

SIRIUS 800

Hybrid SDI and Audio Routing to 12G, with Unrivaled Processing and Multiviewer Capability

Hybrid video, audio and 12G-SDI routers with integrated multiviewers and four chassis options from 288x288 to 1152x1152.

The enterprise level Sirius 800 series of routers from Grass Valley® offer multiformat, expandable routers with exceptional performance, flexibility and reliability. Offering a range of frame options from 288x288 up to 1152x1152 and beyond with I/O options including SDI, AES, MADI and 12G-SDI interfaces.

The Sirius 800 benefits from advanced hybrid processing (AHP) integrating functionality that would otherwise require extensive external modular infrastructure, including audio processing, frame synchronization, clean and quiet switching, video and audio delay and audio sample rate conversion. AHP also includes input embedding with no external loopbacks; a unique, innovative technology from Grass Valley, which typically delivers 30% more usable ports for a given frame size.

Routing

Video and audio routing in a single chassis

Route audio between embedded, AES and MADI sources and destinations – no limitations.

Embed audio on inputs or outputs

Route audio back to an input, replace or move incoming audio channels – no external connections required, no loss of inputs or outputs!

4K UHD Interfaces

4K routing

Route 12G and quad link 4K UHD signals alongside SD, HD, 3G, ASI and audio, in any combination.

Advanced Hybrid Processing

The most advanced processing architecture

Frame sync, de-embed, track swap, gain, delay, embed, clean and quiet switch on every input and main output.

All inputs and outputs are format independent

Allowing a mix of formats on a single module. Saves cost, increases system flexibility.

All audio processing is timing independent

De-embed and embed between asynchronous signals – no need to synchronize.

Multiviewers

The most multiviewer outputs in its class

Fit multiviewers to all outputs without losing the router outputs. Up to 180 heads + 576x576 routing in a single frame.

Intelligent system monitoring

Monitoring and alarming of system status, not just video and audio parameters.



Key Features

Audio

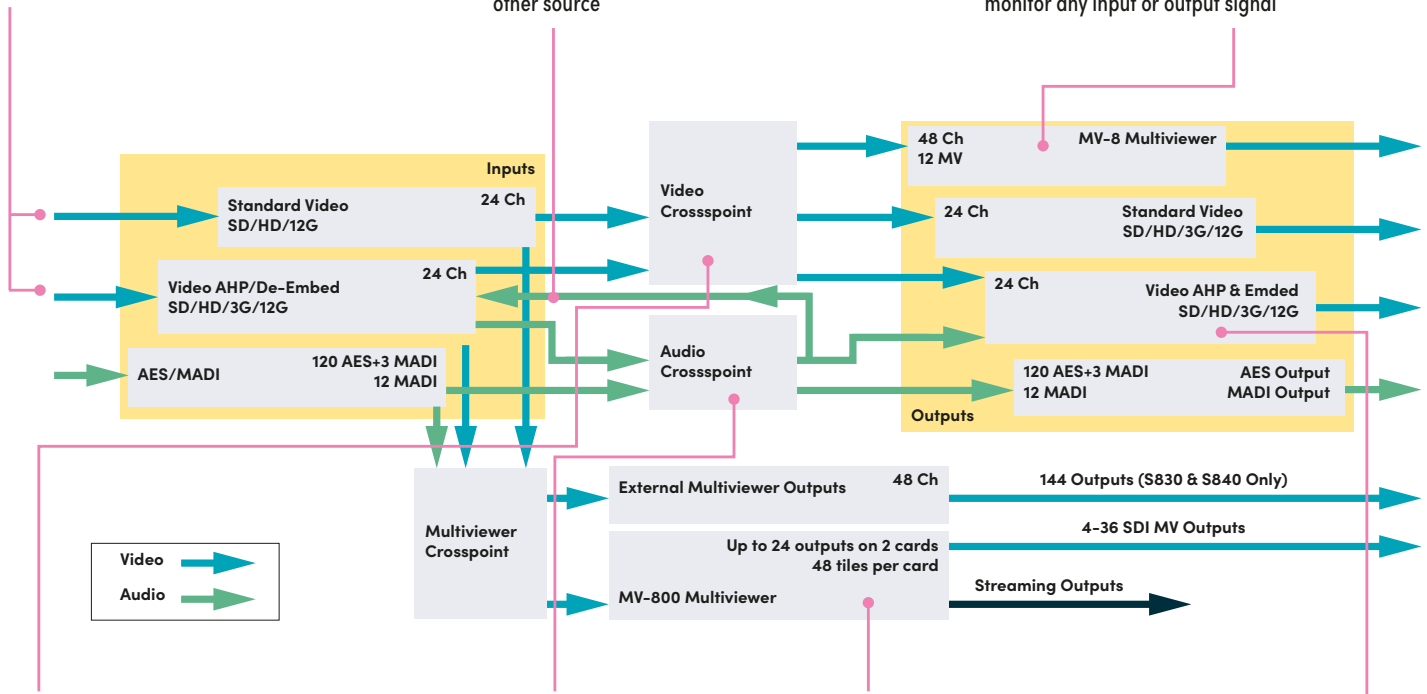
- Embedded, MADI, AES3
- Take audio from any input type from AES3 to 12G
- Route to any output

Embedding on Inputs

- Internal loop back of audio
- Build new audio channel sets from incoming embedded audio, and routed audio from any other source

MV-841 & MV-851 Multiviewers

- Replace any or all output cards with MV-841 or MV-851 multiviewer cards
- 576 SDI outputs PLUS 144 multiviewer outputs to monitor any input or output signal



Any SDI Format, any Frame Rate

- 4 internal timing planes – derived from a single reference input or separate references
- Maintains accurate switching for multiformat and multi frame-rate operations

Asynchronous Audio

- Fully asynchronous audio routing from any input to any output
- Discrete audio sample rates are maintained from input to output

MV-800 Multiviewers

- Additional multiviewers monitor any input – 140 scalers to 24 multiviewer outputs

Intelligent Embedding

- Auto detection of the input format will de-embed from any format automatically
- Auto synchronizing embedding will embed audio from un-synchronized sources with no audio loss

Exceptional Multiviewer Capacity

Multiviewer	Function	Capacity per Router			
		Sirius 830	Sirius 840	Sirius 850	Sirius 850 Dual
MV-801	48x12 multiviewer	2 slots 24 outputs	2 slots 24 outputs	2 slots 24 outputs	4 slots 48 outputs
MV-831	12 multiviewer outputs from 24 SDI inputs and 24 SDI outputs	12 slots 144 outputs	–	–	–
MV-841	48 SDI router outputs plus 12 multiviewer outputs from 48 SDI outputs	–	12 slots 144 outputs	–	–
MV-851	48 SDI router outputs plus 12 multiviewer outputs from 48 SDI outputs	–	–	12 slots 144 outputs	24 slots 288 outputs

LIVE PRODUCTION

Power, control and crosspoint redundancy for mission-critical applications.

Requirements

Incoming lines monitoring

Use Sirius MV-800 multiviewers to monitor up to 140 inputs with no effect on the main router capacity.

For more signals, MV-831 monitors an additional 24 inputs, and 24 router outputs, with no loss of SDI I/O.

MV-841 and MV-851 multiviewers can be used to monitor inputs or outputs with no loss of router capacity.

Production switcher & audio mixer integration

Simple, open protocols allow integration to any production switcher and audio mixer, to exchange names, routing and tally info.

Grass Valley's Kahuna® and Kula® production switchers are the market leaders, with exceptional 4K UHD capability, and Maverik re-configurable control panels.

Kahuna status is simply displayed on all MV-8 series multiviewers.

UHD

Any combination of HD, 3G, single link 4K UHD, or quad link 4K UHD can be routed through the Sirius 800, together with 1080i, 3G/1080p and 4K UHD formats – ideal for 4K UHD productions that also need 1080p, 1080i and SD downconverted copies.

S800 multiviewers can also monitor all formats from SD to 4K UHD, with 4K UHD outputs for highest resolution monitoring.

Production gallery/control room & slo-mo monitoring

Fully flexible multiviewer layouts allow any combination of tile sizes.

Layout objects include audio meters, clocks, tally lamps, UMD names, alarm indications and external equipment status monitoring, signal path displays.

Audio mix re-embedding

Incoming audio can be simply routed back to an incoming video signal, via internal loop back paths, to be re-embedded on any incoming video signal, avoiding costly wrap-around cable paths.



Sirius 830

- 288x288 video
- Integrated MV-800 and MV-831 – up to 168 multiviewer outputs
- 15 RU



Sirius 840

- 576x576 video
- Integrated MV-800 and MV-851 – up to 180 additional multiviewer outputs
- 27 RU



Sirius 850

- 576x1152 video
- Integrated MV-800 and MV-851 – up to 168 additional multiviewer outputs
- 34 RU



Sirius 850

- 1152x1152 video
- Integrated MV-800 and MV-851 – up to 336 additional multiviewer outputs
- 2x 34 RU

Sirius 800 in Operation

Untimed sources

Sirius 800 frame syncs can re-time all signals to one of four timing planes, with additional timing offsets per channel if required.

Timing settings are stored for each format, and are automatically recalled when that input format is detected.

Missing, swapped audio channels

AHP modules can swap audio channels on incoming and outgoing video.

Audio mixers on AHP cards can also create up to 16 channel mixes using

any audio within the router — to create a mono mix, for example.

Audio line up level differences

Audio gain adjustment is available on all audio channels on AHP, and audio inputs and outputs.

No signal

Input and output signal status and format is available on the door status screen, external PCs with similar screens, via RollCall or SNMP protocols, and logged in a log server.

MADI inputs have redundant, auto failover inputs.

Catsii connector status indication is an ideal way to see signal status if you're fault finding in the rack.

Satellite delay paths & lip sync

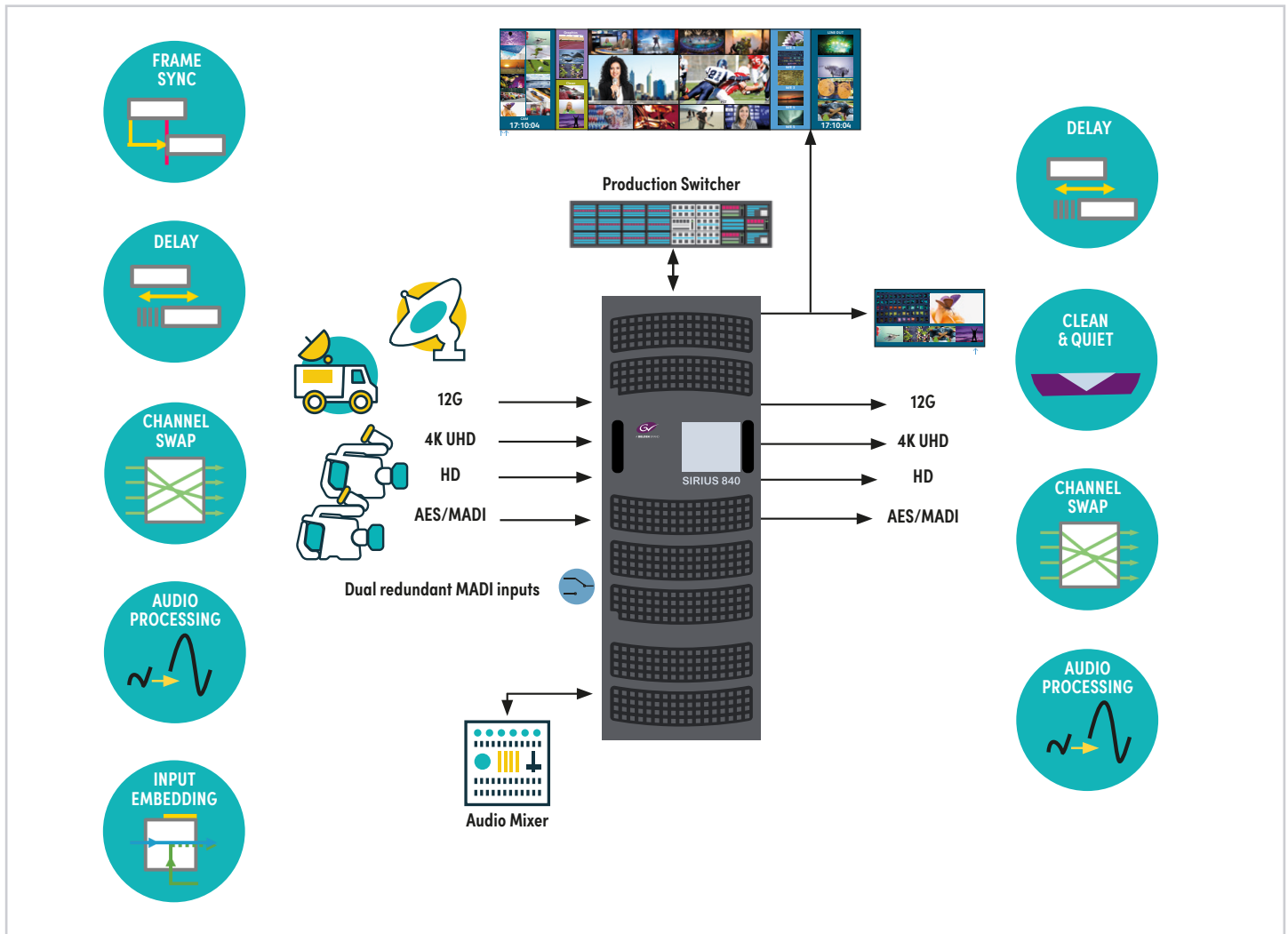
Video and audio delays are independently controllable to enable delay correction.

Unknown downstream equipment

Some equipment is sensitive to SMPTE-compliant switching — line synchronized outputs and audio V-fade router transitions maintain 100% "transition-free" outputs.

Sirius 800 – at the Center of Live Production

Multiformat production, untimed sources, audio adjustments. Multiviewers for production — all handled (plus much more) with Sirius 800.



STUDIOS, PLAYOUT CENTERS, LINES ROUTING

Resilient, flexible, expandable routing with sophisticated multiviewer capability.

Requirements

Multiformat routing

Sirius 800 has automatic switching between formats for de-embedding, embedding and MV-8 multiviewers. It can monitor all signal formats from SD to 4K UHD.

Coax for local cabling, and fiber interfaces with CWDM options and longer intersite connectivity.

Incoming lines monitoring

Available on all Sirius 830 inputs. Up to 24 MV-800 outputs dedicated to input monitoring.

Additional MV-841 and MV-851 multiviewer modules can replace router outputs for additional input monitoring capacity.

System monitoring equipment failure

With MV-8 series multiviewers, alarms from other equipment can be displayed on the multiviewer screens.

Playout & master control integration

Control from any master control system for A/B or Program/Presets switching.

Display automation schedules on multiviewer screens, alongside all playout monitoring screens.

Monitor audio formats, AFD, WSS, CC and V-chip.

Remote monitoring

The factory-installed MV-8xx-H264 option, in conjunction with MV-8 series multiviewers, provides full multiviewer screen with low-bandwidth H.264 video tiles on a desktop PC.

Sirius 800 in Operation

Loss of incoming feed

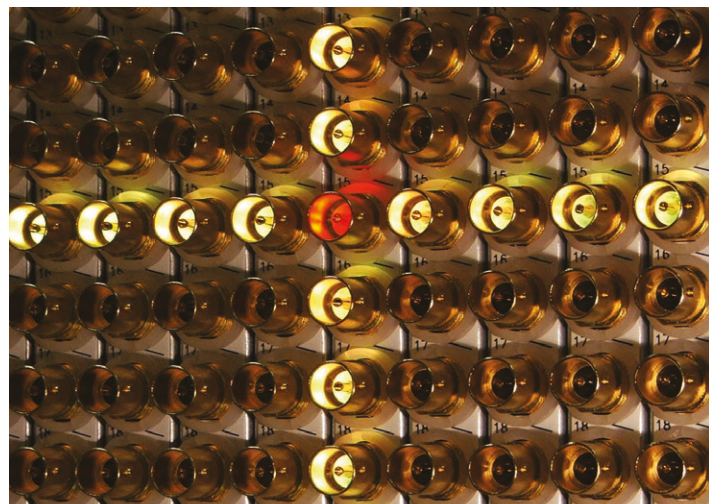
Signal loss is reported from all Sirius 800 inputs, and is available to router control softpanels, via SNMP, or from a log server.

Multiviewer monitoring adds more immediate alarming options, such as an alarm box on any multiviewer screen. Spotlight monitoring, available on the MV-8 series, will change screen layouts to show the fault and upstream signal path to allow fast diagnosis.

Change of incoming line format

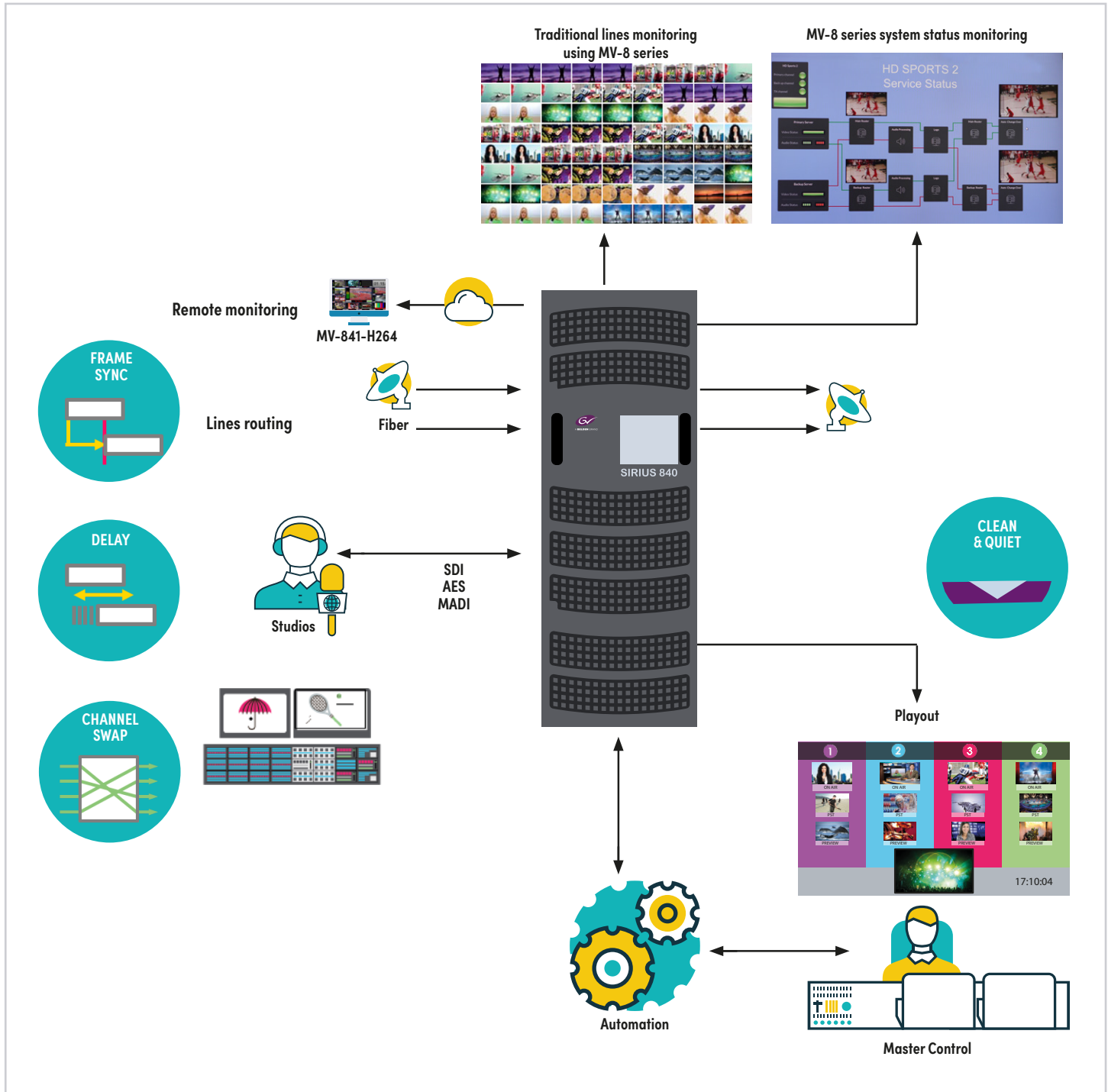
Advanced Hybrid Processing (AHP) modules autodetect the incoming signal format and adapt as needed. De-embedding and re-embedding on inputs and outputs is done to the automatically detected signal type – no need to adjust the router configuration.

Switching to the correct reference is also automatic. The input format and frame rate is reported to the controller, and routes are set automatically using the correct switching reference.



Multiformat Operation – Multiviewer Capabilities to Suit All Requirements

Sirius 800 – standalone in a facility, or part of a distributed routing system, with tielines to smaller studio and playout routers. Flexible configuration and control options make either option simple.



SIRIUS 800 CONTROL

Comprehensive control is critical to get the best from your router.

Sirius 800 has dual redundant controller cards with auto failover. They run an embedded real-time operating system to ensure reliable operation.

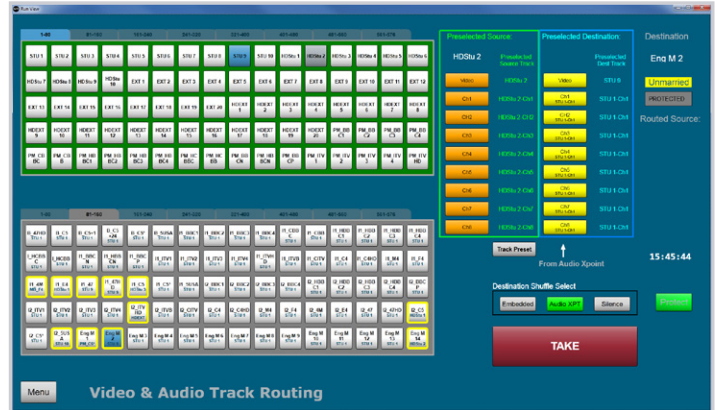
Dual redundant connections to external control systems, control panels, PC-based softpanels, automation, tally systems, master control and more make Sirius 800 simple to integrate.

Unique Catsii Technology Simplifies Commissioning and Maintenance

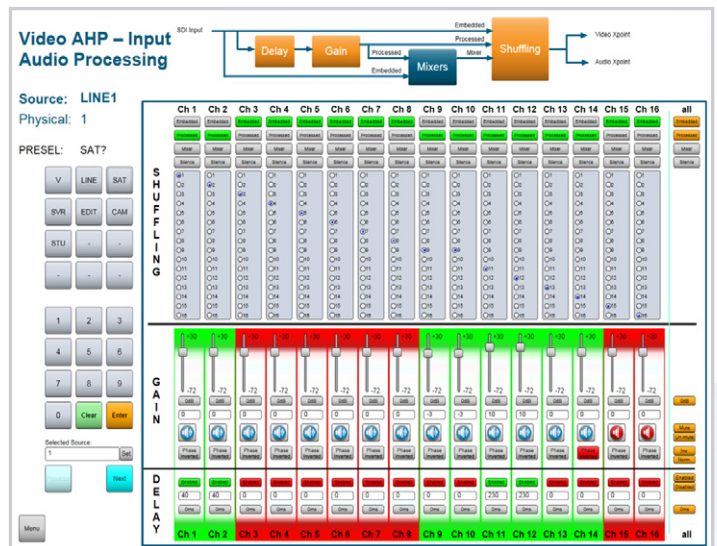
The signal format on every video input and output is easily identified by color coded connector illumination. Individual connectors can be clearly identified when selected from the front panel control.

Door Touchscreen for Comprehensive Status Indication and Control

The touchscreen interface allows quick and easy access to a range of status screens that show router status, and allow emergency control and Catsii setup.



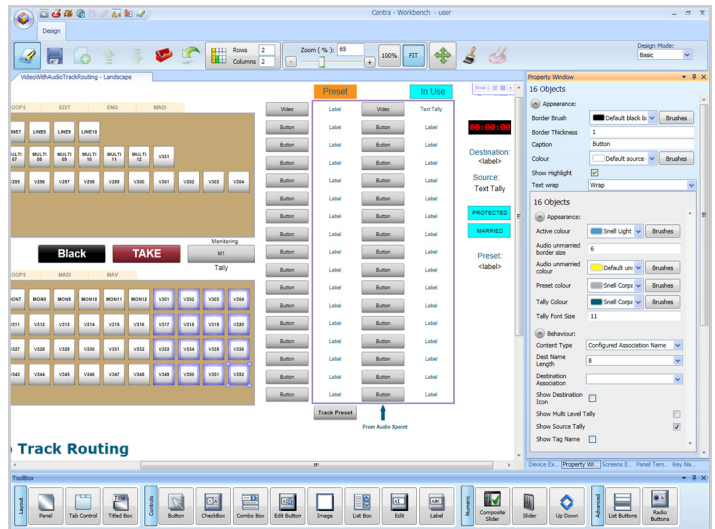
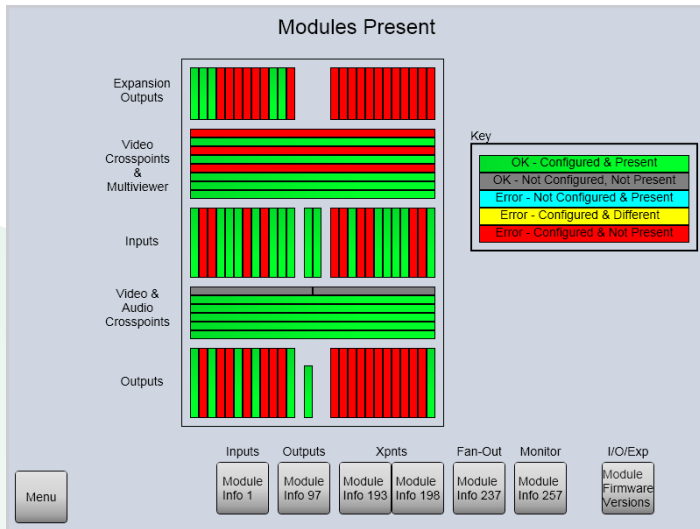
Workbench video & audio routing screen with audio track routing



Workbench input AHP control screen

User Configurable Control Screens

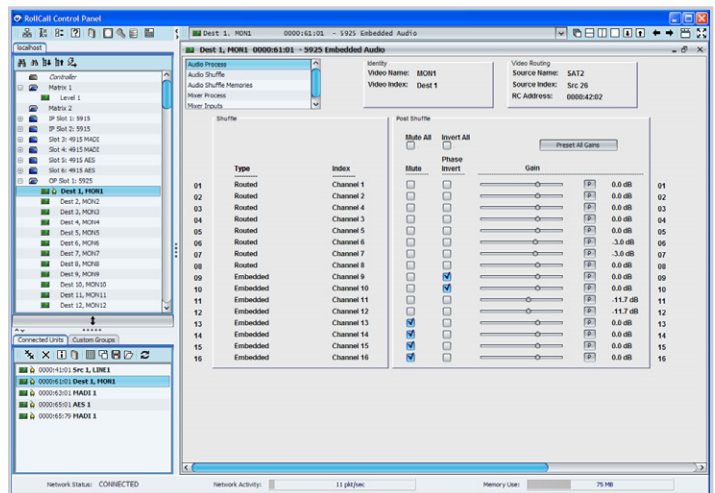
Fully configurable screens allow you to design screens tailored to specific operations, with just the controls needed to simplify operation and minimize operator errors. Detailed technical diagnostics screens allow easy fault identification.



Workbench softpanel designer screen example



Example status screens



RollCall input processing control screen

Powerful hardware and softpanel control capability

Routing Control Panels

Grass Valley offers a large range of control panels to control standard video and audio routing. Processing is not supported by the control panels.



RS-485 or
Ethernet connection



7028000 – 1 RU 72 high-density button panel BPX or XY operation. Route 36 sources to 36 destinations, or up to 72 sources to 1 destination.

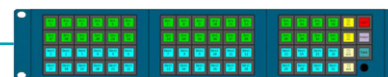
Ethernet



7028071 – 15-key LCD large button control panel with rotary encoder knob



6026481 – 44-key LCD large button control panel with rotary encoder knob

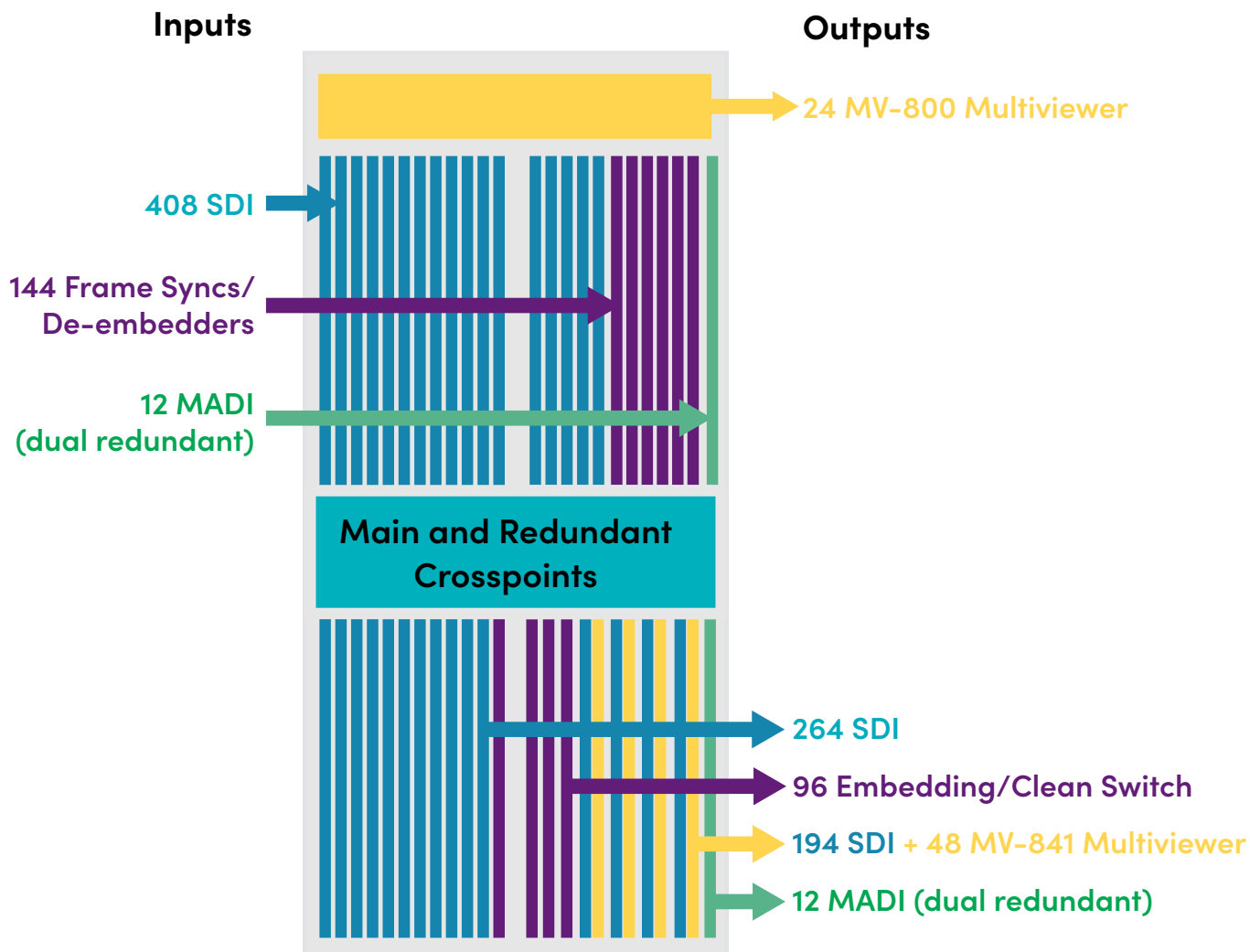


6026783RC – 2 RU 71-button + rotary control. BPX or XY operation. Page scrolling. Configurable number of sources and destinations, SmartSearch capability

All LCD button panels feature individually configurable buttons, enabling any layout of source and destination buttons, page buttons, groups and Smart Search capability, all with scrolling control. XY and single or multidestination BPX operation.

Typical System Build

Sirius 800 frames can be equipped with any combination of input and output modules. A typical example is shown below.



Sirius 840 – 576x576 chassis

- 552x552 SDI
- 12x12 MADI
- 144 inputs with frame syncs, audio shuffling and processing, de-embedders and re-embedding routed audio
- 12 MADI inputs (dual redundant with auto or manual failover)
- 96 outputs with embedding, clean & quiet switching, frame syncs, audio shuffling and processing
- 12 dual MADI outputs
- 48 multiviewer outputs capable of monitoring up to 192 router outputs and all 576 router inputs
- 36 dedicated multiviewer outputs capable of monitoring 140 router inputs

Sirius Router Selection Grid	Sirius 830	Sirius 840	Sirius 850 (single frame)	Sirius 850 (dual frame)
Size	Up to 288x288	Up to 576x576	Up to 576x1152	Up to 1152x1152
Formats				
12 Gb/s serial	●	●	●	●
3 Gb/s	●	●	●	●
HD	●	●	●	●
SD-SDI	●	●	●	●
DVB-ASI	●	●	●	●
AES	●	●	●	●
Fiber connectivity	●	●	●	●
MADI	●	●	●	●
Integrated multiviewer outputs	168	168	168	336
Features				
Redundant crosspoints	●	●	●	●
Redundant control card	●	●	●	●
Redundant power supply	●	●	●	●
Front-loading hot-swappable modules	●	●	●	●
Dolby transparent (embedded and AES as applicable)	●	●	●	●
Dolby switching compliant	●	●	●	●
Integrated audio processing	●	●	●	●
Clean and quiet switching	●	●	●	●
Number of video references	4	4	4	4
Number of levels controlled	unlimited	unlimited	unlimited	unlimited
SNMP router control & monitoring	●	●	●	●
Frames & Control				
Physical size (including redundant PSUs)	17 RU (288x288)	29 RU (576x576)	38 RU (576x1152)	2x 38 RU (1152x1152)
Applications	Line routing/switching centers, medium/large OBs, playout facilities	Line routing/switching centers, medium/large OBs, playout facilities	Line routing/switching centers, medium/large OBs, playout facilities	Line routing/switching centers, medium/large OBs, playout facilities

SERVICES AND SUPPORT

Grass Valley’s customer service offers first-class solutions for optimizing your operations, through world-leading technical support and fast responsiveness during the life of your product.

Training

To ensure that customers experience the full benefits of their switcher, Grass Valley is committed to providing the highest levels of training for Sirius 800 owners, operators and engineers.

Training before and after a system purchase is available worldwide at customer premises, Grass Valley offices or an alternative third-party location. The duration of these training sessions will depend on user requirements.

Courses are available on configuration, technical support, maintenance and familiarization. They can be custom designed to meet specific requirements.

Configuration

All Sirius 800 routers are supplied with a default configuration. This enables routing and processing control from external devices and a default set of softpanel control screens. For trained, experienced users this may well be all that’s needed.

For extra peace of mind, and to ensure smooth installation and commissioning of the Sirius 800, several packages are available:

- Database configuration
- Standard database configuration: configuration of routing control
- Advanced database configuration: configuration of routing and processing control
- Multiviewer configuration: configuration of multiviewer screens and interfaces

Commissioning

On-site commissioning packages are available for Sirius 800 routers, covering power and hardware functional checks, connections to other devices, configuration software installation and initial database installation, plus a single-user softpanel installation. A package to get you up and running, confident that your Sirius 800 router is fully functional and installed correctly.

Sirius 800 customer services at a glance

	In Warranty	Out of Warranty (without Router care)	Out of Warranty (with Router care)
9 to 5 phone support	✓	✓	✓
On-line support resources	✓	✓	✓
Advanced part replacement (next-day service)	✓	✗	✓
24x7x365 phone support	✓	✗	✓
Repair service	not required	✓	not required
Health check	as needed	as needed	as needed

This product may be protected by one or more patents. For further information, please visit: www.grassvalley.com/patents

DS-PUB-3-0711C-EN

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