

Frame Sync Functionality

The NVISION 8500 HYBRID Router Series Frame Sync Input Card has eight input ports and enables the simple synchronization of incoming wild feeds or signals moving between facilities. Previously, in applications that required the processing of eight feeds, eight frame synchronizers using eight processing cards were required. This new input card provides eight frame synchronizers on a single card — with 3G, HD and SD all supported on the same module. The Frame Sync card supports multiple frame rates and formats and can shuffle audio at the input.

KEY FEATURES

- 8 input ports, each with 4 frame buffer
- Manages 16 channels of embedded audio per port
- Audio is disembedded to TDM matrix for total flexibility
- Dolby E aware
- Synchronizes 4K quad-link signals

ORDERING

8500H-IP-3G-FS-CX
NVISION 8500 HYBRID Frame Sync

FEATURE	VXP-3901-FS	FRS-3901	FRS-1801	8500H-IP-3G-FS-CX
Cost per frame sync	\$\$\$	\$\$	\$\$	\$
4K UHD support	no	no	no	yes
3G support	yes	yes	no	yes
Fiber support	yes	yes	no	no
Bypass relay	option	option	no	no
Frame Syncs per card	1	1	1	8
A/V deglitcher	yes	yes	no	yes
Video delay max	15 frames	15 frames 1.3 s	4 frames	
Video Proc/Color correction	yes	yes	yes	no
Fingerprinting	yes	yes	no	no
AFD/VLI/WSS processing	yes	yes	yes	no
Lip-sync test pattern, measurement and correction	no	no	yes	no
Discrete audio IN/OUT	4 in, 4 out option	no	4 in, 4 out	yes, via router port
Audio de-emb and embedding optional	16 channels	16 channels	optional 16 channels	16 channels
Channel selection and shuffle	option	yes	option	yes
Audio delay max	2 s	2 s	2 s	2 s
Downmix 5.1 to 2.0	option	yes	option	no
Option modules	2	1	none	none
Optional upmix module	yes	yes	no	no
Optional Dolby modules (Dec, Enc D, Enc E)	yes	yes	no	no
Upgrade path to up/down/cross	yes	no	no	no
RS-422 automation	yes	yes	yes	no
GPI	yes	yes	yes	no

Integrated Audio Processing

The NVISION 8500 HYBRID Router Series Disembed/Embed Output Card conveniently embeds audio into any embedded audio channel location, even when managing inputs from non-hybrid sources. The addition of this functionality within the NVISION HYBRID Routing platform enables unprecedented flexibility with embedded audio while also greatly reducing latency introduced into the program. This functional integration saves costs, as well as space, weight and power. It also streamlines the workflow and minimizes cabling.

The DEM/EMB card can embed audio into any embedded audio channel location without disrupting the original audio channels and can break into existing embedded audio on a channel-by-channel basis.

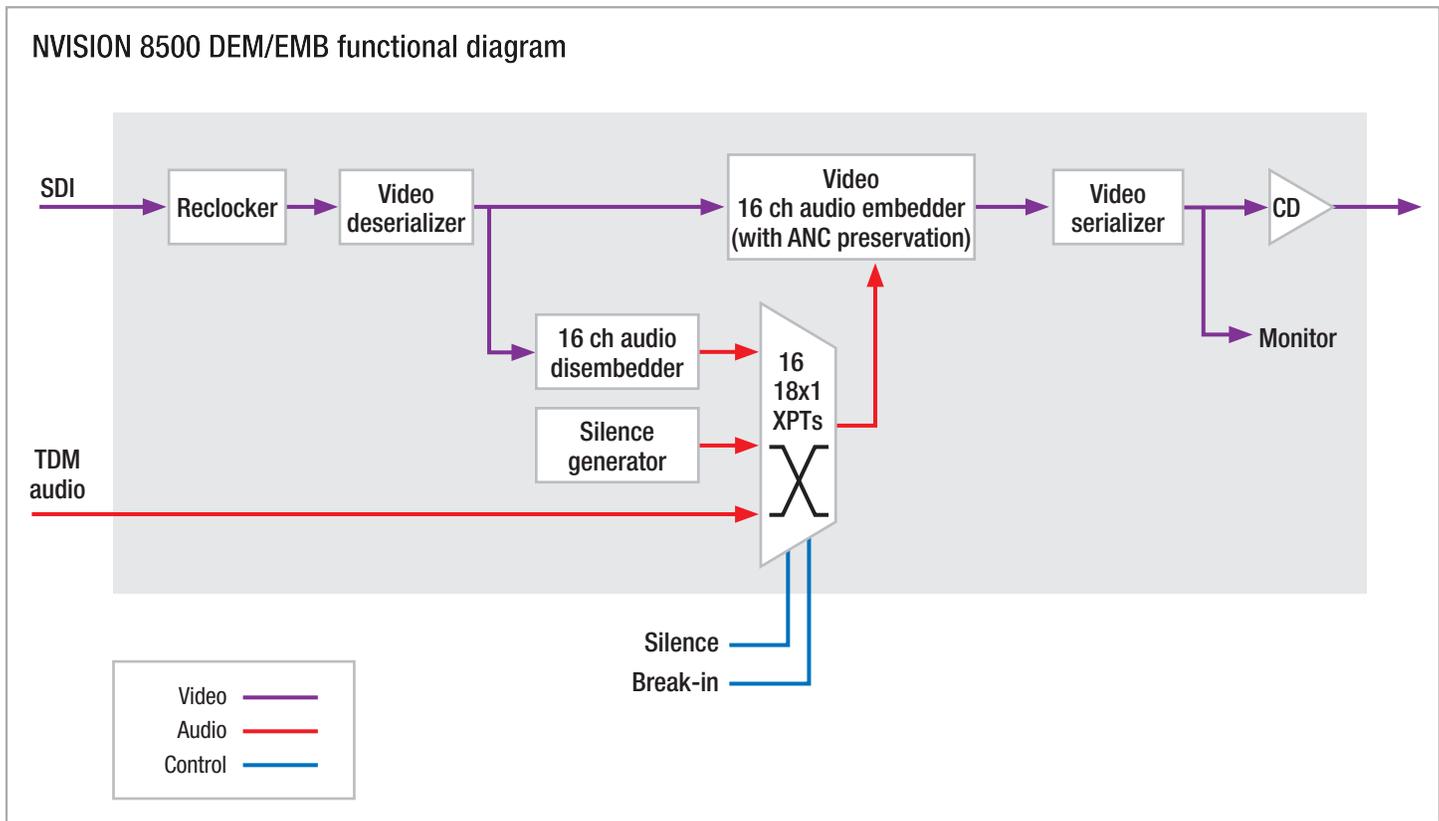
This DEM/EMB card will also allow you to shuffle embedded audio that comes from a standard video source which gives you the ultimate in flexibility for your hybrid router.

KEY FEATURES

- On-board 18x1 shuffling of original embedded audio
- Easily shuffle audio from any standard or embedded source to any channel output
- Consistent, predictable low audio latency levels
- Preserves and duplicates standard audio

ORDERING

- 8500H-OP-3G-DEM/EMB-CX**
8500 16 OUT 3 Gig dem/emb coax
- 8500H-OPX-3G-DEM/EMB-CX**
8500 8 OUT 3 Gig w/exp 3 Gig dem/emb coax



AA/AES/MADI Audio Concentrators

To further streamline cabling, the NVISION 8500 HYBRID routers can be used with NVISION 8900 audio concentrators. These devices convert Analog or AES to MADI, and MADI to Analog or AES, and this can radically reduce the number of audio cables needed in broadcast infrastructures. This reduces installation costs, simplifies troubleshooting, and reduces weight in a mobile environment.



NVISION 8900 AES (balanced) to MADI converter



NVISION 8900 MADI to AES (balanced) converter



NVISION 8900 AES (unbalanced) to MADI converter



NVISION 8900 MADI to AES (unbalanced) converter



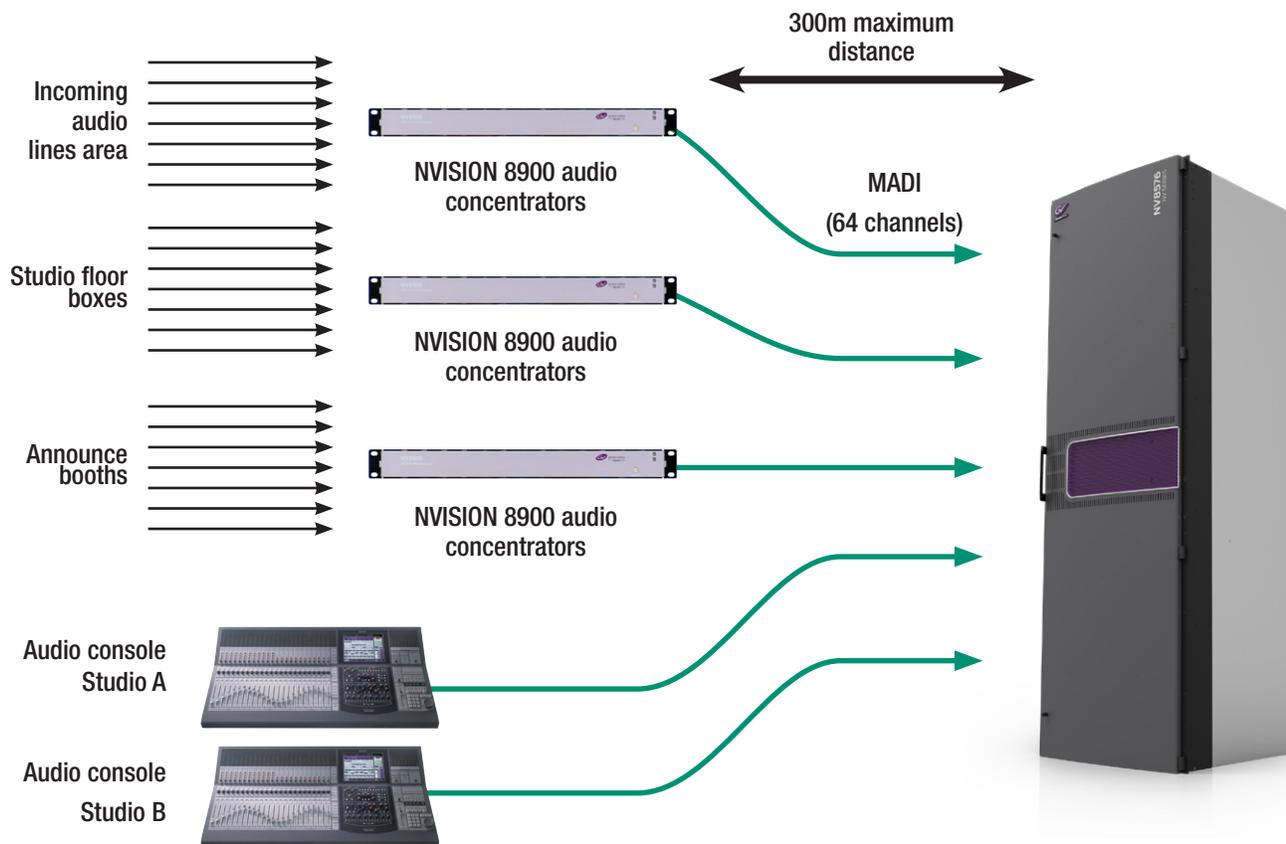
NVISION 8900 Analog to MADI converter



NVISION 8900 MADI to Analog converter



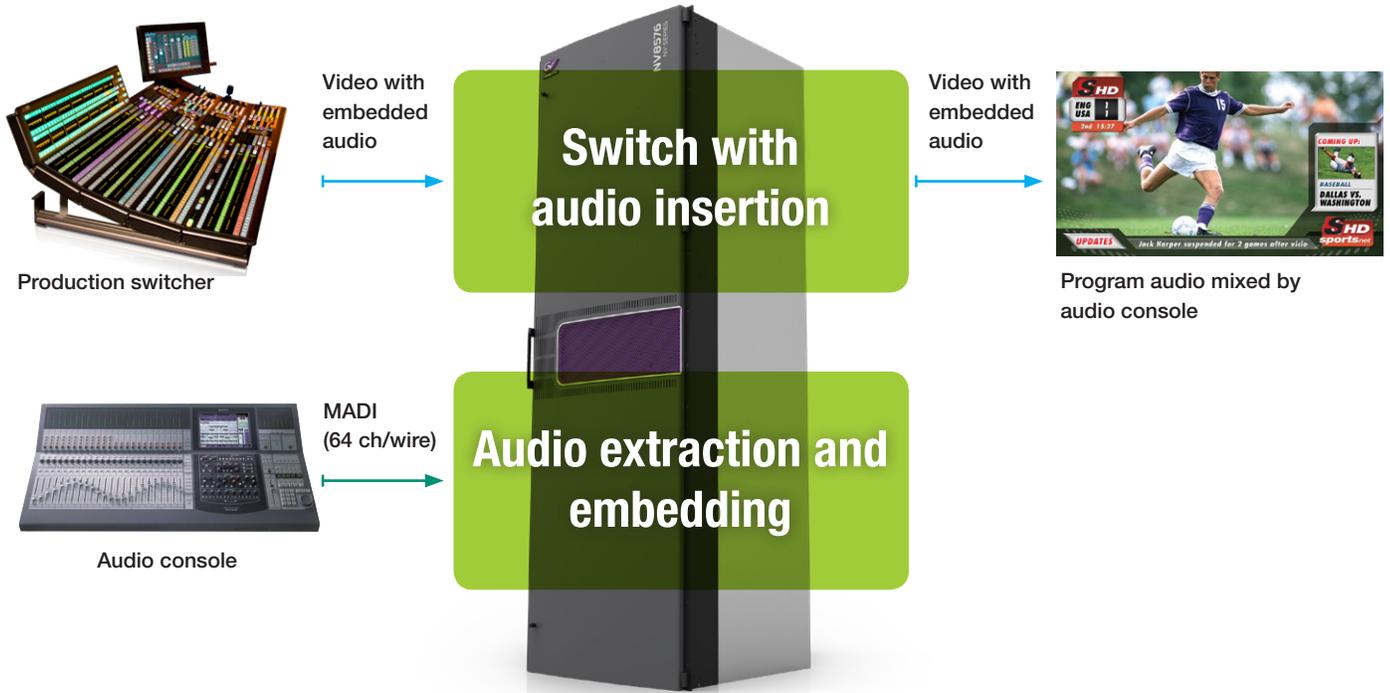
Audio cabling can be streamlined using NVISION 8500 audio concentrators



Typical Audio Processing Applications

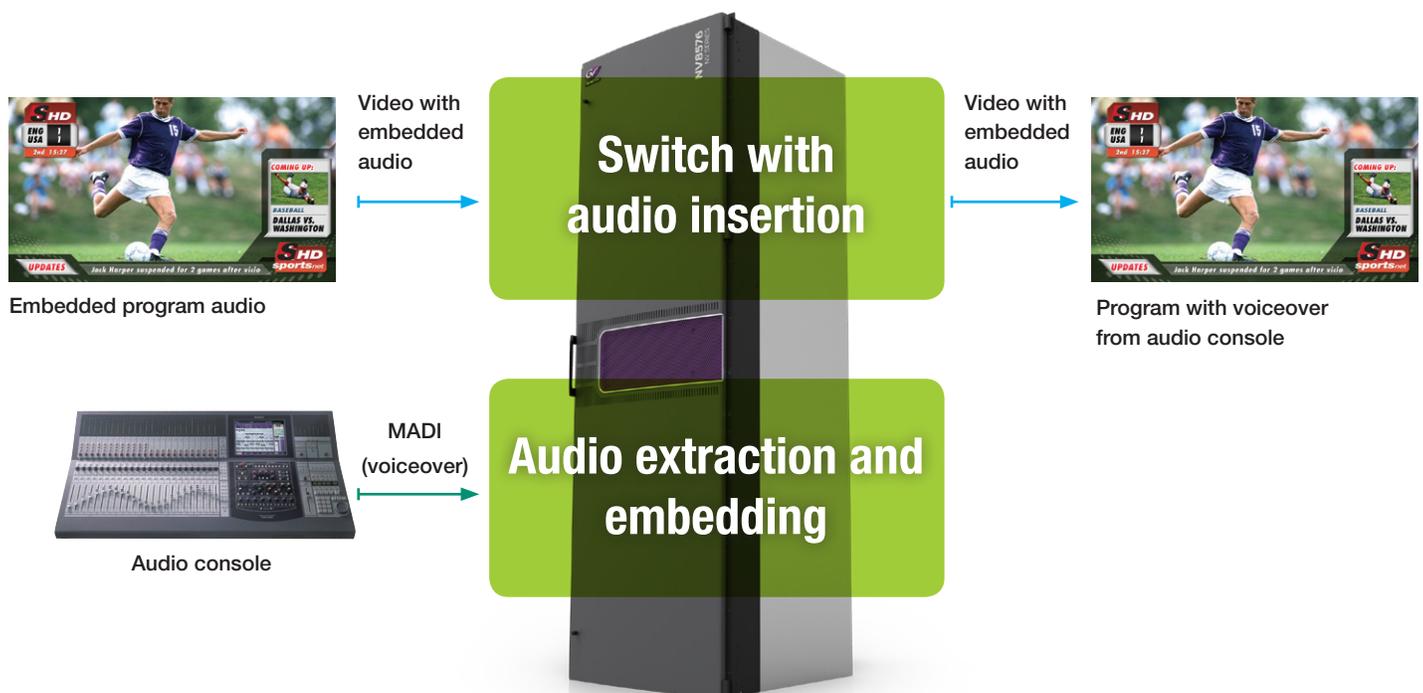
Feeding audio console with signals from production switcher

The NVISION 8500 HYBRID router is ideally suited for connecting a production switcher and audio console in a control room. The router's integrated audio processing eliminates the need for external de-embedders/embedders for feeding MADI to/from the audio console, and this eliminates audio to video latency problems.



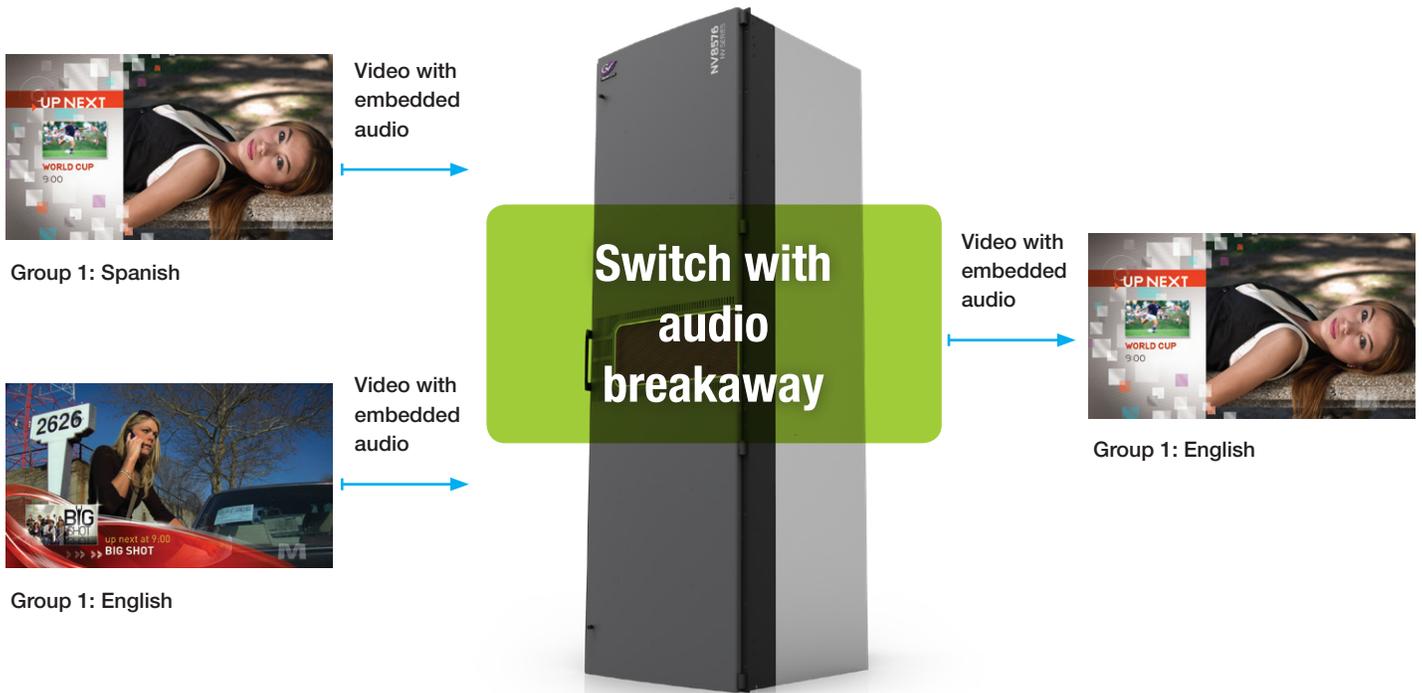
Swapping audio between MADI and embedded sources

MADI audio tracks, such as a voiceover from an audio console, can be easily embedded into SDI video.



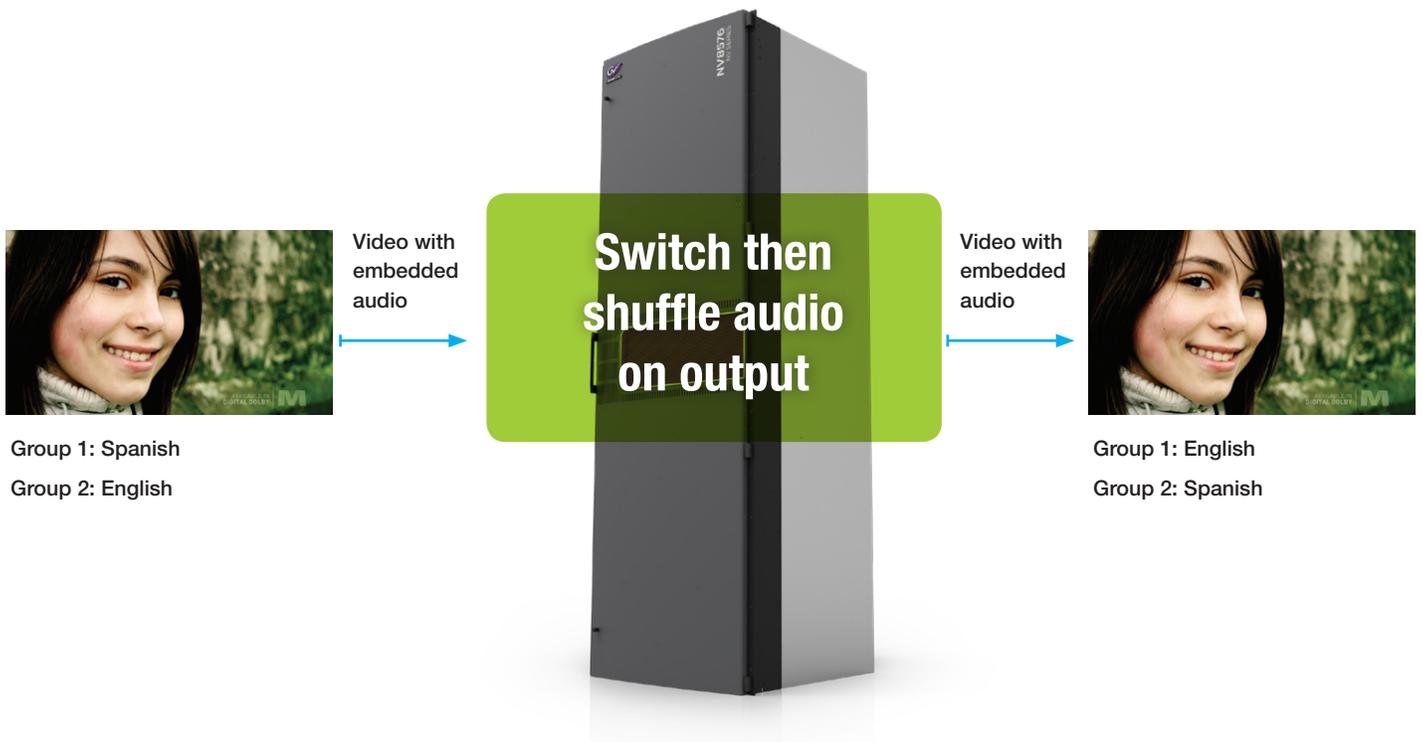
Switching embedded audio between two signals

The integrated de-embedding, shuffling, and embedding simplifies the task of switching audio tracks between embedded video signals



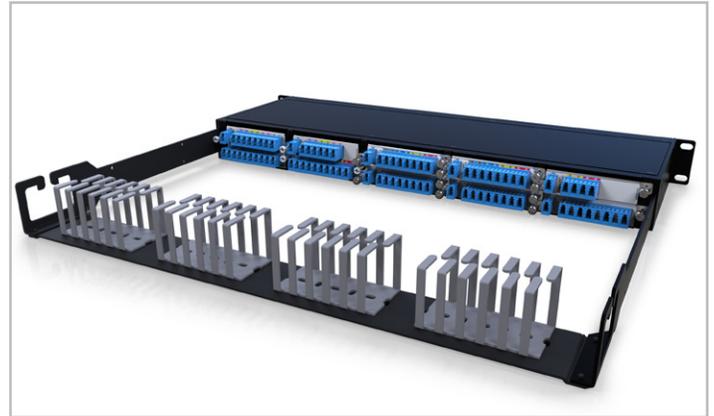
Swapping embedded audio tracks

Integrated audio processing simplifies the task of embedded audio track shuffling, and this is performed using traditional router commands



Streamlined Cabling Using Coax and Fiber

The NVISION 8500 HYBRID routers offer highly streamlined cabling using either coax or fiber. The unique, clean design of the router provides unparalleled signal integrity and allows longer coax cable runs, using high density cable connectors which save space and lower weight. Advanced direct fiber connectivity is also available, using SFP modules for 1310 nm or CDWM wavelengths.

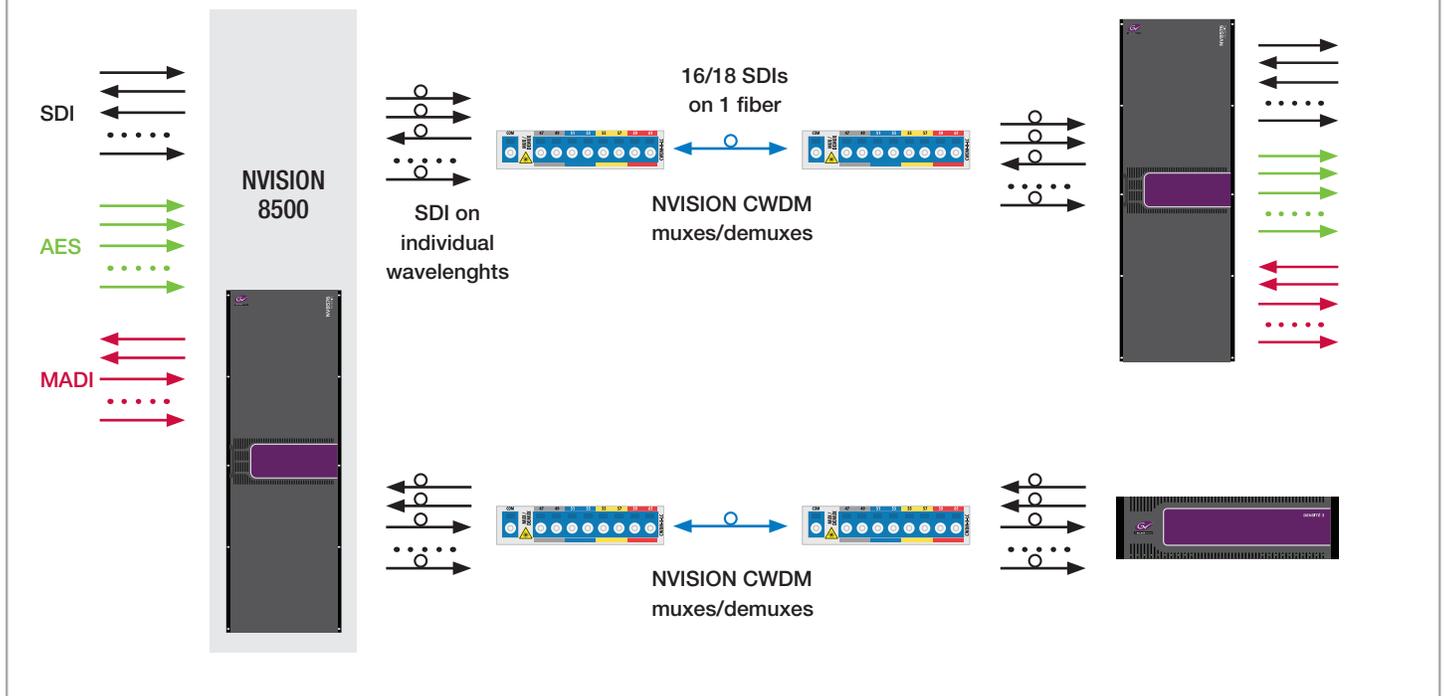


The use of high-density cable connectors on large routers provides densities two to three times that of conventional BNCs, and lets you fully exploit cost-effective coax cable for shorter runs, along with major rack-space savings. The smaller DIN 1.0/2.3 connectors are less stressed than traditional BNCs, and they don't require a tight bend radius, this contributes to a better RF launch profile, and reduced return loss.

Direct fiber connectivity is available using removable fiber SFP modules (single mode, Dual LC connectors at 1310 nm), which simplify configuration and maintenance. For more advanced fiber requirements using CWDM, there is a rack mounting tray that holds 4 CWDM muxes/demuxes. With this configuration, 72 3G/HD/SD signals are transmitted by four fibers.

CWDM is ideal for router-to-router and router-to-interface frame interconnects

(Fiber is only available for standard SDI inputs and outputs)

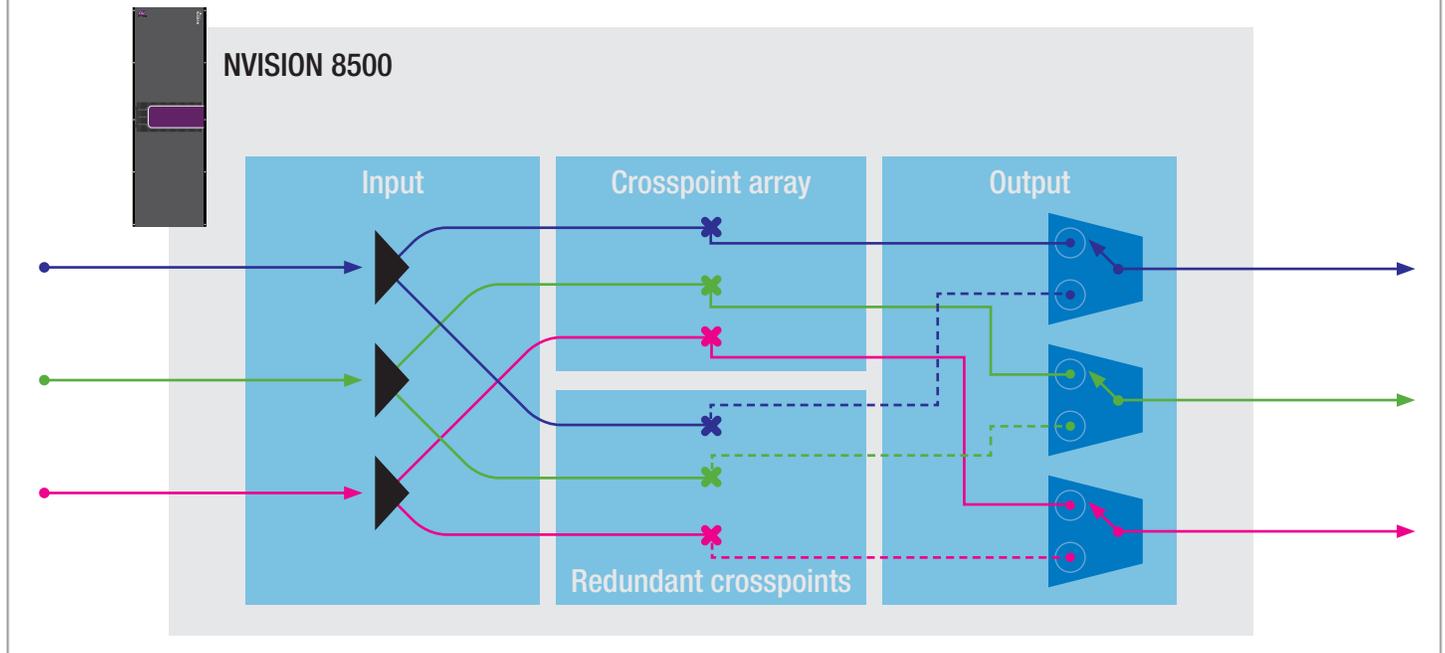


Ultimate Resilience with Redundant Crosspoints

The NVISION 8500 HYBRID router offers patented N-on-1 crosspoint redundancy to provide a zero downtime capability, with a back-up system for the largest possible impact block in the router. A redundant crosspoint array continuously shadows the main array and, in the event of a failure, a single action repairs the situation by “gang switching” all outputs to the good, redundant crosspoint card during the next vertical interval. Router maintenance can then be performed without impacting the facility’s operations. This maintenance process is outlined below:

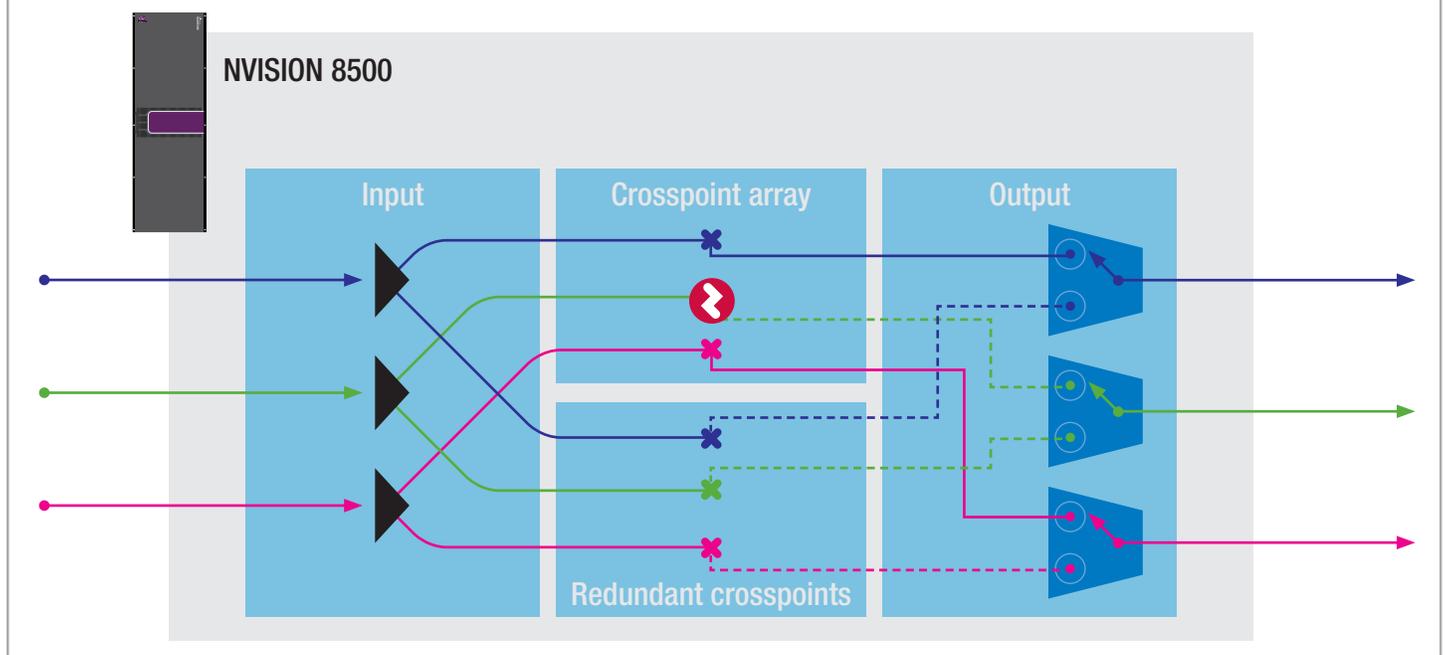
1: Normal operations

During normal operations, a redundant crosspoint array continuously shadows the main crosspoint array.



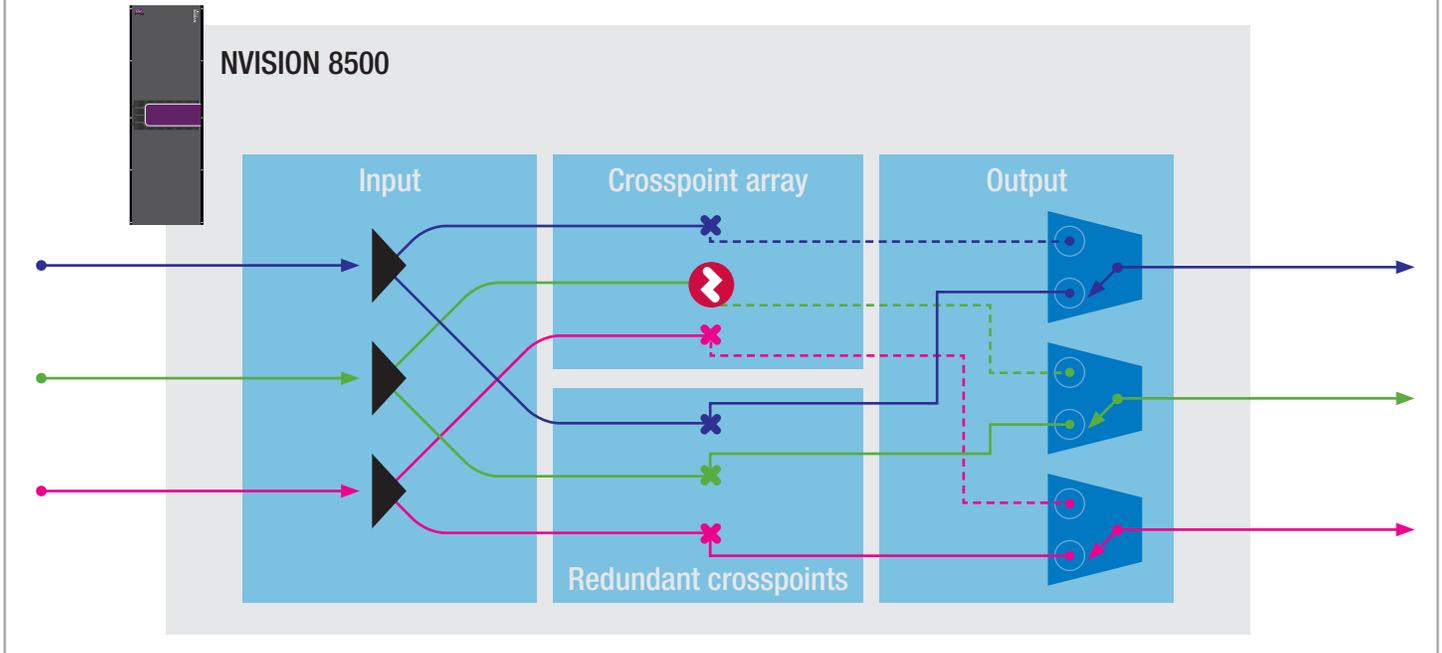
2: Crosspoint array failure

A single crosspoint failure develops in the main crosspoint array.



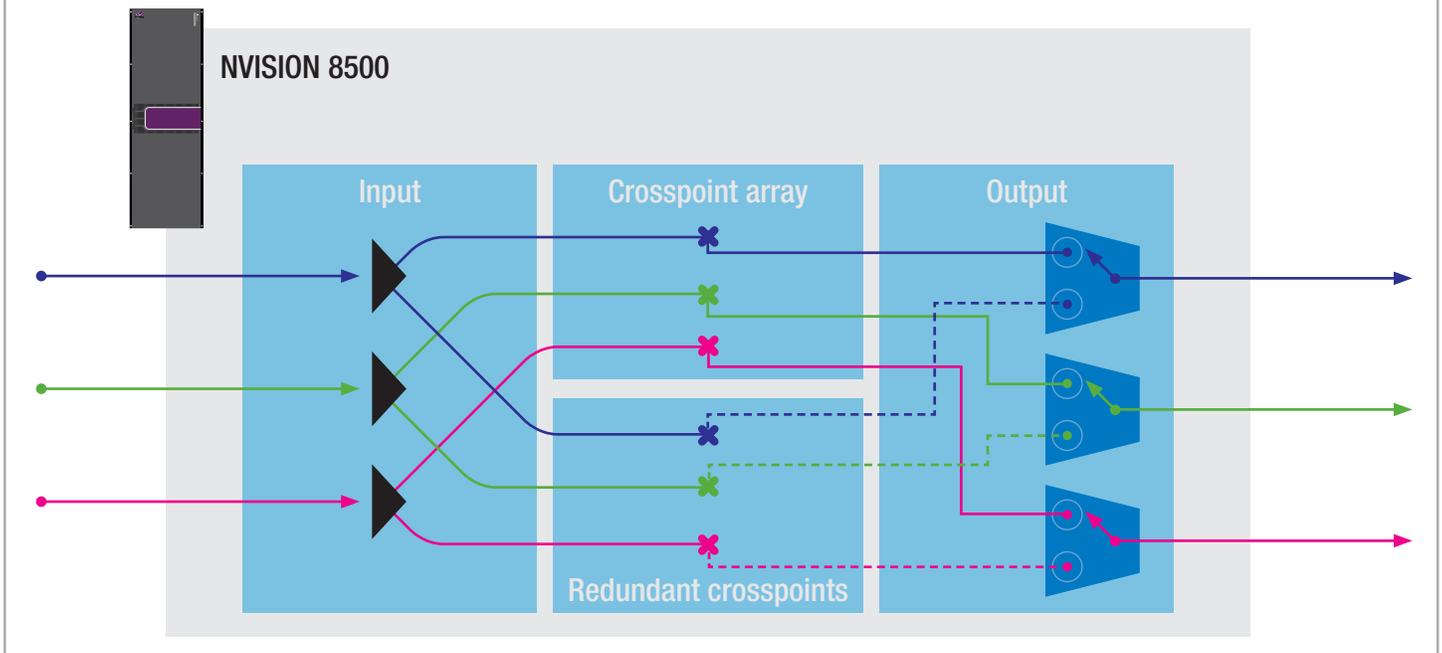
3: Switching to redundant array

A single action instantly repairs the situation by “gang switching” all outputs to the good, redundant crosspoint card during the next vertical interval.



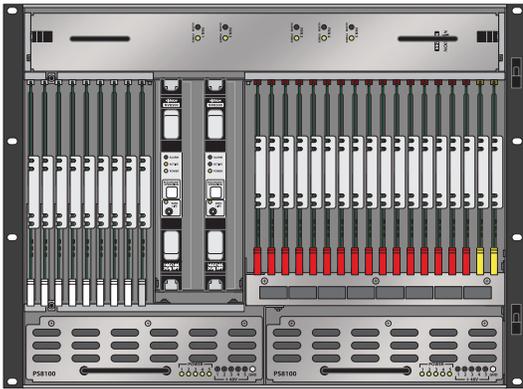
4: Returning to normal operations

Router maintenance can then be performed to repair the faulty array, without impacting the facility's operations.

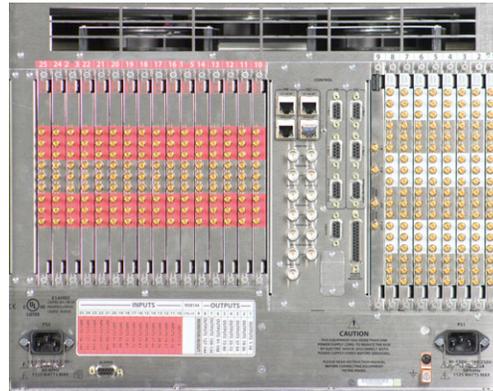


8 RU and 16 RU Frame Views

NVISION 8144 frame (144x144 in 8 RU)

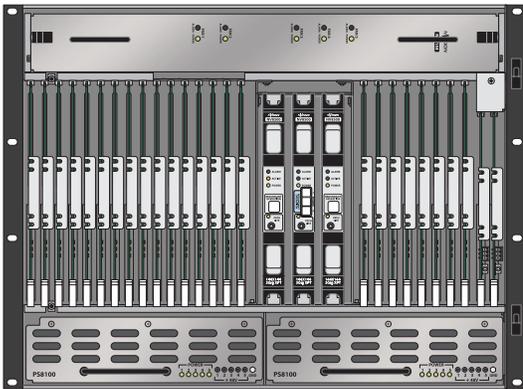


NVISION 8144 front view

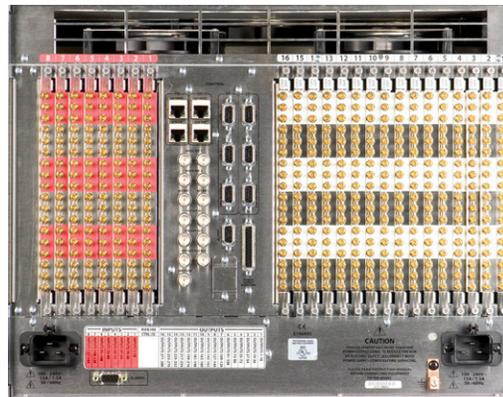


NVISION 8144 rear view

NVISION 8140 frame (144x288 in 8 RU)

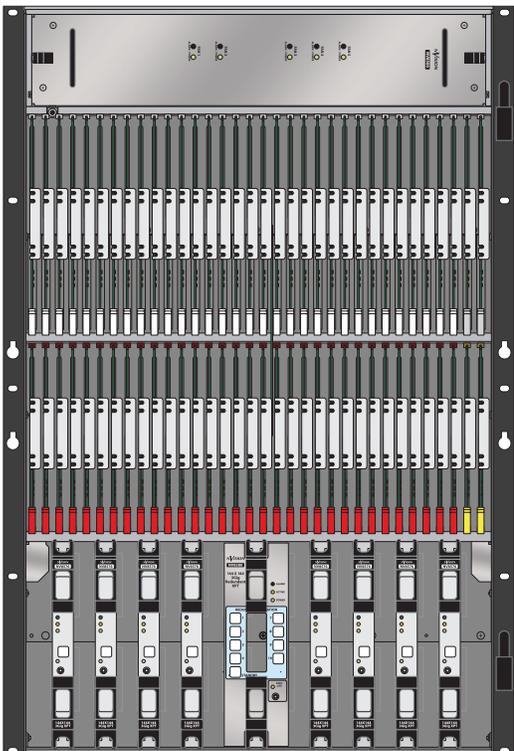


NVISION 8140 front view

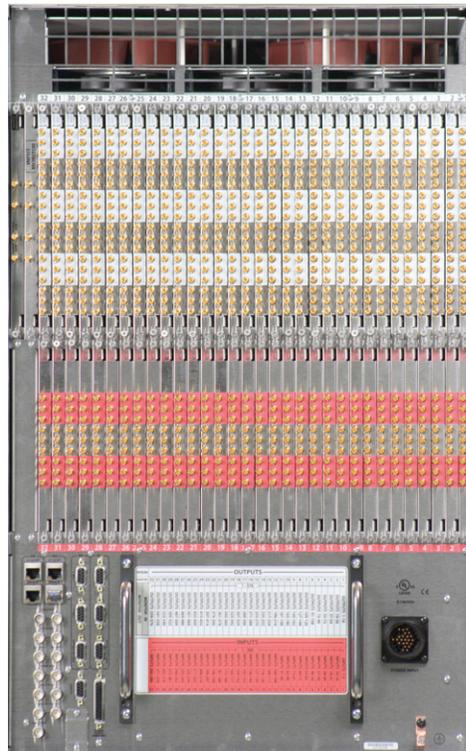


NVISION 8140 rear view

NVISION 8280 frame (288x576 in 16 RU)

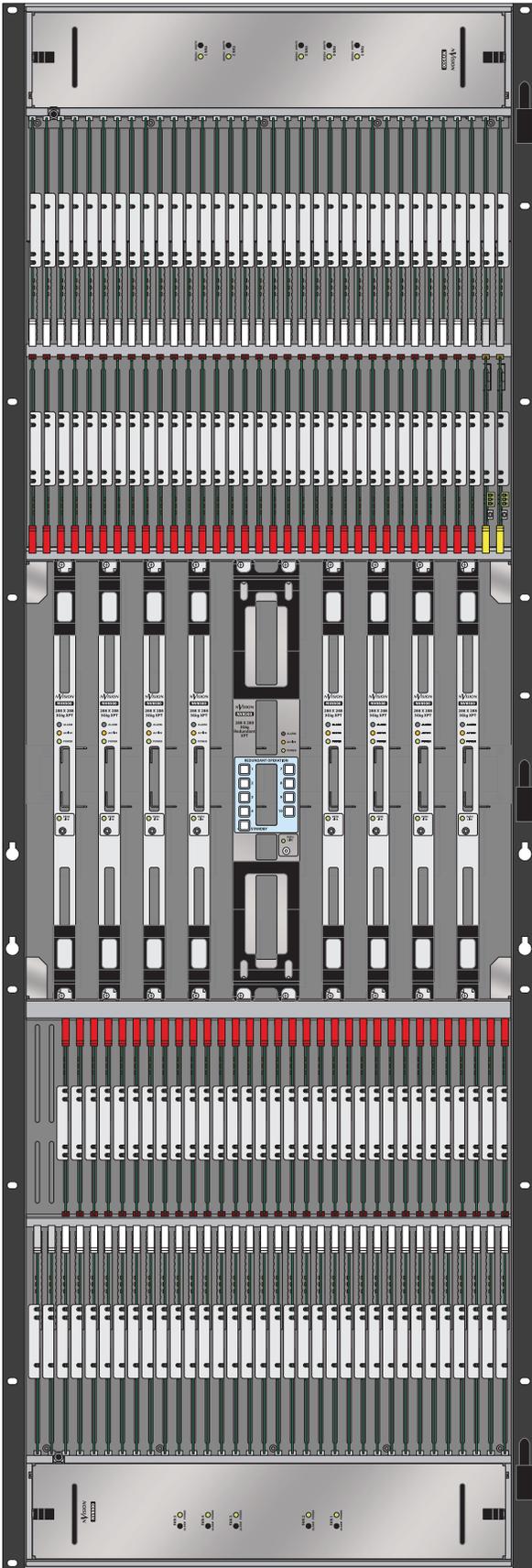


NVISION 8280 front view

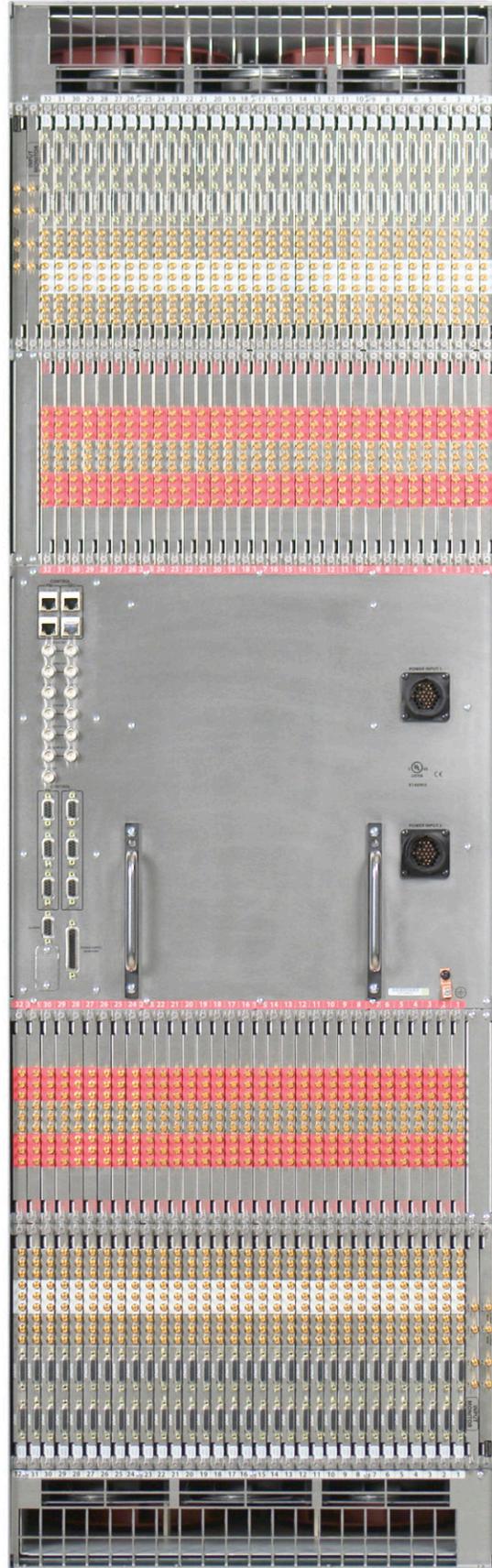


NVISION 8280 rear view

NVISION 8576 frame (576x1152 in 32 RU)

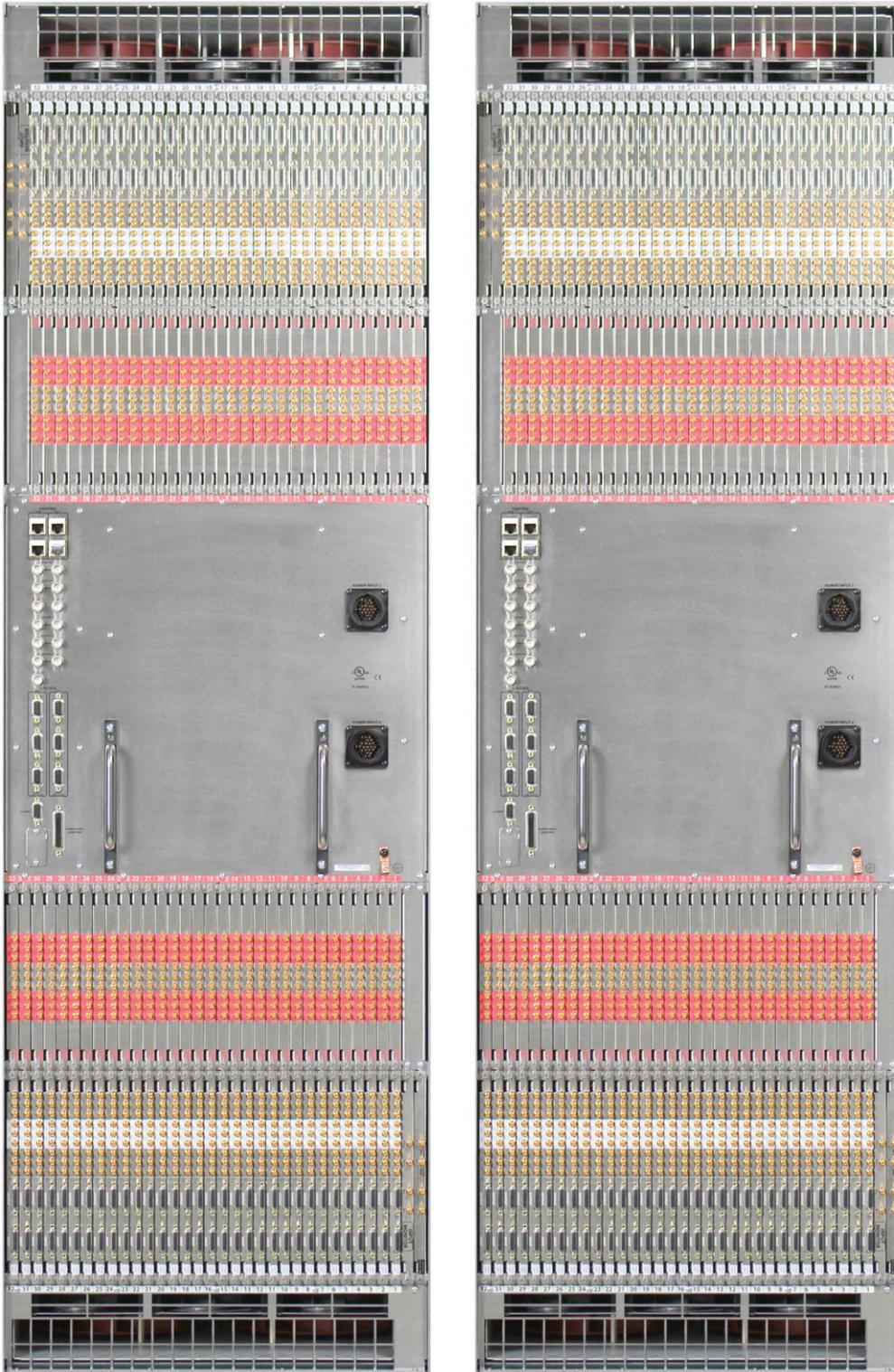


NVISION 8576 front view



NVISION 8576 rear view

NVISION 8576 Plus frame (1152x1152 in 64 RU)



NVISION 8576 Plus rear view

GVB-1-0168I-EN-PH



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