

Sirius 600 is an outstanding, format independent router range offering unprecedented flexibility and total system redundancy making it ideal for the most 'mission critical' uses. Sirius 600 frames can support any combination of Analog, SD, HD and 3G signals, in addition to control, several Telco and LTC signals. SD, HD and 3G are available with optional coax or fiber I/O, with CWDM wavelengths if required. The different signal formats are configurable in any combination of 8 channel input or output blocks, up to 256 x 256 in one frame with further expansion available by combining frames.

Following in the footsteps of the pioneering Freeway router, Sirius 600 provides on-board router A to D and D to A conversion capability for both video and audio signals. For example, route analog NTSC/PAL inputs to SDI outputs and vice versa with no external conversion equipment, saving you rack space, time and money.

Comprehensive signal monitoring has been included to provide both input (i.e. before the primary crosspoint cards) and output monitoring. The monitor cards provide simultaneous video and audio outputs, with digital and analog copies of audio signals, negating the need for 'external' equipment. Input or output modules can be added at any time with no changes to the routers chassis, allowing you to grow your system easily, and affordably.

## Sirius 600 Series

### High Performance, Format Independent Routing



#### Features

- Format independent with optional built-in analog and digital signal conversion for both video & audio
- Audio Sample Rate Conversion on AES inputs
- Mix and match different signal formats in the same chassis
- 3G capable
- Modular I/O architecture in blocks of 8
- Hot-pluggable PSUs and cards
- Dual redundant controllers with optional Ethernet control & SNMP control and monitoring
- Three frame sizes:
  - Sirius 610: 4RU
    - Up to 64 x 64 video or mixed signal
    - Up to 128 x 128 AES only
  - Sirius 620: 7RU
    - Non square sizes up to 128 x 1
  - Sirius 630: 16RU
    - Up to 128 x 128
    - Up to 256 x 256
- Common crosspoints for 7RU and 4RU frames
- Same input, output and control & monitoring modules fitted in all frames

#### Control

Sirius 600 contains the powerful, standalone Nebula controller. Nebula operates as a fully dual redundant control system, capable of supporting a wide range of control options including our range of hardware BPX, XY and multibus panels and UMDs. Other control options include SNMP, remote control (via Snell's General Switcher Protocol on Ethernet and RS422 serial ports), and from several OEM protocols.

Sirius 600 is also fully compatible with Snell's MCM system, providing extensive facility wide integration with softpanels for router control.

Snell's Aurora controller provides yet another control option, offering a dedicated solid state router control system with a hugely flexible range of control features including powerful multi-level, multi-matrix tieline management, and support for multiple matrices.

Designed for the whole spectrum of routing applications, the Sirius 600 family is available with redundant on-board controllers and power supplies guaranteeing 24-by-7 operation.

### Design Features

Sirius 600 has many of the features associated with Snell's hardware products, giving it a robustness and ease of maintenance essential in critical signal applications. All modules are 'hot-pluggable', with surge suppression circuitry and phased power-up allowing quick and safe module swapping, this is further aided by the retention of crosspoint and configuration data in non-volatile control card memory. All modules are addressed by their position, rather than by jumper settings and the careful consideration of power routing and driver voltage levels ensures that mis-plugged modules are not damaged.

If dual control cards are fitted; crosspoint, configuration and database information is synchronized between the two cards. Changeover is automatic in the event of failure, and the tri-state buffering of all control signals ensures that changeover is also transparent to both the internal and any external systems.

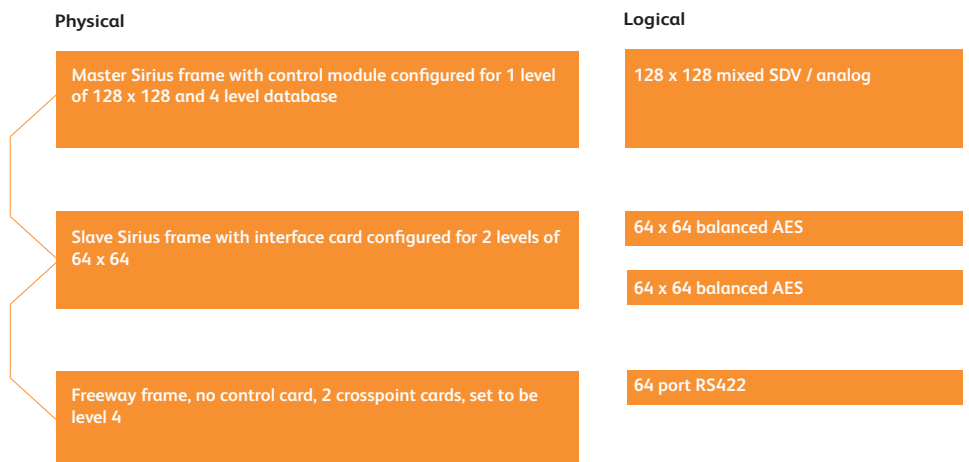
Sirius 600 frames do not require looping inputs and expansion inputs for frame expansion, saving significant space and cost, and providing a highly cost effective single frame router. However, frames can be expanded using external combiner frames, for sizes beyond 512 x 512 as required.

All signals inside the frame are routed point to point, using discrete buffering, thereby maintaining signal integrity and quality. This approach allows the router to be part equipped or "partitioned" with no loss of functionality. All frames are designed with 3G capability. Indeed, all Sirius 600 frames shipped since 2001 are 3G capable, and can

be upgraded to 3G by simply equipping with recently introduced 3G capable crosspoints and I/O cards.

SDI video cards are available as two different options. Fully featured cards route 3G, HD, SD and ASI. Reclocking all these signals is standard on all frames, with the option to bypass if required for non-standard data rates. Alternatively, an SD/ASI only option is available for applications where cost is a premium concern and HD capability not essential. Upgrade to HD or 3G in future is simply a case of replacing these cards – no frame or configuration changes are required. This allows the user to select the most cost effective solution for their requirements using the best combination of input and output modules for their system.

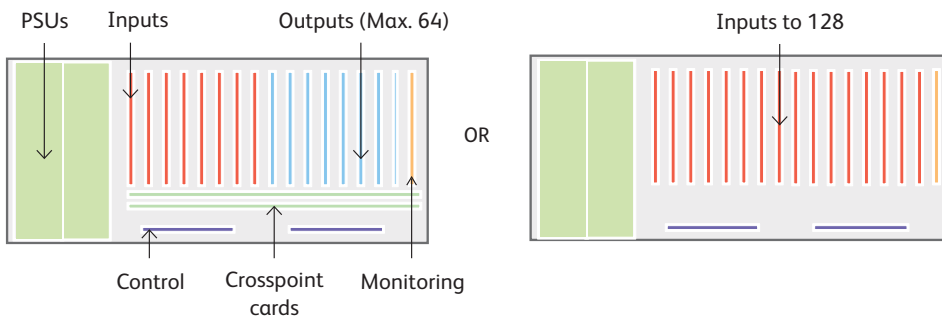
The Sirius video router will operate in a mixed standard environment. 525, 625 and HD tri level references can be supplied to the frame, ensuring clean switching between sources of the same or different standards. Clean switching of audio requires a valid AES reference. The Sirius audio router is designed to work with mixed stereo and mono channels, where the necessary combining and switching is applied at both the input and output stages, for both the analog and digital formats providing an AES reference is supplied to the frame. The audio signal mode of each channel may either be stored in the database, or configured dynamically from a standard master control panel. The dual redundant power supply units only supply 48 volts, all modules convert this to the required levels locally, which not only makes the power routing simple, but provides thorough power rail de-coupling between modules.



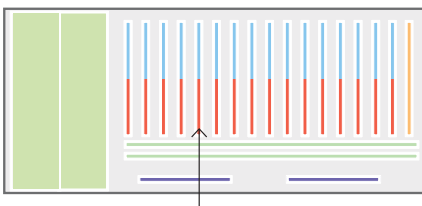
Example Multi-Level System

## Sirius 600 Series Configurations

### Sirius 610 - 4RU

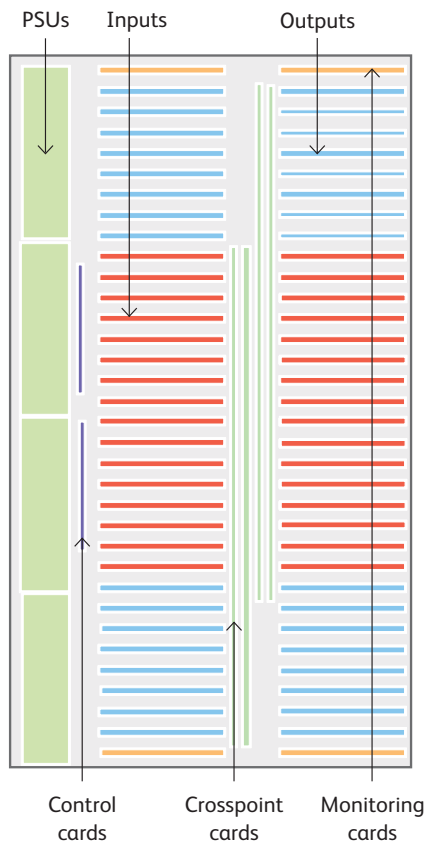


### Special AES card in 4RU

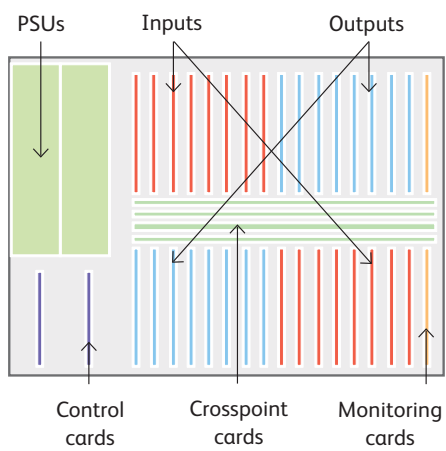


Combined inputs & outputs on same card, expandable to 128 x 128 in 4RU

### Sirius 630 - 16RU



### Sirius 620 - 7RU



## Ordering Information

Please contact Snell sales or your local Snell agent for order codes.

Company policy is one of continuous product improvement. Specifications are therefore provisional and subject to change without notice. All other trademarks mentioned herein are duly acknowledged.

snellgroup.com

## Technical Specification

### General

Power	Autosensing 90 to 264Vac 50/60Hz
Power consumption	4U - 400W 7U - 600W 16U - 1100W
Weight	4U - 20Kg max 7U - 30Kg max 16U - 50Kg max

### Monitoring

PSU monitor	Failure alarm relay and reported on SNMP I/F
Fan monitor	Failure alarm relay and reported on SNMP I/F

### Control

Control	2 x RS-485, panel/remote control 2 x Ethernet
Configuration	1 x RS-232 main (1 x RS-232 backup optional)
Expansion Reference	1 x parallel port Analog loop through 625 and 525. AES-11 for audio. HD tri level sync

### Connectors

Power	3 way IEC
PSU/Fan monitor	15-way D-type socket
Control	9 way D-type sockets
Configuration	9 way D-type socket
Control expansion	37 way D-type socket
AES Ref	9 way D-type socket or BNC

### Mechanical

	64 x 64 - 4U high 19 inch rack mounting x 490mm (19 inch) deep
	128 x 128 - 7U high 19 inch rack mounting x 490mm (19 inch) deep
	256 x 256 - 16U high 19 inch rack mounting x 490mm (19 inch) deep

### Environmental

Cooling	Fan assisted Left side inlet Rear + right exhaust
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### HD-SDI/SD-SDI/Data

Video Inputs & Outputs	SD SMPTE 259M HD SMPTE 292M 3G SMPTE 424M ASI EN50083-9
Input equalization	SD inputs >200m (Belden 8281) 3G/HD inputs >100m (Belden 1694) for HD and SD signals >70m for 3G signals

### Fiber

Standard	Single mode 1310nm or Single mode 1550nm
O/P power	-2dBm typical (1310nm) 0dBm typical (1550nm)
Rx sensitivity	-25dBm typical
Connector	LC/PC
Link length (typical)	30km (SD/ASI) 18km (HD)

CWDM wavelengths available.  
Please contact Snell for details.

Sirius 600 Series v2

### Analog Video

#### Performance of Sirius Video ADC (3790).

Figures are typical unless otherwise stated.

Gain	0dB $\pm$ 0.1dB (auto gain adjust)
Gain stability	$\pm$ 0.1dB
Headroom	+3dB
Luminance frequency response	$\pm$ 0.1dB to 5MHz
Differential gain	0.8%
Differential phase	0.35°
K factor: K-2T	0.4%KF
K factor: K-PB	-0.1%KF
Pulse to bar ratio	100 $\pm$ 0.2%
Delay	Approx. 1.25 lines (80 $\mu$ s)

#### Performance of Sirius Video DAC (3795).

Figures are typical unless otherwise stated.

Gain	0dB $\pm$ 0.1dB (adjustable)
Gain stability	$\pm$ 0.1dB
Luminance frequency response	$\pm$ 0.1dB to 5MHz
Differential gain	0.4%
Differential phase	0.5°
K factor: K-2T	0.2%KF
K factor: K-PB	-0.1%KF
Pulse to bar ratio	100 $\pm$ 0.2%
Delay Approx.	2.9 $\mu$ s

### AES

Standard	AES3/AES3id/SMPTE276M
Data rates	32 - 54 kHz (32 - 192kHz asynchronous)
Audio modify	Normal L $\rightarrow$ both, R $\rightarrow$ both L $\leftrightarrow$ R, mono mix

### Analog Audio

THD+N	24-bit processing <0.1%
Level adjustment	+15 to +24dBu = 0dBFS
Noise (DIN Audio)	<-82dBu
Inputs	Stereo Analog
High impedance	>10K
Outputs	Stereo Analog
Low impedance	<40R
Audio modify	L $\rightarrow$ both, R $\rightarrow$ both L $\leftrightarrow$ R, mono mix