D-3200 Routing Switcher for HD, SDI and AES/EBU signals

Features

- Large variety of systems sizes to 32x32 in 2RU.
- "Clean switching" on all signal formats.
- A choice is offered between HD and more economic SDI-only modules. These may be inter-mixed in the same frame.
- HD modules provide auto-reclocking on all signals to 1485 Mb/s. SDI-only modules provide auto-reclocking on signals to 540 Mb/s. Either may be used for SDI or DVB/ASI.
- Multi-rate adaptive auto cable equalizers used on all sources, both for HD and SDI-only modules
- Supports DVB-ASI signals with reclock ON or OFF.
- AES/EBU signals have a synchronous clean switch on all destinations. Sample rate converters on all sources
- AES/EBU systems available in balanced or coax versions; both use transformers on sources and destinations.
- 2RU frame accommodates 32x32 Digital Video or Digital Audio. Systems are available to mix Digital Video and Digital Audio in same frame; ie, 16x16 DV + 16x16 DA.
- Destination monitor switcher built in. Each destination output can be monitored without disturbing the signal on the destination line.
- Signal modules plug in at front of frame.
- Main and redundant power supplies mount in the same frame. Can remove either from rear of frame with power ON.
- Redundant control system included with systems larger than 16 sources.
- Control system allows mapping of crosspoints. Can partition router into smaller sections; ie, 32x32 could be two 16x16, four 8x8, etc.

- Fault alarms are included with monitoring of power supplies, frame temperature and control system
- Ethernet port optional.
- Control System completely compatible with D-2800, D-2600 and D-3000 Routers, with:
  - RouteMaster PC control and system configuration
  - Tie-Line Management System available
  - Virtual Tally System Available
  - Under Monitor Displays available
  - Full line of reprogrammable control panels available

Description

The Datatek D-3200 Routing Switcher handles HD, SDI or AES/EBU signals up to 32x32 in 2RU. "Clean switching" is featured on all formats, on all destinations.

HD and SDI-only modules are available. These use the same rack frame and may be intermixed in the frame. The HD destination modules provide HD and SDI auto-reclocking on 143, 270, 270ASI, 360, 540 and 1485 Mb/s. The lower cost SDI-only destination modules provide auto-reclocking on 143, 270, 270ASI, 360 and 540 Mb/s. The HD and SDI source modules include multi-rate adaptive auto-cable equalizers on all sources.

AES/EBU systems are available in balanced or coax versions; both use transformers on both source inputs and destination outputs. AES/EBU signals have a synchronous clean switch on all destinations. Each source input has a digital audio sample rate converter, to provide an output signal synchronous with an external system clock.

The same 2RU frame is used for HD, SDI and AES/EBU signals, with a maximum capacity of 32x32 for any one signal format. Systems are available to mix digital video and digital audio in the same frame. For example, the 2RU frame can accommodate 16x16 HD (or SDI) in combination with a 16x16 AES/EBU signal (balanced or coax).

A number of systems can be provided in the 2RU frame. These include:

System Sizes

HD	SDI	AES/EBU
32x32	32x32	32x32
32x24	32x24	
32x16	32x16	
32x8	32x8	
16x16	16x16	16x16
16x8	16x8	

A destination monitor switcher is included for HD and SDI signals. This eables each destination output to be monitored through a single BNC connector, without disturbing the signal on the destination line. This is especially significant with HD signals. Monitor selection control is accessed through the matrix control system.

The control system is completely compatible with that in the D-2600, D-2800 and D-3000 Routers. A redundant control system is included with systems larger than 16 sources. The control system allows mapping of crosspoints. For example, a 32x32 could be comprised of two 16x16, four 8x8, etc.

The control system contains a 40 MHz microprocessor, Flash memory, enhanced serial communication controllers for the XY BNC control lines and COM line, RS-232 and RS-422 transmitter-receivers, an Ethernet controller and enhanced sync separators for two vertical interval switch references.

A fault alarm system monitors frame voltages, frame temperature, fan operation and control system. A failure produces a contact closure for use with an external alarm system. Control connectors at the rear of the frame provide several control ports - two XY control BNC connectors, one 9-pin D-subminiature RS-232/422 connector, a BNC loop for COM, two vertical interval switching references for 525/625, and external alarm connector. In addition, there are two Ethernet connectors in the 2RU frame. The optional Ethernet sofware provides LAN operation; diagnostics and status are available using SNMP (Simple Network Management Protocol).

HD and SDI System Specifications

Inputs

Type: 75 ohm BNC, terminating

Signal Level: 800 mV +/- l0%

Data Rate: 3 Mb/s to 1485 or 540Mb/s

Return Loss: HD: >15 dB to 1485 Mb/s
SDI: >15 dB to 540 Mb/s

Equalization: HD: 130m at 1485 Mb/s (Belden1694A coax.)
300m at 270 Mb/s
SDI 300m at 270 Mb/s

Outputs

Type: 75 ohm BNC

Signal Level: 800 mV +/- 10%

Return Loss: HD: >15 dB to 1485 Mb/s
SDI: >15 dB to 540 Mb/s

Automatic Reclocking:
(bypass mode for non-standard rates)
HD: Rates 143, 270, 270-ASI, 360, 540, 1485 Mb/S
SDI: Above rates to 540 Mb/s

Complies with SMPTE 292M and 259M Standards

AES/EBU System Specifications

Bit Rates: 25 KHz to 96 KHz.

Equalization: Up to 1,000ft (300m) data cable

Digital Audio Inputs: 75 ohms unbalanced, transformer coupled, BNC connecors. Optionally, 110 ohms balanced, transformer coupled, with D-Sub 37-pin connectors.

Digital Audio Outputs: 75 ohms unbalanced, transformer coupled, BNC connectors. Optionally, 110 ohms balanced, transformer coupled, with D-Sub 37-pin connectors.

Jitter: +/- 3 nS

Power: 95-250V, 50/60 Hz, 800VA max.

Dimensions: Height 2RU (3.5"/124mm)
Depth 11" (279mm)
Standard 19 in./482mm rack

Datatek reserves the right to make specification changes without notice.

Rear view D-3200 Routing Switcher

Suggested Control Panels/Under Monitor Displays

See catalog for complete selection.

D-2852 XY Control Panel, with 8-character displays for destination, preset and line. Can control full matrix or programmable to control any specific number of destinations. Includes scroll up/down facility for both destinations and sources, in addition to the usual keypad selection.

D-2460-40 Pushbutton Control Panel, with relegendable illuminated pushbuttons. Can be used to control 32 sources and eight destinations.
D-2460-32 Pusbutton Control Panel (not shown). Can be used to select from among 32 sources to a single destination.

D-2860-17 LCD Control Panel, 1RU. The switches used in the D-2860 series control panels incorporate an LCD display in each switch. These panels can be programmed to provide several different switch configurations, with their different display names, and the configrations called up by a scroll or menu button. The names in the button displays will change automatically to correspond to the configuration stored.

D-2459A-2 Dual Channel Under Monitor Display, with 8 alpha-numeric characters. Intended for mounting below picture monitors to display the source of the picture.
D-2459A-1 Single Channel Under Monitor Display (not shown).

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