

The flagship Sirius 850 introduces several ground breaking features.

- Snell's unique Catsii™ technology allows users to see the status and signal format of all video input and output signals, both on the rear of the router utilizing our illuminated connector technology, and remotely utilizing the close integration between Sirius 850 and Snell's Centra control & monitoring system.
- Additional monitoring outputs plus dedicated multiviewer outputs allow for a hundred further outputs for signal monitoring, whilst not affecting the main routing matrix.

Sirius 850

Technical Data Sheet



Features

- 576 x 576 expandable frame, with up to 96 multiviewer outputs in 34U (plus external PSUs).
- Field expandable to 1152 x 1152 by the addition of a single 34U frame plus PSUs
- 576 x 1152 with full crosspoint redundancy and 96 additional multiviewer outputs in 34U.
- Redundant video and audio crosspoints.
- Mix and match different signal formats in the same frame:
Coax – 3Gbit & 1.5Gbit HD, SD, ASI
Fiber – 3Gbit & 1.5Gbit HD, SD, ASI
Audio – AES & MAD1
Embedded audio routing
- Optional 3Gbit, 1.5Gbit and SD Fiber I/O with optional CWDM wavelength transmitters and receivers.
- Dual redundant controllers & PSUs
- Catsii status indication and connector location.
- Four independent outputs for input and output monitoring on 576 inputs and 576 main outputs .
- Extensive status reporting of input/output status, crosspoint health and many other features via Centra control.

System Options

The base 576x576 router offers crosspoint redundancy and Catsii functionality on all video inputs and outputs (BNC or fiber). All 576 inputs or main outputs can be monitored using 4 independent monitoring outputs.

Two options are then available, both are field expandable.

- 576x1152: with additional outputs using DIN1.0/2.3 coax connectors with full redundant crosspoint protection.
- Expansion to 1152x1152 using two Sirius 850 frames, each equipped with expansion output cards.

All systems allow for a mixture of signal types and interfaces, on 'per card' basis. This allows for a mixture of video and audio, on coax and fiber to be routed. Future expansion is simply a case of adding modules to the empty card positions and updating the configuration to map control as required.

Intelligent path monitoring constantly compares signals through the main and redundant path to ensure any crosspoint failure is immediately identified.

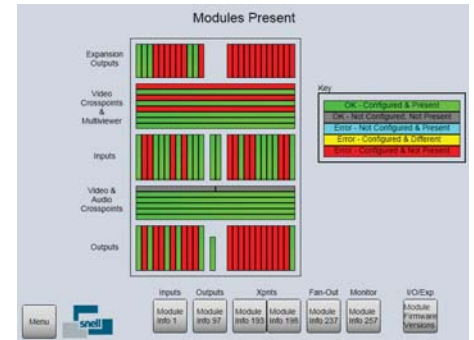
Redundant Crosspoint Architecture

The Sirius 800 series is designed around 288 x 288 crosspoint modules. As well as having an architecture that minimizes the reliance on any one crosspoint module, Snell has also included the option of N+1 redundancy in both the 576 and the 1152 router sizes. Intelligent path monitoring constantly compares signals through the main and redundant path to ensure any crosspoint failure is immediately identified. Once identified the router can automatically switch to the redundant path and issue a user alarm through Snell's system-wide Centra control and monitoring application, or SNMP. Simple LED indicators on the front of all crosspoint modules ensure that users know which crosspoint cards are currently routing active signals.

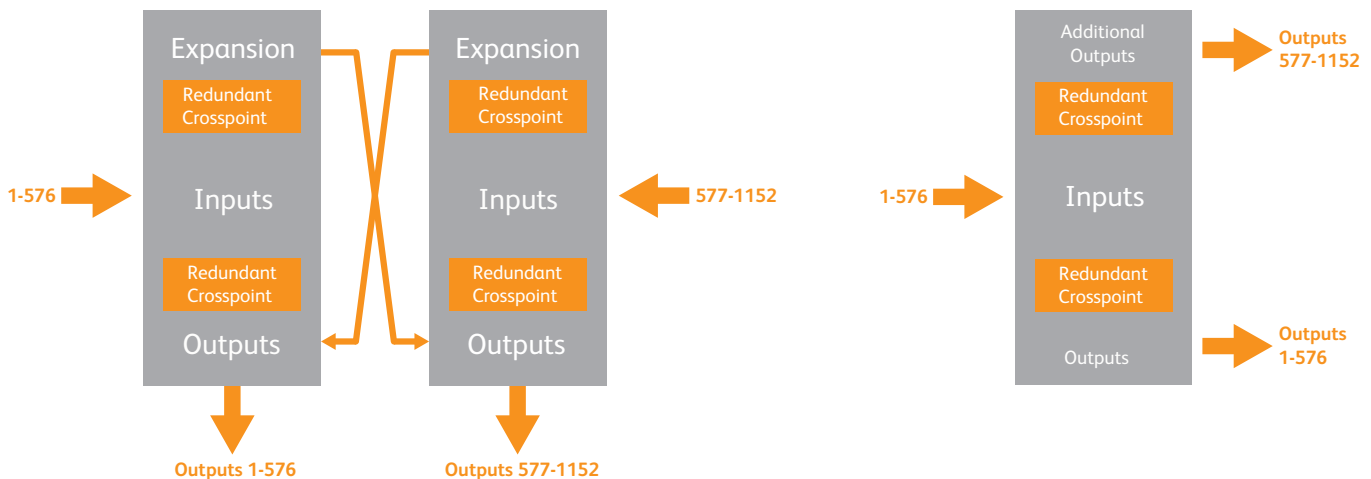
The audio crosspoint is configured in a 1 + 1 redundant configuration with auto failure detection and manual /auto switchover.

Simple, Comprehensive Status Reporting & Diagnostics

Knowing the current status of a large and complex system at any given time can be challenging. The Sirius 800 Series addresses this issue by providing a simple to operate touchscreen interface on the front door of the unit. This allows quick and easy access to a comprehensive range of status and diagnostics information, such as, PSU and fan status, reference standards etc. The frame configuration can also be seen at a glance, showing card presence & status. All this information can be linked to Snell's Centra system, allowing remote access to the same information, or through the Centra rules engine for automatic re-routing of signals - a truly self healing routing system.



Examples of status information available on front door touchscreen



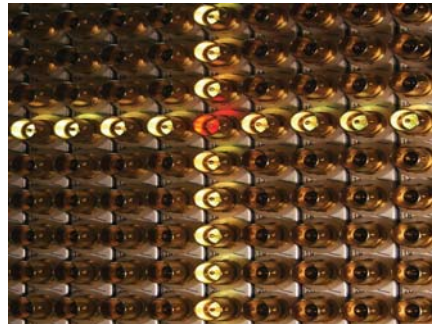
Catsii™

The unique and innovative Catsii facility offers immediate and simple indication of router input and output status by illuminating the BNC connectors on the rear panels to show if a signal is valid, and the type of signal connected. This is still visible even with cables connected, allowing quick diagnosis of system faults.



Unique Catsii technology

In addition Catsii can quickly identify the location of a specific input or output when selected on the front panel touch screen by indicating the relevant rear panel connector.



Ordering Information

8CD20/24H-24H/N

Sirius 850, equipped 576 x 576 video, dual control and PSU

8CD20/24H-24H24C/N

Sirius 850, equipped 576 x 1152 video, dual control and PSU

8CD20/16H-16H/N

Sirius 850, equipped 384 x 384 video, dual control and PSU

For full details on other options, please contact your local sales office or dealer.

Multiviewer Crosspoint Outputs

Snell has included the option for an additional set of 96 independently controllable outputs that can be used as sources for connection to any third party multiviewer solution.

Signal Monitoring

Four independent monitoring outputs are available allowing users to monitor signal health at both the input and output stages of the router. The intelligent control system also allows the status of these signals to be indicated on softpanel control surfaces via Centra.

Note: In an expanded dual frame system multiviewer and monitoring outputs cannot access signals from the "other" frame e.g, on frame 1 multiviewer outputs can access inputs 1-576. Monitoring outputs can access inputs 1-576 and outputs 1-576.

On a single frame system, multiviewer outputs can access inputs 1-576. Monitoring outputs can access inputs 1-576 and outputs 1-576. Outputs 577-1152 cannot be monitored

Signal Formats

As you would expect from Snell, robust design and signal performance are standard features, with the whole system capable of routing any combination of SD, HD, 3G and ASI signals, as well as non standard data rates, from any input to any output, across the whole 1152x1152 matrix.

Reference Switching

For multi-format systems using different SD and HD signals the Sirius 800 series has 4 reference inputs to define switch timing. Each input can be configured to switch on a physical input, signal format, or to auto detect a performance matching the input signal format. This means that if a signal changes between SD and HD, no re-configuration is necessary to maintain correct switch timing.

In larger systems with multiple timing planes, inputs can be assigned to the correct timing reference guaranteeing correct operation and switching .

Technical Specification

Signals

Main Router Coax Inputs

Number and type	24 per card automatic cable equalization and relocked
Connectors	BNC to IEC61169.8, 75 Ω electrical impedance. Gold plated.
Standards supported	SMPTE-259M 525 & 625 SD-SDI EN50083-9 DVB-ASI SMPTE 292M 720p and 1080i HD-SDI SMPTE 424M 1080p 3G-SDI
Impedance	75Ω
Data rate	3Mbit/s – 3Gbit/s. Standard video rates relocked, all other rates auto-bypassed.
Return loss	>15dB 10MHz to 1.5GHz, >10dB 1.5GHz to 3GHz
Amplitude	800mV p-p nominal
DC offset	<5V
Cable Equalization	Automatic for: Up to 350m/1150ft Belden 1694A, PSF1/2M at SD rates Up to 140m/460ft Belden 1694A at HD Up to 100m/330ft Belden 1694A at 3G

Main Router Optical Inputs

Number and type	24 per card, relocked – removable video SFP modules
Connectors	LC/PC single mode fiber connection as standard.
Wavelength	Wideband receiver, 1260-1620nm nominal
Sensitivity	-18dBm
Typical link length	10km @ 3Gbit/s, 20km @ 1.5Gbit/s, 30km @ 270Mbit/s
Standards supported	SMPTE-259M 525 & 625 SD-SDI EN50083-9 DVB-ASI SMPTE 292M 720p and 1080i HD-SDI SMPTE 424M 1080p 3G-SDI

Main Router Coax Outputs

Type	1-576
Connectors	24 per card, relocked. BNC to IEC61169.8, 75 Ω electrical impedance. Gold plated.
Standards supported	SMPTE-259M 525 & 625 SD-SDI EN50083-9 DVB-ASI SMPTE 292M 720p and 1080i HD-SDI SMPTE 424M 1080p 3G-SDI
Impedance	75 Ω
Data rate	3Mbit/s – 3Gbit/s. Standard video rates relocked, all other rates auto-bypassed.
Return loss	>15dB 10MHz to 1.5GHz, >10dB 1.5GHz to 3GHz typical
Amplitude	800mV p-p ±10%
Rise / fall time	<270ps @ HD <800ps @ SD
Timing Jitter	<0.3UI @ 1.5G and 3G, <0.15UI @ SD
Alignment Jitter	<0.2UI @ 1.5G and 3G <0.1UI @ SD
DC offset	0V ± 0.5V

Main Router Optical outputs

Type	24 per card, relocked, removable video SFP modules
Connector	LC/PC single mode connection as standard.
Wavelength	1310nm
Output Power	typical -2dBm Other power & CWDM options available – contact factory
Standards supported	SMPTE-259M 525 & 625 SD-SDI, EN50083-9 DVB-ASI SMPTE 292M 720p & 1080i HD-SDI SMPTE 424M 1080p 3G-SDI
Data rate	3Mbit/s – 3Gbit/s. Standard video rates relocked, all other rates auto-bypassed.

Multiviewer Coax Outputs (96) Additional Outputs above 576

Type	Multiviewer: 48 per card, relocked Additional outputs: 24 per card, relocked
Connectors	DIN 1.0/2.3 Gold plated
Standards supported	SMPTE-259M 525 & 625 SD-SDI EN50083-9 DVB-ASI SMPTE 292M 720p and 1080i HD-SDI SMPTE 424M 1080p 3G-SDI
Impedance	75 Ω
Data rate	3Mbit/s – 3Gbit/s. Standard video rates relocked, all other rates auto-bypassed.
Return loss	>15dB 10MHz to 1.5GHz, >10dB 1.5GHz to 3GHz
Amplitude	800mV p-p ±10%
Rise / fall time	<270ps @ HD, <800ps @ SD
Timing Jitter	<0.3UI @ 1.5G and 3G, <0.15UI @ SD
Alignment Jitter	<0.2UI @ 1.5G and 3G, <0.1UI @ SD
DC offset	0V ± 0.5V

Reference Inputs

Number and type	4 x analog video, all auto sensing to 525 & 625 B&B, or HD tri-level reference
Switch timing	1 x AES reference to AES3-2003 to SMPTE-RP168. Sources individually assignable to each reference, or auto detected

Control

Serial	4 x RS485 on 9 way D type Support for SW-P-02 General Switcher protocol, SW-P-08 General remote protocol Support for local control using snell control panels 6700 series BPX and XY 6276 XY 6277-XO multibus Centra control panels GVG-ES Control Harris/Leitch Passthrough Barco Rosa
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Ethernet	1 x RJ45 per controller 10/100Base-T SW-P-02, SW-P-08 and SNMPv2 support, plus DCCP connection to Centra
Alarms	Relay changeover for PSU, fan and Controller failure Comprehensive alarms reporting and auto failure recovery via Centra or SNMP Status available via Centra or SNMP Card present /missing/type Signal present, format (main inputs and outputs, reference inputs monitoring outputs) PSU present, ac power preset, dc out present Fan active/fail Controller active/fail

Physical

Main Router

Weight	190kg/420lb typical full frame
Height	34RU Expandable chassis - 1511mm / 59.5"
Depth	530mm / 21"

PSU Chassis

Weight	24kg/53lb inc psu
Height	2RU (89mm/3.5") per chassis (2 required for dual redundancy)
Depth	550mm/21.5"
Power requirements	Auto ranging 110-230Vac, 50/60Hz 4000W typical with 576 x 576 equipped 50% coax 50% fiber 5900W for video only routing fully equipped expandable system 7900W for full embedding and de-embedding capability fully equipped expandable system
Power redundancy	Dual redundant PSUs in two 2RU chassis for all applications.

Heavily loaded configurations using processing inputs and outputs, and fibre may require a third PSU shelf for 100-120v operation. Contact factory for details.

DC power connections from PSU to router

Chassis	2.5m (8') or 8m (26') optional cable lengths
Operating Temp.	0 to +40°C
Storage Temp.	-10 to +50°C, non-condensing
Cooling	Fan cooled. Front inlet, rear and side exhaust

Specifications subject to change