

3G/HD/SD/ASI Routing Switcher

MFR-3232/3216/1616R/1616



Multi-format routing switchers that support 3G-SDI, HD-SDI, SD-SDI and ASI signals. FOR-A features four models, each with a different number of inputs and outputs. Despite their compact cabinet size, these models inherit the various functions provided by the MFR-5000 Series such as the interface function for synchronous operation by linking multiple cases, tally and automatic source name tracking connections with peripheral devices (video switchers and multi-viewers). These models are optimal routing switchers for constructing small- and medium-scale systems.

- 4 models to choose from in accordance with the number of inputs and outputs
 FOR-A offers four models you can choose from to cope with the number of inputs and outputs your system requires, the scale of your system, and your applications.

	MFR-1616	MFR-1616R	MFR-3216	MFR-3232
Input	16	16	32	32
Output	16	16	16	32
Size	1 U	2 U	2 U	2 U
Redundant AC	Option*1	Option	Option	Option
Redundant CPU	-	Option*2	Option*2	Option*2

*1: One AC power supply inlet is provided (internal wiring).
 *2: A redundant CPU (MFR-SRCPU) configuration is required to connect with the RS-RU S series.

- Multi-format support**
 These routing switchers are provided with 3G-SDI, HD-SDI, SD-SDI and ASI input and output support. Since each signal is automatically recognized, you can perform your operation without concern for the type of signal.
- Enables various crosspoint control aside from ordinary crosspoint switching**
 - Salvo function: Button assigning type, Main unit storage type
 Take operation: Mode-switching Take button, Always effective-type Take button
 - Link function - Level operation - Chop function
 - Prevention of incorrect operation:
 Inhibit: Crosspoint, Source, Destination / Lock: Lock Other, Lock All, Lock Local
- System construction with FOR-A video switchers and multi-viewers are available as well as other manufacturers' products (protocols: TSL, HARRIS).**

- These routing switchers come with a built-in Web server, which enables external control using a browser.
- These routing switchers come with SNMP remote monitoring support, which can be integrated into an SNMP monitoring system. You can monitor various statuses such as crosspoint errors and whether or not there is an SDI signal input or output, in addition to the power source, fan, and CPU statuses.

- To enhance its role as a routing switcher at the core of the system, these routing switchers are integrated with various types of technologies and functions for redundancy operation.
 - Redundant CPU board (option): A secondary CPU board constantly monitors the operation of the primary board. If any trouble occurs, operation is immediately switched over to the secondary side in order to continue functions without downtime.
 - Redundant power source (option): Dual power units are provided to respond flexibly to trouble in the power unit and power supply.
 - Distributed control: When more than one routing switcher is used and if one switcher malfunctions, the others continue functioning without interruption.

- Remote control unit**
 - MFR-40RU: 1 U-type basic model equipped with 40 buttons.
 - MFR-18RU: 1 U-type model equipped with 18 buttons. Buttons with LCD display show the source name and assigned functions.
 - MFR-39RU: 2 U-type model equipped with 39 buttons with LCD display as well as 10 function buttons. This model is ideal as a main control unit that can cover all crosspoints.



- GPI unit**
 MFR-GPI: 1 U-size GPI unit. Equipped with user assignable GPIO (128 channels) and 4 serial ports (9-pin D-sub male).



- Compatibility with existing products (RS series remote control unit) (option *2 models)**
 Connection with a remote control unit used for FOR-A RS series routing switchers is available. Therefore, only the main unit of the existing routing switcher can be replaced with an MFR series routing switcher without having to replace the remote control unit.



- The Ethernet connection makes it possible to link and interface the routing switcher with the MFR-5000 series (to be supported in the future).

MFR-5000 series: This multi-format routing switcher provides 3G-SDI, HD-SDI, SD-SDI, ASI, AES, and RS-422 signal support. The MFR-5000 series can configure up to 128 input/128 output matrices in its 8 U-size cabinet.

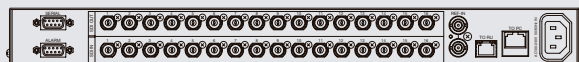


- Crosspoint operation is enabled from the front control panel. (to be supported in the future)

Specifications

	MFR-1616	MFR-1616R	MFR-3216	MFR-3232
Video Formats	3G: 1080/60p, 1080/59.94p, 1080/50p HD: 1080/60i, 1080/59.94i, 1080/50i, 1080/30p, 1080/30PsF, 1080/29.97p, 1080/29.97PsF, 1080/23.98p, 1080/23.98PsF, 1080/25p, 1080/25PsF, 1080/24PsF, 1080/24p, 720/60p, 720/59.94p, 720/50p SD: 525/60, 625/50			
Input x Output	16 x 16	16 x 16	32 x 16	32 x 32
Video Inputs	Compliant with the followings (75Ω, BNC) - SMPTE 424M (2.97 Gbps, 2.97/1.001 Gbps) - SMPTE 259M (270 Mbps)		- SMPTE 292M (1.485 Gbps, 1.485/1.001 Gbps) - DVB-ASI	
Cable Compensation Length	HD-SDI: 100 m / 3G-SDI: 70 m (5C-FB cable) SD-SDI: 200 m (5C-2V cable)			
Video Outputs	Compliant with the followings (75Ω, BNC) (Auto relocking) - SMPTE 424M (2.97 Gbps, 2.97/1.001 Gbps) - SMPTE 259M (270 Mbps)		- SMPTE 292M (1.485 Gbps, 1.485/1.001 Gbps) - DVB-ASI	
Reference Inputs	BB: NTSC: 0.429 Vp-p/PAL: 0.45 Vp-p or Tri-level Sync: ±0.3 Vp-p, 75Ω, 1 inputs, BNC x 1, loopthrough (Terminate with 75Ω terminator, it unused)			
Interfaces	LAN (TO RU): 10/100/1000BASE-T, RJ-45 (for connecting the RU/GPI unit. Up to 128 units can be connected) 1 port 2 ports (The second LAN port is used in the redundant CPU configuration) LAN (TO PC): 10/100BASE-TX, RJ-45 x 1 (for connecting the PC/external devices) ARCNET: 1.0 Vp-p, 75Ω or loopthrough, BNC x 2 (for video switcher HANABI series) SERIAL: RS-232C/RS-422 (Internal switch), 9-pin D-sub x 1 (male) ALARM: 9-pin D-sub x 1 (female) (Input: Reset / Output: Power Alarm, Fan Alarm)			
Temperature/ Humidity	0°C - 40°C / 30% - 90% (no condensation)			
Power	100 V AC - 240 V AC ±10%, 50/60 Hz			
Consumption	50 VA	50 VA - 65 VA		
Dimensions	430 (W) x 44 (H) x 300 (D) mm, EIA 1 RU	430 (W) x 88 (H) x 300 (D) mm, EIA 2 RU		
Weight	5 kg	5 kg	6 kg	6 kg
Accessories	Operation manual, AC cord, Rack mount bracket			
Options	MFR-40RU: Remote Control Unit (40-buttons) MFR-18RU: Remote Control Unit (18-buttons, LCD display) MFR-39RU: Remote Control Unit (LCD 39-buttons, 10-buttons, menu display) MFR-SRPS: Redundant Power Supply Unit MFR-GPI: GPI unit MFR-SRCPU: Redundant CPU Card			

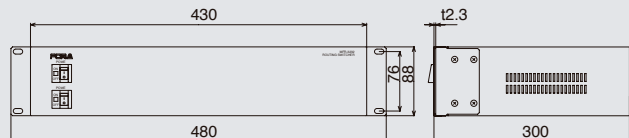
MFR-1616 Rear Panel



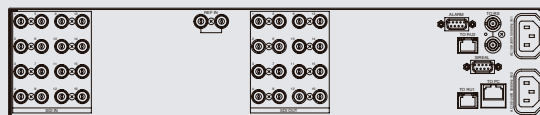
MFR-1616 External Dimensions



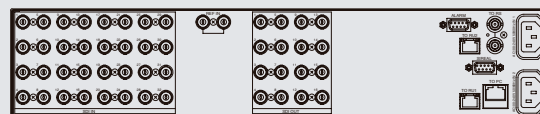
MFR-1616R/3216/3232 External Dimensions



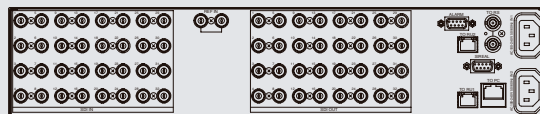
MFR-1616R Rear Panel



MFR-3216 Rear Panel



MFR-3232 Rear Panel



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