

### FEATURES

- Format independent with optional built-in analogue 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
- Modular architecture for up to 512 x 512 and beyond in blocks of 8
- Hot-pluggable PSUs
- Dual redundant controllers with optional Ethernet control & SNMP control and monitoring
- 4RU frame option allowing highly flexible systems. Max. 64 outputs, 64 x 64 square, 128 x 128 balanced AES. Non-square to 128 x 1
- Same modules can be used in 7RU and 4RU frames
- Same modules (except crosspoint and PSUs fitted in all frames)

INTRODUCING THE NEXT GENERATION OF MIXED FORMAT ROUTING. ROUTING WITHOUT BOUNDARIES.



Sirius is an outstanding, format independent router range offering unprecedented flexibility and total system redundancy making it suitable for the most 'mission critical' uses. The router can support any combination of analog and digital signals, for all audio and video formats, it also supports HDTV. The different signal formats are configurable in any combination of 8 channel input or output blocks, up to 512 x 512 in 1 frame with further expansion available by combining frames.

Following in the footsteps of the pioneering Freeway router, Sirius 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. You can add input or output modules at any time, allowing you to grow your system easily, and affordably.

Sirius is fully compatible with the Pro-Bel Aurora control system, and also has an internal controller providing control of panels and UMDs direct from the router. Control is further enhanced with the options of Pro-Bel General Switcher protocol, OEM protocols, or SNMP via Ethernet. Designed for the whole spectrum of routing applications, the Sirius family is available with redundant on-board controllers and power supplies guaranteeing 24 by 7 operation.

## Design Features

Sirius, has many of the features associated with Pro-Bel'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.

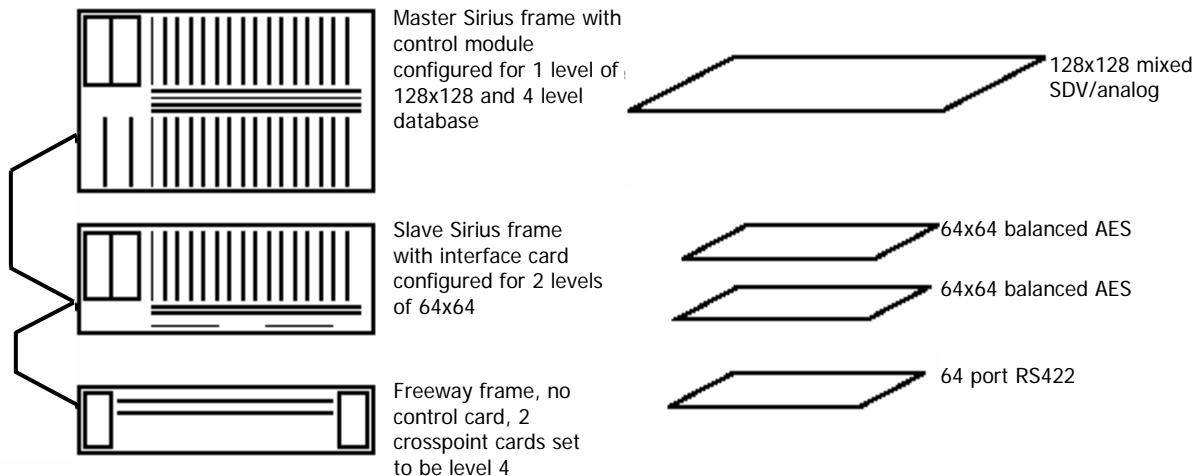
Sirius frames do not require looping inputs and expansion inputs for frame expansion, saving significant space and cost, and providing a highly cost effective single frame router. However, frames can be expanded using external combiner frames, for sizes beyond 512 x 512 as required.

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. A further advantage of maintaining a short, high quality, signal path is that the reclocking of digital signals at the output, usually a necessity to meet specifications, is not required on smaller frame sizes. As reclocking is still of some benefit on larger frame sizes, and may be required for the ultimate signal quality in smaller frames, the option of non-reclocking cards or reclocking cards is available.

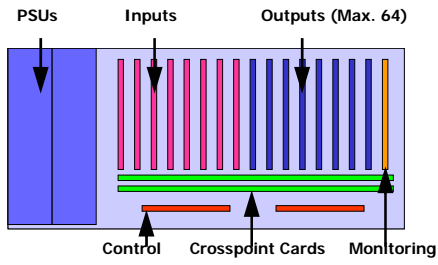
The reclocking cards will correctly lock to all SDV data rates, as well as ASI, and a further option includes HD rates. This allows the user to select the most cost effective solution for their requirements using the best combination of input and output modules for their system.

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 analogue 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

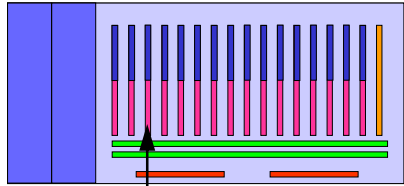
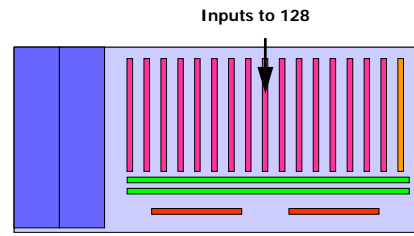


# Sirius Configurations



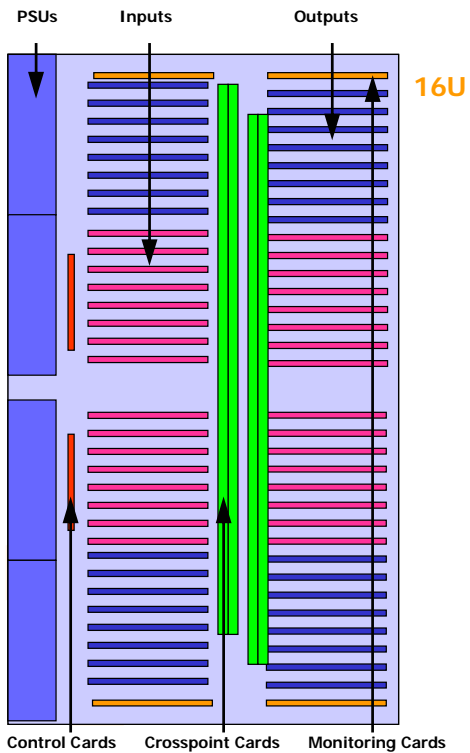
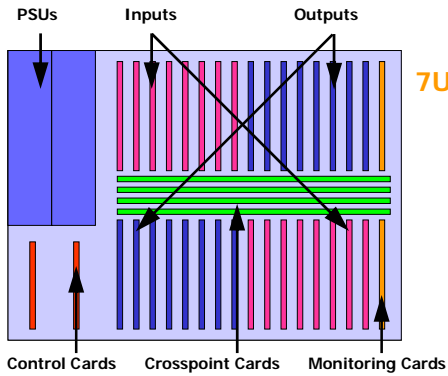
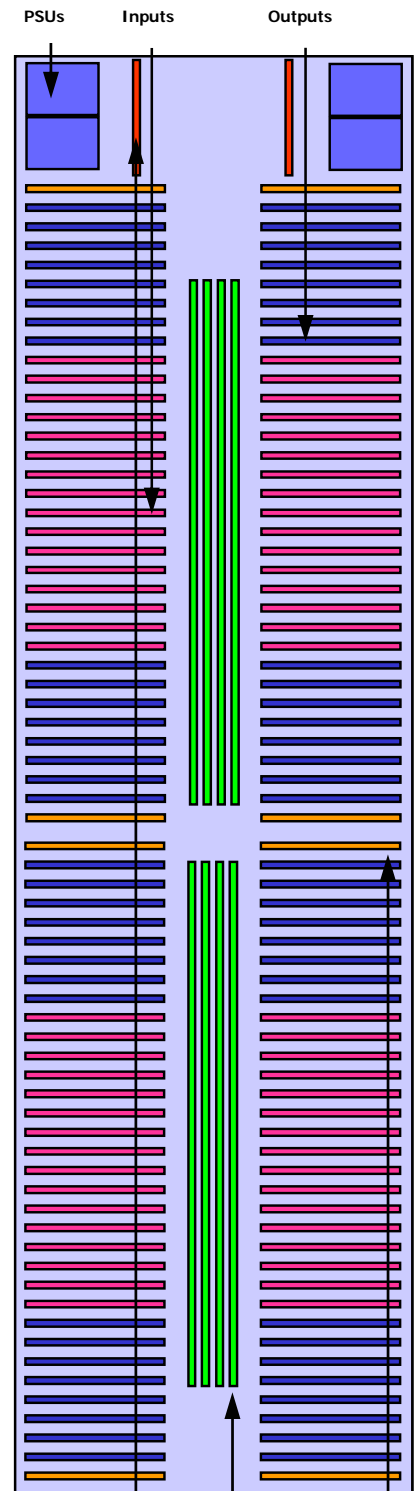
4U Options

OR



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

## Sirius Gold 39U



### Technical Specification

#### General

Power	Autosensing 90 to 264Vac 50/60Hz
Power consumption	4U - 400W    7U - 600W 16U - 1100W    Gold - 2000W
Weight	4U - 20Kg max    7U - 30Kg max 16U - 50Kg max    Gold - 155Kg 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 socket
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  
Gold - 39U high 19 inch rack mounting x 490mm (19 inch) deep

#### Environmental

Cooling	Fan assisted
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#### HD-SDI/SD-SDI/Data

#### Video Inputs & Outputs

Input Equalisation	SD SMPTE 259m HD SMPTE 292m ASI SD inputs >200m (Belden 8281) HD inputs >100m (Belden 1694) for HD and SD signals
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#### Fiber

Standard	Single mode 1310nm or Single mode 1550nm
O/P power	-9dBm typical (1310nm) 0dBm typical (1550nm)
Rx sensitivity	-25dBm typical
Connector	LC/PC
Link length (typical)	30km (SD/ASI) 18km (HD)

#### 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 $\pm$ 0.4%
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

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