

OPERATION MANUAL

MFR-RU Series

MFR-16/40RU
MFR-16RUD
MFR-16/32/64RUW
MFR-18RU/RUA
MFR-39RU/RUA
MFR-16RUTA

Remote Control Unit

2nd Edition





Edition Revision History

Edit.	Rev.	Date	Description	Section/Page
1	-	2017/08/23	First edition	
2	-	2018/02/09		Throughout



Precautions

Important Safety Warnings




[Power]

 Caution	Operate unit only at the specified supply voltage.
 Stop	Disconnect the power cord via the power plug only. Do not pull on the cable portion.
 Stop	Do not place or drop heavy or sharp-edged objects on the power cord. A damaged cord can cause fire or electrical shock hazards. Regularly check the power cord for excessive wear or damage to avoid possible fire / electrical hazards.
 Caution	Ensure the power cord is firmly plugged into the AC outlet.


[Grounding]

 Caution	Ensure the unit is properly grounded at all times to prevent electrical shock.
 Hazard	Do not ground the unit to gas lines, units, or fixtures of an explosive or dangerous nature.




[Operation]

 Hazard	Do not operate the unit under hazardous or potentially explosive atmospheric conditions. Doing so could result in fire, explosion, or other hazardous results.
 Hazard	Do not allow liquids, metal pieces, or other foreign materials to enter the unit. Doing so could result in fire, other hazards, or a unit malfunction.
 Stop	If a foreign material does enter the unit, turn the power off and immediately disconnect the power cord. Remove the material and contact an authorized service representative if damage has occurred.


[Transportation]

 Hazard	Handle with care to avoid impact shock during transit, which may cause malfunction. When you need to transport the unit, use the original or suitable alternative packing material.
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[Circuitry Access]

	Do not remove covers, panels, casing, or access the circuitry with power applied to the unit. Turn the power off and disconnect the power cord prior to removal. Internal servicing / adjustment of unit should only be performed by qualified personnel.
 Stop	Do not touch any parts / circuitry with a high heat factor. Capacitors can retain enough electric charge to cause mild to serious shock, even after the power has been disconnected. Capacitors associated with the power supply are especially hazardous.
 Hazard	Unit should not be operated or stored with cover, panels, and / or casing removed. Operating the unit with circuitry exposed could result in electric shock / fire hazards or a unit malfunction.


[Potential Hazards]

 Caution	If abnormal odors or noises are noticed coming from the unit, immediately turn the power off and disconnect the power cord to avoid potentially hazardous conditions. If problems similar to the above occur, contact an authorized service representative before attempting to operate the unit again.
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[Rack Mount Brackets, Ground Terminal, and Rubber Feet]

 Caution	To rack-mount or ground the unit, or to install rubber feet, do not use screws or materials other than those supplied. Doing so may cause damage to the internal circuits or components of the unit. If you remove the rubber feet that are attached to the unit, do not reinsert the screws that secure the rubber feet.
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[Consumables]

 Caution	Consumable items that are used in the unit must be periodically replaced. For further details on which parts are consumables and when they should be replaced, refer to the specifications at the end of the Operation Manual. Since the service life of the consumables varies greatly depending on the environment in which they are used, such items should be replaced at an early date. For details on replacing consumable items, contact your dealer.
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Upon Receipt

MFR-RU Series units and their accessories are fully inspected and adjusted prior to shipment. Check your received items against the packing list below. Check to ensure no damage has occurred during shipment. If damage has occurred, or items are missing, inform your supplier immediately.

◆ Remote Control Unit

ITEM	QTY	REMARKS
MFR-16/40RU MFR-16RUD MFR-16/32/64RUW MFR-18RU/RUA MFR-39RU/RUA MFR-16RUTA	1	
AC cable	1	
AC Adaptor (*1)	1	With DC lock plug (MFR-40RU/39RUA/18RUA)
DC cable retaining clip	1 set	For AC adapters w/o DC lock plug
Rack Mount Brackets	1 set	EIA standard type (MFR-16/32/64RUW/16RUTA is supplied w/o Rack Mount Brackets.)
Tool used to change button labels	1	
LAN Cable (straight) (*2)	1	MFR-39/40/18RU/16RUTA/18RUA/39RUA: UTP cable, 3m MFR-16RU/16RUD: STP cable, 3m (MFR-16/32/64RUW is supplied w/o LAN Cable.)

(*1) Depending on the production date, AC adapters are supplied without DC lock plugs, but with DC cable retaining clips.

(*2) User-prepared LAN cables are able to be used. Shielded Twist Pair cables are recommended for MFR-16RU/16RUD/16RUW/32RUW/64RUW.

Installing the DC Cable Retaining Bracket

Install the supplied retaining bracket onto the rear panel of devices, such as a Control Unit as shown below.

1) Bundle the cable with the supplied clip.

2) Secure the clip with the supplied screw.

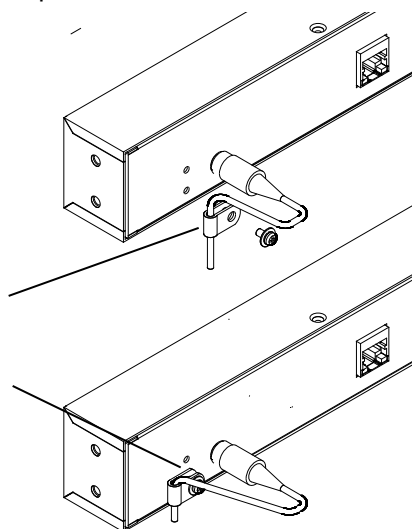


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1. Prior to Starting

1-1. Overview

We offer several types of MFR series remote control units to suit your application. A maximum of 128 units can be connected, including the main unit. This lets you build a flexible control environment by the way you partition the matrix and operation level settings are configured.

1-2. Features

◆ MFR Series Remote Control Unit Features

Model	Button		Function Button		Page	Rotary Selector (CONTROL)	Features	
	No.	Color / Information Display	No.	Function			Hardware	Function
Standard Model								
MFR-16RU	16	1 Color ^{*3)}	2	Lock/ Page	2	-		
MFR-40RU	40	3 Colors ^{*2)}	-		32	-		
MFR-16RUD	16	1 Color ^{*3)}	2	Lock/ Page	2	-	LCD Display 16 letters x 2 lines	<ul style="list-style-type: none">• Display operation allows functions to be assigned to buttons.• Display operation allows destination channel selection and crosspoint changes.
Simple Model								
MFR-16RUW	16	1 Color ^{*3)}	2	Free Assignable	32	-		
MFR-32RUW	32	1 Color ^{*3)}	2	Free Assignable	32	-		
MFR-64RUW	64	1 Color ^{*3)}	4	Free Assignable	32	-		
High-end Model with LCD Display								
MFR-18RU	18	3 Colors ^{*2)}	-	-	32	✓	LCD Display at the top of each button 7 colors / 7 letters x 2lines	<ul style="list-style-type: none">• CONTROL operation allows changes to be assigned to SRC and DEST buttons.• With SKIP function.• SRC channel name can be displayed in LCDs above DEST buttons.• Adjustable NAME display colors.
MFR-39RU	39	OLED 7colors ^{*1)} 7 letters x 2 lines	1	Cancel	32	✓	LCD Display 23 letters x 2 lines	<ul style="list-style-type: none">• Multiple RU operation available.• SETTING > BTN ASSIGN menu assigns functions to available buttons.• SKIP function.• Ten key mode.• Assignable remote control stored salvos.• Adjustable Name display colors.
	10	3 Colors ^{*2)}						
MFR-18RUA	18	3 Colors ^{*2)}	-	-	32	✓	OLED Display at the top of each button 7 colors / 7 letters x 2lines	<ul style="list-style-type: none">• CONTROL operation allows changes to be assigned to SRC and DEST buttons.• SKIP function.• Adjustable NAME display colors.
MFR-39RUA	39	OLED 7colors ^{*1)} 7 letters x 2 lines	3	Current Source Current Destination	32	✓	Current Page Display 7 colors / 7 letters x 2lines	<ul style="list-style-type: none">• Same as MFR-39RU.
	6	3 Colors ^{*2)}		Page				
MFR-16RUTA	16	3 Colors ^{*2)}	3	Lock x 1 Page x 2	32	✓	OLED Display at the top of each button 7 colors / 7 letters x 2lines	<ul style="list-style-type: none">• SKIP function.• SRC channel name can be displayed in OLEDs above DEST buttons.• Adjustable NAME display colors.

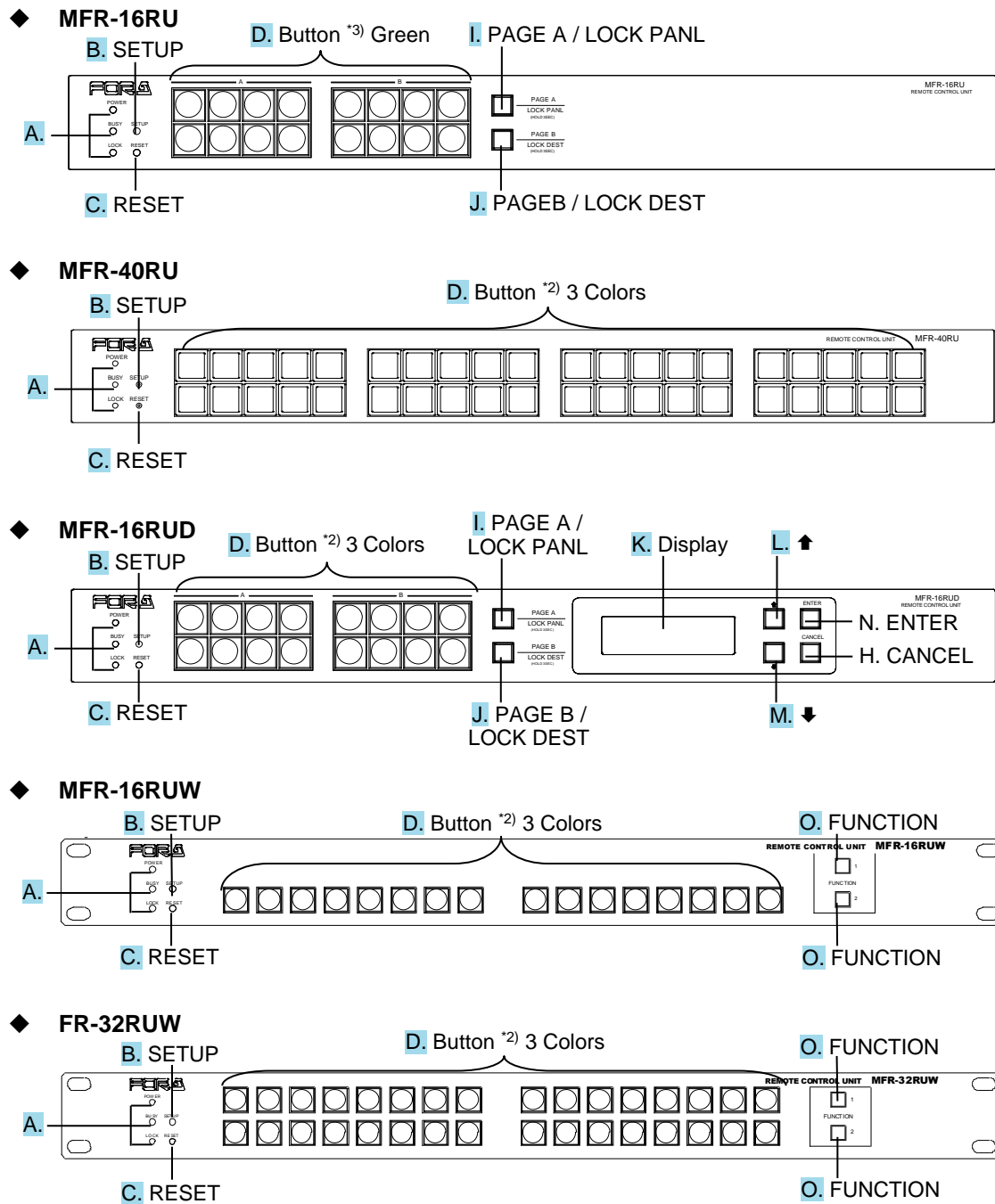
^{*1)} 7 Colors = White/ Yellow/ Cyan/ Green/ Magenta/ Red/ Blue)

*2) 3 Colors = Red/ Green/ Orange

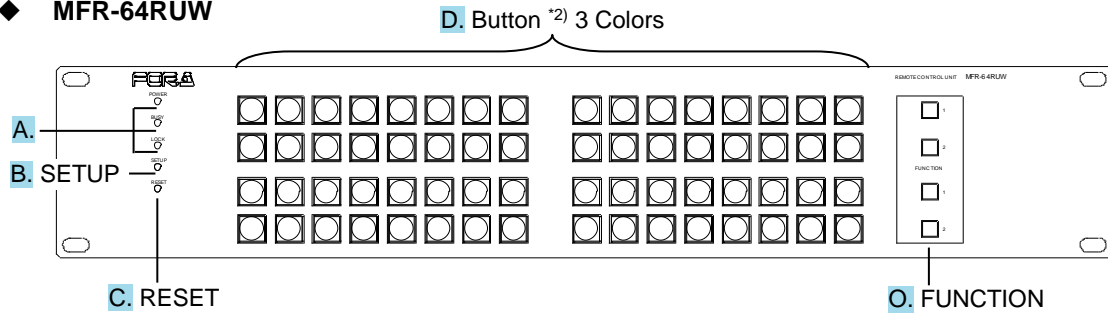
*3) 1 Color = Green

2. Panel Descriptions

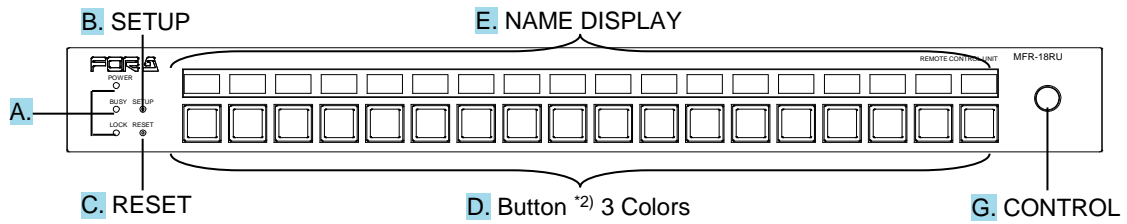
2-1. Front Panel



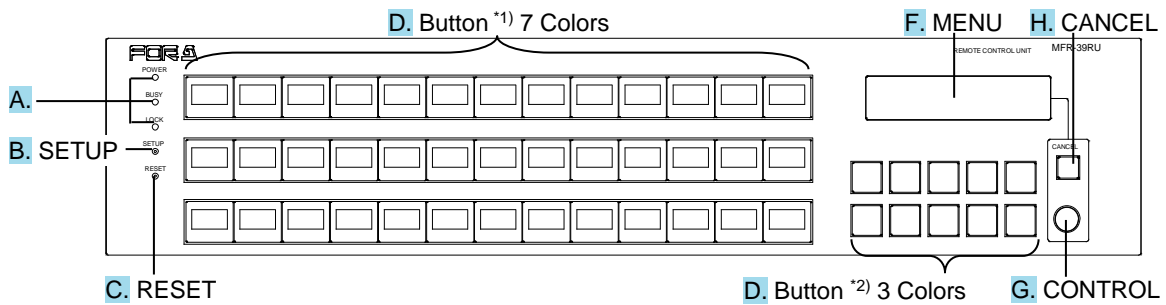
◆ **MFR-64RUW**



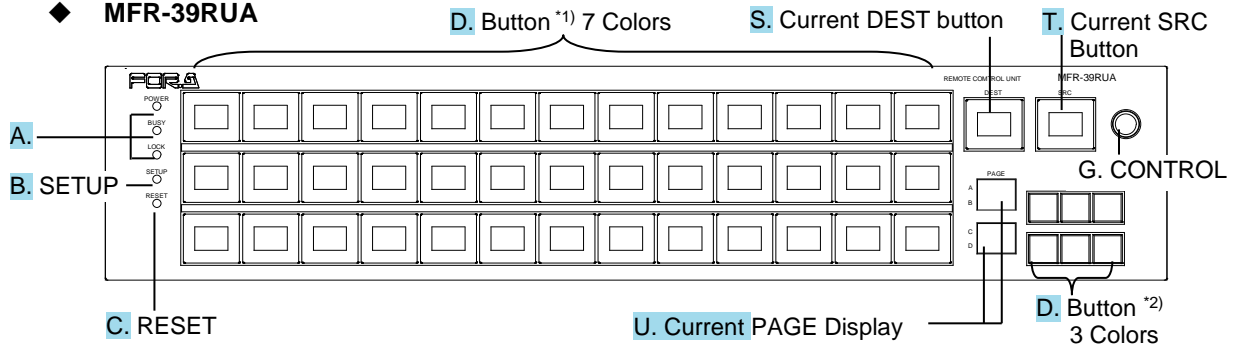
◆ **MFR-18RU/18RUA**



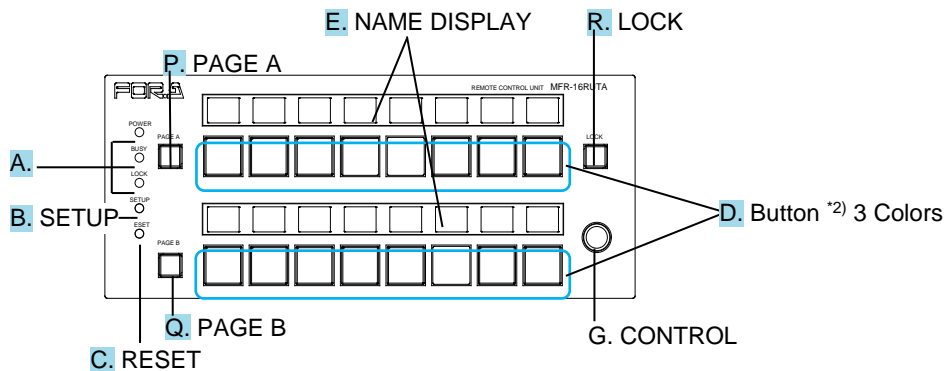
◆ **MFR-39RU**



◆ **MFR-39RUA**



◆ **MFR-16RUTA**



No.	Item	Description
A	POWER	Power status.
	BUSY	Flash memory writing status of backup settings.
	LOCK	Lock status. ▶ See Sec. 4-3. "Lock" for details on the lock function.
	▶ See table on next page for details on LED color indications.	
B	SETUP	Allows you to set IP address and other settings. ▶ See Sec. 3-8, 3-9, 3-7, 3-10, 3-6. "Setup Menu." for SETUP menu details.
C	RESET	Initializes the remote control unit.
D	Buttons	All buttons are user assignable. *1) 7-color selectable button name indication (red, green, yellow, blue, white, cyan or magenta) (hereafter called LCD) *2) 3-color selectable button illumination (red, green or orange) *3) Green illumination
E	NAME DISPLAY	7-color selectable button name/assignment indications (red, green, yellow, blue, white, cyan or magenta)
F	MENU	Displays setting menus and status.
G	CONTROL	Operates menu settings.
H	CANCEL	Cancels menu settings.
I	PAGE A / LOCK PANL	Switches pages. Pressing the button switches Page 1 and Page 2 of Group A. Button is unlit when Page 1 is current. Button is lit orange when Page 2 is current. To use the button as LOCK LOCAL, press and hold down (for 3 seconds). (*)
J	PAGE B / LOCK DEST	Switches pages. Pressing the button switches pages of Group B. Button is unlit when Page 1 is current. Button is lit orange when page Page 2 is current. To use the button as LOCK ALL, press and hold down (for 3 seconds). (*)
K	Display	Displays crosspoints and button assignments.
L	↑	Up / Down buttons, select displayed items on Display operation.
M	↓	
N	ENTER	Confirms settings on Display operation.
O	FUNCTION	Function assignable buttons. (Light green)
P	PAGE A	When enabled, Group A pages can be changed using CONTROL .
Q	PAGE B	When enabled, Group B pages can be changed using CONTROL .
R	LOCK	Lock functions assignable button.
S	Current DEST button	Displays the current destination channel.
T	Current SRC button	Displays the current source channel.
U	Current PAGE display	Displays the current page.

(*) PAGE Switch and LOCK features are initially enabled and can be disabled in the [Web-based Control: Assign Function page], respectively.

◆ MFR-RU front panel color indications

LED \ LED color	Green	Red	Orange
POWER LED	Normal	Power alarm	
BUSY LED	Normal processing		Writing to flash memory
LOCK LED	Operation locked by Lock Local	Operation locked by Lock All, or locked by Lock Other from another unit.	Activated Lock Other in unit.

- * LOCK LED flashes if the locked operation is accessed. The operation is normally disabled.
- * POWER LED lights red if the unit is turned on but not connected to a network.
- * All indicators, POWER, BUSY and LOCK, light orange while the SETUP menu is displayed.

IMPORTANT

After finishing settings, do not power OFF the unit while BUSY LED is lit orange, since the system is writing to Flash. (About 2 minutes max.)

◆ Changing Button Labels

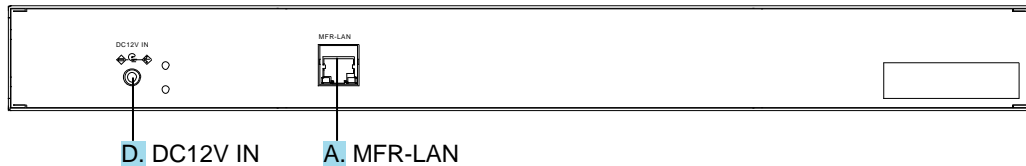
Button labels can be changed on user-assignable buttons. Utilize button label templates in the FOR-A web site. To remove button caps, use the supplied tool.

To download button label templates, go to the **MFR-RU Series** page and open the **Documents** tab.

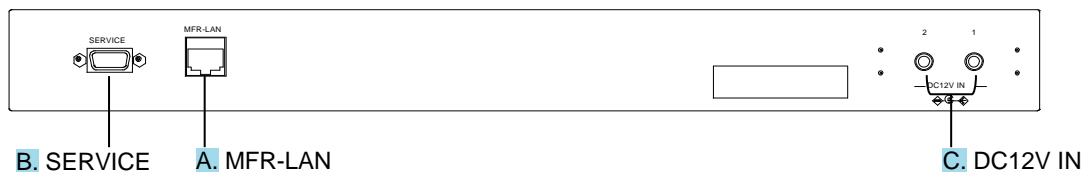
URL: http://www.for-a.com/products/mfr_ru_series/professional_router_p.html

2-2. Rear Panel

◆ MFR-16RU / MFR-16RUD



◆ MFR-40RU / MFR-18RU / MFR-18RUA



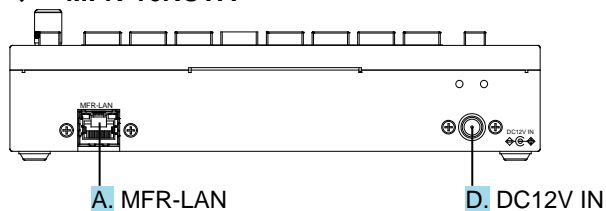
◆ MFR-16/32/64RUW



◆ **MFR-39RU / 39RUA**



◆ **MFR-16RUTA**



No.	Item	Description
A	MFR-LAN *1	Used to connect the MFR main unit Ethernet port (10/100BASE-TX)
B	SERVICE	Used for maintenance only. Do not use.
C	DC 12 V IN 1,2	Used to supply 12 V DC power.
D	DC 12 V IN	Used to supply 12 V DC power.

*1 The MFR-LAN connector may be labeled 10/100BASE-T on the previous model.

3. Remote Control Unit Operation

3-1. Function and Operation

The below table shows the functions that can be controlled using a remote control unit (RU) and/or Web-based Control (GUI).

* For details on Web-based Control operation, see the separate MFR SERIES Web-based Control Operation Manual.

◆ Description on Control Columns

✓: Changing settings and execution are both supported

●: Execution is supported

▲: Changing settings is supported

39: Supported by MFR-39RU, MFR-39RUA

18: Supported by MFR-18RU, MFR-18RUA

16D: Supported by MFR-16RUD

16T: Supported by the MFR-16RUTA

Function		Controller	Remote Control Units	Web-based Control	Ref.
Crosspoint change (1 channel)	By changing source and/or destination		✓	✓	4-1-1
	Using bus buttons		✓	---	4-1-2
	Using buttons and CONTROL (Rotary Selector)		18, 16T 39RUA	---	3-2-4
	Using the display		16D	---	3-5-1
	CHOP function		●	---	4-1-3
	TAKE function		●	✓	4-1-4
Crosspoint change (Simultaneous)	Main unit stored SALVO		●	▲	4-2-1
	RU button assigned SALVO		39, ●	▲	4-2-2
	TAKE function		●	✓	4-2-3
	LINK function		●	▲	4-2-4
Error prevention	LOCK LOCAL		✓	---	4-3-1
	LOCK OTHER/ALL		✓	✓	4-3-2
	Crosspoint inhibition		---	✓	Web
	Monitor output function		●	---	4-4
	Operation Preview function		●	---	4-5
Main unit and system setting change	Source/destination name settings		---	✓	Web
	Bitmap images display		18, 39RUA, 16T	Web (offline)	Web (offline)
	System tally settings		---	✓	Web
Remote control setting change	Mode menu		18, 39, 16T	---	3-4-2
	Button assignment		18, 39, 16T ^(*) 16D	✓	3-4-3-15 (3-4-2)
	PAGE function		✓	---	3-2-2
	Group setting		---	✓	3-2-2-1
	Multi-unit operation		39 ^(*)	▲	3-11-2
	IP address setting		▲	▲	3-8-1
	Other settings		39	✓	3-4-3 3-8
Status display			●	●	---
Alarm indication			●	●	---

^(*) Source and destination button/channel assignments can be performed using **CONTROL** on MFR-18RU/18RUA/39RUA/16RUTA units.

^(*) MFR-39RU/39RUA can change operational settings on multiple RU operation while other remote control units can only be used for operation.

3-2. Basic Operations

This section describes basic operation of remote control units and how to set and execute various functions.

3-2-1. Operating Buttons

1) Assigning functions to buttons (changing assignments)

First of all, assign RU front panel button functions using Web-based Control: **Assign Function** page. Any function can be assigned to any button except for **CANCEL**, **PAGE A**, **PAGE B**, **UP**, **DOWN**, **ENTER**, **CURRENT DEST**, **CURRENT SRC** or **LOCK** buttons.

➤ How to assign functions to buttons

1. In Web-based Control, click to open the menu tree in the left pane. Click to select **Assign Function** to display the menu page.
2. Select a page and a button to assign function and select an assigning function. Buttons can be selected by inputting Button IDs or clicking on button icons.
3. After selecting a function, specify parameters for each function.
4. Click **Send** to apply the settings when all settings are completed.

As for MFR-16RUD, you can use the front panel display to assign functions to buttons.

▶ See Sec. 3-5-2. "Changing Button Assignments" for details

As for MFR-18RU/ 18RUA/ 39RU/ 39RUA/ 16RUTA units, Source and Destination button/channel assignments can be performed using **CONTROL**.

▶ See Sec. 3-2-4. "Operating with **CONTROL** (Rotary Selector)"

The MFR-39RU menu display can also assign functions.

▶ See Sec. 3-4-3-15 "BTN ASSIGN"

The MFR-39RUA menu display can also assign functions.

▶ See Sec. 3-4-4-4 "BUTTON ASSIGN"

2) Press buttons to execute functions

Press a button to execute assigned function. The button LED indication, NAME DISPLAY, and MENU display change according to the assigned function.

3-2-2. Switching Pages

Function assignment to RU front panel buttons are controlled per page. Page functions allow you to switch all button-assigned functions by switching pages. Pages can be changed either by using the **PAGE** button (see Sec. 3-3 “Function Buttons”) or **CONTROL** in the Mode menu. (See Sec. 3-4 “MODE Button and Mode Menu.”)

There are also Page function settings in the Mode and Setting menus. Also refer to the following sections for miscellaneous settings.

- **PAGE** button assignment: 3-4-3-7 “PAGE ASSIGN”
You can select the PAGE button to be assigned in certain pages or in all pages. Having **PAGE** buttons assigned to all pages helps you to find the **PAGE** button easily.
- Mode menu settings: 3-4-3-6 “PAGE MODE”
This section describes how to select pages using **CONTROL**.

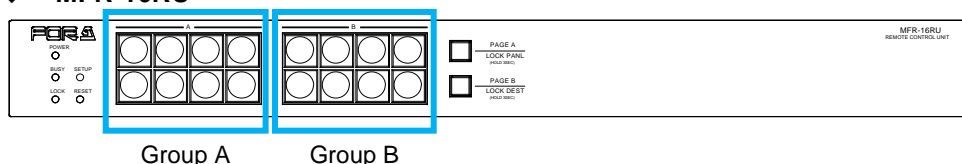
3-2-2-1. Switching Pages per Group

Pages can be switched based on button groups. The number of available button groups differ depending on a remote control unit as shown in the table below. These groupings can be freely changed using Web-based Control.

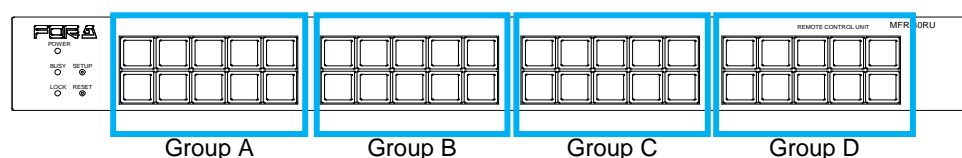
Remote Control Unit	Button group
MFR-16RU/ 16RUD	A to B
MFR-16RUW/ 32RUW	A to C
MFR-64RUW	A to E
MFR-40RU/ 18RU/ 18RUA/ 39RU/ 39RUA/ 16RUTA	A to D

Default button groups are set as shown in the figures below.

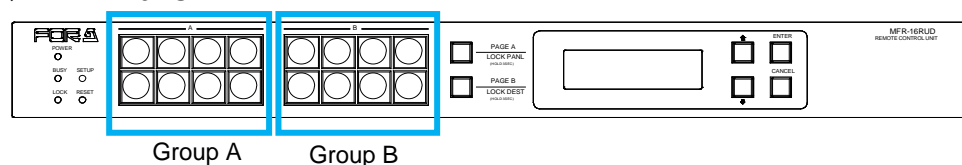
◆ MFR-16RU



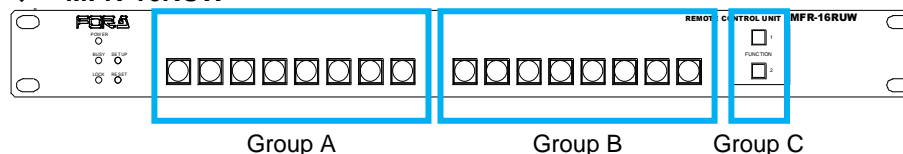
◆ MFR-40RU



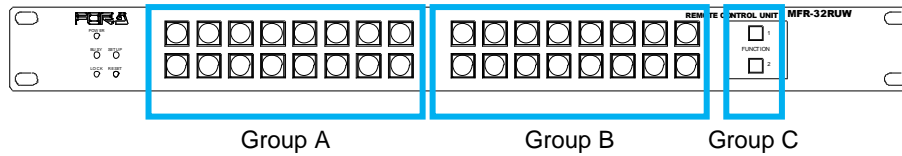
◆ MFR-16RUD



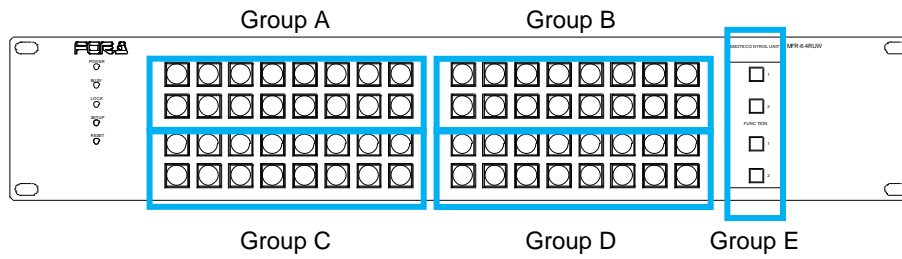
◆ MFR-16RUW



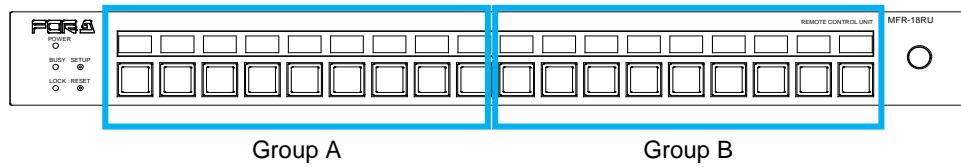
◆ **MFR-32RUW**



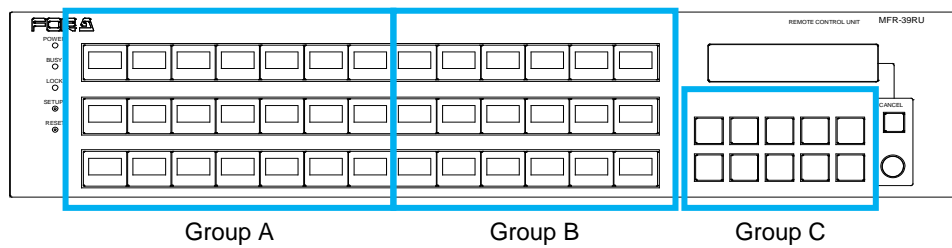
◆ **MFR-64RUW**



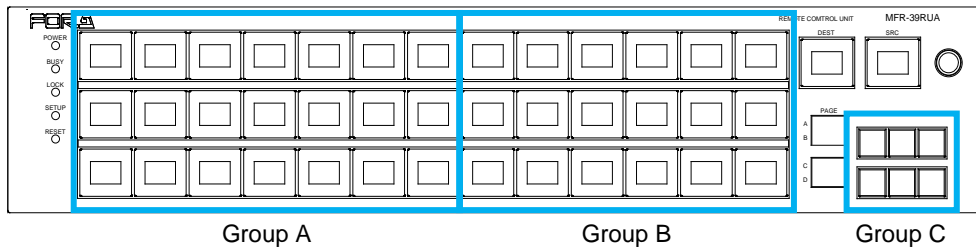
◆ **MFR-18RU/18RUA**



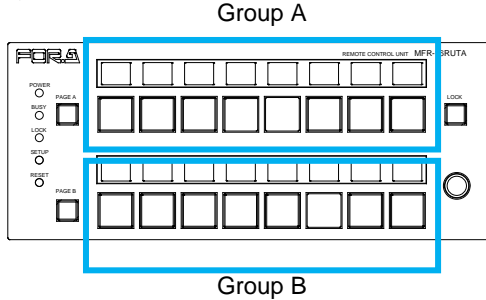
◆ **MFR-39RU**



◆ **MFR-39RUA**



◆ **MFR-16RUTA**

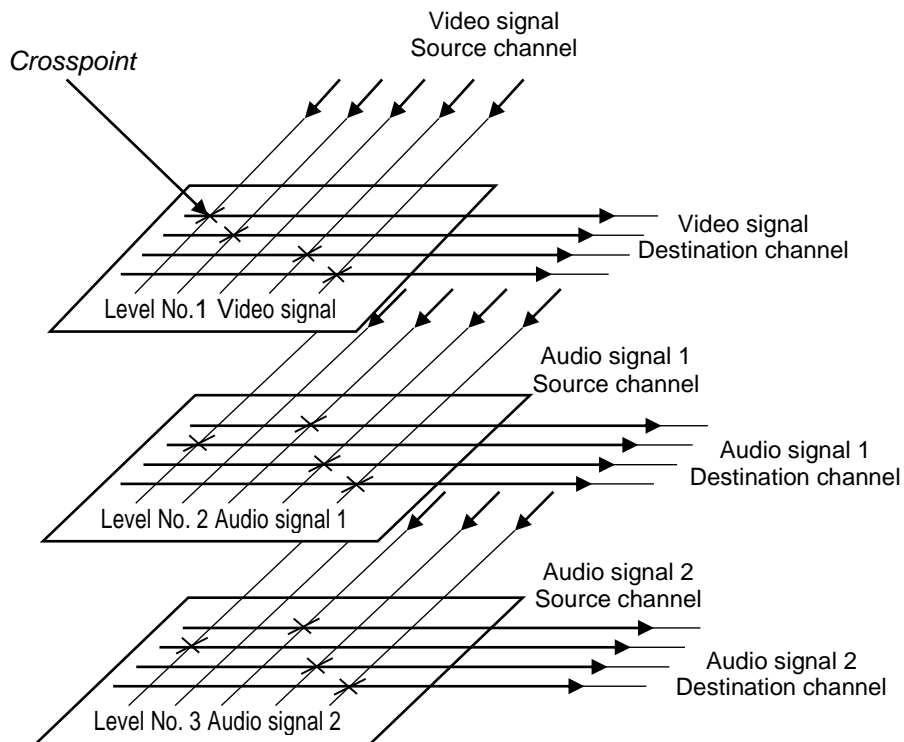


◆ Page Limit and Maximum Page Number Setting

- Maximum number of assignable pages (page limit):
32 for MFR-40RU/ 16RUW/ 32RUW/ 64RUW/ 18RU/ 18RUA/ 39RU/ 39RUA/ 16RUTA
2 for MFR-16RU/ 16RUD
- Maximum page numbers are selectable for pages selected by Mode menu or Page buttons. (Excluding MFR-16RU/16RUD).
- Maximum page number settings are applied to all groups.
- Any page assignments or jumps are possible, but do not work if they exceed maximum page limits. (Buttons are masked with "x" in MFR-18RU/18RUA/39RU/39RUA/16RUTA units.)
- Maximum page numbers can be set under **Page-Max number** in the [Web-based Control: **RU Settings** page]. A warning dialog box will appear when the number is reduced and sent.
- If the currently displayed page number is over the maximum page number setting due to a change, the new maximum page is displayed as soon as the setting is changed.

3-2-3. Level Control

Generally, routing switchers control crosspoints according to the signal types such as video, audio, time codes, and VCR control. To control switchers, level numbers are used to identify which type of signal to control.



In the above example, if you select all the video signals to Level No. 1, you can switch video signal crosspoints when you select Level 1. In the same manner, if you select Level No. 2, you can switch audio signal 2 crosspoints. If you select multiple levels simultaneously, you can switch crosspoints on all of the selected levels at the same time.

◆ Assigning levels

Signals can be assigned to logical inputs and outputs using [Web-based Control: **Assign Function** page]. When assigning the signals, select a level for respective signals to be assigned to.

◆ Selecting levels on remote control units

The remote control unit can select channels on the current level. The current level can be changed using the **LEVEL** button or **CONTROL**. Multiple levels can be set to the current levels using the **LEVEL** button or **CONTROL**.

Pressing the **LEVEL** button allows you to go to the level that was selected when signals were assigned.

To change levels using **CONTROL**, press the **MODE** button and select Level menu in the Mode menu.

► See Sec. 3-4 “MODE Button and Mode Menu.”

3-2-3-1. Displaying Levels on the Remote Control Unit

The remote control unit displays current level(s) by hexadecimal numbers in the MENU or LCD display.

(Ex.1) If all levels 1 through 8 are enabled, the indication is “00FF”.

Level 8: ENBL 7: ENBL 6: ENBL 5: ENBL 4: ENBL 3: ENBL 2: ENBL 1: ENBL

\Rightarrow $\underbrace{\hspace{10em}}_F$ $\underbrace{\hspace{10em}}_F$

(Ex. 2) If levels 3, 4, 6, and 7 are enabled, the indication is “006C”.

Level 8: DSBL 7: ENBL 6: ENBL 5: DSBL 4: ENBL 3: ENBL 2: DSBL 1: DSBL

⇒ 6 C

* ENBL: enabled
DSBL: disabled

If multiple levels are selected to their current levels, the smallest enabled level number is shown in the MENU or LCD display.

In the above case (Ex.1): indicated as Level1

In the above case (Ex.2): indicated as Level3

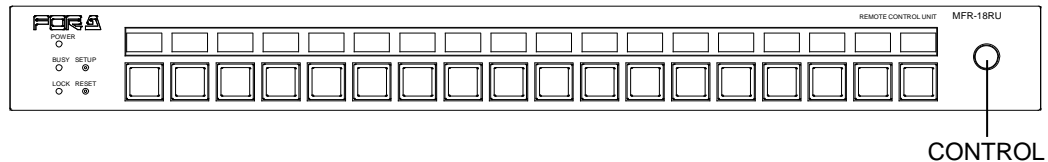
3-2-4. Operating with CONTROL (Rotary Selector)

If your MFR Remote control unit has **CONTROL** (Rotary Selector), you can select destination channels or other items using **CONTROL**.

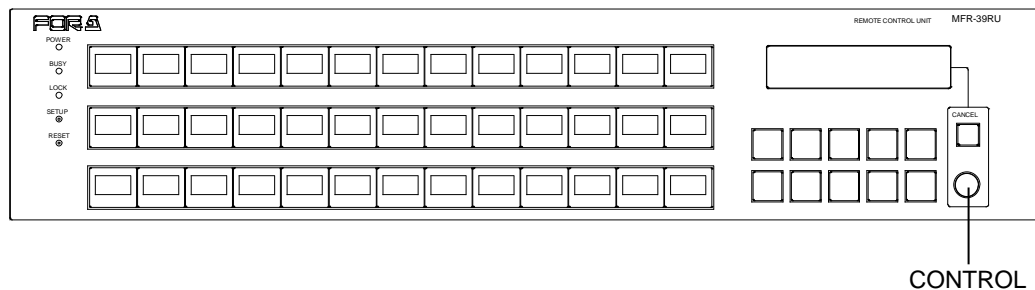
You can also select menu items by turning **CONTROL** to select an item and pressing **CONTROL** to confirm the selection.

CONTROL allows you to select displayed or settable items by switching MODE menu. (See Sec. 3-4. "Mode Button and Mode Menu" for details.)

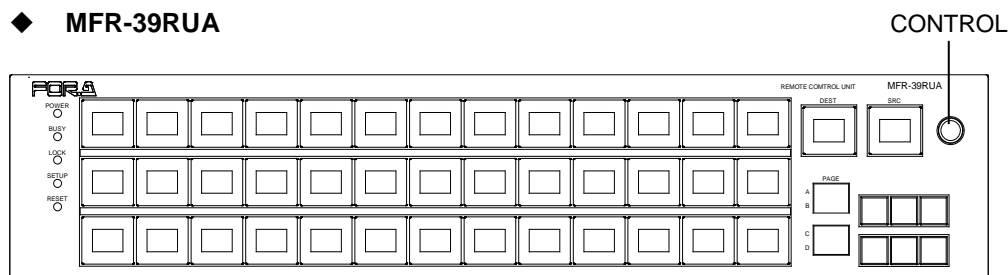
◆ MFR-18RU/18RUA



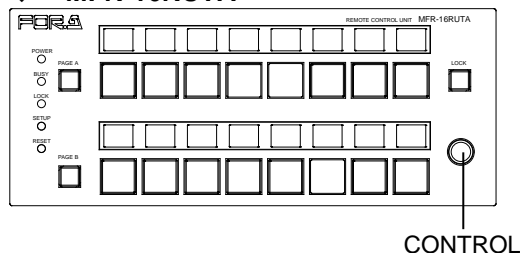
◆ MFR-39RU



◆ MFR-39RUA



◆ MFR-16RUTA



- * **CONTROL** can be disabled or enabled in the [Web-based Control: **RU Settings** page]

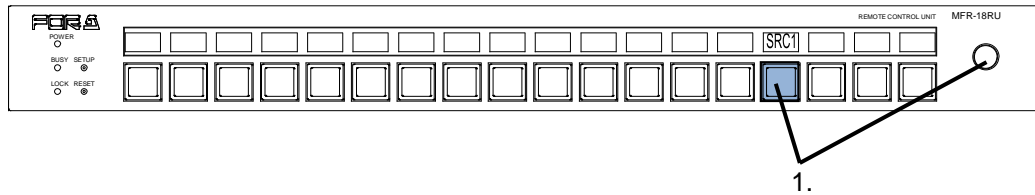
Selecting a source or non-function button on MFR-18RU/18RUA/39RUA/16RUTA units allows you to change the source channel assignment.

These units perform one of the following three operations set in the **RU Settings** page by selecting a **Destination** button.

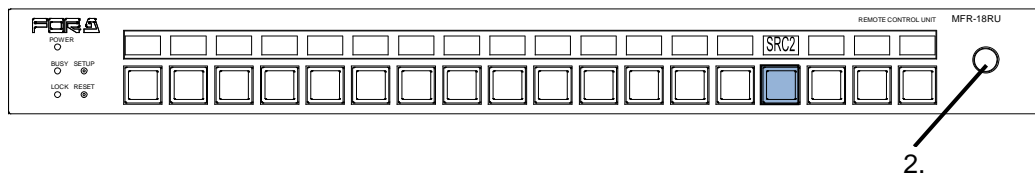
- **Assign** (default): Allows you to change the channel assignment of the selected **Destination** button.
- **Crosspoint**: Allows you to change the crosspoint assignment source channel of the selected Crosspoint button.
- **Disable**: The operation is disabled.

An operation procedure example (MFR-18RU) is as follows:

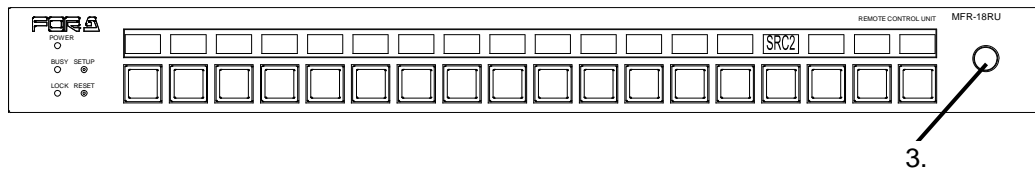
1. Press any source, destination or non-function button while holding down **CONTROL**. The button light sequentially changes its color from red to orange, then green.



2. Turn **CONTROL** to select a source channel to assign to the button.







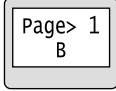
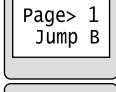
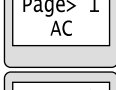
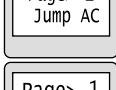
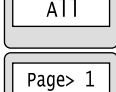
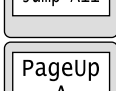
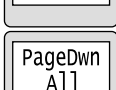
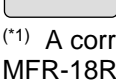
3. Press **CONTROL** to confirm the change. To cancel the change, press the selected source button. After confirming or canceling the change, the button light returns to the previous state.



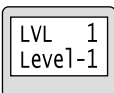
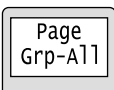
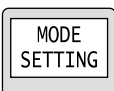





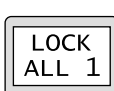








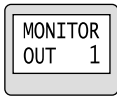
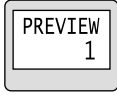



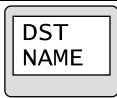
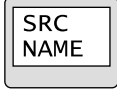
3-3. Function Buttons

Functions assignable to RU buttons are as shown in the table below. Functions are assigned using Web-based Control ([Web-based Control: **Assign Function** page]).

MFR-39RU (See Sec. 3-4-3-15. "BTN ASSIGN") and MFR-16RUD (see Sec. 3-5-2. "Changing Button Assignment") are enabled to assign functions by RU themselves.

Function	Button indication	Description	Reference
None		No function is assigned.	
Destination		Changes the current destination channel to the destination channel assigned to the button. Re-pressing the button displays the Unit ID that is locking a locked destination channel. If the destination channel is locked, the button lights up with a color indicating LOCK OTHER or LOCK ALL, which were set in the [Web-based Control: RU Settings page].	4-1-1
Source		Changes the current destination channel source to the source assigned to the button.	4-1-1
Bus		Changes the destination channel source that is assigned to this button to the source channel assigned to this button.	4-1-2
PAGE	Changes pages to be displayed to a specified, next or previous page. When jumped to a specified page, a menu allows you to select whether to return to the previously displayed page or to display the next specified page after jumping. Target group(s) is/are displayed on the bottom of the button indication. See Sec. 3-2-2. "Page Function" and Appendix: "How to use Page buttons" for details on Page button setting and operation.		
		PAGE JUMP (Single)	3-2-2
		PAGE JUMP (Single) (*1)	
		PAGE JUMP (Multi)	
		PAGE JUMP (Multi) (*1)	
		PAGE JUMP (All)	
		PAGE JUMP (All) (*1)	
		PAGE UP (Single)	
		PAGE DOWN (All)	
	(*1) A corresponding page name is displayed when assigning PAGE JUMP on MFR-18RUA/39RUA/ 16RUTA units.		

Function	Button indication	Description	Reference																											
Function		Destination mode	3-4																											
		Source mode																												
		Level mode																												
		Page mode ^(*) (PAGE_Grp-All / A / B / C / D) * The example at left shows the PAGE_Grp-All mode ^(*) The name set under Page Name Settings is displayed for PAGE Grp-A/B/C/D. (MFR-18RUA/39RUA/16RUA only)																												
		Setting mode																												
LOCK	 (A)	The following 4 Lock modes can be set by pressing a button for either a short or long time (more than 3 seconds). -LOCK OTHER: Disables control from external devices. -LOCK ALL: Disables all controls. -LOCK LOCAL: Disables local control. -NONE	4-3-1 4-3-2																											
	 (B)																													
	 (C)	Assignable 2-way button functions (short and long press combinations) are as shown in the table below. Assign the functions to buttons in the Web-based Control menu.																												
	 (C)'	<table><tr><th>Short press function</th><th>Long press function</th><th>Button indication</th></tr><tr><td rowspan="2">LOCK OTHER</td><td>NONE</td><td>(C) or (C)' ^(*)</td></tr><tr><td>LOCAL</td><td>(A) ^(*)</td></tr><tr><td rowspan="2">LOCK ALL</td><td>NONE</td><td>(D) or (D)' ^(*)</td></tr><tr><td>LOCAL</td><td>(A) ^(*)</td></tr><tr><td rowspan="3">LOCK LOCAL</td><td>NONE</td><td>(B)</td></tr><tr><td>OTHER</td><td>(A) ^(*)</td></tr><tr><td>ALL</td><td>(A) ^(*)</td></tr><tr><td rowspan="3">NONE</td><td>OTHER</td><td>(C) or (C)' ^(*)</td></tr><tr><td>ALL</td><td>(D) or (D)' ^(*)</td></tr><tr><td>LOCAL</td><td>(B)</td></tr></table>		Short press function	Long press function	Button indication	LOCK OTHER	NONE	(C) or (C)' ^(*)	LOCAL	(A) ^(*)	LOCK ALL	NONE	(D) or (D)' ^(*)	LOCAL	(A) ^(*)	LOCK LOCAL	NONE	(B)	OTHER	(A) ^(*)	ALL	(A) ^(*)	NONE	OTHER	(C) or (C)' ^(*)	ALL	(D) or (D)' ^(*)	LOCAL	(B)
	Short press function	Long press function		Button indication																										
	LOCK OTHER	NONE		(C) or (C)' ^(*)																										
		LOCAL		(A) ^(*)																										
LOCK ALL	NONE	(D) or (D)' ^(*)																												
	LOCAL	(A) ^(*)																												
LOCK LOCAL	NONE	(B)																												
	OTHER	(A) ^(*)																												
	ALL	(A) ^(*)																												
NONE	OTHER	(C) or (C)' ^(*)																												
	ALL	(D) or (D)' ^(*)																												
	LOCAL	(B)																												
 (D)																														
 (D)'																														

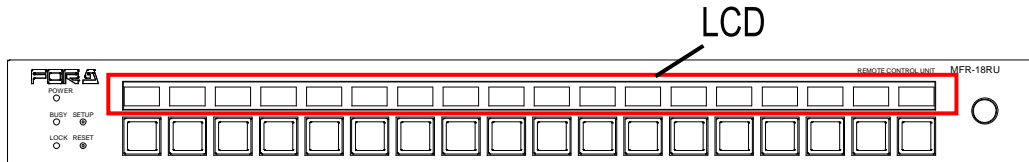
Function	Button indication	Description	Reference	
TAKE		Enable TAKE function for simultaneous crosspoint changes.	4-1-4	
LEVEL		Change a level to the level specifically assigned to the button.	3-2-3	
LINK		Enable or disable the LINK function.	4-2-4	
TENKEY		Enable ten-key keypad mode on the remote control unit for assigning destinations and source by their channel numbers. * Supported only for MFR-39RU and MFR-39RUA.	4-1-1-2	
SKIP	Allows you to skip set number of destination or source channels forward or backward to select one. * CONTROL needs to be pressed for Source selections.			
		Channel number increases in predetermined number.	4-1-1-1	
		Channel number decreases in predetermined number.		
	* Supported for MFR-18RU/18RUA/39RU/39RUA/ 16RUTA.			
Monitor Out		Enable or disable the Monitor Out function. * Supported only for MFR-5000/8000.	4-4	
Operation Preview		Enable or disable the Operation Preview function.	4-5	
SALVO	Allows you to assign salvos to buttons and execute a salvo assigned to the button or stored to a main or remote control unit.			
		Salvo Store	Allows you to assign salvos to buttons.	4-2-1 4-2-2
		Salvo Recall (MU)	Executes a main unit-stored salvo	
		Salvo Recall (RU)	Executes a remote control unit button-assigned salvo	
Display Mode	* MFR-18RU/18RUA/16RUTA only Allows you to change button indication between Destination and Source channel names.			
		Destination Name		
		Source Name		

◆ Destination Button LCD Indication

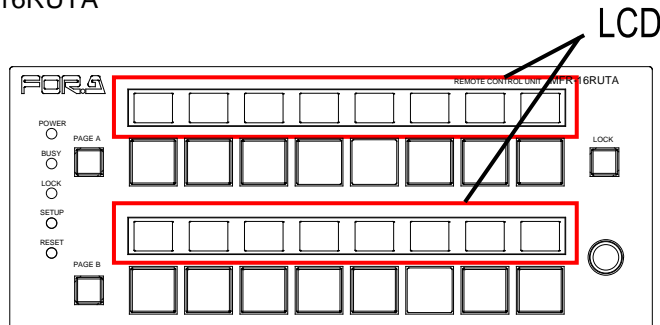
Destination channel names are ordinarily displayed on the LCDs above the destination buttons. MFR-18RU, 18RUA and 16RUTA can also display source channel names that are selected for destinations. To display source channel names, set the menu under **Display Setting** in the [Web-based Control: **RU Settings** page]. It is also possible to switch the LCD indications using the **Display Mode** button.

In case of breakaway switching with multiple levels, the name of the level with the smallest number will be displayed.

- MFR-18RU/18RUA



- MFR-16RUTA



3-4. MODE Button and Mode Menu (MFR-18RU/18RUA/39RU/39RUA/16RUTA)

3-4-1. Outline

The **MODE** button allows you to switch Mode Menu. By switching Mode Menu, displaying items on the MENU and LCD are switched and items that can be changed using **CONTROL** are also switched.

(Supported only for MFR-18RU/18RUA/39RU/39RUA/16RUTA.)

You can set each Mode menu as enabled or disabled. Only enabled Mode menus are switched and displayed by pressing the **MODE** button. Set non-using mode menus as disabled to allow for easier search of a mode.

Multiple buttons can be assigned to **MODE** buttons. If multiple **MODE** buttons are assigned, a **MODE** button is highlighted and the corresponding LCD background illuminates when it is pressed.

3-4-2. Mode Menu

The Mode menu has 5 mode options. In setting mode, setting options are different for MFR-18RU/18RUA/39RUA/16RUTA and MFR-39RU. (The menu display is supported only by MFR-39RU.)

◆ Destination Mode

MENU: Displays current destination channel [name] and its level [name].

LCD: Displays current destination channel.

Current DEST button: Displays current destination channel. Pressing the button shifts the status display between LEVEL and LOCK.

Turning **CONTROL**: Changes current destination channel.

DST: 1	[DST1]
LVL : 0001	[Level-1]

Menu display



Button LCD / Current DEST button (39RUA only)

◆ Source Mode

MENU: Displays source channel [name] for current destination.

LCD: Displays source channel for current destination.

Current SRC button: Displays source channel of current destination channel.

Turning **CONTROL**: Changes source channel.

Pressing **CONTROL** applies the change.

* Press TAKE instead of **CONTROL** when applying source changes in TAKE mode.

SRC: 1	[SRC1]
--------	--------

Menu display



Button LCD / Current SRC button (39RUA only)

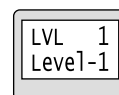
◆ Level Mode

MENU: Displays current level [name] of the remote control unit.

LCD: Displays current level and its name on the remote control unit.

LVL : 0001	[Level-1]
------------	-----------

Menu display



Button LCD

◆ Page Mode

MENU: Displays the page number currently assigned to the remote control unit.

LCD: Displays the page number currently assigned to the remote control unit.

Turning **CONTROL**: Changes the page number.

PAGE (UP/DOWN) : 1

Menu display



Button LCD

➤ MODE PAGE (PAGE_Grp-ALL)

PAGE JUMP	All groups' pages jump to the specified page.
PAGE UP/DOWN	All groups' pages move forward or backward respectively.
MENU display	<div>PAGE (UP/DOWN) Grp-A: 1 B: 1 C: 1 D: 1</div> <div>PAGE (JUMP) Grp-A: 1 B: 1 C: 1 D: 1</div>
LCD display	<div>Page Grp-All</div>
Current PAGE display	<div>PAGE</div> <div>A 01</div> <div>B 01</div> <div>C 01</div> <div>D 01</div>

➤ MODE PAGE (PAGE_Grp-A/B/C/D)

PAGE JUMP	The specified group(s) page(s) jumps to a specified page.
PAGE UP/DOWN	The specified group(s) pages moves forward or backward.
MENU display	<div>PAGE (UP/DOWN) Grp-C: 1</div> <div>PAGE (JUMP) Grp-C: 1</div>
LCD display	<div>Page 1 Grp-C</div>
Current PAGE display	<div>PAGE</div> <div>A 01</div> <div>B 01</div> <div>C 01</div> <div>D 01</div>

◆ **Setting Mode**

➤ In MFR-39RU

Displays settable menu titles.

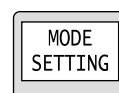
Turn **CONTROL** to select a menu and change settings.

Changeable items are highlighted.

▶ See Sec. 3-4-3. "Setting Mode Menu (MFR-39RU)"

SETTING>DEF MODE <ENT>

Menu display



Button LCD

3-4-3. Setting Mode Menu (MFR-39RU)

Setting Mode menu items are as shown below.

◆ Setting Mode menu items

MENU indication	Description	Reference
SETTING>DEF MODE <ENT>	Allows you to change the remote control unit start-up default mode.	3-4-3-1
SETTING>DEF DEST <ENT>	Allows you to change the remote control unit start-up default destination.	3-4-3-2
SETTING>DEF LEVEL <ENT>	Allows you to change the remote control unit start-up default level.	3-4-3-3
SETTING>DEF PAGE <ENT>	Allows you to enable or disable a page setting that select a page to be displayed at start-up of the remote control unit.	3-4-3-4
SETTING>DEF PAGE A <ENT>	Allows you to select a Group A page to be displayed at start-up of the remote control unit.	3-4-3-5
SETTING>DEF PAGE B <ENT>	Allows you to select a Group B page to be displayed at start-up of the remote control unit.	3-4-3-5
SETTING>DEF PAGE C <ENT>	Allows you to select a Group C page to be displayed at start-up of the remote control unit.	3-4-3-5
SETTING>DEF PAGE D <ENT>	Allows you to select a Group D page to be displayed at start-up of the remote control unit.	3-4-3-5
SETTING>PAGE MODE <ENT>	Allows you to select behavior of CONTROL in Page mode.	3-4-3-6
SETTING>PAGEASSIGN <ENT>	Allows you to select a performance feature for the PAGE button assignment.	3-4-3-7
SETTING>WRAPAROUND<ENT> >	This menu allows you to turn ON or OFF wraparound when changing a page using CONTROL or PAGE UP/DOWN button.	3-4-3-8
SETTING>DSTINHIBIT <ENT>	Allows you to set the inhibit function to a desired destination.	3-4-3-9
SETTING>SRCINHIBIT <ENT>	Allows you to set the inhibit function to a desired source.	3-4-3-10
SETTING>NAME TYPE <ENT>	Allows you to select a type for the destination, source and level name displays.	3-4-3-11
SETTING>TENKEY MOD <ENT>	Allows you to select how to confirm changes in tenkey mode.	3-4-3-12
SETTING>TENKEY NO <ENT>	Allows you to select 0 or 1 for a start point of tenkey.	3-4-3-13
SETTING>SALVO CLR <ENT>	Allows you to clear the button-assigned Salvo.	3-4-3-14
SETTING>BTN ASSIGN <ENT>	Allows you to assign functions to buttons.	3-4-3-15
SETTING>EXIT <ENT>	Exits the Setting Mode menu.	---

3-4-3-1. DEF MODE

This menu allows you to select a mode to be displayed on the menu display at start-up of the remote control unit.

SETTING>DEF MODE
DESTINATION <ENT>

Turn **CONTROL** to select a mode to set as default, then press the knob to confirm.

DESTINATION	:	Destination mode
SOURCE	:	Source mode
LEVEL	:	Level mode
PAGE_Grp-All	:	Page mode (all groups)
PAGE_Grp-A	:	Page mode (Group A)
PAGE_Grp-B	:	Page mode (Group B)
PAGE_Grp-C	:	Page mode (Group C)
PAGE_Grp-D	:	Page mode (Group D)
SETTING	:	Setting mode

IMPORTANT

Do not turn off the remote control unit until the BUSY indicator, which lights orange, goes off when changing modes. Doing so will disable the change.

3-4-3-2. DEF DEST

This menu allows you to select a destination to be displayed on the menu display at start-up of the remote control unit.

SETTING>DEF DEST
DEF DEST: 1<ENT>

Turn **CONTROL** to select a destination to set as default, then press the knob to confirm the selection.

IMPORTANT

Do not turn off the remote control unit until the BUSY indicator, which lights orange, goes off when changing modes. Doing so will disable the change.

3-4-3-3. DEF LEVEL

This menu allows you to select a level to be displayed on the menu display at start-up of the remote control unit.

SETTING>DEF LEVEL
DEF LEVEL:0001<ENT>

Turn **CONTROL** to select a level to set as default, then press the knob to confirm the selection.

IMPORTANT

Do not turn off the remote control unit until the BUSY indicator, which lights orange, goes off when changing modes. Doing so will disable the change.

3-4-3-4. DEF PAGE

This menu allows you to select a page to be displayed at start-up of the remote control unit.

SETTING>DEF PAGE
DEF PAGE: OFF <ENT>

Turn **CONTROL** to select **LAST** or **SELECT**, then press the knob to confirm the selection.

LAST: Displays the page that has been displayed before shutdown.

SELECT: Displays the page that was set by DEF PAGE A to D.

IMPORTANT

Do not turn off the remote control unit until the BUSY indicator, which lights orange, goes off when changing modes. Doing so will disable the change.

3-4-3-5. DEF Page A to DEF PAGE D

This menu allows you to select a page to be displayed on the menu display at start-up of the remote control unit.

DEF PAGE A: Selecting a page from Group A

DEF PAGE B: Selecting a page from Group B

DEF PAGE C: Selecting a page from Group C

DEF PAGE D: Selecting a page from Group D

SETTING>DEF PAGE A
GRP.A PAGE: 1 <ENT>

Turn **CONTROL** to select a page, then press the knob to confirm the selection.

IMPORTANT

Do not turn off the remote control unit until the BUSY indicator, which lights orange, goes off when changing modes. Doing so will disable the change.

3-4-3-6. PAGE MODE

This menu allows you to select the **CONTROL** behavior in Page mode.

SETTING>PAGE MODE
PAGE MODE :JUMP <ENT>

Turn **CONTROL** to select a behavior pattern from below options, then press the knob to confirm the selection.

UP/DOWN: Every turn of **CONTROL** changes the page for one page forward or backward.

JUMP: Turn **CONTROL** to select a page and press the knob to display the page.

3-4-3-7. PAGE ASSIGN

This menu allows you to select whether to assign the **PAGE** button to a selected page or all pages.

SETTING>PAGEASSIGN
ASIGN : ONE PAGE <ENT>

Turn **CONTROL** to select a performance feature from the below options and press the knob to confirm the selection.

ONE PAGE: Assigns the **PAGE** button to a selected page.

ALL PAGE: Assigns the **PAGE** button to all pages.

3-4-3-8. WRAPAROUND

This menu allows you to turn **ON** or **OFF** Wraparound when changing a page using **CONTROL** or **PAGE UP/DOWN** button.

SETTING>WRAPAROUND<ENT>

Turn **CONTROL** to select **ON** or **OFF** and press the knob to confirm the selection.

SETTING>WRAPAROUND
WRAPAROUND: OFF<ENT>

SETTING>WRAPAROUND
WRAPAROUND: ON<ENT>

ON: When a page is switched to Page MAX, next page is continued as Page MAX to Page 1 to Page 2...as a continuous circular series.

OFF: Wraparound is turned off.

3-4-3-9. DSTINHIBIT

Set INHIBIT to be enabled or disabled for a destination channel.

SETTING>DSTINHIBIT
DST 1 : OFF <ENT>

Turn **CONTROL** to select a destination channel, then press the knob to confirm the selection.

SETTING> DSTINHIBIT
DST 1 : ON <ENT>

Turn **CONTROL** to select ON or OFF, then press the knob to confirm the selection.

ON disables the output selection of the selected destination channel.

OFF cancels the Inhibit setting.

Inhibited destination button indication is crossed out.



3-4-3-10. SRCINHIBIT

Set INHIBIT as ON or OFF for a source channel.

```
SETTING>SRCINHIBIT
SRC 1 : OFF <ENT>
```

Turn **CONTROL** to select a source channel, then press the knob to confirm the selection.

```
SETTING>SRCINHIBIT
SRC 1 : ON <ENT>
```

Turn **CONTROL** to select ON or OFF and press the knob to confirm the selection.

ON disables the output selection of the selected source channel.

OFF cancels the Inhibit setting.

Inhibited Source button indication is crossed out.



3-4-3-11. NAME TYPE

This menu allows you to select a name display type for destination, source and level.

```
SETTING>NAME TYPE
DST BTN :PHY NUM <ENT>
```

Turn **CONTROL** to select a button group from destination, source and level buttons. Press **CONTROL** to confirm the selection.

```
SETTING>NAME TYPE
DST BTN :PHY NUM <ENT>
```

Turn **CONTROL** to select a display type, then press the knob to confirm the selection.

Display type	Description	Example indication		
		DST	SRC	LEVEL
PHY NUM	Physical number display			
ASCII	Ascii character display (Alphanumeric characters and symbols)			
KANJI	2-byte character code including 1-byte character code (Not selectable for LEVEL)			
BITMAP	Bitmap image (saved in the RU) display			

- * When using 2-byte characters:
Up to 8 characters (including one-byte characters) on MFR-18RUA/39RUA/16RUTA units
Up to 4 characters (including one-byte characters) on MFR-18RU/39RU units.
- * Up to 14 characters when using only one-byte characters.
- * To display a bitmap image, 52x36 size black-and-white BMP image is only applicable.
Register bitmap images using off-line GUI.

3-4-3-12. TENKEY MOD

This menu allows you to change the method to confirm changes in ten-key keypad mode.

```
SETTING>TENKEY MOD
INPUT MODE:ENTER <ENT>
```

Turn **CONTROL** to select a method from the below options, then press the knob to confirm the selection.

ENTER : Enter a value and press the **ENTER** button on the displayed ten-key keypad.

DIRECT : A value is confirmed when a value is entered using the ten-key keypad.

3-4-3-13. TENKEY NO

This menu allows you to select the start point between 0 and 1 in ten-key keypad mode.

```
SETTING>TENKEY NO
INPUT START NO:0<ENT>
```

Turn **CONTROL** to select 0 or 1, then press the knob to confirm the selection.

3-4-3-14. SALVO CLR

This menu allows you to clear a specific salvo assigned to a button.

```
SALVO DELETE
NO: 1<ENT>
```

Turn **CONTROL** to select a salvo to clear, then press the knob to confirm the selection.

If no salvo is assigned, the menu display appears as shown below.

```
SALVO DELETE
(NO SALVO DATA)
```

3-4-3-15. BTN ASSIGN

This menu allows you to assign button functions.

► See Sec. 3-3 "Function Buttons" for the assignable functions.

1. Select a button to change button assignment by turning and pressing **CONTROL**, or by pressing the desired button.

```
SETTING>BTN ASSIGN
BTN NO: 1<ENT>
```

2. Select a page to change the button assignment by turning **CONTROL** and press the knob to confirm the selection.

```
SETTING>BTN ASSIGN
PAGE: 1<ENT>
```

3. Turn **CONTROL** to select a function and press the knob to confirm the selection. Set parameters for the function if necessary.

```
SETTING>BTN ASSIGN
FUNC:DEST <ENT>
```

The menu display asks you to confirm the assignment change as shown above when necessary settings are complete. To apply the change to the system, turn and press

CONTROL to select **Yes**. Selecting **No** cancels the change and returns to the menu display to select buttons.

SETTING>BTN ASSIGN
EXEC:NO <ENT>

◆ Setting Function Parameters

Function	Parameter	Note
(NONE)		
DEST	DEST: XXX (XXX: Destination channel number)	
	LEVEL: XXXX (XXXX: Level)	
SRC	SRC: XXXX (XXXX: Source channel number)	
	LEVEL: XXXX (XXXX: Level)	
BUS	DEST: XXX (XXX: Destination channel number)	
	SRC: XXXX (XXXX: Source channel number)	
	LEVEL: XXXX (XXXX: Level)	
PAGE	MODE: JUMP (JUMP: Jump to a specified page /UP: Go forward a page /DOWN: Go backward a page)	
	PAGE: XX (XX: Page number)	* Effective for JUMP
	RETPAGE: XX (PREV PAGE: Return to the previous page /XX: Jump to the next specified page)	* Effective for JUMP
	GROUP-A: ON (ON / OFF)	
	GROUP-B: ON (ON / OFF)	
	GROUP-C: ON (ON / OFF)	
	GROUP-D: ON (ON / OFF)	
MODE	DESTINATION: ON (ON / OFF)	
	SOURCE: ON (ON / OFF)	
	LEVEL: ON (ON / OFF)	
	PAGE_Grp-All: ON (ON / OFF)	
	PAGE_Grp-A: ON (ON / OFF)	
	PAGE_Grp-B: ON (ON / OFF)	
	PAGE_Grp-C: ON (ON / OFF)	
	PAGE_Grp-D: ON (ON / OFF)	
LOCK	SETTING: ON (ON / OFF)	
	LOCK[S]: OTHER (NONE / OTHER / ALL / LOCAL) LOCK function by short press	
	DEST: XX (CURRENT: Locks the current destination. / XX: Destination Channel number to be locked)	* Effective for OTHER and ALL
	LOCK[L]: NONE (NONE / OTHER / ALL / LOCAL) LOCK function by long press	
TAKE	DEST: XX (CURRENT: Locks the current destination. /XX: Destination Channel number to be locked)	* Effective for OTHER and ALL
LEVEL	LEVEL:XXXX (XXXX: Level)	
LINK		

Function	Parameter	Note
TENKEY		
SKIP	MODE: FWD (FWD: Forward / BWD: Backward)	
	COUNT: XXX (XXX: Number of channels to skip)	
MON-OUT	OUT: X (X:MONITOR OUT)	* MFR-5000/ 8000 only
O-PREVIEW	DEST: XXX (XXX: Destination channel number)	
SALVO	MODE: (MU RECALL: Executes the main unit-assigned SALVO MU RECALL /RU RECALL: Executes the button-assigned SALVO /RU STORE: Assigns a SALVO to a button)	
	NO: XXXX (XXXX: Salvo number)	* Effective for MU RECALL, and RU RECALL

3-4-4. Setting Mode Menu (MFR-39RUA)

The current **SRC** button functions as an **EXIT/CANCEL** button used for exiting mode during Setting mode.

Use the following procedures to change settings.

- Press a button to turn On/Off.
- Use **CONTROL** to change values.
 1. Press to select a desired menu item.
 2. Turn **CONTROL** to change its value.
 3. Press **CONTROL** to confirm the setting.

After menu settings, do not turn off the remote control unit until the BUSY indicator changes from lit orange to unlit. Otherwise, settings may not be applied.

- * When entered **Setting** mode by pressing the **SETUP** button, the **BUSY** indicator lights orange during **Setting** mode. Press the **EXIT/CANCEL** button to exit **Setting** mode. Before powering off the remote control unit, verify that the BUSY indicator is turned off.

Setting Mode menu items are as shown below.

MENU indication	Description	Reference
NETWORK	Allows you to change the IP address of the remote control unit and display the PC-LAN network information.	3-4-4-1
VER/ALARM	Allows you to display the version and alarm information.	3-4-4-2
DEFAULT	Allows you to change the default settings that are loaded when the remote control unit is powered on.	3-4-4-3
BUTTON ASSIGN	Allows you to assign functions to user-assignable buttons.	3-4-4-4
INHIBIT	Allows you to enable/disable the INHIBIT function for a channel.	3-4-4-5
NAME TYPE	Allows you to select the display type for Destination, Source and Level.	3-4-4-6
BRIGHTNESS	Allows you to set the brightness of buttons.	3-4-4-7
RU-RU CONNECT	Allows you to configure a link system of multiple remote control units.	3-4-4-8
TENKEY	Allows you to set TENKEY (ten-key keypad) operation.	3-4-4-9
PAGE	Allows you to change PAGE settings.	3-4-4-10
SALVO CLEAR	Allows you to clear salvo data stored in buttons.	3-4-4-11

3-4-4-1. NETWORK

The following submenus are available in NETWORK setting mode.

Submenu	Description
RU NETWORK	Allows you to change the IP address of the remote control unit and display the network information.
PC-LAN NETWORK	Displays the network settings of the PC-LAN port.
PC-LAN REBOOT	Restarts the PC-LAN port. * Disabled if connecting to MFR-4000 units.

NETWORK > RU NETWORK

Menu item	Description
IP	Displays and changes the IP address of the remote control unit. The lower 8 bits (the fourth byte) represent the Unit ID.
MASK	Displays the subnet mask of the remote control unit.
UNIT NAME	Displays the unit name of the remote control unit.

To Change IP Address:

1. Hold down the button where the number to be changed is displayed. The button will blink.
2. Turn **CONTROL** to change the number.
3. Repeat 1. and 2. to change the IP address.
4. Hold down the current **DEST** button to confirm the change. The remote control unit will automatically restart.

NETWORK > PC-LAN NETWORK

Menu item	Description
IP	Displays the PC-LAN IP address.
MASK	Displays the PC-LAN subnet mask.
GW	Displays the PC-LAN Default Gateway IP address.

NETWORK > PC-LAN REBOOT

To restart the PC-LAN port:

* Disabled if connecting to MFR-4000 units.

1. Press REBOOT.
2. Hold down **EXEC HOLD 1s** to restart the PC-LAN port. "STARTUP" and "NOW" is displayed during restart.

3-4-4-2. VER/ALARM

◆ Menu List

Menu item	Description
VERSION	Displays the firmware version.
PS1	Displays the AC adapter 1 status.
PS2	Displays the AC adapter 2 status.
TEMPERATURE	Displays the temperature.
VOLTAGE	Displays the voltage status.

3-4-4-3. DEFAULT

◆ Menu List

Menu item	Description	Set by
MODE	Allows you to select a mode when the remote control unit is powered on. DEST: Destination mode SRC: Source mode LEVEL: Level mode PAGE ALL: Page mode (all groups) PAGE GROUP A: Page mode (Group A) PAGE GROUP B: Page mode (Group B) PAGE GROUP C: Page mode (Group C) PAGE GROUP D: Page mode (Group D) SETTING: Setting mode	Pressing a button
DEST	Allows you to select a destination channel when the remote control unit is powered on.	CONTROL
LEVEL	Allows you to select a level when the remote control unit is powered on.	Pressing a button
PAGE	LAST: When the remote control unit is powered on, RU displays the page that has been displayed before shutdown. SELECT: When the remote control unit is powered on, RU displays the page that was set by SELECT	Pressing a button
	When SELECT is selected, following groups are displayed. GRP A: Selecting a page from Group A. GRP B: Selecting a page from Group B. GRP C: Selecting a page from Group C. GRP D: Selecting a page from Group D.	CONTROL

3-4-4-4. BUTTON ASSIGN

This menu displays the assignment list for PAGE 1.

Changing Assign Functions to Buttons:

1. Turn **CONTROL** to select a page.
2. Press a button for assignment. The button will blink and its information will be displayed.
3. Turn **CONTROL** to select a function to assign the button.
4. Use **CONTROL** to set the corresponding parameter(s). Once the settings are complete, the current **DEST** button blinks and "SAVE" is displayed on the button.
5. Press the current **DEST** button to confirm the settings.

To perform other assignment, proceed from Step 1.

FUNC Menu List

FUNC	Parameter	Description	Remarks
NONE			
DEST	DESTINATION	Destination channel	
	LEVEL	Level (Available level number(s) is(are) displayed.)	
SRC	SOURCE	Source channel	
	LEVEL	Level (Available level number(s) is(are) displayed.)	
BUS	DESTINATION	Destination channel	
	SOURCE	Source channel	
	LEVEL	Level (Available level number(s) is(are) displayed.)	
PAGE	TYPE	JUMP: Moves to the specified page. UP: One page forward DOWN: One page backward	
	FORWARD	A page no. to jump	When TYPE is set to JUMP:
	REVERSE	A page no. to return HOME: Return to home.	
	GROUP	Page group selection	
MODE	TARGET	Mode selection using the MODE button	
LOCK	TYPE[S]	Lock mode selection for the short-press of the LOCK button.	
	DESTINATION[S]	Destination channel setting for the short-press of destination buttons. CURRENT: Locks the current destination	When ALL or OTHER is set for TYPE[S]:
	TYPE[L]	Lock mode selection for the long-press of the LOCK button.	
	DESTINATION[L]	Destination channel setting for the long-press of destination buttons. CURRENT: Locks the current destination	When ALL or OTHER is set for TYPE[L]:
TAKE			
LEVEL		Level (Available level number(s) is(are) displayed.)	
LINK			
TENKEY			

FUNC	Parameter	Description	Remarks
SKIP	BWD/FWD	Mode selection	
	COUNT	Number to be skipped	
MON-OUT	NO.	Number of the main unit rear panel MONITOR OUT port.	MFR-5000/8000 only
O-PREV	DESTINATION	Destination channel	
SALVO	TYPE	MU: Execution of an MU salvo. RU: Execution of an RU button salvo STORE: Registration of an MU salvo	
	NO.	Salvo number	When TYPE is set to MU or RU:

3-4-4-5. INHIBIT

The following submenus are available in INHIBIT Setting mode.

Submenu	Description
DEST	Allows you to set INHIBIT to enabled / disabled for a destination channel. Symbol "X" appears on channels when INHIBIT is enabled.
SRC	Allows you to set INHIBIT to enabled / disabled for a source channel. Symbol "X" appears on channels when INHIBIT is enabled.

INHIBIT > DEST

Displays a destination channel list. Press a channel to switch enable/disable INHIBIT.

INHIBIT > SRC

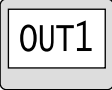
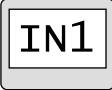



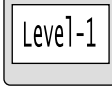
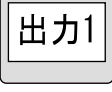
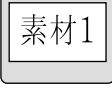


Displays a source channel list. Press a channel to switch enable/disable INHIBIT.

3-4-4-6. NAME TYPE

Menu List

Menu Item	Description	Set by
DEST	Allows you to select a display format for a destination button.	Pressing a button
SRC	Allows you to select a display format for a source button.	Pressing a button
LEVEL	Allows you to select a display format for a level button.	Pressing a button
DEST BITMAP	Allows you to select USE / UNUSE of a bitmap image for a destination button.	Pressing a button
SRC BITMAP	Allows you to select USE / UNUSE of a bitmap image for a source button.	Pressing a button

Available formats are as shown in the table below.

Display format	Description	Display example		
		DST	SRC	LEVEL
PHY NUM	Physical number display			
ASCII	Ascii character display (Alphanumeric characters and symbols)			
KANJI	2-byte character code including 1-byte character code (Not selectable for LEVEL)			
BITMAP	Bitmap image (saved in the RU) display			

- * When using 2-byte characters:
Up to 8 characters (including one-byte characters) on MFR-18RUA/39RUA/16RUTA units
Up to 4 characters (including one-byte characters) on MFR-18RU/39RU units
- * Up to 14 characters when using only one-byte characters
- * To display a bitmap image, 52x36 size black-and-white BMP image is only applicable.
Register bitmap images using off-line GUI.

3-4-4-7. BRIGHTNESS

Menu List

Menu item	Description	Set by
BUTTON	Allows you to select a button brightness.	Pressing a button
LOW LIGHT	Allows you to select between NORMAL and LOWLIGHT for dim lighting.	Pressing a button

3-4-4-8. RU-RU CONNECT

Menu List

Menu item	Description	Set by
CONNECT	Allows you to enable /disable the link of remote control units.	Pressing a button
MASTER ID	Allows you to select a link ID.	CONTROL

3-4-4-9. TENKEY

Menu List

Menu item	Description	Set by
INPUT MODE	Allows you to select the confirmation method when using the ten-key keypad. DIRECT : Confirms setting by just pressing a ten-key key. ENTER : Confirms setting by pressing a ten-key key then pressing ENTER.	Pressing a button
START	This menu allows you to select 0 or 1 for a start point of ten-key keypad mode.	Pressing a button

3-4-4-10. PAGE

Menu List

Menu item	Description	Set by
MODE	Allows you to select CONTROL behavior in Page mode. UP/DOWN : Turn CONTROL to move one page forward/back. JUMP : Turn CONTROL to select a page then press CONTROL to move to the page.	Pressing a button
ASSIGN	Allows you to select PAGE button assignment. ONE PAGE : Assigns a PAGE button to a specified page. ALL PAGES : Assigns a PAGE button to all pages respectively.	Pressing a button
DISPLAY	Allows you to select whether to display unit names for Current PAGE display (C/D). PAGE C&D : Current PAGE display for Group C and D. UNIT NAME : Displays unit names.	Pressing a button
WRAPAROUND	Allows you to turn ON or OFF wraparound when changing a page using CONTROL or PAGE UP/DOWN button. ON : When a page is switched to Page MAX, next page is continued as Page 1 to Page 2...as a continuous circular series. OFF : Wraparound is turned off.	Pressing a button

3-4-4-11. SALVO CLEAR

This menu displays the button-assigned salvo list and allows you to clear salvos.

To Clear a Button-assigned Salvo:

1. Press a salvo button to clear. The button will blink and **CLEAR** is displayed on the current DEST button.
2. Press the current **DEST** button.

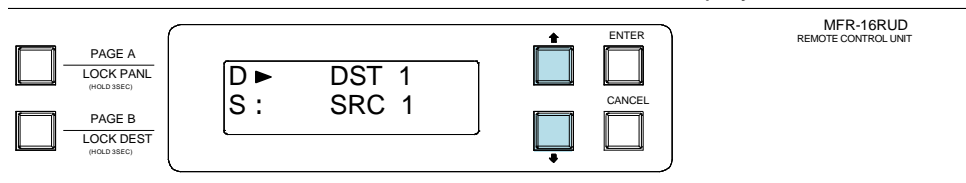
3-5. Operation Using the Menu Display (MFR-16RUD)

The MFR-16RUD, a remote control unit with a display, allows you to select destination channels and switch crosspoints using the menu display. Function button assignments are also possible.

◆ Default Display

The name of Current Destination Channel is displayed on the first line.

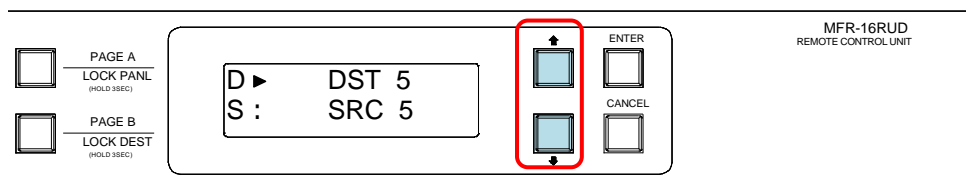
The name of Source Channel selected for Current Destination is displayed on the second line.



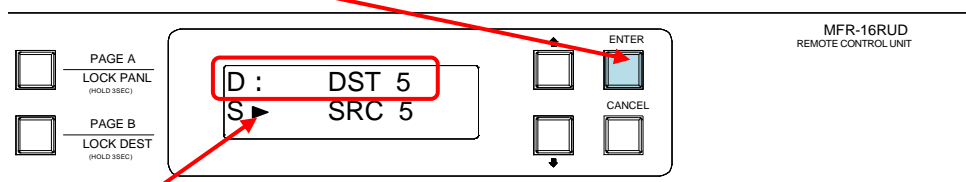
3-5-1. Crosspoint Switching

To switch crosspoints on the MFR-16RUD using the menu display, proceed as follows:

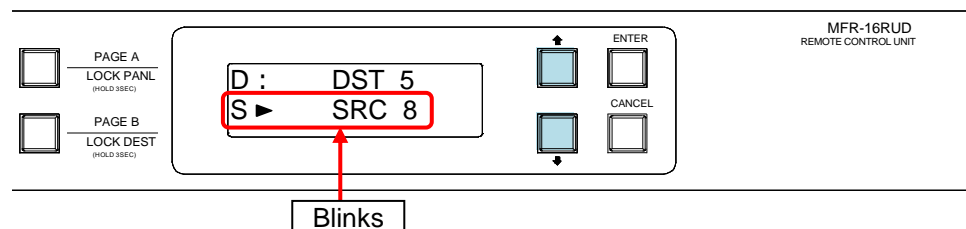
1. Press the **UP** or **DOWN** button to change current destination to desired number. (DST 5 in this example)



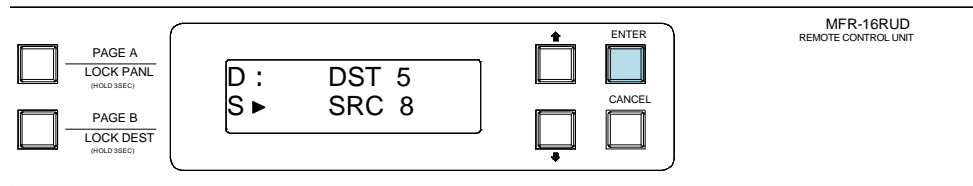
2. Press **ENTER**.



3. The cursor automatically moves to the second line (Source side). Press **UP** or **DOWN** to select a source channel.
Note that source name blinks during the selection.



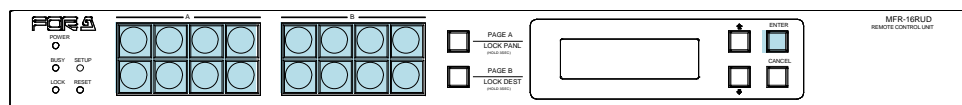
- Press **ENTER** to perform the crosspoint switch. The screen will return to the default display.



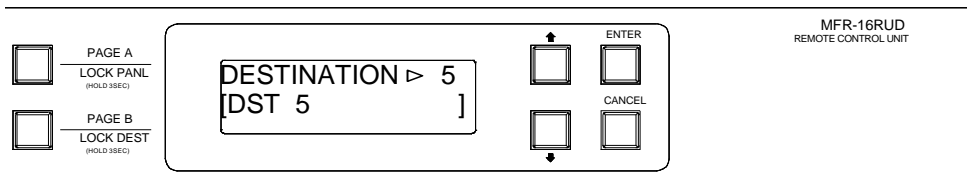
3-5-2. Changing Button Assignment

To change button assignments using the menu display, proceed as follows:

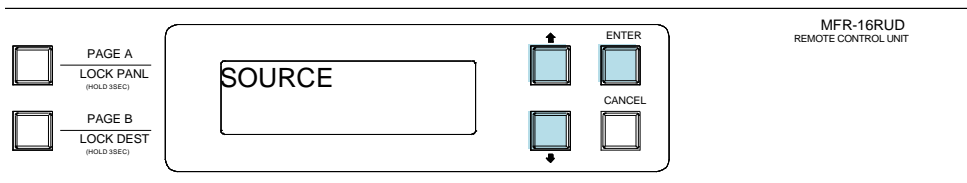
- Press a button while holding down **ENTER**. The button will blink.



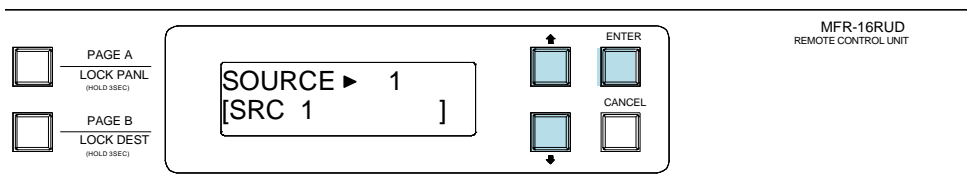
The first line displays the function and its parameter currently assigned to the button and the second line displays parameter's detailed information.



- Press **UP** or **DOWN** to select a function to be assigned. Press **ENTER** to apply the change.



- The display changes to the parameter selection according to the selected function. Press **UP** or **DOWN** to select the parameter value. Press **ENTER** to confirm the selection. The cursor will move to the next parameter if there are two or more parameters. Set the value and press **ENTER** in the same way. Note that parameters blink during the selection.



When all settings are finished, the menu display automatically returns to its default display.

◆ Assignable Function/Parameter List

Function	Parameter	Description
(NONE)	None	
DESTINATION	DESTINATION ► XXX (XXX: Destination Channel number)	
SOURCE	SOURCE ► YYYY (YYYY: Source Channel number)	
BUS	BUS D ► XXX S ► YYYY (XXX: Destination Channel number YYYY: Source Channel number)	
LOCK	LOCK S ► XXX ▷ YYY (Lock function by short press) LOCK L ► XXX ▷ YYY (Lock function by long press) (XXX: OTH LOCK OTHER /ALL LOCK ALL /LOC LOCK LOCAL /NON No lock YYY: CUR Current Destination /Destination Channel number) YYY is effective only when XXX is set to OTHER or ALL.	
TAKE	None	
LINK	None	
MON-OUT	MON-OUT ► X (X: MONITOR OUT number)	*MFR-5000 /8000 only
PREVIEW	PREVIEW ► XXX (XXX: Destination Channel number)	
SALVO	SALVO ► XX ▷ YYYY (XX : MU Main Unit Stored Salvo /RU Remote control unit Button Assigned Salvo YYYY: Salvo number)	

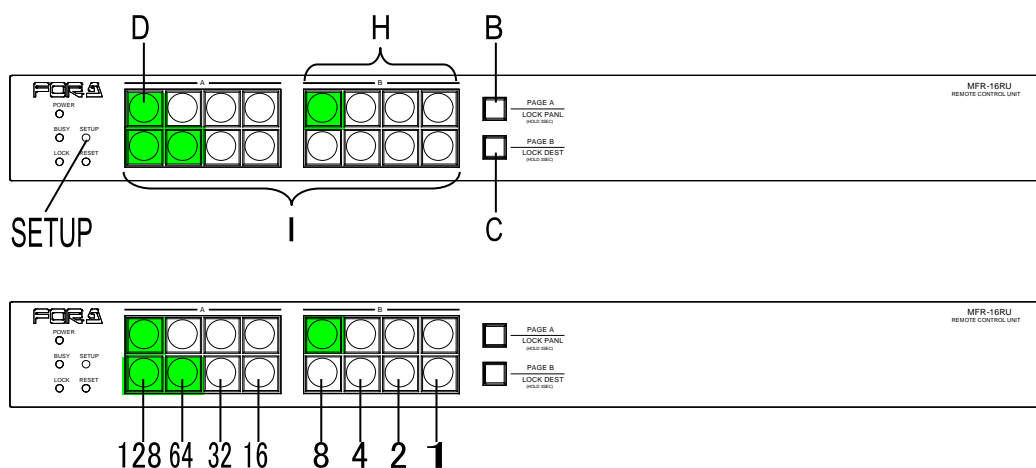
3-6. Setup Menu (MFR-16/40RU, MFR-16RUD, MFR-16/32/64RUW)

The **SETUP** button changes the RU to **Setup Menu** mode, which allows you to display RU and MU PC-LAN network settings, reboot the MU PC-LAN port, and change the RU network settings. To exit Setup Menu mode, press the **SETUP** button again.

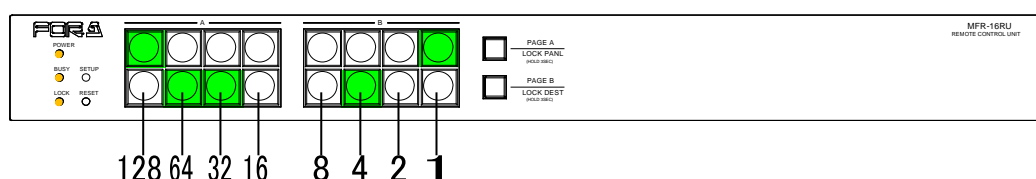
◆ IP Address Display

The following procedure shows how to display an IP address in Setup Menu mode using MFR-16RU as an example.

1. Press **SETUP**. All indicators, POWER, BUSY and LOCK, turn on orange to indicate that the RU enters in Setup Menu mode.
2. Press Button **D**. (If Button **B** or **C** is lit, press the lit button.)
3. Press the leftmost button (the first octet) of buttons **H**.
The numbers are displayed on buttons **I**. If the MFR-16RU IP address is set to "192.168.1.100," The eight buttons (8 bits) displays "192" (128+64) by turning the light **On** or **Off** for each bit (On, On, Off, Off, Off, Off, Off, Off).



4. Press the second button (the second octet) of buttons **H**.
The number is displayed on buttons **I**.
If the MFR-16RU IP address is set to "192.168.1.100," "168" is displayed.
5. Press the third button (the third octet) of buttons **H**.
The number is displayed on buttons **I**.
If the MFR-16RU IP address is set to "192.168.1.100," "1" is displayed.
6. Press the right-most button (the fourth octet) of buttons **H**.
The number is displayed on buttons **I**.
If the MFR-16RU IP address is set to "192.168.1.100," "100" (64+32+4) is displayed as shown below (Off, On, On, Off, Off, On, Off, Off).



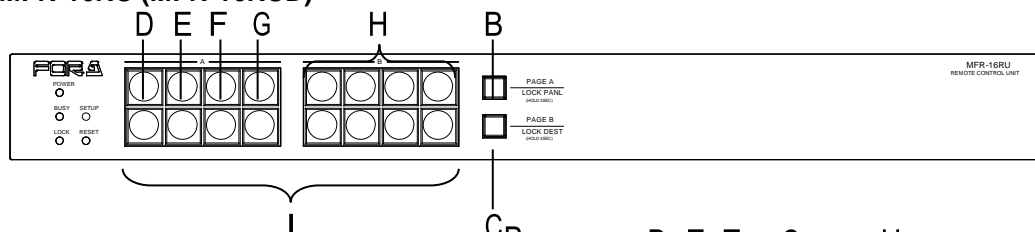
3-6-1. Displaying Network Settings

1. In Setup Menu mode, press a button shown in the table below to display the desired network setting. Note that button locations vary depending on remote control units.

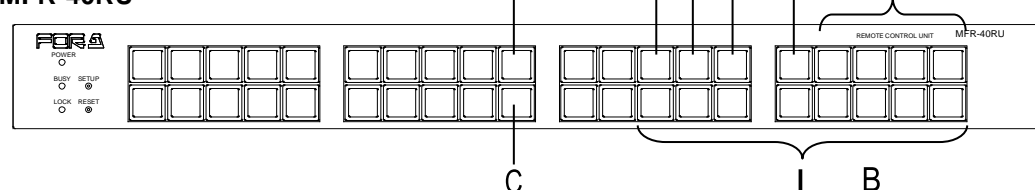
Button operation		LAN port	Display Info.
Press D.	If B is lit, press B. If C is lit, press C.	Remote Control Unit (LAN)	IP address
Press E.			Subnet mask
Press B, then D.	If B is lit, press B. If C is lit, press C.	PC-LAN on Main Unit (MU)	IP address
Press B, then E.			Subnet mask
Press B, then F.			Default Gateway

2. Press an octet button of buttons **H** to select an octet. The rightmost button represents the fourth octet. (See the previous page.)
3. The octet value is displayed on buttons **I** (eight buttons). (See the previous page.)

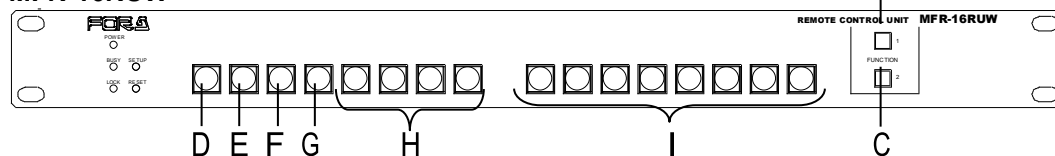
MFR-16RU (MFR-16RUD)



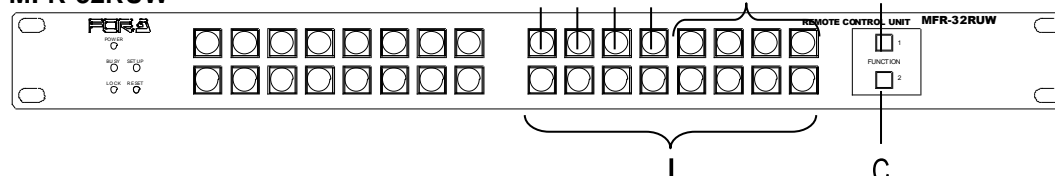
MFR-40RU



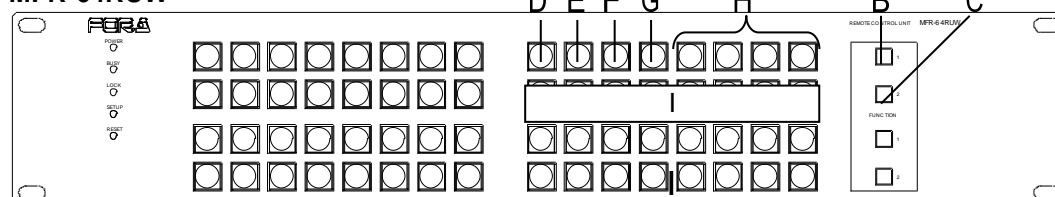
MFR-16RUW



MFR-32RUW



MFR-64RUW

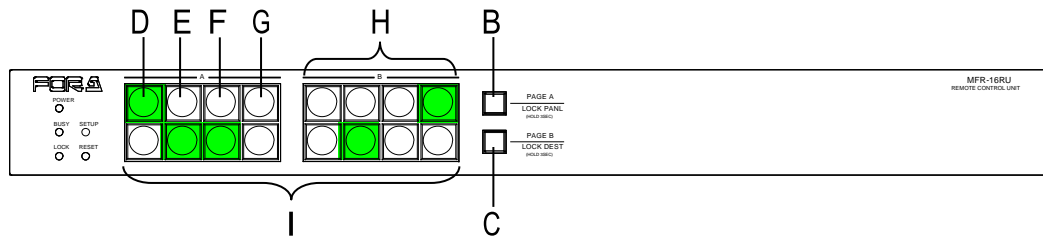


3-6-2. Changing the RU IP Address

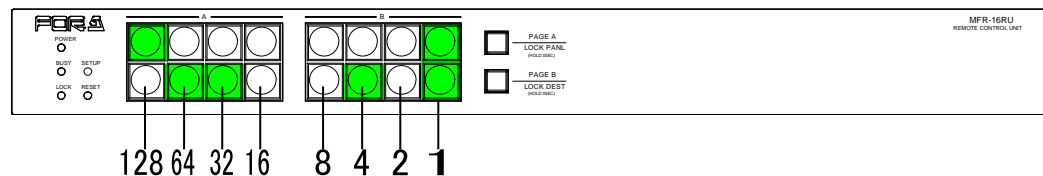
The RU IP address can be changed according to the procedure below, that changes the MFR-16RU IP address from "192.168.1.100" to "192.168.1.101" as an example.

Button locations vary depending on remote control units. Refer to the previous page for other remote control unit button locations.

1. Press Button **D** in **Setup Menu** mode. (If Button **B** or **C** is lit, press the lit button.)
2. Press and **hold down** the **right-most** button (the fourth octet) of buttons **H**. The button will blink and the bottom eight buttons (Buttons **I**) display the value (100) by turning the light **On** and **Off**.

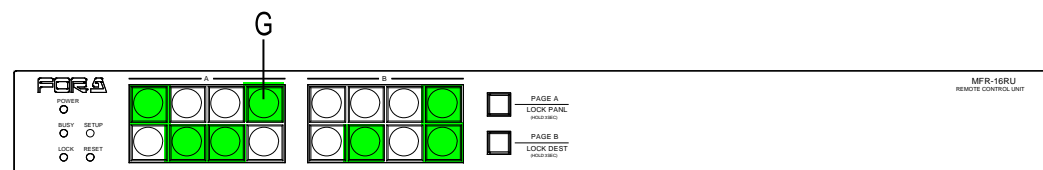


3. On the bottom row, press the rightmost button of buttons **I** to turn on the button. The octet value will change to "101" ($64+32+4+1$).



To change the first, second or third octet value, repeat steps 2. and 3., respectively.
To clear an octet value, press the flashing octet selection button on the upper row.

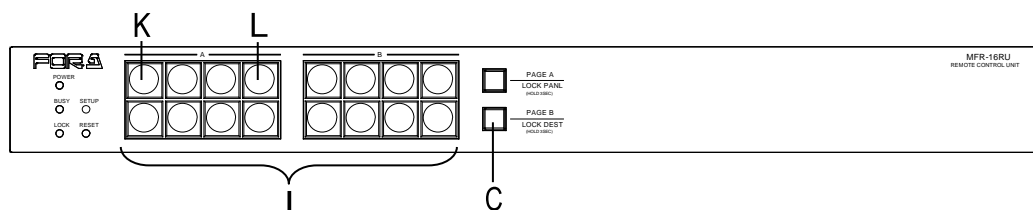
4. When a value is changed, button **G** will blink. Press and hold down G to confirm the change. The remote control unit will automatically restart. To cancel the process, press Button **B** or **C** without pressing **G**.



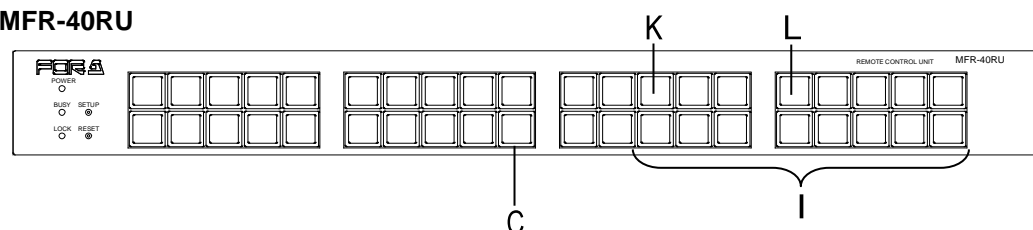
3-6-3. Rebooting MU PC-LAN

1. Press button **C** in Setup Menu mode.
 2. Press and hold down button **K**. Button **L** (EXEC button) will blink.
 3. Press and hold down button **L**. Buttons **I** will blink during rebooting. The buttons will turn off when the reboot is complete.
- * Ineffective if connecting to MFR-4000 units.

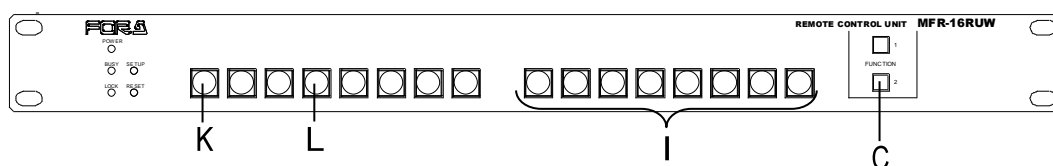
MFR-16RU (MFR-16RUD)



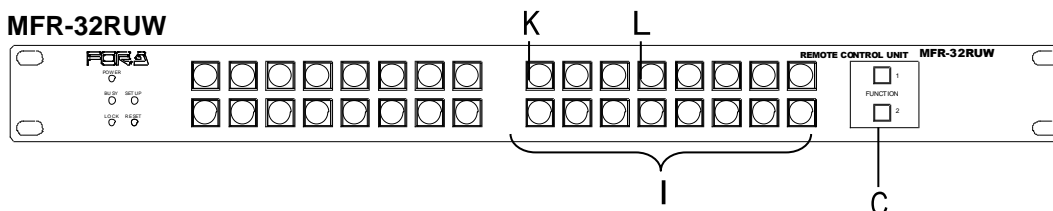
MFR-40RU



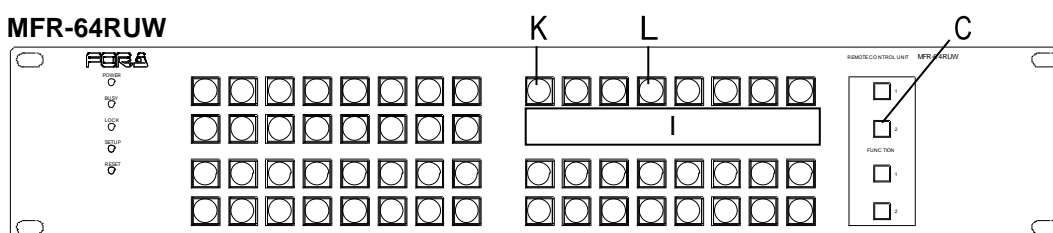
MFR-16RUW



MFR-32RUW



MFR-64RUW



3-7. Setup Menu (MFR-18RU/18RUA)

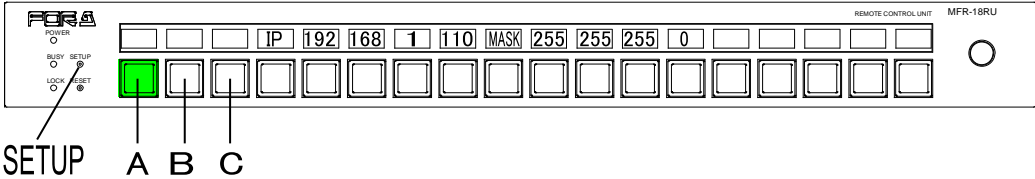
The **SETUP** button allows you to enter **Setup Menu** mode, in which RU and MU PC-LAN network settings are displayed, the MU-PC LAN port can be rebooted, and RU network settings can be changed. The left three buttons are used to select information to be displayed or select PC-LAN reboot. To exit **Setup Menu** mode, press the **SETUP** button again.

Selection buttons (See the figures below)	LAN Port	Display / Execution
Button A	Remote Control Unit (RU)	IP address display and change
		Subnet mask display
Button B	PC-LAN on Main Unit (MU)	IP address display
		Subnet mask display
		Default gateway display
Button C	PC-LAN on Main Unit (MU)	Reboot

3-7-1. Displaying Network Settings

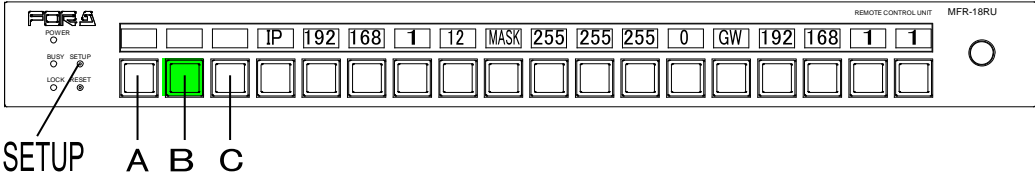
◆ **To Display RU IP Address and Subnet Mask**

Press **SETUP** to enter **Setup Menu** mode. The RU IP address and subnet mask are displayed as shown below. (If button A is off (unlit), press button **A**.)



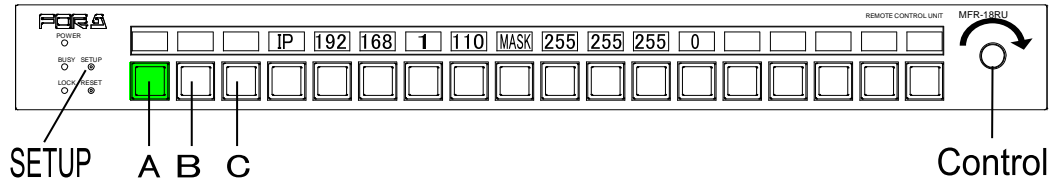
◆ **To Display IP address, Subnet Mask and Default Gateway of MU PC-LAN**

Press button **B** in **Setup Menu** mode. The network settings are displayed as shown below, in the order as "IP address, Subnet Mask and Default Gateway."

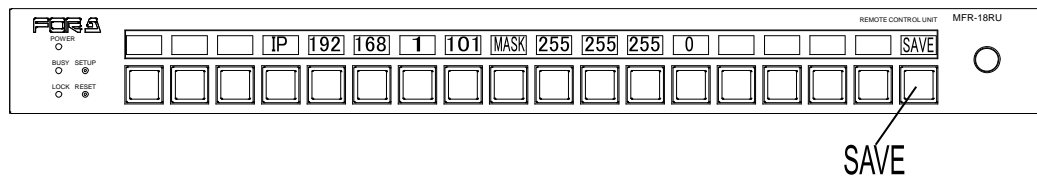


3-7-2. Changing the RU Network Settings

1. Press **SETUP** to enter **Setup Menu** mode. The RU IP address and subnet mask are displayed as shown below. (If other information is displayed, press Button **A**.)

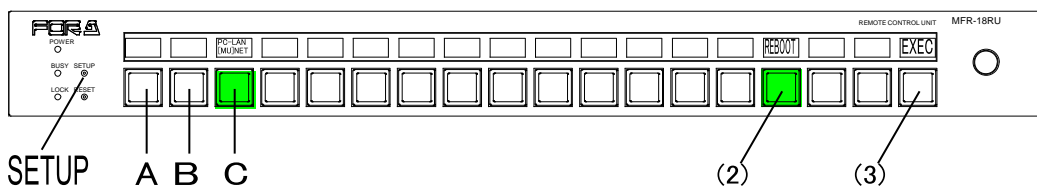


2. Press and hold down a button below the number for change. The number will blink.
3. Turn **CONTROL** to change the number value. To clear the number setting, press and hold down the button.
4. Repeat steps 2. and 3. to change the IP address.
5. When a number is changed, the **SAVE** button will blink. Press and hold down **SAVE** to confirm the change. The remote control unit will automatically restart.
To cancel the process, display another information without pressing **SAVE**.



3-7-3. Rebooting MU PC-LAN

1. Press button **C** in **Setup Menu** mode.
 2. Press and hold down the **REBOOT** button. The **EXEC** button will appear.
 3. Press and hold down **EXEC**. The "PC-LAN Startup" message is displayed during rebooting. The message will disappear when the reboot is complete.
- * Ineffective if connecting to MFR-4000 units.



3-8. Setup Menu (MFR-39RU)

The **SETUP** button enables you to use the setup menu. The Setup menu has the following sub menus. To select a submenu, turn **CONTROL** to select and press to confirm.

◆ Setup Menu Sub-menu List

Menu display	Description	Reference
SETUP>IP ADDRESS[RU] <ENT>	Allows you to set the IP address for the remote control unit. The last 8 bits are the unit ID.	3-8-1
SETUP>SUBNET MASK[RU] <ENT>	Displays the subnet mask setting in the remote control unit.	3-8-2
SETUP>PC-LAN[MU]<ENT>	Displays the PC-LAN[MU] menu.	3-8-3
SETUP>RU CONN ID <ENT>	Allows you to set the ID to recognize remote control units connected for link operation.	3-8-4
SETUP>RU CONNECT <ENT>	Allows you to select whether to connect and link multiple remote control units.	3-8-5
SETUP>BRIGHTNESS <ENT>	Allows you to set the brightness for buttons and the menu display.	3-8-6
SETUP>BTN ASSIGN <ENT>	Allows you to assign functions to buttons. The functions that are the same as those assignable in the Setting mode BTN ASSIGN menu are available.	3-8-7
SETUP>VER/ALARM <ENT>	Displays version and alarm information.	3-8-8
SETUP>REBOOT <ENT>	Allows you to reboot the unit.	3-8-9
SETUP>EXIT <ENT>	Allows you to exit the Setup menu. The display returns to the one before entering the SETUP menu. (The CANCEL button works the same way.)	-

3-8-1. IP ADDRESS[RU]

This menu allows you to change the IP address of remote control units. The last 8 bits (the 4th byte) are the unit ID.

```
SETUP>IP ADDRESS[RU]  
192.168.001.100<ENT>
```

Turn **CONTROL** to select a byte to be changed. The selected byte will be highlighted. After changing the value, press the knob. The next byte to be changed will be highlighted.

```
SETUP>IP ADDRESS  
192.168.001.100<ENT>
```

Pressing **CONTROL** while the 4th byte is highlighted will highlight the whole IP address, and the changed IP address will be saved. Press **CONTROL** again. A message appears to ask if restarting the remote control unit. Select **YES** and press **CONTROL** to restart the remote control unit with the new IP address.

IMPORTANT

The saved IP address is applied when the remote control unit restarts. Selecting NO will necessitate a manual restart of the remote control unit to apply the new IP address. The IP address must not conflict with the IP address of the MFR main unit or other remote control units.

3-8-2. SUBNET MASK[RU]

Displays the subnet mask setting in the remote control unit.

```
SETUP>SUBNET MASK[RU]
255.255.255.000
```

3-8-3. PC-LAN[MU]

The PC-LAN[MU] menu allows you to display the network settings for the PC-LAN port on the MU and to restart the port.

```
SETUP>PC-LAN[MU]>
NET <ENT>
```

Selecting NET allows you to display the network port settings.

Turning **CONTROL** allows you to scroll through all network settings.

```
PC-LAN[MU]>IP ADDRESS
192.168.001.012 <ENT>
```

```
PC-LAN[MU]>SUBNET MASK
255.255.255.000 <ENT>
```

```
PC-LAN[MU]>GATEWAY
000.000.000.000 <ENT>
```

Selecting GUI REBOOT allows you to restart the network port.

* Disabled if connecting to MFR-4000 units.

```
SETUP>PC-LAN[MU]
GUI REBOOT<ENT>
```

```
PC-LAN[MU]>GUI REBOOT
EXEC: NO <ENT>
```

To restart the port, turn **CONTROL** to select YES and press **CONTROL**.

To cancel the process, turn **CONTROL** to select NO and press **CONTROL**. The display will return to the initial SETUP menu page.

The following message will appear while the port is being restarted.

```
PC-LAN[MU]>GUI REBOOT
Startup...
```

3-8-4. RU CONN ID

This menu allows you to set the ID for remote control unit IDs to be recognized in link operation of multiple remote control units.

```
SETUP>RU CONN ID
UNIT ID: 0<ENT>
```

Turn **CONTROL** to select an ID, then press the knob to confirm the selection. See Sec. 3-11-2 "Enabling Multi-Panel Operation"

IMPORTANT

Do not turn the power of the remote control unit off before the orange BUSY lamp goes off when changing ID. Doing so will obstruct the settings to be applied.

3-8-5. RU CONNECT

This menu allows you to enable or disable link operation of connected multiple remote control units.

```
SETUP>RU CONNECT  
ENABLE:OFF<ENT>
```

Turn **CONTROL** to select **ON** or **OFF**, then press the knob to confirm the selection.

IMPORTANT

Do not turn the power of the remote control unit off before the orange BUSY lamp goes off when changing ID. Doing so will obstruct the settings to be applied.

3-8-6. BRIGHTNESS

This menu allows you to set the brightness for button LCDs and menu display.

```
SETUP>BRIGHTNESS  
BTN:8 MENU:8<ENT>
```

Turn **CONTROL** to select the brightness. Press **CONTROL** to change the BTN and MENU selection. Pressing **CONTROL** when MENU is selected confirms the changes. After settings are complete, press the CANCEL button to exit the menu.

Brightness: (dark) 1 to 8 (bright)

3-8-7. BTN ASSIGN

This menu allows you to assign functions to buttons. The functions that are the same as those assignable in the Setting mode BTN ASSIGN menu can be assigned.

► See Sec. 3-4-3-15. "BTN ASSIGN" for the setting procedure.

```
SETUP>BTN ASSIGN  
BTN NO:1<ENT>
```

3-8-8. VER/ALARM

This menu displays version and alarm information. Turn **CONTROL** to scroll through the displayed contents.

```
Ver.0.05.1  
PS1 : Normal
```

3-8-9. REBOOT

This menu allows you to reboot the remote control unit.

```
SETUP>REBOOT  
EXEC:NO<ENT>
```

Turn **CONTROL** to select YES or NO, then press the knob to confirm the selection. Selecting YES reboots the remote control unit. Pressing **NO** returns the display to select menus.

3-9. Setup Menu (MFR-39RUA)

The **SETUP** button allows you to enter **Setup Menu** mode, in which menu settings can be performed as shown in Sec 3-4-4. "Setting Mode Menu (MFR-39RUA)."

3-10. Setup Menu (MFR-16RUTA)

The **SETUP** button allows you to enter **Setup Menu** mode, in which RU and MU PC-LAN network settings are displayed, the MU PC-LAN port can be rebooted, and RU network settings can be changed. The left three buttons are used to select information to be displayed or the PC-LAN reboot. The fourth button from the left is used to switch network information display. To exit Setup Menu mode, press the **SETUP** button again.

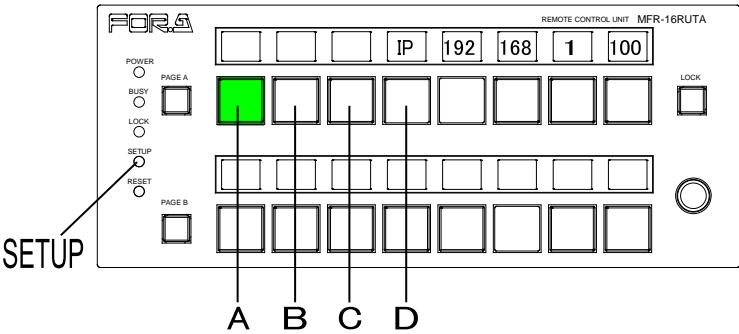
Selection buttons (See the figures below)	LAN Port	Display / Execution
Button A	Remote Control Unit (RU)	IP address display and change
		Subnet mask display
Button B	PC-LAN on Main Unit (MU)	IP address display
		Subnet mask display
		Default gateway display
Button C	PC-LAN on Main Unit (MU)	Reboot
Button D	If button A or B is selected	Display item change

3-10-1. Displaying Network Settings

◆ **To Display RU IP Address and Subnet Mask**

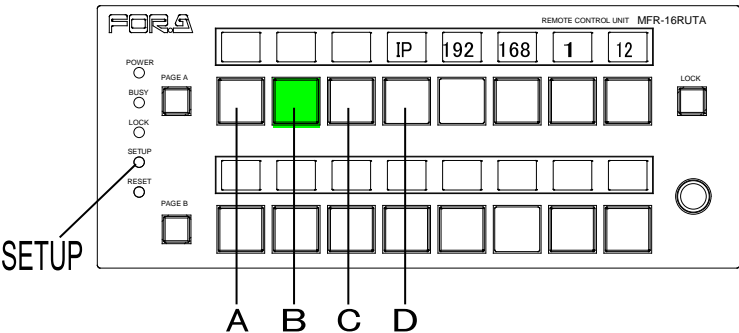
Press **SETUP** to enter Setup Menu mode. (If button **A** is off (unlit), press button **A**.)

Pressing button **D** displays the RU IP address and repressing it displays the subnet mask.



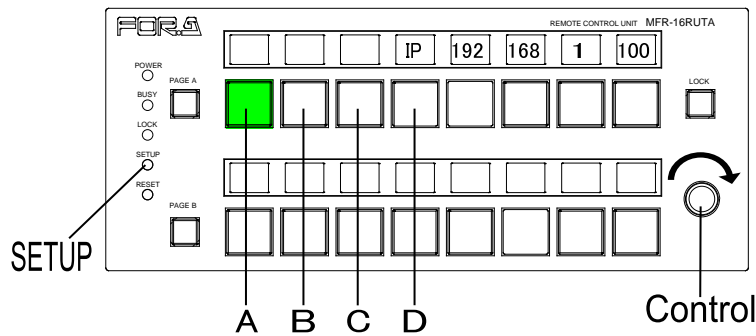
◆ **To Display IP address, Subnet Mask and Default Gateway of MU PC-LAN**

Press button **B** in Setup Menu mode. The IP address, subnet mask and default gateway are successively displayed by pressing button **D**.

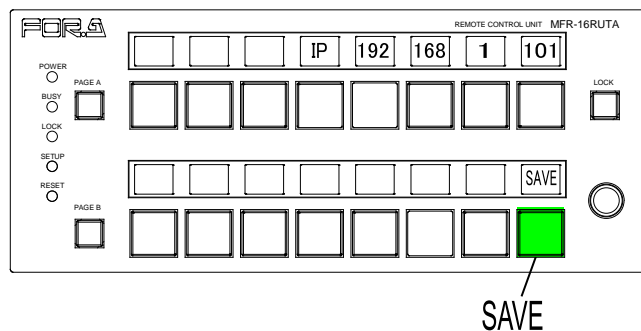


3-10-2. Changing the RU Network Settings

1. Press **SETUP** to enter Setup Menu mode. (Press button **A** if other information is displayed.)

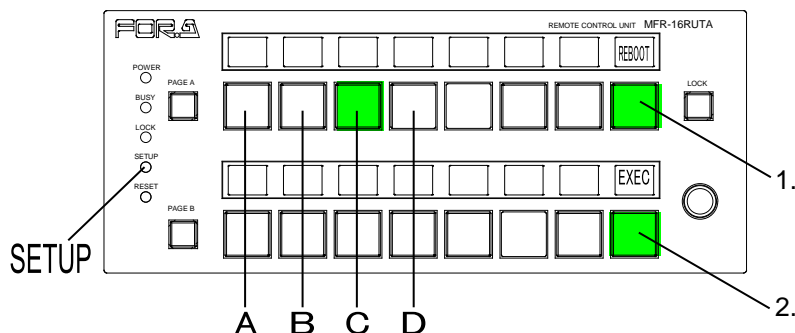


2. Press and hold down a button under the number to be changed. The number blinks.
3. Turn **CONTROL** to change value. To clear the number setting, press and hold down the button.
4. Repeat steps 2. and 3. to change the IP address.
5. When a number is changed, the **SAVE** button blinks. Press and hold down **SAVE** to confirm the change. The remote control unit will automatically restart. To cancel the process, display another information without pressing **SAVE**.



3-10-3. Rebooting MU PC-LAN

1. Press button **C** in Setup Menu mode.
 2. Press and hold down the **REBOOT** button shown below. The **EXEC** display appears.
 3. Press and hold down the button under **EXEC**. The "PC-LAN Startup" message is displayed during rebooting. The message will disappear when the reboot is complete.
- * Disabled if connecting to MFR-4000 units.



3-11. Multi-Panel Operation

3-11-1. Outline

Multiple remote control units can be connected to build a large control panel.

IMPORTANT

Up to 5 remote control units can be linked together.

(Ex.) To build a 96 x 96 maximum control system:

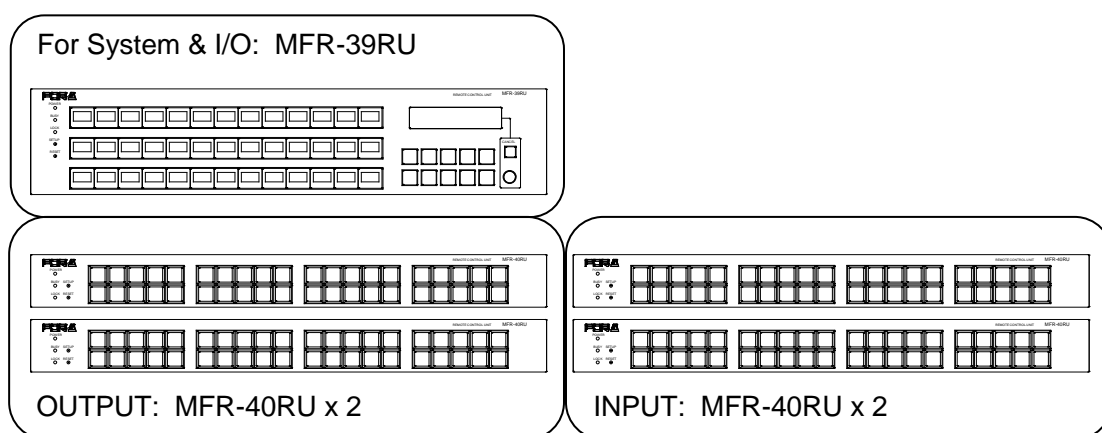
Units to use: MFR-40RU x 4, and MFR-39RU x 1

Configuration:

Destination button assignments to: MFR-40RU x 2 and a part of MFR-39RU

Source button assignments to: MFR-40RU x 2 and a part of MFR-39RU

This system can control 96 x 96 inputs and outputs without using the PAGE function.



◆ Functions that can be integrated

The following operation can be integrated between the connected remote control units by the interlock function.

- To select destination channels
- To select destination/source channels and levels by **CONTROL**.
- To enable or disable Lock functions (LOCK LOCAL, LOCK OTHER, and LOCK ALL)

• Lock functions in the multi-panel operation

All connected remote control units work as one remote control unit, so:

LOCK LOCAL: All integrated remote control units are locked locally.

LOCK OTHER: Restricts units other than the remote control units in the multi-panel operation system from changing crosspoints.

All integrated remote control units can unlock the Lock function.

LOCK ALL: Restricts all units within the multi-panel operation system from changing crosspoints.

All integrated remote control units can unlock the Lock function.

3-11-2. Enabling Multi-Panel Operation

Multi-panel operation can be enabled in Setup menu or in the [Web-based Control: **RU Settings** page].

The procedure to enable multi-panel operation in Setup menu is as shown below. (Supported only by MFR-39RU/39RUA)

◆ MFR-39RU

Step	Description
1	Press the SETUP button to enter Setup menu.
2	Turn CONTROL to select RU CONN ID , and press the knob to confirm. <div>SETUP>RU CONN ID UNIT ID: 0<ENT></div> Menu display
3	Turn CONTROL to select the ID, and press the knob to confirm. ID: This ID is used to synchronize remote control units for multi-panel operation. All panels must have the same ID as the unit ID of the master remote control unit of the system. (ex.) To enable multi-panel operation using a master remote control unit whose unit ID is 100, set IDs to 100 for all integrated remote control units.
4	Press the CANCEL button to return the menu display to select menus. Turn CONTROL to select RU CONNECT , and press the knob to confirm. <div>SETUP>RU CONNECT ENABLE:OFF<ENT></div> Menu display
5	Turn CONTROL to select ON , and press the knob to confirm.

◆ MFR-39RUA

Step	Description	Refer to
1	Press SETUP to enter Setup menu.	
2	Press RU-RU CONNECT .	
3	Change CONNECT to ENABLE .	3-4-4-8
4	Turn CONTROL to select a link ID under MASTER ID . * The link ID is used to configure a link of multiple remote control units and equal to the unit ID of the master unit in the remote control unit link. To configure the remote control unit link using the master unit of Unit ID 100, set MASTER ID to 100 for other remote control units in the link system.	3-4-4-8
5	To exit Setup Menu mode, press EXIT twice.	

Perform the above procedure for each remote control unit to be integrated.

To enable multi-panel operation in Web-based Control, proceed as follows:

1. Click the remote control unit to display the menu tree. Select **RU Settings** to display the menu.
2. Set the master remote control unit Unit ID under **Master ID** (for RU Linkage).
3. Set **RU Linkage** to **ON**.

4. Crosspoint Control

4-1. One Crosspoint Switching





There are two ways of switching crosspoints: Switching a crosspoint one at a time, or switching multiple crosspoints simultaneously. This section describes the switching of one crosspoint.

4-1-1. One Crosspoint Switching by X-Y Setting

A crosspoint can be switched by using destination and source buttons on the remote control unit.

Destination and source channels must be assigned to those buttons beforehand.

(Ex.) The procedure to output source channel 8 to destination channel 4.

Step	Description	Indications								
1	Press a destination button to select destination channel 4.	<ul style="list-style-type: none">- The selected destination button lights up. - The button with the destination channel indication will be highlighted. - Menu display appears as shown below. <table><tr><td>DST :</td><td>4</td><td>[DST4</td><td>]</td></tr><tr><td>LVL :</td><td>0001</td><td>[Level-1</td><td>]</td></tr></table>	DST :	4	[DST4]	LVL :	0001	[Level-1]
DST :	4	[DST4]							
LVL :	0001	[Level-1]							
2	Press a source button to select source channel 8.	<ul style="list-style-type: none">- The selected source button lights up. - The button with the source channel indication will be highlighted. 								

- Destination and source channels can also be selected by **CONTROL** or using the display. To select channels by **CONTROL**, the mode menu must be set to destination mode or source mode using the **MODE** button(s). (Supported for MFR-18RU/18RUA/39RU/39RUA/16RUTA)
Operation using the display is available only on MFR-16RUD.
- MFR-18RU/18RUA/39RUA/16RUTA units have the Control DestMode function, which can be set in the [Web-based Control: RU Settings page]. If **Control DestMode** is set to **Crosspoint**, crosspoints can be switched by turning **CONTROL** after pressing a destination button while pressing **CONTROL**.
 - ▶ See Sec. 3-2-4. "Operating with CONTROL (Rotary Selector)" for details.
- Control Assist Buttons
The following functions are available by remote control unit buttons that assist crosspoint switches.
 - ▶ See Sec. 4-1-1-1 "SKIP-FWD/SKIP BWD" for SKIP-FWD and SKIP-BWD
 - ▶ See Sec. 4-1-1-2 "TENKEY" for -TENKEY

4-1-1-1. SKIP-FWD/BWD

The **SKIP-FWD** button allows you to skip destination number and source channel for predetermined number forward to select the current one. The SKIP-BWD button allows you to skip channels backward.

In Destination mode, the destination number skips forward/backward for predetermined number. In Source mode, the source number skips forward/backward for predetermined number. In Level, Page or Setting mode, these buttons are disabled. (See Sec. 3-4-2. "Mode Menu.")

* To confirm the source selection, press **CONTROL**.

If source and/or destination channels are categorized, buttons allow you to go to the first or last channel in the category.

(Ex.) If Category 1: Dest 1 to 13, Category 2: Dest 14 to 20,
SKIP-FWD is set to 5, and
Current destination is 1.
Pressing the **SKIP-FWD** button selects destination channels 1 → 6 → 11 → 13 → 14 → 19 → 20 → 21 → 26 → 31 → and so on.

The categories are user programmable source or destination channel groups. They are set under **Category** accessed from each Web-based Control page.

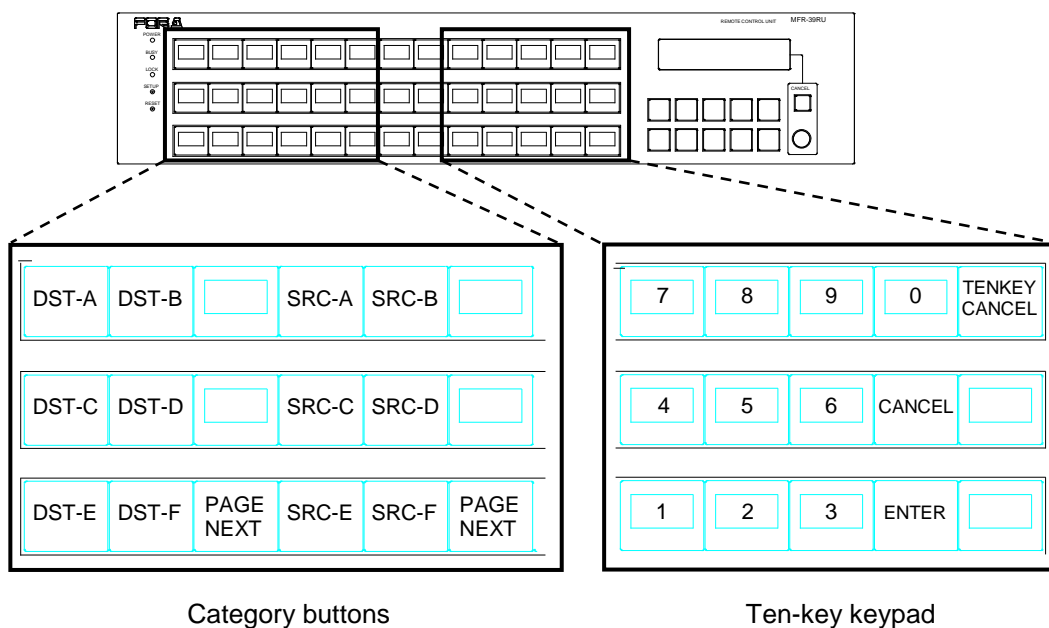
[Web-based Control: **Router System Settings** > **Source Name** > **Category**]

[Web-based Control: **Router System Settings** > **Destination Name** > **Category**]

► See Sec. 3-4-3-15. "BTN ASSIGN" for details on how to assign these buttons.

4-1-1-2. TENKEY (MFR-39RU/39RUA)

The **TENKEY** button is used to enable Tenkey mode. Tenkey mode allows you to select source and destination channels using the ten-key keypad that appears on the remote control unit. (Supported only for MFR-39RU/39RUA.)



Category buttons:	Allows you to select a category from which to select a channel using the ten-key keypad.
TENKEY CANCEL:	Allows you to exit TENKEY mode. The entered number is indicated on the button when "SETTING > TENKEY MOD (INPUT MODE)" is set to ENTER.
PAGE NEXT:	Allows you to move to the next page for category buttons.
ENTER / CANCEL:	Allows you to confirm or cancel the change when "SETTING > TENKEY MOD (INPUT MODE)" is set to ENTER. If it is set to DIRECT, entering a value changes and confirms the selection. See Sec. 3-4-3-12 "TENKEY MOD" for details.
0 to 9 (TENKEY):	Allows you to select a channel in the selected category. The TENKEY NO menu allows you to select whether to count from 0 or 1. See Sec. 3-4-3-13. "TENKEY NO" for details.

◆ Source channel selection using the ten-key keypad function

If categories are set as; SRC-A (SRC 1 to 13), and SRC-B (SRC 14 to 20)

(ex.1) TENKEY MOD (INPUT MODE) is **ENTER** and TENKEY NO (INPUT START NO) is **1**.

- Select SRC-A, enter 3 on a ten-key keypad and press ENTER to select SRC 3.
- Select SRC-B, enter 5 on a ten-key keypad and press ENTER to select SRC 18.

(ex. 2) TENKEY MOD (INPUT MODE) is **DIRECT** and TENKEY NO (INPUT START NO) is **0**.

- Select SRC-A, and enter 3 on a ten-key keypad to select SRC 4.
- Select SRC-B, and enter 0 on a ten-key keypad to select SRC 14.

► See Sec. 3-4-3-15. "BTN ASSIGN" for details on how to assign the **TENKEY** button.

4-1-2. A Crosspoint Switching Using a Bus Button

A crosspoint button or a button to which a destination channel and source channel for the destination are assigned is called a bus button in a remote control unit. Bus buttons allow you to change a source channel to be output from a certain destination channel by one push of a button.

Bus button crosspoint switching can switch crosspoints regardless of the current destination selection.

- See Sec. 3-3. "Function Buttons" for details on button assignments.
- See Sec. 3-4-3-15. "BTN ASSIGN" and 3-5-2. "Changing Button Assignment" for details on how to assign the bus buttons.

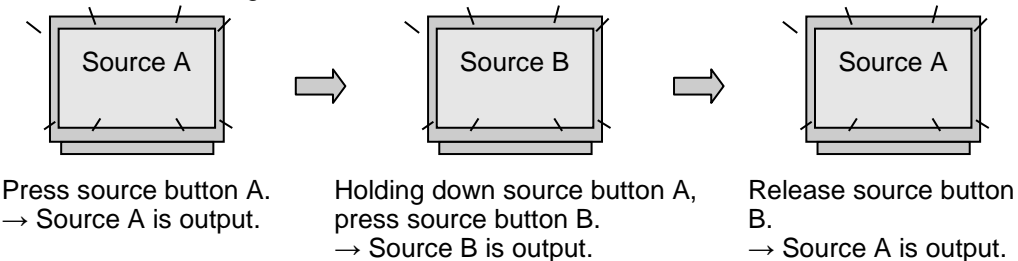
4-1-3. CHOP Function

The CHOP function allows you to alternate 2 images to compare the images.

◆ Enabling the CHOP function

1. Press one of 2 source buttons (source A) to compare.
2. While holding down the source button, press and release another source button (source B).

Source A and B images alternate.



4-1-4. Crosspoint Switching Using TAKE Function

Crosspoint switching using the Take function is available by assigning TAKE to a remote control unit.

TAKE function enables crosspoint switching by pressing the TAKE button.

TAKE function has 2 modes. Each mode is selectable for respective remote control units. To select TAKE mode, select Preset or Direct under TAKE Mode in the [Web-based Control: RU Settings page].


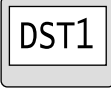

◆ Preset mode

Press the TAKE button to enable TAKE. Select crosspoints and press the TAKE button to switch crosspoints.

◆ Direct mode

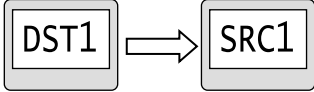
The TAKE function is always enabled. Select crosspoints and press the TAKE button to switch crosspoints.

- Ex.1: To use the Preset mode TAKE button

Step	Description
1	Press the TAKE button. Take function is enabled, and the button is highlighted. 
2	Select a crosspoint by selecting a destination button and source button. The selected buttons will blink.  →  * To switch multiple crosspoints, repeat the procedure.
3	After completing the crosspoint selection, press the blinking TAKE button to switch the crosspoint/s. In multiple crosspoint switching, the last set of destination and source buttons are highlighted.

Once a crosspoint switch is complete, the TAKE button preset mode is disabled. The button will return to direct mode.
To switch crosspoints in the preset mode again, repeat the procedure from step 1.

- Ex. 2: To use the Direct mode TAKE button

Step	Description
1	<p>In Direct mode, the Take function is always enabled.</p> <p>Select a crosspoint by selecting a destination button and source button. The selected buttons will blink.</p>  <p>* To switch multiple crosspoints, repeat the procedure.</p>
2	<p>After completing the crosspoint selection, press the blinking TAKE button to switch the crosspoint/s.</p> <p>In multiple crosspoint switching, the last set of destination and source buttons are highlighted.</p>

4-2. Simultaneous Crosspoint Switching

The simultaneous crosspoint switching function allows you to **simultaneously switch multiple crosspoints** by pressing a button. There are two ways to do this. One is the Salvo function which performs the switching by recalling the pre-assigned crosspoints. The other is the Take function which allows you to select multiple crosspoints and switch them simultaneously.

The SALVO crosspoints can be saved to either the routing switcher main unit (called Main Unit Stored Salvo) or to the remote control unit (called Remote Control Stored Salvo).

4-2-1. Main Unit Stored Salvos

This type of salvo allows you to store crosspoint data to be simultaneously switched into the routing switcher main unit. The stored data can be recalled from any connected remote control unit.

◆ Storing Salvo Data to Main Unit

Salvo data for Main Unit Stored Salvo can be stored using the Web-based Control.

► See [Web-based Control: **Salvo** page]

◆ Executing Salvos

Use a **SALVO** button (SALVO RECALL (MU)) on the remote control unit as shown in the procedure below.

1. Assign a **SALVO** button on the remote control unit. Set the salvo for **MU RECALL**, and select a Salvo number.
► See Sec. 3-4-3-15. "BTN ASSIGN" and 3-5-2. "Changing Button Assignment"
2. Press the **SALVO** button to execute the salvo. The crosspoints stored to the salvo number are simultaneously switched.

4-2-2. Remote Control Stored Salvos

This type of salvo allows to you assign crosspoints to be simultaneously switched to a button. Salvo can be recalled by the **SALVO** button on the remote control unit that assigned that SALVO. Once a salvo is executed, crosspoints assigned to the salvo are switched according to the current remote control level setting.


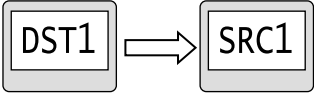

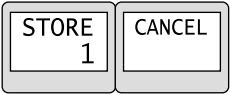
Remote Control Stored Salvo data can also be stored using the Web-based Control.

► See [Web-based Control: **Salvo** page]

◆ **Storing Salvo Data to a Remote Control Unit (MFR-39RU/39RUA only)**

Use a **SALVO** button on the remote control unit as shown in the procedure below.

1. Assign a **SALVO** button on the remote control unit. Set the salvo for **RU STORE**.
▶ See Sec. 3-4-3-15. "BTN ASSIGN."
2. Store salvo data as shown in the table below.

Step	Description
1	<p>Press the SALVO button. The button is highlighted and ready for crosspoints to be assigned.</p> 
2	<p>To assign crosspoints to a salvo, press a destination button then a source button. The selected buttons flash.</p>  <p>Repeat the procedure for all crosspoints.</p>
3	<p>MFR-39RU: After completing the crosspoints assignments, press the SALVO button again. The menu display appears as shown below.</p>  <p>MFR-39RUA: After completing the crosspoints assignments, press the SALVO button again. The Current DEST and SRC button displays change as shown below.</p> 
4	<p>MFR-39RU: To add crosspoints to an existing salvo, select a salvo number by turning CONTROL. Salvo numbers to which no crosspoints are assigned are indicated with (NEW). Turn CONTROL to select a number, and press the knob to confirm the selection.</p> <p>MFR-39RUA: Turn CONTROL to select a number then press CONTROL to confirm the selection.</p>

◆ **Executing Salvos**

Use a **SALVO** button on the remote control unit as shown in the procedure below.

1. Assign a **SALVO** button on the remote control unit. Set the salvo for **RU RECALL**, and select a Salvo number.
▶ See Sec. 3-4-3-15. "BTN ASSIGN" and 3-5-2. "Changing Button Assignment."
2. Press the **SALVO** button to execute the salvo. The crosspoints stored to the salvo number are simultaneously switched.

4-2-3. Simultaneous Switching Using the Take Function

The **TAKE** button on the remote control unit allows you to simultaneously switch preset crosspoints.

◆ Executing a TAKE

See the Ex. 1) and Ex. 2) in Sec. 4-1-4. "Crosspoint Switching Using TAKE Function" for the procedure.

4-2-4. Simultaneous Switching by the Link Function

The **LINK** button on the remote control unit allows you to simultaneously switch crosspoints associated with a specific crosspoint.

Pressing the **LINK** button enables or disables the Link function. The **LINK** button is highlighted with a bright background when the function is enabled.

If the Link function is turned on, selecting a trigger crosspoint switches the slave crosspoints with it.

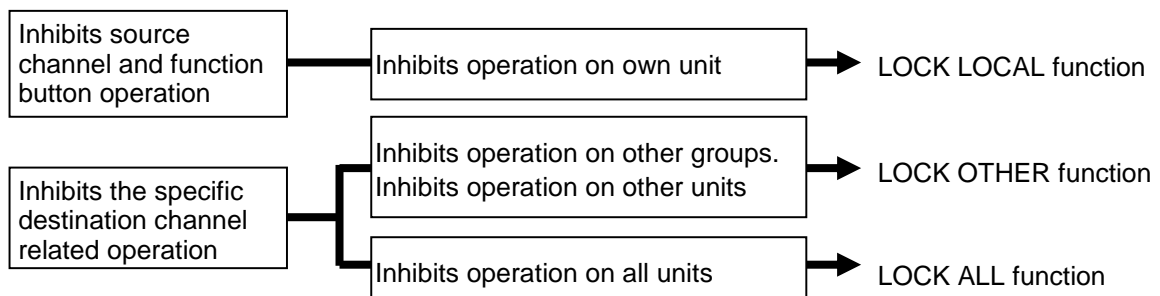
► See [Web-based Control: Link Settings page] for details.

4-3. Lock

Function setting/operation and crosspoint changes can be disabled by the Lock function.

◆ LOCK Function

The Lock function inhibits operation in the unit you are using or other units/groups than the using group units. There are three types of Lock functions as shown in the chart below.



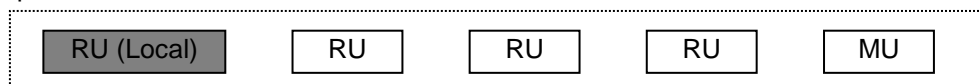
4-3-1. LOCK LOCAL

The Lock Local function inhibits operation of buttons and menus that change the source channel or sets or executes Take switching on the unit that enabled the Lock function. (Selecting destination channels is not inhibited.)

This function is used to prevent operation mistakes.

◆ Enabling LOCK LOCAL

1. Assign **LOCK LOCAL** to a button on the remote control unit.
► See Sec. 3-4-3-15. "BTN ASSIGN" and 3-5-2. "Changing Button Assignment."
 2. Press the assigned **LOCK LOCAL** button to enable the Lock Local function.
- * Operations are locked for units in black boxes and not locked for units in white boxes.



◆ Disabling LOCK LOCAL

Press the **LOCK LOCAL** button again.

If LOCK LOCAL is ON:

On the remote control unit:

- LOCK LED is lit green
- **LOCK LOCAL** is highlighted (background of the text illuminates.)
- Source and bus button indications are crossed out.

To check the **LOCK status**, press the current destination button.

The MENU display shows the LOCK status (ON or OFF) as shown below.

DST: 8 [DST8]
LK-LOCAL [PANEL LOCK]

DST: 8 [DST8]
LK-OFF [NOT LOCKED]

The **LOCK LOCAL** button and LOCK LED on the remote control unit flash if any inhibited operation such as changing the source channel is performed when Lock Local is enabled. (Only when the **LOCK LOCAL** button is assigned.)

LOCK LOCAL is enabled only by remote control units.

4-3-2. LOCK OTHER / LOCK ALL

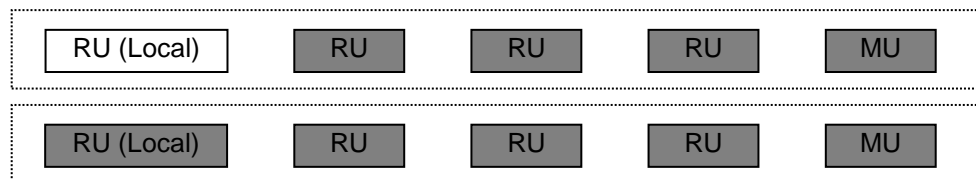
The Lock Other and Lock All functions disable crosspoint changes for current destination channels to all other units or all units including the unit that enabled the Lock function. Lock functions can be disabled only from the unit that enabled the function.*

* In multi-panel operation, lock functions can be disabled from any remote control unit in the operation system. Lock Other does not disable operation of remote control units in the system.

◆ Enabling LOCK OTHER/LOCK ALL

<Setting on the Remote control unit>

1. Assign **LOCK OTHER** or **LOCK ALL** to a button on the remote control unit.
▶ See Sec. 3-4-3-15. "BTN ASSIGN" and 3-5-2. "Changing Button Assignment."
2. Press the assigned button to enable the Lock function.



<Setting in the Web-based Control>

Open the [Web-based Control: Lock Destination page], and assign a lock button.

◆ Disabling LOCK OTHER/LOCK ALL

Press the **LOCK OTHER** or **LOCK ALL** button again.

To disable LOCK OTHER or LOCK ALL from other units, press and hold the **LOCK** button for the time specified in the [Web-based Control: **RU Settings** page].

If LOCK OTHER or LOCK ALL is ON:

On the remote control unit:

- LOCK LED illuminates
Orange: LOCK OTHER was enabled by itself.
Red: LOCK OTHER was enabled by other unit.
Red: LOCK ALL was enabled by any unit.
- The **LOCK** button is highlighted (background illuminates)
- LED and LCD colors of locked current destination buttons are changed to those set under **LockButtonColor** in the [Web-based Control: **RU Settings** page] (MFR-40/ 18/ 39RU and 16RUTA)

To check the **LOCK** status, press the current destination button.

The MENU display shows the LOCK status and the ID number of the unit that has issued the LOCK command.

DST: 8 [DST8]
LK-ID: 103[OTHER PANELS]

LOCK OTHER ON

DST: 8 [DST8]
LK-ID: 103[ALL PANELS]

LOCK ALL

DST: 8 [DST8]
LK-OFF [NOT LOCKED]

LOCK OFF

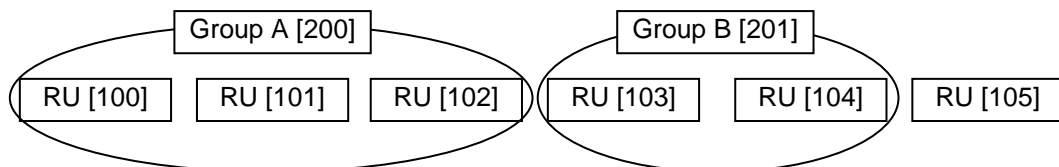
The **LOCK** button and LOCK LED on the remote control unit flash if any inhibited operation such as selecting a source channel is performed when Lock Other (or Lock All) is enabled and the **LOCK OTHER** (or **LOCK ALL**) button is assigned.

◆ LOCK GROUP

The LOCK OTHER function also enables Group LOCK OTHER, which allows crosspoint switching by RU units only in the same group and locks RU switching in other groups. Any RU in the same group can lock or release the LOCK OTHER command. LOCK ALL disables crosspoint switching from all remote control units and can be unlocked only by remote control units in the same group.

<LOCK GROUP Setting Example>

This example creates the following three groups from five RU units as shown below using the Unit ID and Group ID numbers.



1. Open the [Web-based Control: Lock Destination page]. Add RU [100], RU[101] and RU[102] to Group A.
2. Add RU [103] and RU[104] to Group B.

Once an RU is added to a group, the LOCK OTHER/LOCK ALL button on the RU changes to a Group LOCK OTHER/LOCK ALL button.

When LOCK OTHER is enabled by RU[100], RU [103], RU[104] and RU[105] are locked. (greyed out in the figure below)



When LOCK OTHER is enabled by RU[103]...



When LOCK OTHER is enabled by RU[105]...



When sending Group LOCK OTHER/LOCK ALL commands, use a Group ID number in the [Web-based Control :Lock Destination page].

If operating in Multi-panel mode, all linking remote control units must belong to the same group.

4-4. Monitor Output Function

The monitor output function outputs source of the destination channel through a MONITOR OUTPUT in MFR-5000/8000 rear panel. Allows you to monitor a destination channel easily.

◆ Enabling the Monitor Output Function

The monitor output function is disabled as default. To enable the function, use the monitor output button on the remote control unit.

► See 3-4-3-15. "BTN ASSIGN" and 3-5-2. "Button Assignment Change" for details on assigning the function to a button.

◆ Selecting Destinations to output from MONITOR OUTPUT connectors

The following procedure shows how to use the monitor output function.

Step	Description
1	Press the assigned Monitor Out button on the remote control unit. The button will be highlighted if the function is enabled.
2	Press a destination button to output the destination channel signal from the Monitor Output.

4-5. Preview Function

The preview function allows you to set an output port in Main Unit rear panel to be used for the preview.

(ex.) When pressing a source button on the remote control unit for a simultaneous crosspoint switch, the selected source will be output to the preview output. You can check images of the source channels before applying Take function.

When pressing a destination button, the source channel assigned for the destination channel will be output to the preview output.

◆ Assigning Operation Preview to a Button on the Remote Control Unit

The Operation Preview function is disabled as default. To enable the function, assign the function to a button on the remote control unit in the Web-based Control.

Only MFR-39RU and MFR-16RUD units can assign Operation Preview by front panel operation.

- ▶ See [Web-based Control: **Assign Function** page].
- ▶ See Sec.s 3-4-3-15. "BTN ASSIGN" and 3-5-2. "Changing Button Assignment."

◆ Outputting the Operation Preview

Press the **O-PREVIEW** button on the remote control unit to output the preview signal from the set destination channel.

5. Troubleshooting

If any of the following problems occur during operation of your remote control unit, proceed as indicated below to see if the problem can be corrected before assuming a unit malfunction has occurred.

IMPORTANT

If the problem cannot be corrected by performing the procedures below, turn the unit power off and then on again. If this still does not correct the problem, contact your FOR-A agent.

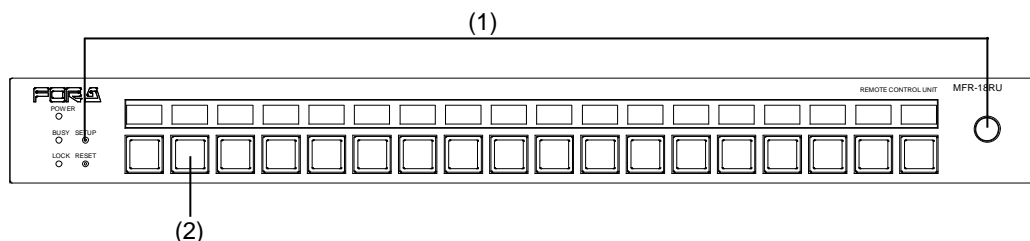
Problem	Check	Remedy
Unable to control using the remote control unit.	Is the LAN cable properly connected?	Properly re-connect the LAN cable.
	Is the RU Info page in the Web-based Control indicating NG?	Check the item that is indicated as NG. If the Voltage is indicated as NG, contact your FOR-A agent.
The text color has changed from the original color.	Button displays may be deteriorated over time.	Refer to Sec. 5-1 to fine-tune colors.

5-1. Tuning the Text Color on Remote Unit Buttons

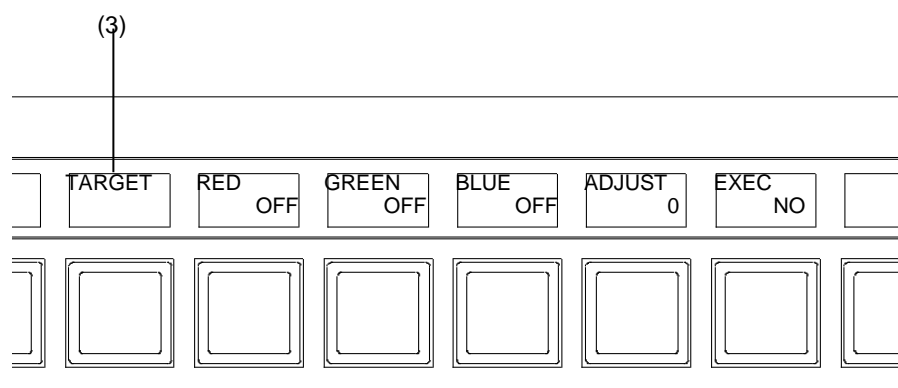
MFR-18RU/18RUA/39RU/39RUA/16RUTA units allow you to adjust the color of NAME DISPLAY and LCD.

5-1-1. MFR-18RU/39RU Color Tuning Procedure

Ex) MFR-18RU

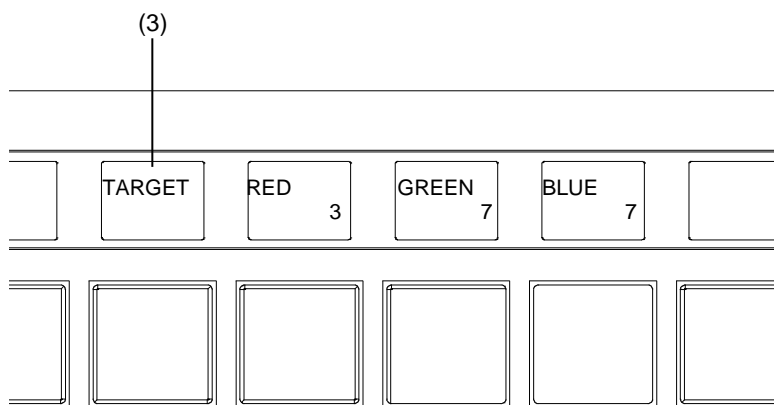
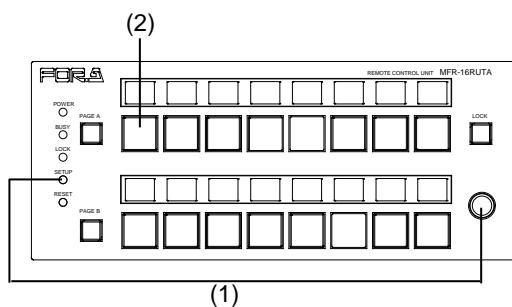


1. Press and hold **CONTROL**, then press the **SETUP** button for more than 5 seconds. All NAME DISPLAYs turn to white.
2. Press a button to be adjusted.



3. **TARGET** appears and blinks above the button and **RED, GREEN, BLUE, ADJUST** and **EXEC** are also displayed.
4. To set **RED, GREEN** or **BLUE** to **ON**, press **CONTROL** to select **RED, GREEN** or **BLUE**, then turn **CONTROL** to select the color to **ON**.
5. Press **CONTROL** to select **ADJUST**, then turn **CONTROL** to adjust the selected color component.
6. To adjust other button color, repeat steps from 4. to 5.
7. After all required color components adjustments are complete, press **CONTROL** to move to **EXEC**. Turn **CONTROL** to select **YES**, then press **CONTROL** to execute the setting.
8. **TARGET** will blink above the button.
Pressing other button allows you to apply the color setting to that button. **COPY** will appear above the button.
9. When all button color settings are finished, press **SETUP**.

5-1-2. MFR-39RUA/18RUA/16RUTA Color Tuning Procedure



6. Specifications and Dimensions

6-1. Unit Specifications

6-1-1. MFR-16RU/16RUD

Buttons/Color	16 buttons (1 color: green), user assignable Menu Display (Max. 16 characters x 2 lines) (MFR-16RUD only)
Number of Connection	Max. 128 (including Main, Remote and GPI units)
Interfaces	
MFR-LAN	10/100BASE-TX RJ-45 x 1 (For connection to MU. A network hub required for multiple unit configuration.)
Temperature	0°C to 40°C
Humidity	30% to 85% (no condensation)
Power	+12 V DC Pin-connector x 1
Consumption	MFR-16RU: 100 V AC to 120 V AC: 7 VA (3 W), 200 V AC to 240 V AC: 11 VA (4 W) MFR-16RUD: 100 V AC to 120 V AC: 8 VA (3 W), 200 V AC to 240 V AC: 11 VA (4 W)
Dimensions	430(W) x 44(H) x 34 (D) mm EIA 1 RU
Weight	1 kg

6-1-2. MFR-40RU

Buttons/Colors	40 buttons (3 colors: red/green/orange), user assignable
Number of Connections	Max. 128 units (including Main, Remote and GPI units)
Interfaces	
MFR-LAN	10/100BASE-TX RJ-45 x 1 (For connection to MU. A network hub required for multiple unit configuration.)
SERVICE	RS-232C 9-pin D-sub (male) x 1 (for maintenance)
Temperature	0°C to 40°C
Humidity	30% to 85% (no condensation)
Power	+12 VDC Pin-connector x 2 (redundant power supply as standard)
Consumption	100 V AC to 120 V AC: 10 VA (5 W), 200 V AC to 240 V AC: 15 VA (7 W)
Dimensions	430(W) x 44(H) x 42(D) mm EIA 1 RU
Weight	2 kg

6-1-3. MFR-16RUW

Buttons/Color	18 buttons (1 color: green), user assignable
Number of Connection	Max. 128 (including Main, Remote and GPI units)
Interfaces	
MFR-LAN	10/100BASE-TX RJ-45 x 1 (For connection to MU. A network hub required for multiple unit configuration.)
Temperature	0°C to 40°C
Humidity	30% to 85% (no condensation)
Power	+12 VDC Pin-connector x 1
Consumption	100 V AC to 120 V AC: 8 VA (3 W), 200 V AC to 240 V AC: 11 VA (3 W)
Dimensions	480(W) x 44(H) x 27 (D) mm EIA 1 RU
Weight	1 kg

6-1-4. MFR-32RUW

Buttons/Color	34 buttons (1 color: green), user assignable
Number of Connection	Max. 128 (including Main, Remote and GPI units)
Interfaces	
MFR-LAN	10/100BASE-TX RJ-45 x 1 (For connection to MU. A network hub required for multiple unit configuration.)
Temperature	0°C to 40°C
Humidity	30% to 85% (no condensation)
Power	+12 VDC Pin-connector x 1
Consumption	100 V AC to 120 V AC: 10 VA (4 W), 200 V AC to 240 V AC: 13 VA (4 W)
Dimensions	480(W) x 44(H) x 27 (D) mm EIA 1 RU
Weight	1 kg

6-1-5. MFR-64RUW

Buttons/Color	64 buttons (1 color: green), user assignable
Number of Connection	Max. 128 (including Main, Remote and GPI units)
Interfaces	
MFR-LAN	10/100BASE-TX RJ-45 x 1 (For connection to MU. A network hub required for multiple unit configuration.)
Temperature	0°C to 40°C
Humidity	30% to 85% (no condensation)
Power	+12 VDC Pin-connector x 1
Consumption	100 V AC to 120 V AC: 15 VA (7 W) 200 V AC to 240 V AC: 20 VA (8 W)
Dimensions	480(W) x 88(H) x 27(D) mm EIA2RU
Weight	1.5 kg

6-1-6. MFR-18RU

Buttons/Colors	18 buttons (3 colors: red/green/orange), user assignable LCD display x 18 (Max. 7 characters x 2 lines, Displayed above each button) with Rotary selector
Number of Connection	Max. 128 (including Main, Remote and GPI units)
Interfaces	
MFR-LAN	10/100BASE-TX RJ-45 x 1 (For connection to MU. A network hub required for multiple unit configuration.)
SERVICE	RS-232C 9-pin D-sub (male) x 1 (for maintenance)
Temperature	0°C to 40°C
Humidity	30% to 85% (no condensation)
Power	+12 V DC Pin-connector x 2 (redundant power supply as standard)
Consumption	100 V AC to 120 V AC: 12 VA (6 W), 200 V AC to 240 V AC: 18 VA (8 W)
Dimensions	430(W) x 44(H) x 42(D) mm EIA 1 RU
Weight	2 kg

6-1-7. MFR-18RUA

Buttons/Colors	18 buttons (3 colors: red/green/orange), user assignable OLED display x 18 (Max. 7 characters x 2 lines, Displayed above each button) with Rotary selector
Number of Connection	Max. 128 (including Main, Remote and GPI units)
Interfaces	
MFR-LAN	10/100BASE-TX RJ-45 x 1 (For connection to MU. A network hub required for multiple unit configuration.)
SERVICE	RS-232C 9-pin D-sub (male) x 1 (for maintenance)
Temperature	0°C to 40°C
Humidity	30% to 85% (no condensation)
Power	+12 V DC Pin-connector x 2 (redundant power supply as standard)
Consumption	100 V AC to 120 V AC: 14 VA (6 W), 200 V AC to 240 V AC: 18 VA (6 W)
Dimensions	430(W) x 44(H) x 42(D) mm EIA 1 RU
Weight	2 kg

6-1-8. MFR-39RU

Buttons/Colors	39 buttons (LED buttons, 7-color) Displayed in each button (Max. 7 characters x 2 lines) 10 buttons (3 colors: red/green/orange), user assignable Menu display x 1 (Max. 23 characters x 2 lines) with Rotary selector
Number of Connections	Max. 128 (including Main, Remote and GPI units)
Interfaces	
MFR-LAN	10/100BASE-TX RJ-45 x 1 (For connection to MU. A network hub required for multiple unit configuration.)
SERVICE	RS-232C 9-pin D-sub (male) x 1 (for maintenance)
Temperature	0°C to 40°C
Humidity	30% to 85% (no condensation)
Power	+12 V DC Pin-connector x 2 (redundant power supply as standard)
Consumption	100 V AC to 120 V AC: 17 VA (9 W), 200 V AC to 240 V AC: 22 VA (11 W)
Dimensions	430(W) x 88(H) x 44(D) mm EIA 2 RU
Weight	3 kg

6-1-9. MFR-39RUA

Buttons/Colors	39 buttons (OLED buttons, 7-color) Displayed in each button (Max. 7 characters x 2 lines) 6 buttons (3 colors: red/green/orange), user assignable Current DEST button, current SRC button, current PAGE display x 2, Rotary selector
Number of Connections	Max. 128 (including Main, Remote and GPI units)
Interfaces	
MFR-LAN	10/100BASE-TX RJ-45 x 1 (For connection to MU. A network hub required for multiple unit configuration.)
SERVICE	RS-232C 9-pin D-sub (male) x 1 (for maintenance)
Temperature	0°C to 40°C
Humidity	30% to 85% (no condensation)
Power	+12 V DC Pin-connector x 2 (redundant power supply as standard)
Consumption	100 V AC to 120 V AC: 19 VA (9 W), 200 V AC to 240 V AC: 24 VA (9 W)
Dimensions	430(W) x 88(H) x 42(D) mm EIA 2 RU
Weight	3 kg

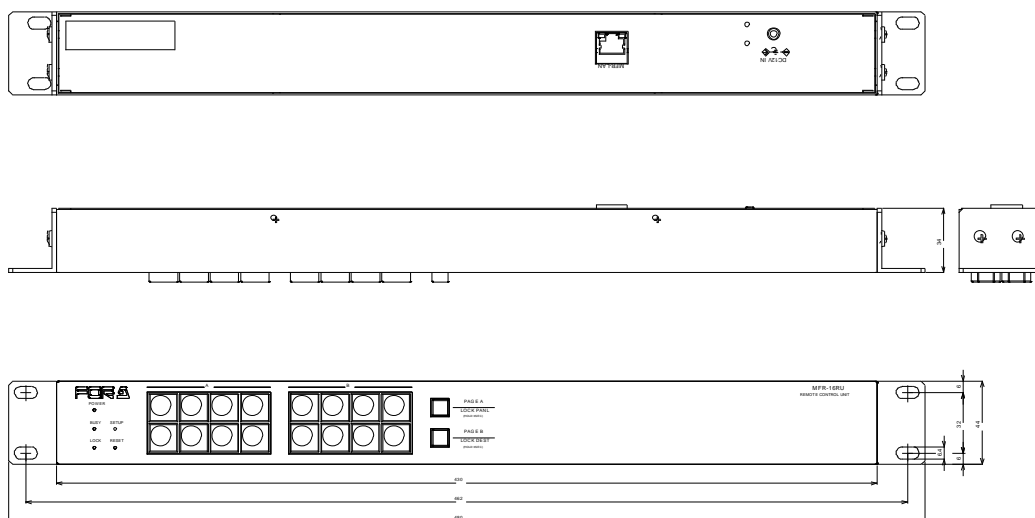
6-1-10. MFR-16RUTA

Buttons/Color	16 buttons (3 colors: red/green/orange), user assignable OLED display x 16 (Max. 7 characters x 2 lines, Displayed above each button) 2 buttons for PAGE control (lit orange) 1 button for LOCK control (lit orange) Rotary selector
Number of Connection	Max. 128 (including Main, Remote and GPI units)
Interfaces	
MFR-LAN	10/100BASE-TX RJ-45 x 1 (For connection to MU. A network hub required for multiple unit configuration.)
Temperature	0°C to 40°C
Humidity	30% to 85% (no condensation)
Power	+12 V DC Pin-connector x 1
Consumption	100 V AC to 120 V AC: 12VA (5W) 200 V AC to 240 V AC: 15VA (6W)
Dimensions	215(W) x 88(H) x 43(D) mm EIA 2 RU, half-rack size
Weight	1 kg

6-2. External Dimensions

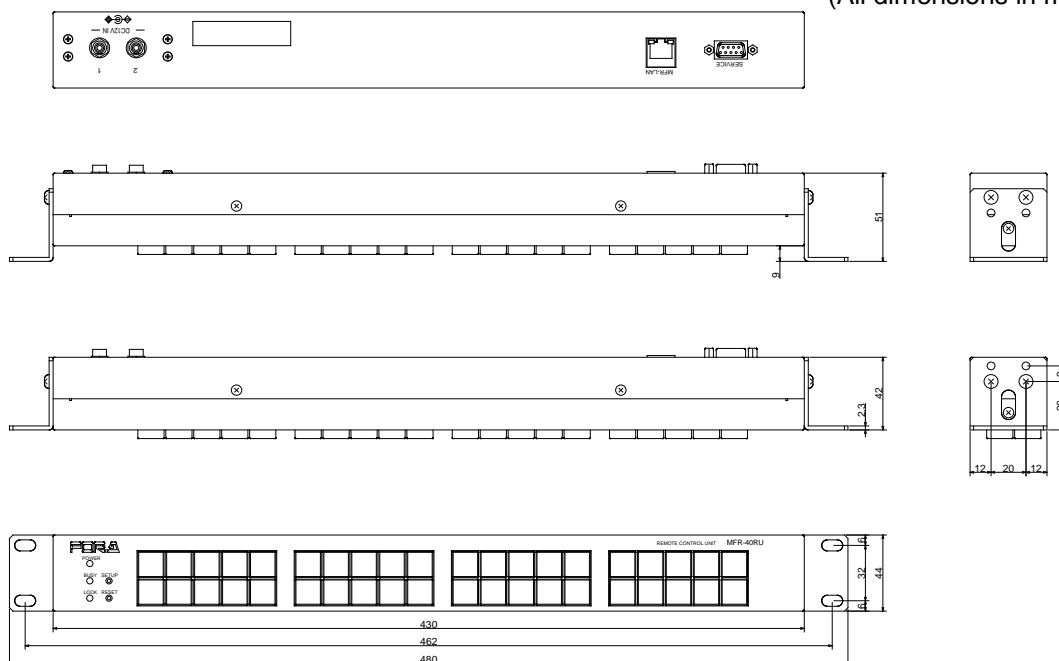
6-2-1. MFR-16RU

(All dimensions in mm.)



6-2-2. MFR-40RU

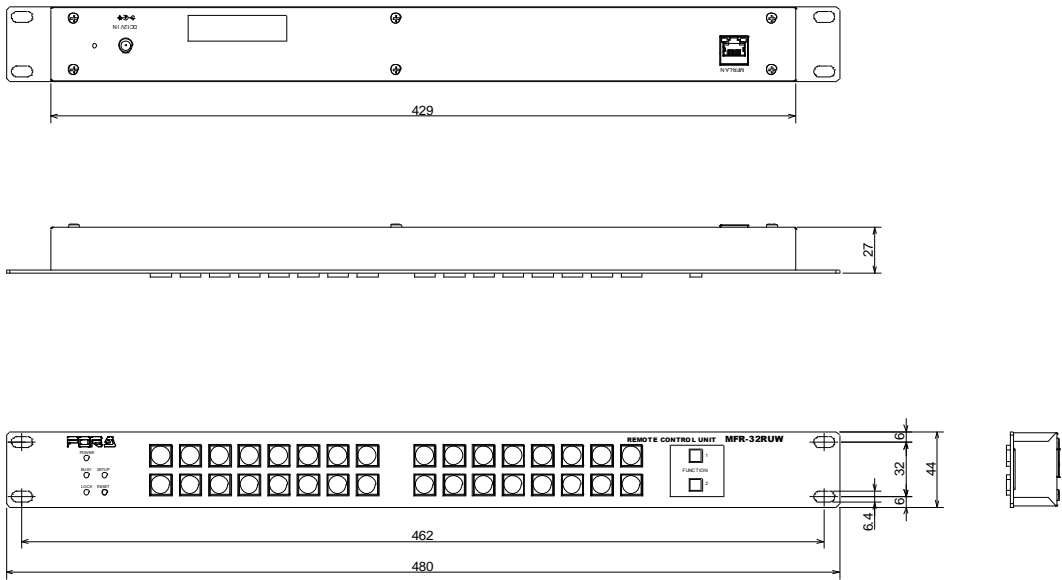
(All dimensions in mm.)



- * The panel buttons can be fitted within the rack by sliding the rack ears forward to attach as shown in the bottom figure above.

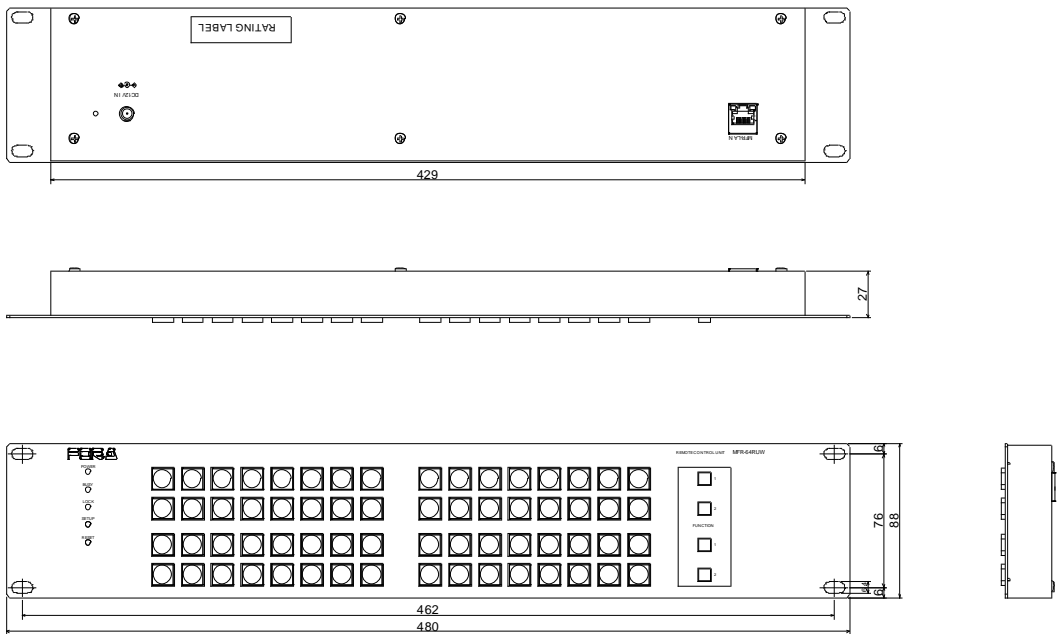
6-2-5. MFR-32RUW

(All dimensions in mm.)



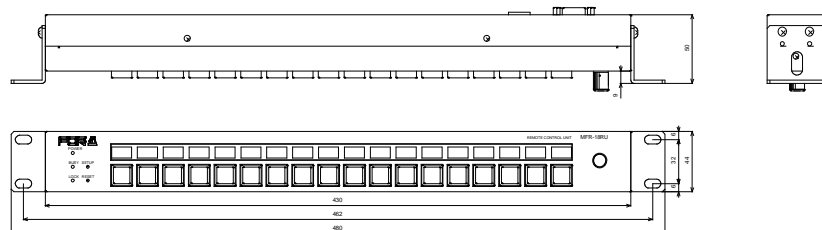
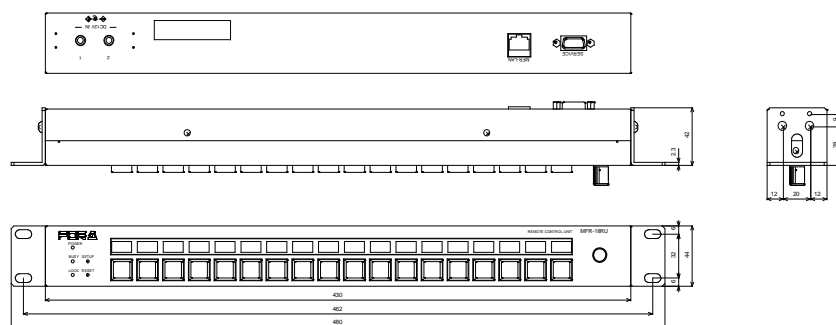
6-2-6. MFR-64RUW

(All dimensions in mm.)



6-2-7. MFR-18RU

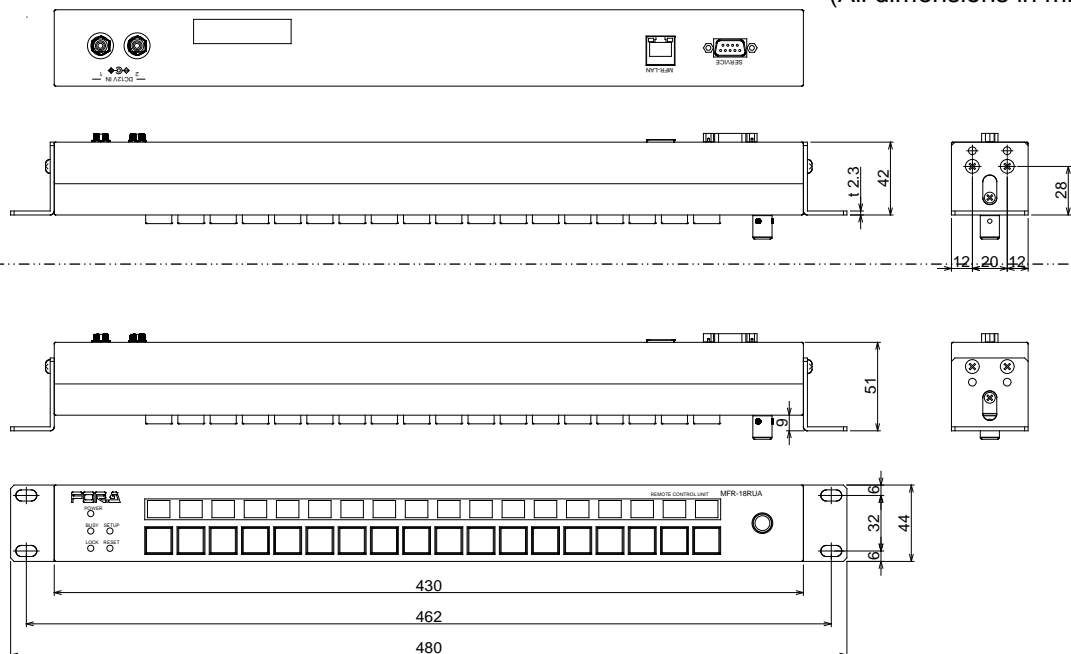
(All dimensions in mm.)



- * The panel buttons can be fitted within the rack by sliding the rack ears forward to attach as shown in the bottom figure above.

6-2-8. MFR-18RUA

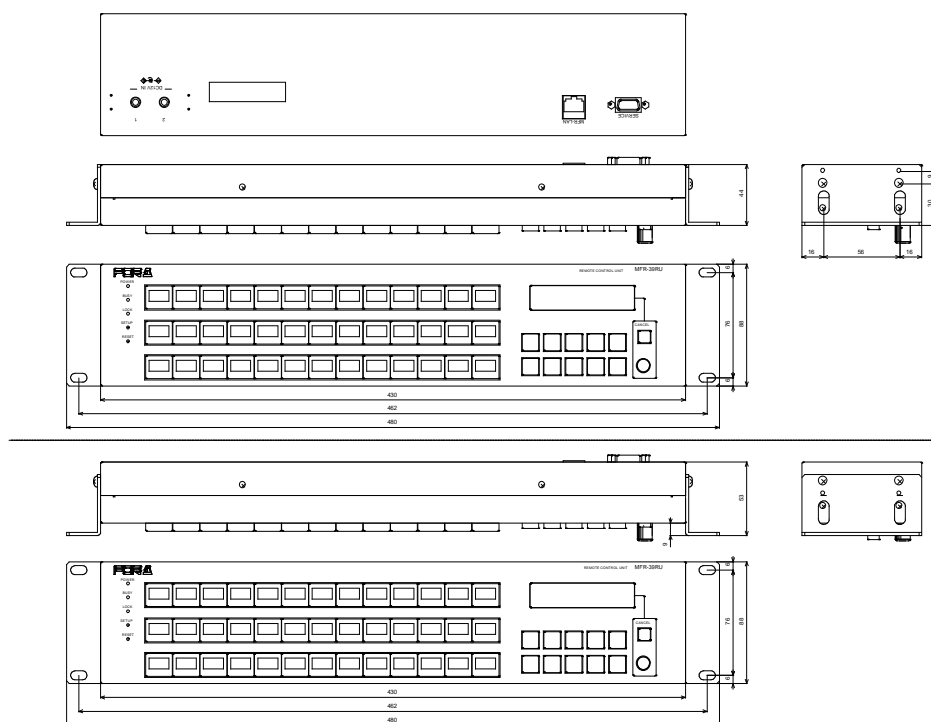
(All dimensions in mm.)



- * The panel buttons can be fitted within the rack by sliding the rack ears forward to attach as shown in the bottom figure above.

6-2-9. MFR-39RU

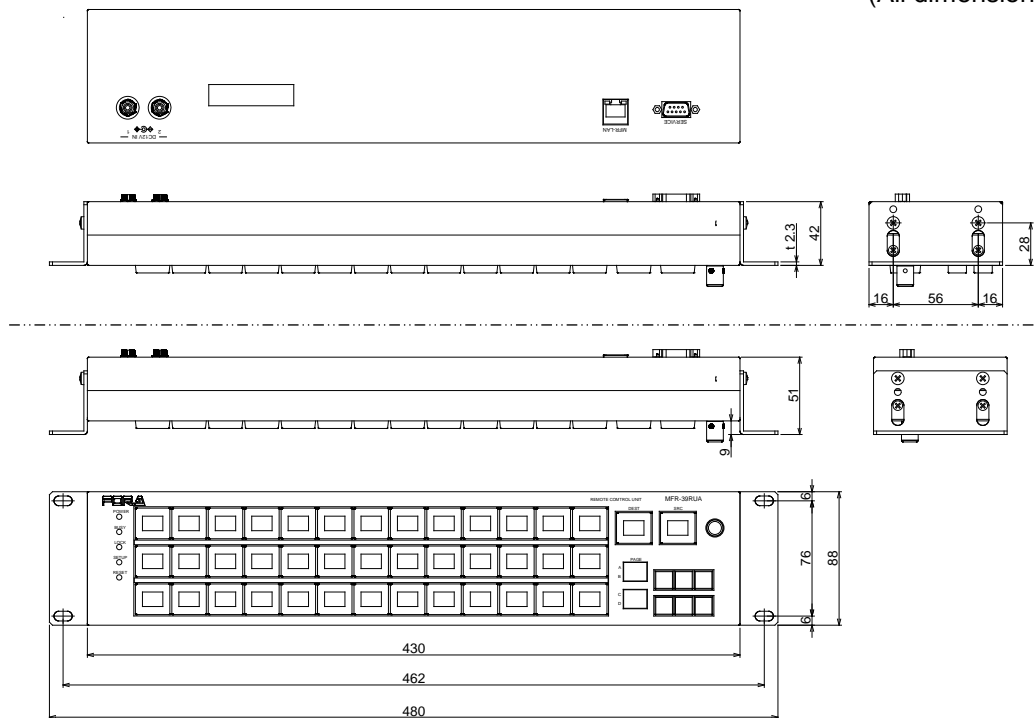
(All dimensions in mm.)



- * The panel buttons can be fitted within the rack by sliding the rack ears forward to attach as shown in the bottom figure above.

6-2-10. MFR-39RUA

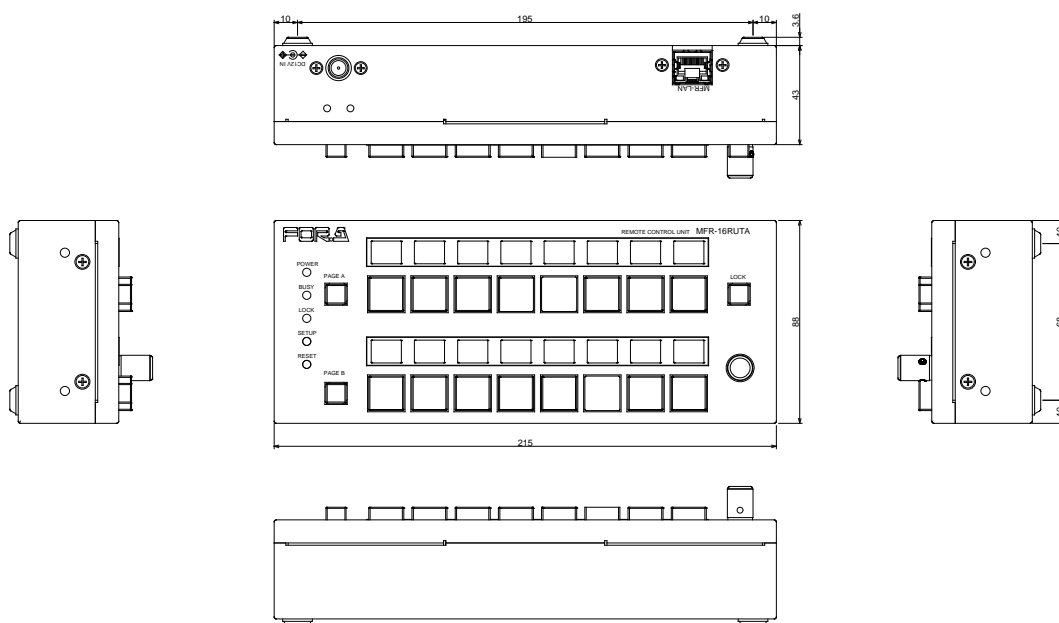
(All dimensions in mm.)



- * The panel buttons can be fitted within the rack by sliding the rack ears forward to attach as shown in the bottom figure above.

6-2-11. MFR-16RUTA

(All dimensions in mm.)



Appendix: Operation Tips

How to use Page buttons

Page buttons can be assigned to remote control units front panel buttons.

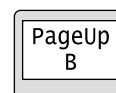
- ▶ See Sec. 3-2-2. “Switching Pages” and Sec. 3-3. “Function Buttons.”
- ▶ See [Web-based Control: RU Settings > **Assign Function**].

◆ Page Up/Page Down buttons

These buttons allow you to move one page forward/back.

Ex) Assign “Page Up” for Group B to Button 9 in the Web GUI

1. Click **System Settings** in the left pane.
2. Click to select [(RU name)-**Assign Function**] in the left pane to display the setting page.
3. Select **9** under [Button ID].
4. Select **Page** under [Function].
5. Select **UP** under [Up/Down] and **B** under [Group].
6. Click **Send** to apply settings.

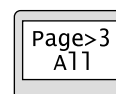


◆ Page Jump buttons

Pressing the button jumps to the specified page. Pressing again jumps to the next specified page.

Ex) Assign Page Jump between 3 and 7 for Group B, C and D to Button 1 in the Web GUI

1. Click to select [(RU name)-**Assign Function**] in the left pane to display the setting page.
2. Select **1** under [Button ID].
3. Select **Page** under [Function].
4. Select **Jump** under [Up/Down] and enable B, C and D under [Group], then select **3** under [Fwd] and **7** under [Rev].
5. Click **Send** to apply settings.



If **HOME** is set for [Rev], pressing the button returns to the previous page before jumping to page 3.
If current page is Page 3 (Fwd setting), the button is highlighted.

The MFR-16RUD/39RU/39RUA units allow you to assign functions to buttons by front panel operation.

- ▶ For default page buttons on the RU front panel, see Sec. 2-1. “Front Panel.”
- ▶ For MFR-16RUD units, see Sec. 3-5-2. “Changing Button Assignment.”
- ▶ For MFR-39RU units, see Sec. 3-4-3-6. “PAGE MODE”, 3-4-3-7. “PAGE ASSIGN” and 3-4-3-15. “BTN ASSIGN.”
- ▶ For MFR-39RUA units, see Sec. 3-4-4-4. “BUTTON ASSIGN” and 3-4-4-10. “PAGE.”