



RSYNC

STAR ROUTER // SYSTEM-MODULE

NEXUS network synchronisation

THE ROUTER CARD WITH SUPPORT FOR VIDEO BI-LEVEL AND TRI-LEVEL-SYNC

THE RSYNC CARD SUPPORTS SPECIAL APPLICATIONS THAT REQUIRE A LARGER NUMBER OF DIFFERENT SYNC INPUTS AND/OR OUTPUTS. AMONG THEM IS A BNC INPUT FOR VIDEO GEN-LOCK OR BLACKBURST, WHICH SUPPORTS BOTH BI-LEVEL AND TRI-LEVEL SYNC.



The RSYNC card is designed to synchronize a NEXUS network with various external systems. Since a NEXUS system can generally synchronize to any digital audio input, the RSYNC card is particularly useful if separate clock lines are used. The various synchronous inputs support video genlock, black burst, word clock and AES/EBU signals. With video sync, both bi-level and tri-level sync are automatically detected.

The AES/EBU connectors provide both 75 Ω BNC sockets and 110 Ω balanced lines accessible via D-Sub connectors. The card recognizes the occupancy automatically. All connectors have switchable composite filters for noise suppression and the incoming clock information can serve as a synchronous source for the entire NEXUS network. To ensure continuous operation even in the event of a source failure, a sync hierarchy can be created so that in the event of interruption or excessive inaccuracies of the current synchronous clock, the system fades over to the next available source. If no other input is selected, the very accurate NEXUS internal clock generator is used. A key quality criterion in NEXUS networks is that external clock sources are always re-clocked by the internal clock generator, which gently fades over to the next clock in the event of a switchover or failure of a sync source, so that there are never drop-outs or crackles in the audio.

In conjunction with a cleverly defined sync hierarchy, the board offers a wide range of connection options that ensure that the NEXUS system synchronizes itself to the current application, stabilizes this sync and passes it on to other systems.

Dedicated non-Audio Slot in Star Frame

When designing a NEXUS Star Router frame layout, the RSYNC should preferably be planned into slot #9 (counting from left to right): This slot provides no routing resources to the STARs real time audio matrix (see RCX card). The RSYNC module does not need such resources. It also works in any of the 16 audio slots of the STAR.

Inputs for word clock and video sync

The NEXUS network can be synchronized via the RSYNC card using word clock or video sync signals; dedicated inputs are provided for this purpose.

Automatic detection of the video format

When a video sync signal is connected, the RSYNC module automatically recognizes which format is present.

Support of Bi- and Tri-Level-Sync

The video input accepts a selection of different signals, such as composite, component. In addition, modern tri-level sync signals can also be used for synchronization.

Configuration option for 75 and 500 Ohm

To enable the serial connection of several loads to a word clock source, the input impedance can be adjusted from 75 to 500 Ω by jumper.

Synchronization to AES/EBU signals

In addition to the BNC connectors, there is a 15-pin Sub-D connector on the front panel for connecting AES/EBU signals. The audio signal is not evaluated by the RCX.

CONNECTIONS

RSYNC	1 x 4 TE		
BNC	1 x	Bi-/Tri-Level Sync	Input
BNC	1 x	Wordclock	Output
BNC	1 x	Wordclock	Input
BNC	1 x	AES/EBU	Output
BNC	1 x	AES/EBU	Input
D-Sub	1 x	AES/EBU	Bidirectional
		15 socked female	



TECHNICAL DATA

Inputs: video, wordclock, and AES/EBU | Outputs: wordclock and AES/EBU

Video input

Design	Galvanic isolation
Sensitivity	1 V nom. (0,5...2 VPP)
Impedance	75 Ω
Required stability	< ± 100 ppm (typical ± 50 ppm, AES 11, Grade 2 compliant)
SD formats (NTSC, PAL)	525 lines interlaced, 59,94/60 Hz (NTSC) 525 lines progressive, 59,94/60 Hz (NTSC) 625 lines interlaced, 50 Hz (PAL) 625 lines progressive, 50 Hz (PAL)
HD formats (SMPTE 296M)	720 lines progressive, 50/59,94/60 Hz
HD formats (SMPTE 274M, SMPTE 260M)	1035 lines interlaced, 59,94/60 Hz 1080 lines interlaced, 50/59,94/60 Hz 1080 lines progressive, 23/98/24/25/29,97/30/50/59,94/60 Hz

Wordclock in

Design	Balanced, electrically separated
Sensitivity	TTL, 1...5 V
Impedance	75/500 Ω (jumper-configurable)
Sample rates	44,1 kHz, 48 kHz, 88,2 kHz, 96 kHz
Required stability	< ± 150 ppm (typical ± 50 ppm, AES 11, Grade 2 compliant)

Wordclock out

Design	Balanced, electrically separated
AC/DC-coupled	jumper-configurable
Level	$\geq 2,4$ V an RL = 75 Ω
Impedance	75 Ω
Sample rates	44,1 kHz, 48 kHz, 88,2 kHz, 96 kHz
NEXUS frequency stability	Min. ± 10 ppm, typical ± 5 ppm (when using internal generator)

AES/EBU input

Design	Balanced, electrically separated
Ground connection	Configurable on D-Sub port
Input voltage	$\pm 0,2...7$ V
Impedance	75 Ω (BNC), 110 Ω (D-Sub)
Sample rates	44,1 kHz, 48 kHz, 88,2 kHz, 96 kHz
Required stability	< ± 150 ppm (typical ± 50 ppm, AES 11, Grade 2 compliant)

AES/EBU output

Design	Balanced, electrically separated
Ground connection	Configurable for D-Sub connectors
Impedance	75 Ω (BNC), 110 Ω (D-Sub)
Level	1 VPP nom. on RL = 75 Ω (BNC output), > 2 VPP on RL = 110 Ω (D-Sub out)
Sample rates	44,1 kHz, 48 kHz, 88,2 kHz, 96 kHz
Frequency stability	Min. ± 10 ppm, typical ± 5 ppm (when using internal generator)

Operation conditions

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

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

Voltage	+4,75...5,25 V
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Current	Ca. 0,4 A
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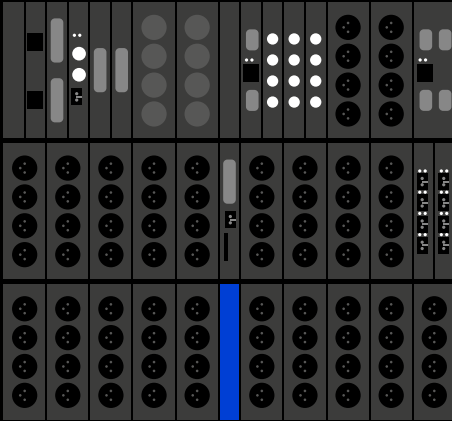
Mechanical data

Weight	0,43 kg
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NEXUS // NETWORKED AUDIO MATRIX

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

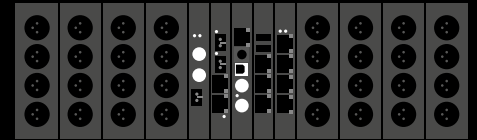
Every installation is unique, requiring a system that aligns perfectly with its specific requirements. Our commitment to customised solutions ensures that each scenario receives the ideal system configuration. Are you looking for a modular design that offers flexibility and seamless expansion? Or do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