Eclipse SD

Routing Switchers

FEATURES

- Compact architecture
- 256 x 256 in just 22RU
- Single or dual output configurations
- Expandable to 1024 x 1024
- Data rates from 140 to 360 Mbit/s
- Operation with DVB-ASI
- Dual standard vertical interval switching
- Reclocking architecture
- Dual PSU and controller options
- Output monitoring option

A HIGH PERFORMANCE, COST EFFECTIVE ROUTER, TAKING YOU BEYOND THE EXPANSION CONSTRAINTS OF TRADITIONAL SYSTEMS

Whether the router you need is a straightforward 128 x 128 or a 1024 x 1024 with dual outputs, redundant PSUs and controllers, the advanced architecture of Eclipse encompasses the needs of users worldwide.

Each Eclipse router comprises input and output frames connected together using either internal or external cable assemblies. Systems may be configured to provide either dual or single outputs. By 'stacking' two input frames together with an output frame, a 256 x 256 single output router occupies a mere 22RU. Adding more input frames permits a 1024 x 256 router to be constructed in less than two bays, occupying only 72RU. Routers beyond 256 outputs are configured by interconnecting multiple stacks of 256 outputs, to a maximum of 1024 destinations, without external distribution amplifiers or combiners.

The unique Eclipse SD two box architecture means that any system can safely be expanded later by employing upgrade kits which include all relevant modules and interconnection cables.

The reclocking architecture utilised by Eclipse SD meets the most demanding specification, while providing exemplary performance for all digital video standards between 140 and 360 Mbit/s. Full support of embedded audio and ancillary data is, of course, standard. Dual reference inputs are provided as standard offering, for example, mixed 525 and 625 line operation, and in environments where sources change line standard on a regular basis, an optional submodule fitted to the controller provides an automatic input check to ensure that each source uses the correct vertical interval reference.

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Technical Specification

Input Characteristics

Signal	75Ω unbalanced serial digital data to SMPTE 259M-ABCD
Data Rate	140 to 360Mbit/s
Return Loss	>15dB 10MHz to 360MHz
Amplitude	800mV p-p nominal
Equaliser	Adaptive automatic for up to 275m cable (PSF 1/2M, Belden 8281 or equivalent) (typically >300m)
Reference	Video: Independent inputs for 525 and 625 line standards Analogue: Loop through Digital: 75Ω terminating Timecode: Single LTC input

Output Characteristics

Signal	75Ω unbalanced serial digital data to SMPTE 259M-ABCD
Return Loss	>15dB 10MHz to 360MHz
Amplitude	800mV p-p nominal
Risetime	700ps typ
Jitter	<500ps with <20m input cable <750ps with <300m input cable

Performance

Clock Regeneration	On output (non-reclocked outputs optional)
Propagation Delay	<20ns
Transition Timing	Instantaneous, or frame phased on line 10 (525) or line 6 (625) to SMPTE RP178
Data Recovery after Transition	<2 lines
Crosstalk	Output jitter met under all conditions

General

Power	Autosensing 90 to 264 Vac 50/60Hz
Power Consumption	Typical Systems 128x128 Dual outputs 500W 256x256 Single output 900W Input frames 300W each

Monitoring

PSU monitor	Failure alarm relay
Fan monitor	Failure alarm relay

Control

Remote control	4 x RS485 Protocol : Pro-Bel General Switcher Main 1 x RS232 Backup (option) 1 x RS232
Configuration	Main 1 x RS232 Backup (option) 1 x RS232

Flexible Input Options

For maximum flexibility Eclipse SD employs 4 channel input modules, which are located on the rear of the chassis, and can easily be removed even with a wiring loom in place. This guarantees excellent signal handling performance and offers the ability to expand in four channel increments.

Flexible Output Options

Eclipse SD is available with two output frame options, single output - providing 256 outputs per frame, or dual output with 128 per frame. For single outputs, Eclipse employs 32 channel output modules whilst the dual channel version is fitted with 16 channel modules. Both variants are fully compliant with DVB-ASI signals on all outputs for maximum flexibility.

Total Compatibility

Eclipse SD is fitted with four RS485 remote control ports programmed to Pro-Bel General Switcher Protocol, making it fully compatible with all current Pro-Bel control systems.

Eclipse SDV to XD Expansion

The flexibility of the Eclipse SDV router is further demonstrated through its ability to expand existing Pro-Bel XD routers. By fitting an "XD to Eclipse" Control interface and connecting the frames using a P-Bus to E-Bus adapter cable, XD control commands are passed to the Eclipse frame.

Utilising XD's expansion architecture, signals are fed from the Eclipse outputs to the XD expansion inputs, permitting the system to be expanded without taking the XD router out of service.

Connectors

Power	3 way IEC (with latch)
PSU/Fan monitor	9 way D type socket
Remote control	9 way D type socket
Configuration	9 way D type socket

Mechanical

	19 inch rack mounting x 487mm deep (excluding connectors)

Environmental

Cooling	Fan assisted
Operating temperature	0 to 40 degrees Celsius
Typical System Sizes (in field expandable)	128x128 15U (Single or Dual outputs) 256x256 22U (Single outputs) 29U (Dual outputs) 512x512 72U (Single outputs) 86U (Dual outputs)

*For systems expanded using external cable assemblies, additional 1U expansion panels are required.
Specifications subject to change

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