

3G/HD/SD/ASI/AES ROUTING SWITCHER

MFR-3232RPS /3216RPS /1616/1616R /1616A



MFR-1616



MFR-3232RPS

Multi-format routing switchers that support 3G-SDI, HD-SDI, SD-SDI, ASI, and AES signals. FOR-A features five models, each with a different number of inputs and outputs. Optimal for small- and medium-scale systems and despite their compact cabinet size, these models inherit various, proven MFR-5000 Series functions such as the interface function for multi-link synced operation and tally and automatic source name tracking connections with peripheral devices (video switchers and multi-viewers).

Multi-format support

3G-SDI, HD-SDI, SD-SDI and ASI input and output support provide automatic signal recognition, allowing you to perform your operation irregardless of the signal type. AES signal supporting model MFR-1616A is also provided.

Aside from ordinary crosspoint switching, supports various crosspoint control formats/functions

- Salvo function: Button assignment, Main unit storage
- Take operation: Mode-switching Take, Always effective-type Take
- Link function
- Level operation
- Chop function
- Incorrect operation deterrence:
 - Inhibition: Crosspoint, Source, Destination
 - Lock: Lock Other, Lock All, Lock Local

All models come equipped with a built-in Web server, enabling external control via browser.

System proposals that include FOR-A video switchers and multi-viewers and third-party manufacturer products (protocols: TSL, HARRIS).

Five models to choose from in accordance with the number of inputs and outputs

FOR-A offers five models to choose from that allow you to accommodate your system input/output requirements, scale and applications.

	SDI, ASI supporting model				AES supporting model
	MFR-3232RPS	MFR-3216RPS	MFR-1616R	MFR-1616	MFR-1616A
Input	32	32	16	16	16
Output	32	16	16	16	16
Size	2 U	2 U	2 U	1 U	1 U
Redundant Power Supply	Option	Option	Option	Option*1	—
Redundant CPU	Option	Option	Option	—	—
Hot-swap AC supply	Supported (Option required)	Supported (Option required)	—	—	—

*1: One AC power supply inlet is provided (internal wiring)

Remote Control Unit Lineup

<High-end Model with OLED Display>



MFR-18RUA

1 U-type model equipped with 18 buttons. Buttons with OLED display show the source name and assigned functions.



MFR-39RUA

2 U-type model equipped with 39 buttons with OLED display, and 6 function buttons. This model is ideal as a main control unit that can cover all crosspoints.

<Standard Model>



MFR-16RU

1 U-type model equipped with 16 buttons. Any function can be assigned to the 16 buttons.



MFR-16RUD

1 U-type model equipped with 16 buttons and menu display.



MFR-40RU

1 U-type model equipped with 40 buttons. Buttons show 3 colors (R/G/O).

<Simple Model>



MFR-16RUW

1 U-type basic model equipped with 16 buttons.



MFR-32RUW

1 U-type basic model equipped with 32 buttons.



MFR-64RUW

2 U-type basic model equipped with 64 buttons.

<Table Top Model>



MFR-16RUTA

2 U half size. Equipped with 16 buttons and each buttons have LCD displays to show source name or setting.

GPI UNIT

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



TALLY MANAGER

MFR-TALM: Offers centralized management of main unit and peripheral device tally and source names. Also offers faster tally connections.



MFR REMOTE RELAY UNIT

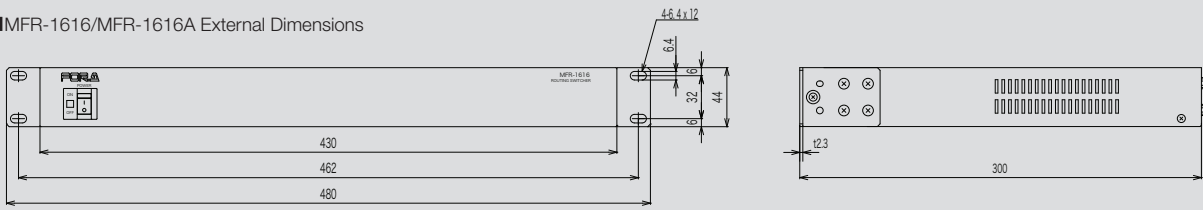
MFR-RULINK: Enables remote control of MFR series units. 1 U half size. Putting on the control side, remote control via network is available.



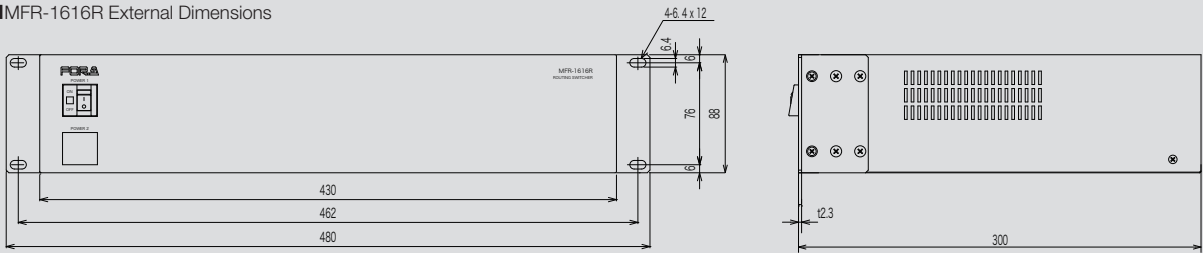
MFR-3232RPS/3216RPS/1616/1616R/1616A

External Dimensions

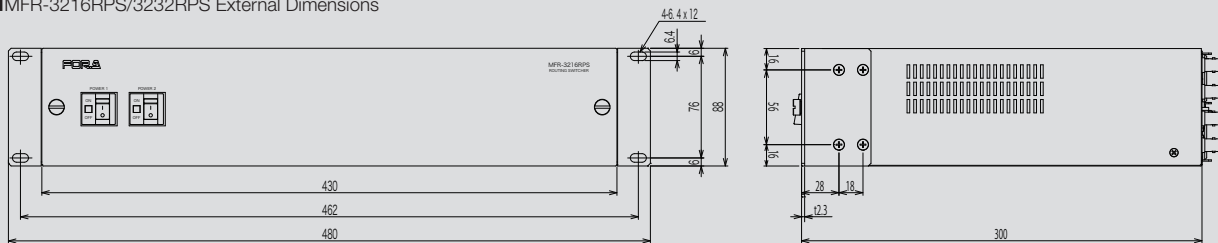
■ MFR-1616/MFR-1616A External Dimensions



■ MFR-1616R External Dimensions



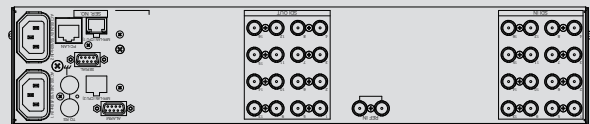
■ MFR-3216RPS/3232RPS External Dimensions



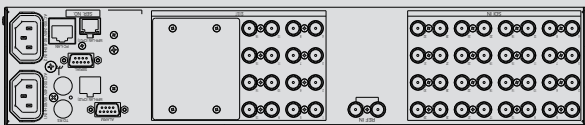
■ MFR-1616 Rear Panel



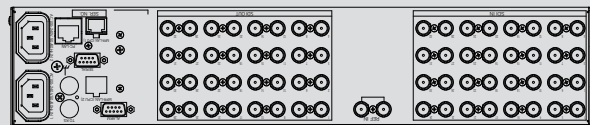
■ MFR-1616R Rear Panel



■ MFR-3216RPS Rear Panel



■ MFR-3232RPS Rear Panel



■ MFR-1616A Rear Panel



MFR-3232RPS/3216RPS/1616/1616R/1616A

Specifications (SDI, ASI supporting model)

Model	MFR-1616	MFR-1616R	MFR-3216RPS	MFR-3232RPS
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			
Inputs x Outputs	16 x 16	16 x 16	32 x 16	32 x 32
Video Inputs	Compliant with the following standards (75Ω BNC): - SMPTE 424M (2.97Gbps, 2.97/1.001 Gbps) - SMPTE 292M (1.485Gbps, 1.485/1.001 Gbps) - SMPTE 259M (270Mbps) - DVB-ASI			
Cable Equalization	3G: 70 m, HD: 100 m (when a 5C-FB (Belden 1694A) equivalent cable is used)			
	SD: 200 m (when a 5C-2V (Belden 8281) equivalent cable is used)			
Video Outputs	Compliant with the following standards (75Ω BNC) (with automatic relocking): - SMPTE 424M (2.97Gbps, 2.97/1.001Gbps) - SMPTE 292M (1.485Gbps, 1.485/1.001 Gbps) - SMPTE 259M (270Mbps) - DVB-ASI			
Reference Inputs	BB: NTSC: 0.429 Vp-p / PAL: 0.45 Vp-p or Tri-level sync: ±0.3 Vp-p 75 Ω BNC x 1 loop-through (Terminate with 75 Ω terminator, if unused)			
Interfaces	MFR-LAN: 10/100BASE-TX RJ-45 (for RU/GPI connection, up to 128 units)			
	x 1	x 2 (LAN 2: For MFR-SRCPU connection)		
	PC-LAN: 10/100BASE-TX RJ-45 x 1 (for computer or other external device connection)			
	SERIAL: RS-232C/RS-422 (selectable by internal switches) 9-pin D-sub (male) x 1			
	ALARM: 9-pin D-sub (female) x 1			
	TO RS: Unused			

Specifications (AES supporting model)

Model	MFR-1616A
Inputs x Outputs	16 stereo pairs (32 ch) x 16 stereo pairs (32 ch)
Audio Inputs	AES/EBU: 1.0 Vp-p Unbalanced 75 Ω BNC x 16
Audio Outputs	AES/EBU: 1.0 Vp-p ±10 % Unbalanced 75 Ω BNC x 16
Sampling Frequency	32 kHz to 96 kHz
Reference Input	BB: NTSC: 0.429 Vp-p, PAL: 0.45 Vp-p or Tri-level sync: ±0.3 Vp-p 75 Ω BNC x 1 loop-through (Terminate with 75 Ω terminator, if unused)
Interfaces	MFR-LAN: 10/100BASE-TX RJ-45 x 1 (for RU/GPI connection, up to 128 units)
	PC-LAN: 10/100BASE-TX RJ-45 x 1 (for computer or other external device connection)
	RS-232C: RS-232C 9-pin D-sub (male) x 1
	ALARM: 9-pin D-sub (female) x 1
Temperature / Humidity	0 °C to 40 °C / 30 % to 90 % (no condensation)
Power	100 V AC to 240 V AC ±10 % 50/60 Hz
Power Consumption	100 V AC to 120 V AC: 19 VA (17 W), AC 200 V to 240 V: 24 VA (17 W)
Dimensions / Weight	430 (W) x 44 (H) x 300 (D) mm EIA 1 RU / 5 kg
Accessories	Operation Manual, AC cord, rack mount brackets
Consumables	Power Unit: Replace every 5 years

	MFR-1616	MFR-1616R	MFR-3216RPS	MFR-3232RPS
Power	100 V AC to 240 V AC ±10 %, 50/60 Hz			
Power Consumption	100 V AC to 120 V AC	36 VA (33 W)	37 VA (34 W)	48 VA (45 W)
	200 V AC to 240 V AC	44 VA (34 W)	44 VA (34 W)	57 VA (45 W)
Temperature / Humidity	0 °C to 40 °C / 30 % to 90 % (no condensation)			
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		6 kg	
Accessories	Operation Manual, AC cord, Rack mount brackets			
Consumables	Fan (IP-1461): Replace every 4 years		Fan (IP-1460): Replace every 4 years	
	Power unit: Replace every 5 years			
Options	MFR-18RUA: Remote Control Unit (18 button, OLED display)			
	MFR-39RUA: Remote Control Unit (39 OLED-button, 6 button, menu display)			
	MFR-16RU: Remote Control Unit (16 button)			
	MFR-16RUD: Remote Control Unit (16 button, menu display)			
	MFR-40RU: Remote Control Unit (40 button)			
	MFR-16RUW: Remote Control Unit (16 button)			
	MFR-32RUW: Remote Control Unit (32 button)			
	MFR-64RUW: Remote Control Unit (64 button)			
	MFR-16RUTA: Remote Control Unit (16 button)			
	MFR-GPI: GPI Unit			
	MFR-TALM: Tally Manager			
	MFR-RULINK: Remote Relay Unit			
	MFR-SRCPU: Redundant CPU			
	MFR-SRPS: Redundant Power Supply	MFR-32PS: Redundant Power Supply		



INNOVATIONS IN VIDEO and AUDIO TECHNOLOGY

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