
USB	1x	USB	bidirektional

Technical specifications	
CPU	
Type	Motorola MCF547x
Clock rate	Core: 200 MHz Bus: 50/100 MHz
RS 232 interface	
Data rate	38.4 Kbps (typ.), 115.2 Kbps (max.)
Cable length	10 m (max., recommended)
RS 422/485 interface	
Data rate	38.4 Kbps (typ.); 115.2 Kbps (max.)
Input levels	-7...12 V (max.)
I/O impedance	120 Ohm
Cable length	100 m (max.) over 110-ohm line; $\pm 20\%$
USB interface	
Version	Compliant with USB 1.1, Type B; standard-compliant wiring, galvanically isolated
Data rate	12 Mbps
Cable length	5 m (max.) over 90-ohm line; $\pm 15\%$
Wordclock in	
Level	1...5 V
Impedance	75/500 ohm (switchable)
Sample rates	44,1 kHz, 48 kHz, 88,2 kHz, 96 kHz
Required wordclock-rate stability	$< \pm 150$ ppm (± 50 ppm typ., compliant with AES 11, Grade 2)
Wordclock out	
Level	2.4 V on $R_L = 75$ ohm
Sample rates	44,1 kHz, 48 kHz, 88,2 kHz, 96 kHz
Frequency stability	± 10 ppm (max.), ± 5 ppm (typ.) (internal generator)
	Output port adjustable to AC or DC (jumper-selected)
Ethernet (RJ 45)	
Data rate	10/100 Mbps
Cable length	100 m (max.), CAT5e or better recommended
Operation conditions	
Temperature range	0 °C bis +50 °C
max humidity	max. 90 %, non-condensing
Lagerbedingungen	
Temperature range	0 °C bis +70 °C
max 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

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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