MFR-1000

12G/6G/3G/HD/SD/ASI Routing Switcher

Powerful 4K and 8K routing with 4K-UHD conversion and 12G-SDI compatibility across all inputs and outputs. Configure a matrix of up to 16 x 16. 12G-SDI compatibility across all inputs and outputs. Optional AVDL functionality enables smooth changeover without noise or disruption.

12G-SDI Support
Conventional 3G-SDI routing switchers require 4 crosspoints to input and output 4K video. With 12G-SDI, 4K can be carried over a single crosspoint. The MFR-1000 also determines the type of SDI input automatically—no need to worry about what signals are supplied.

AVDL Functionality
AVDL functionality* can be added to 8 outputs, enabling smooth changeover without noise or disruption. Produces clean switched output for video input within the adjustment range.

Solid Performance
Multi-format video input and output
Support for 12G/6G/3G/HD/SD-SDI and DVB-ASI input and output. No need to worry about signal formats, thanks to auto signal detection.

Outstanding redundancy
As core system components, FOR-A routing switchers can incorporate redundancy to ensure nonstop operation in case of problems.

GUI-based configuration
Built-in webserver enables immediate setup without installing software on external devices. Via this interface, settings can also be configured in an offline environment.

Versatile crosspoint control
Besides typical crosspoint switching, the unit enables a variety of crosspoint control.
- Salvo
- Take
- Link
- Error-proofing (Inhibit, Lock)

Remote control units
10 control units are available to suit specific applications. (for the detailed information, please see the "Lineup" in the back.)

SNMP monitoring
Can be integrated into an SNMP monitoring system. Enables monitoring of various operational states, such as power, fan, and CPU status, SDI signal input or output, and crosspoint errors. If system failure and recovery occur, SNMP traps are sent to managers.

Interface expansion units
Three types of interface expansion units are available to suit specific applications.
- MFR-TALM: Tally Manager
- MFR-RULINK: Remote Control Relay Unit
- MFR-GPI: GPI Unit

Front control panel
Front panel enables menu display and notification of alarm details.

Connectivity with other products
Remote-controllable through the Ethernet or serial ports. Compatibility with common protocols such as TSL and Harris enables tally linkage or auto source name tracking for crosspoint switching. As well as our exclusive interface to the FOR-A line of HVS production switchers and standalone multi viewers.

Optional Video I/O Cards
MFR-8SDI12G Input Card
Supports 8 inputs of 12G/6G/3G/HD-SDI and DVB-ASI.

MFR-8SDO12G Output Card
Supports 8 outputs of 12G/6G/3G/HD-SD-ASI and DVB-ASI.

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*Optional
Specifications

**Video formats**
- 12G-SDI: 2160/59.94p, 2160/50p
- 3G-SDI: 1080/60p, 1080/59.94p, 1080/50p
- HD-SDI: 1080/60i, 1080/59.94i, 1080/50i, 1080/29.97p, 1080/29.97PsF, 1080/25p, 1080/24PsF, 720/60p, 720/59.94p, 720/50p
- SD-SDI: 525/60, 625/50

**Matrix size**
- Min. 8 x 8 - Max. 16 x 16, expandable in 8-I/O increments

**Video inputs**
- (optional) MFR-8SDI12G: SMPTE 2082 (12 Gbps), SMPTE 2081 (6 Gbps), SMPTE 424 (3 Gbps), SMPTE 292 (1.5 Gbps), SMPTE 259M (270 Mbps), DVB-ASI

**Input cable equalization**
- 12G-SDI: 100 m (using L5.5CUHD or equivalent cable: Belden 4794R)
- 3G/HD-SDI: 100 m (using 5C-FB or equivalent cable: Belden 1694A)
- SD-SDI: 200 m (using 5C-2V or equivalent cable: Belden 8281)

**Video outputs**
- (optional) MFR-12SDO12G: SMPTE 2082 (12 Gbps), SMPTE 2081 (6 Gbps), SMPTE 424 (3 Gbps), SMPTE 292 (1.5 Gbps), SMPTE 259M (270 Mbps), DVB-ASI

**Genlock input**
- BB: NTSC 0.429 V (p-p) / PAL: 0.45 V (p-p) or Tri-sync: 0.6 V (p-p), 75Ω, BNC x 1, with loop-through (to be terminated with 75Ω terminator, if unused)

**Interfaces**
- MFR-LAN: 10/100/1000BASE-T, RJ-45 (Connected to MFR series products. Up to 128 units can be connected.)
- PC-LAN: 10/100BASE-TX, RJ-45 (Connected to a computer or external device)

**Router linkage**
- Maximum: 2

**Temperature/humidity**
- 0 °C to 40 °C/30% to 85% (no condensation)

**Power**
- 100 V to 240 V AC ±10%, 50/60 Hz

**Consumption**
- 36 V AC or lower (at AC 100 V to 120 V)
- 44 V AC or lower (at AC 220 V to 240 V)

**Dimensions/weight**
- 430 (W) x 44 (H) x 350 (D) mm, EIA 1 RU/5 kg

**Included accessories**
- Operation manual (CD-ROM), AC cord, AC cord retaining clip, Rack mount bracket

**Consumables**
- Power unit: Replace every 5 years
- Fans: Replace every 4 years

**Options**
- MFR-8AVDL12G: AVL function card
- MFR-8SDI12G: SDI input card
- MFR-8SDO12G: SDI output card
- MFR-10PS: Redundant power supply unit

*See “Options” for details on remote control units and video I/O cards.*