



Sirius 800 Series

Large-scale, Multi-format, Expandable Router



In keeping with the Snell continuous development philosophy, the innovative Sirius 800 Series leads the market by incorporating many technological firsts. And like all Snell solutions the Sirius 800 is manufactured to ISO9001 standards delivering the quality and reliability customers have come to associate with the brand.

Utilizing industry standard protocols the Sirius 800 Series can be easily integrated with multi-vendor systems as well as maintaining complete compatibility with the rest of the Snell family of products.

And as expected, world-class support comes as standard.

Sirius 800 Series

Large-scale, multi-format expandable router range



Based on a 576 x 576 matrix, common card format, the Sirius 800 is available in a number of different frame and card configurations

Capacity can be expanded quickly and easily to 1152 x 1152 even while the system is in use, by plugging in additional expansion cards and linking two frames together via multi-way cables. Expansion beyond 1152 x 1152 is achieved simply by adding a third frame.

Features

- 576 x 576 expandable frame, with up to 96 multiviewer outputs in 34U (plus external PSUs). Field expandable to 1152 x 1152 by 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 & Madi, Embedded audio routing
- Optional 3Gbit, 1.5Gbit and SD Fiber I/O with optional CWDM wavelength transmitters and wideband receivers
- Dual redundant controllers & PSUs
- Catsii™ status indication and connector location
- Four independent outputs for input and output monitoring on 576 inputs and outputs
- Extensive status reporting of input/output status and crosspoint health via MCM control.

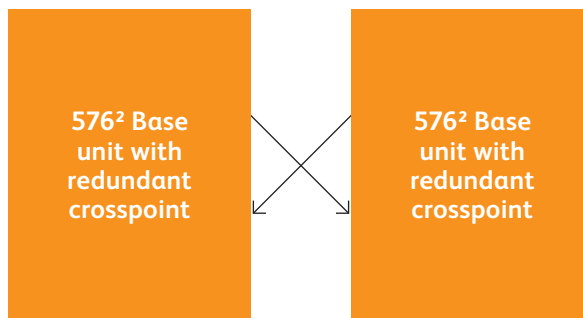
Features

Video and Audio Routing

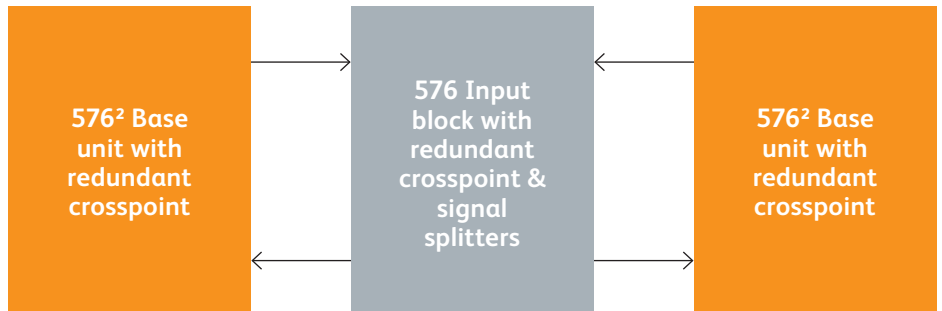
Comprehensive video and audio routing is achieved by utilizing high performance modules. This modular approach facilitates the creation of highly flexible routing solutions in the most cost effective manner. The multi-format video cards provide 24 input and output channels and are capable of handling SD, HD, ASI and 3G signals. Optional fiber interfaces using industry standard video SFP modules are available for SD, HD and 3G. Each audio card has the I/O capacity for 120 AES plus 3 MADI signals.

In addition the frame architecture has also been designed to accept high performance processing input and output modules for future proofing and even greater flexibility.

The first of these, a de-embedder / embedder has been designed to complement the extensive audio capability. This module allows up to 32 embedded audio signals from all inputs to be passed to an internal audio crosspoint, allowing the user to route, shuffle and process any embedded audio signal on any input to any output. The audio crosspoint is configured in an N + N redundant configuration with auto failure detection and manual / auto switchover. Combining embedded cards and audio cards allows audio de-multiplexing to AES, AES multiplexing, channel swapping, or any combination of these in one single frame. A unique approach to the crosspoint routing allows multiple non-synchronous audio signals to be routed and all outputs to be either sample rate converted to a studio reference, or for the signal to be passed transparently at it's original data rate. Dolby E routing and clean switching is also possible due to complex processing and re-synchronising to the transition point.



1152² router with redundant crosspoints



1728 x 1152 router with redundant crosspoints



All input and output card positions have connections to video and audio crosspoints

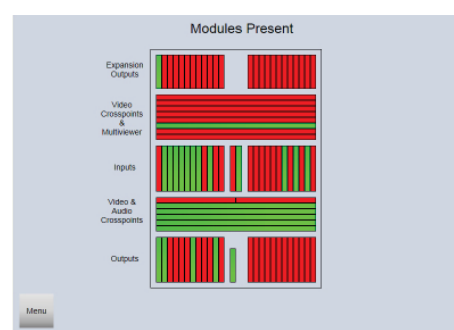
N+1 Redundant Crosspoint Architecture

For ease of maintenance and cost efficient spares inventory management this new router is designed around 288 x 288 crosspoint modules. As well as having an architecture that minimizes the reliance on any one crosspoint module, Snell have 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 be set to automatically switch to the redundant path or to issue a user alarm through Snell's system-wide MCM control and monitoring application. Simple LED indicators on the front of all crosspoint modules ensure that users know which crosspoint cards are currently routing active signals.

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 MCM system, allowing remote access to the same information, or through the MCM rules engine for automatic re-routing of signals - a truly self healing routing system.



Examples of status information available on front door touchscreen



Unique Catsii technology

Catsii™

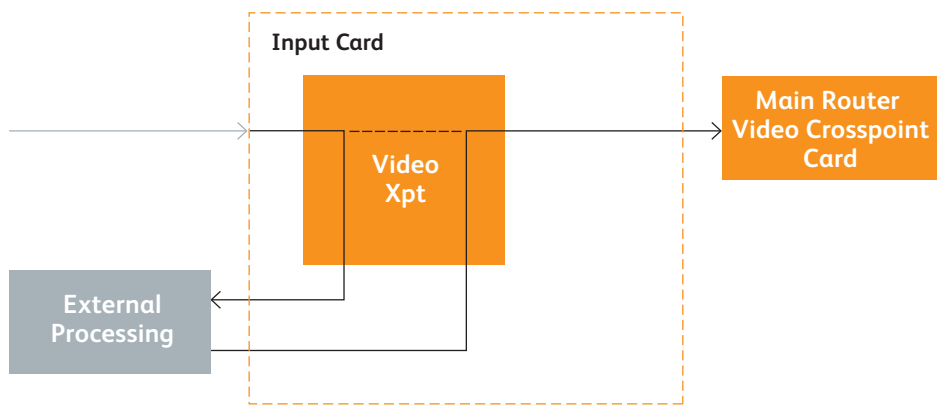
The unique and innovative Catsii facility offers immediate and simple indication of router input and output status by illuminating the BNC connectors on the rear panels to show if a signal is valid, and the type of signal connected. This is still visible even with cables connected, allowing quick diagnosis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

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.

Features

Multiviewer Crosspoint Outputs

Snell have included the option for an additional 96, independently controllable outputs that can be used as sources for connection to any third party multiviewer solution. Connections to the multiviewer are via DIN1.0/2.3 coax connections.



Pre-processing I/O – feeds to and from each input card to allow for streaming, up/down conversion, frame sync etc

Signal Monitoring

Four independent monitoring outputs are available on the back of the frame 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.

Environmental

Snell continues to drive towards environmentally responsible products and this new router is no exception.

The Sirius 800 incorporates thermostatic fan speed control ensuring that the system is adequately cooled, and adjusts the fan speed to reduce noise and save power.

In addition crosspoints are powered down wherever possible to further reduce power consumption.



Technical Specification

Signals

Main Router Coax Inputs

Number and type	24 per card automatic cable equalization and reclocked
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 reclocked, 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 Equalisation	Automatic for: Up to 350m Belden 8281, PSF1/2M at SD rates Up to 140m Belden 1694A at HD Up to 100m Belden 1694A at 3G

Main Router Optical Inputs

Number and type	24 per card, reclocked – 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
Number and type	24 per card, reclocked.
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	75 Ω
Data rate	3Mbit/s – 3Gbit/s. Standard video rates reclocked, 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, reclocked, removable video SFP modules
Connector	LC/PC single mode connection as standard.
Wavelength	1310nm
Output Power	typical average -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 reclocked, all other rates auto-bypassed.

Multiviewer Coax Outputs & Additional Outputs above 576

Type	Multiviewer: 48 per card, reclocked Additional outputs: 24 per card, reclocked
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 reclocked, 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.

Control

Serial	4 x RS485 on 9 way D type Support for SW-P-02 General Switcher protocol, SW-P-08 General remote Default 38.4kbaud
Ethernet	1 x RJ45 per controller. 10/100Base-T SW-P-02 and SW-P-08 support, plus DCCP connection to MCM
Alarms	Relay changeover for PSU, fan and Controller failure Comprehensive alarms reporting and auto failure recovery via MCM control

Physical

Weight	120kg / 265lb typical full frame
Height	34RU Expandable chassis - 1511mm / 59.5" 2RU PSU chassis - 89mm / 3.5" (2 required for dual redundancy)
Depth	530mm / 21"
Power requirements	Auto ranging 110-230Vac, 50/60Hz 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 high range (220-240V) applications Dual redundant PSUs in three 2RU chassis for all low range (110-120V) applications Lower power applications can be accommodated using less PSU chassis' – 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.

Snell is a leading innovator in the digital media market. The company provides a comprehensive range of solutions for the creation, management and distribution of content, as well as the tools necessary to transition seamlessly and cost-effectively to digital, HDTV and 3Gbps. Snell's Emmy® award winning image processing, live production, automation and infrastructure technologies provide customers with the ultimate flexibility, scalability, operational efficiency and ROI required in today's multi-screen World.