

OPERATION MANUAL

EDA-20RU
Remote Control Unit

1st Edition – Rev. 1





Edition Revision History

Edit.	Rev.	Date	Description	Section/Page
1	-	2018/06/07	First edition	
1	1	2018/09/12	Factual errors corrected.	



Precautions

Important Safety Warnings




[Power]

 Caution	Operate unit only at the specified supply voltage.
 Caution	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.
 Caution	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]

	<p>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.</p>
 <p>Stop</p>	<p>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.</p>
 <p>Hazard</p>	<p>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.</p>


[Potential Hazards]

 <p>Caution</p>	<p>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.</p>
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[Rack Mount Brackets, Ground Terminal, and Rubber Feet]

 <p>Caution</p>	<p>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.</p>
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[Consumables]

 <p>Caution</p>	<p>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.</p>
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Upon Receipt

EDA-20RU units and their accessories are fully inspected and adjusted prior to shipment. Check your received items against the packing lists below. Check to ensure no damage has occurred during shipment. If damage has occurred, or items are missing, inform your supplier immediately.

◆ **EDA-20RU Box**

ITEM	QTY	REMARKS
EDA-20RU	1	
AC adapter	1	
CD-ROM	1	User manual (PDF)

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1. Prior to Starting

1-1. Overview

The EDA-20RU (hereafter called Remote Box) is a remote unit that allows you to control EDA-1000 and EDA-2000 units (hereafter called Main Unit) over network.

1-2. Features

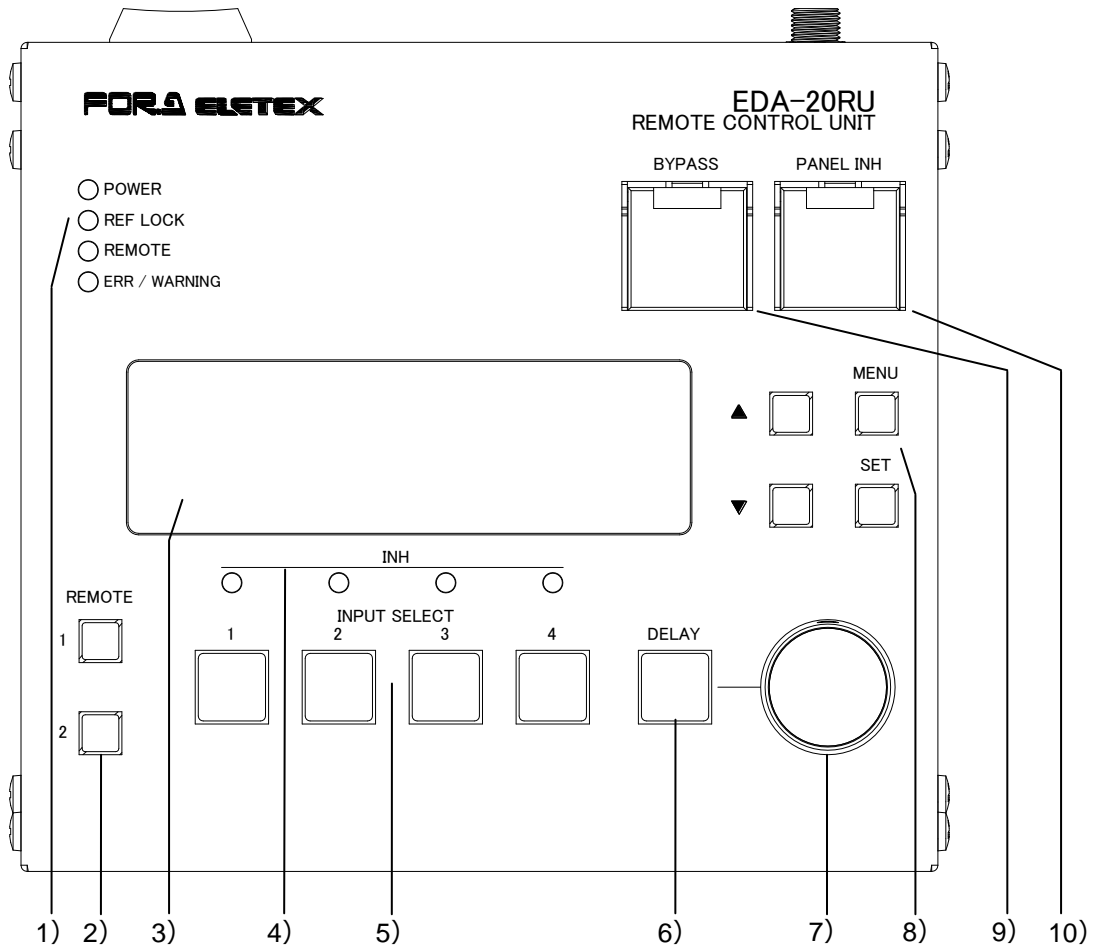
- Control over Main Unit via Ethernet
- Nearly the same front panel and menu operation as those for Main Unit, synchronizing display and settings on Main Unit.
- Target Main Unit selectable
- Delay time settings for each input
- Compact desktop type

1-3. About This Manual

This manual is intended to help the user easily operate this product and make full use of its functions during operation. Before connecting or operating your unit, read this operation manual thoroughly to ensure you understand the product. Afterwards, store this manual in a safe place for future reference.

2. Panel Description

2-1. Front Panel



1) Status indicator

LED indicators light up in different colors to show unit status as follows.

POWER	Displays the Remote Box power status (ON/OFF).
REF LOCK	Displays the reference lock status in Main Unit (active while connected).
REMOTE	Displays the communication status (connected or disconnected) with Main Unit.
ERR/WARNING	Displays an error/warning in Main Unit (active while connected).

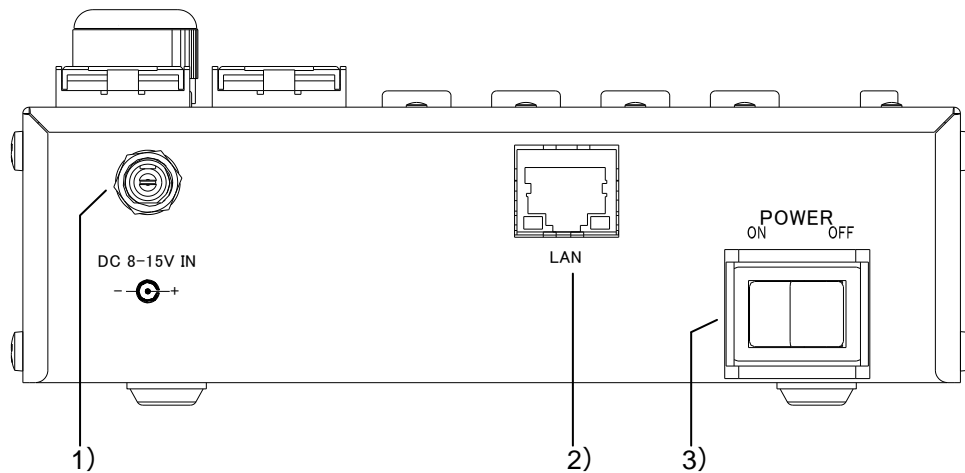
* REF LOCK and ERR/WARNING indicators are active while connected to a Main Unit and inactive (unlit) while disconnected.

LED status table

	POWER	REF LOCK (While connected)	REMOTE	ERR / WARNING (While connected)
Green	ON	Normal	Connected	—
Orange	—	Unlocked	Disconnected	Warning occurs in Main Unit
Red	—	No signal	LAN LINK disconnected	Error occurs in Main Unit
Unlit	OFF	SDI input	—	Normal

- 2) REMOTE 1, 2 buttons
Used to select a target Main Unit by pressing **REMOTE 1** or **REMOTE 2**. Once connected, the selected target button lights up.
- 3) LCD display
Used to display Main Unit states and perform Main Unit menu settings in Normal mode.
Used to display the Remote Box menu and configure Remote Box in Config mode. (See Sec. 3-4. "Config Mode Operation.")
- 4) DELAY INH LED
Lit red if DELAY settings are disabled. To enable DELAY settings, turn DELAY INHIBIT off in the Main Unit menu. (See the Main Unit Operation Manual for more details.)
- 5) INPUT SELECT buttons
Used to select an input for information display or DELAY setting change.
(See the Main Unit Operation Manual for more details.)
- 6) DELAY button
Used to perform DELAY settings.
(See the Main Unit Operation Manual for more details.)
- 7) Control knob
Used to display Main Unit states and perform Main Unit menu settings.
(See the Main Unit Operation Manual for more details.)
Used to display the Remote Box menu and configure Remote Box in Config mode.
(See Sec. 3-4. "Config Mode Operation.")
- 8) MENU button
Used to display Main Unit states and perform Main Unit menu settings.
(See the Main Unit Operation Manual for more details.)
Used to display the Remote Box menu and configure Remote Box in Config mode.
(See Sec. 3-4. "Config Mode Operation.")
- 9) BYPASS button
Used to turn INPUT BYPASS on/off in the Main Unit.
(See the Main Unit Operation Manual for more details.)
- 10) PANEL INH button
Used to enable/disable Remote Box front panel operation.
If the front panel is disabled, the button is lit. If it is enabled, the button is unlit

2-2. Rear Panel



- 1) DC IN
Use the accessory AC adapter to supply power to the unit. (Attach the supplied cable retaining clip.) Remote Box works in 8-15 V DC.
- 2) LAN
Used to connect Main Unit through LAN.
- 3) Power switch
Used to turn Remote Box on/off.

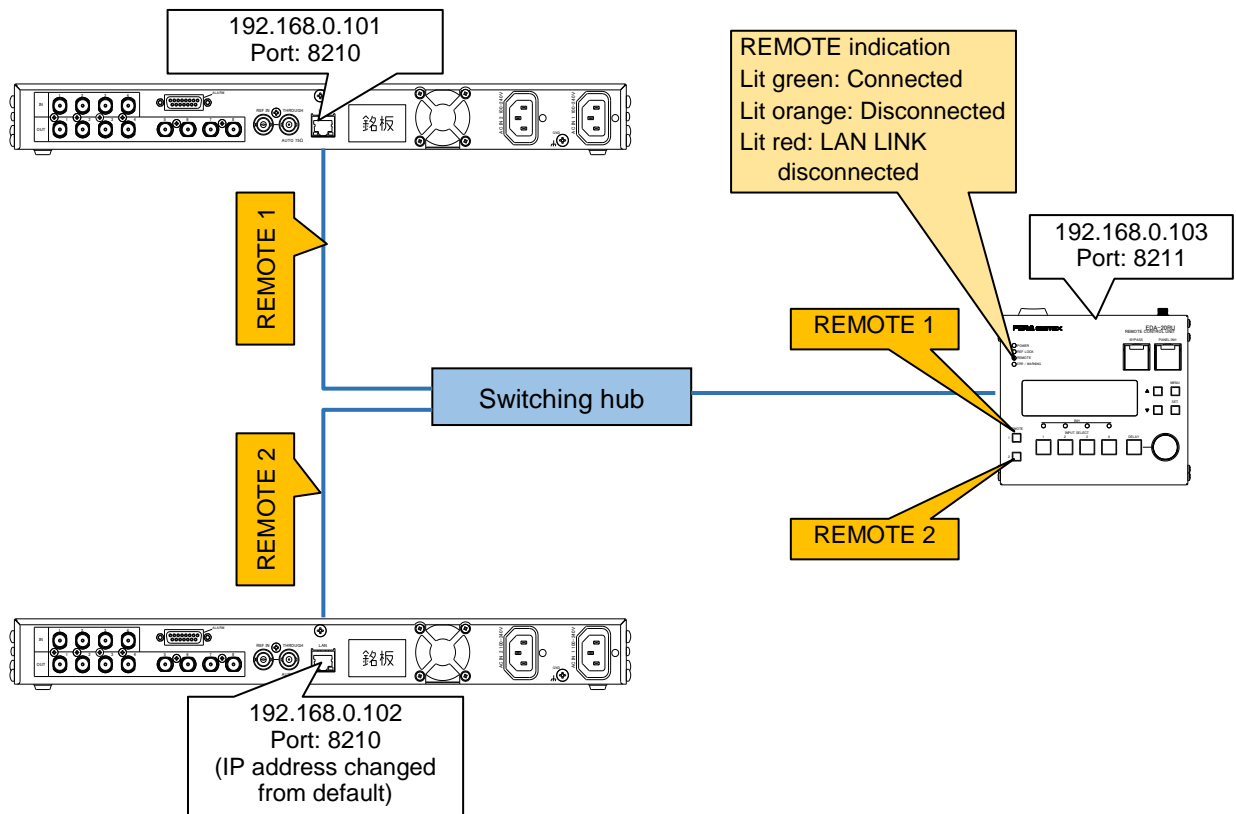
2-3. Connection

Connect Main Units and Remote Box (EDA-20RU) through LAN as shown below.

The Remote Box can store two Main Unit connection settings, and connect either one of them by using **REMOTE 1** or **REMOTE 2** button on the front panel.

As factory default, IP addresses and TCP/UDP port numbers for the system devices and REMOTE 1 and REMOTE 2 settings are set as shown in the figure below.

Pressing **REMOTE 1** (or **REMOTE 2**) starts connection to the Main Unit. When the connection is established, REMOTE indicators both on the Main Unit and Remote Box light green. (See Sec. 3-3-1. "Selecting a Target Main Unit" for more details.)



IMPORTANT

- If adding the EDA-2000 system to an existing network, consult the network administrator.
- If the connection is incorrectly disconnected caused by cable faults or other problems, the Remote Box may not connect to the Main Unit for several minutes. In such cases, wait for a while or restart the Remote Box and reconnect to the Main Unit.

3. Operation

3-1. Remote Box Operation Mode

Remote Box has two operation modes: Normal mode and Config mode.

In **Normal** mode, Remote Box can connect to and control a Main Unit.

In **Config** mode, Remote Box can be configured by using the Remote Box menu.

To enter the Config mode, see the next section.

3-2. Power On/Off

3-2-1. Normal Mode

Turn on the power switch on the rear panel to start the Remote Box in Normal mode.

Once the power is supplied, all LEDs on the front panel light and the Remote Box begins its initialization process.

The Remote Box displays the connection status with the Main Unit after initialization. Once the connection is established, the Remote Box is ready to operate.

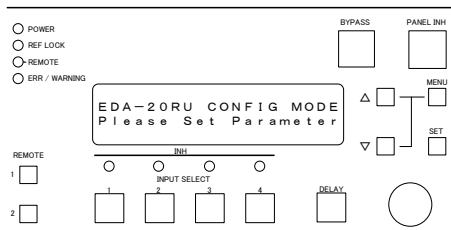
To power off the Remote Box, turn off the power switch.

After changing Main Unit settings in Normal mode, do not power off the Main Unit within 10 seconds before powering off the device. Otherwise, the settings are not properly applied.

3-2-2. Config Mode

To enter Config mode, turn on the Remote Box while holding down the **REMOTE 1**, **REMOTE 2** and **SET** buttons on the front panel. Do not release the buttons until "Config Mode" is displayed. **REMOTE 1** and **REMOTE 2** blink and the start screen as shown below appears to indicate Config mode.

To go back to Normal mode, power off them on the Remote Box.



Config mode start screen

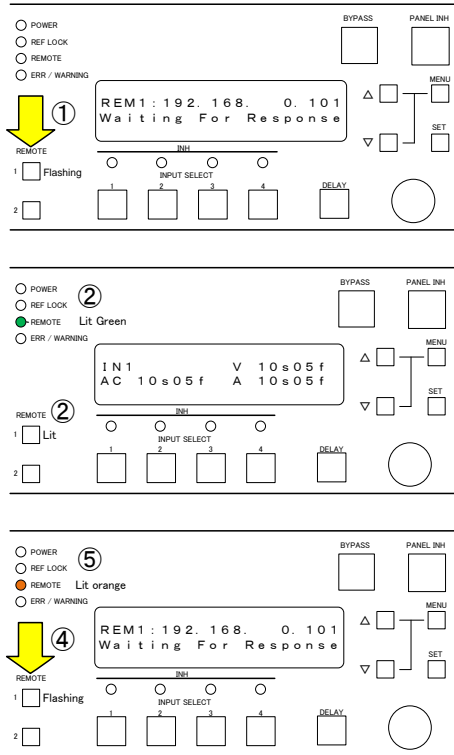
Remote Box and Main Unit can be connected with factory default settings." To change these settings, use Config mode.

After changing Remote Box settings in Config mode, do not power off the Remote Box within 10 seconds. Otherwise, the settings are not properly applied.

3-3. Normal Mode Operation

3-3-1. Selecting a Target Unit

REMOTE 1 and **REMOTE 2** buttons allow you to switch the Remote Box control target. Main units must be assigned to these buttons in advance using IP address and port number. Pressing **REMOTE 1** or **REMOTE 2** connects the Remote Box to the Main Unit. When the connection is established, the button lights up, the remote control is ready to use and the REMOTE indicator lights green.



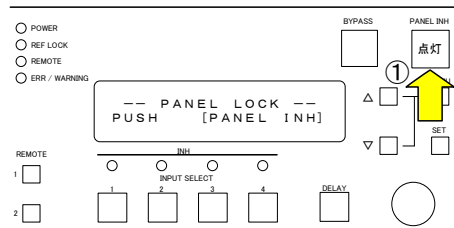
① To connect to REMOTE 1, press the **REMOTE 1** button. The button blinks and the connection process starts.

② Once the connection is established, the button lights and the remote control is ready to use. REMOTE indicator lights green.

③ To quit the connection, press **REMOTE 1** to turn off. REMOTE indicator changes to orange.

3-3-2. Panel Inhibit

To enable/disable the Remote Box front panel operation, proceed as follows.



① Press the **PANEL INH** button to turn on. The front panel operation is locked.

② To unlock the panel, press **PANEL INH** to turn off the button.

3-3-3. Controlling Main Unit

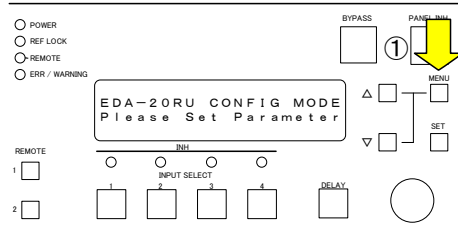
Once the connection is established with a Main Unit, use the same Menu as those in Main Unit to control the Main Unit in the same manner. See the Main Unit Operation Manual for details on menu operations.

3-4. Config Mode Operation

3-4-1. Menu Operation in Config Mode

Config mode is used for Remote Box settings.

- To enter menu settings:



- Press **MENU** to enter menu settings.

The **MENU** button lights up during menu settings.

- Menu structure

Button	Menu levels			
	Menu (M1)	Submenu 1 (M2)	Submenu 2 (M3)	Value (M4)
MENU	Normal mode ←	To Menu ←	To Submenu 1 ←	To Submenu 2
△ ∇	Menu selection	Submenu 1 selection	Submenu 2 selection	Value selection
SET	To Submenu 1 →	To Submenu 2 →	To Value →	Confirmation

The Remote Box menu is composed of submenus as shown in the table above.

It has four menu levels: Menu, Submenu 1, Submenu 2 and Value.

Use the **MENU** and **SET** buttons to move between different menu levels.

Use the **△** and **∇** buttons to move within the same menu level as shown above.

Press **MENU** in the top menu level to exit menu settings.

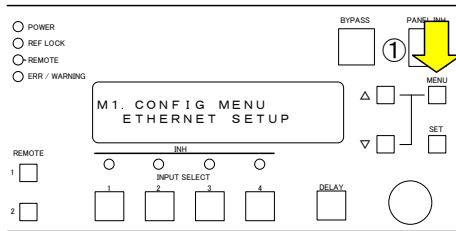
Press **SET** in the bottom menu level to confirm settings.

Some menus do not contain Submenu 2. In such a case, set values in the bottom menu level.

If menu settings are changed, wait at least 10 seconds before turning OFF the unit. Otherwise, changes will not be applied.

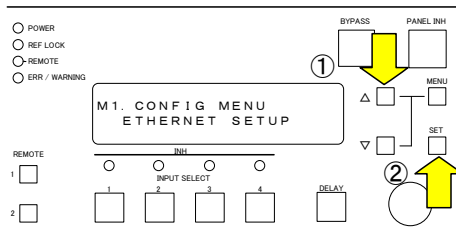
- Menu Setting Example:
To change Remote Box IP Address, proceed as follows:

1) Entering the Menu



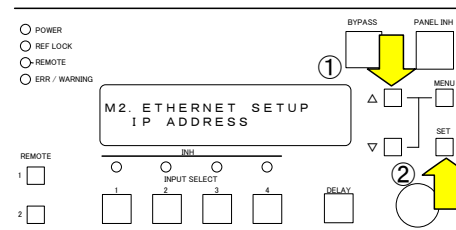
- ① Press the **MENU** button. The button lights up and the menu is displayed on the screen.

2) Selecting ETHERNET SETUP



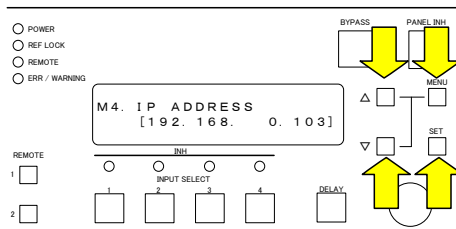
- ① Use Δ and ∇ buttons to select **ETHERNET SETUP**.
- ② Press **SET** (to go to Submenu 1).

3) Selecting IP ADDRESS

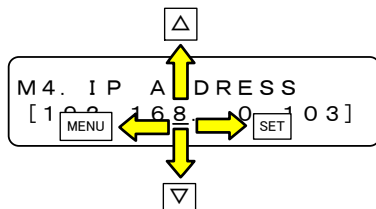


- ① Use Δ and ∇ buttons to select **IP ADDRESS**.
- ② Press **SET** (to go to Submenu 2).

4) Changing the IP address



- ① Press **SET**.
- ② Select a digit using **MENU** and **SET**. Pressing **MENU** moves the cursor one-digit to the left. Pressing **SET** moves the cursor one-digit to the right.
- ③ Select an integer using Δ and ∇ . Pressing Δ increases the number by one.. Pressing ∇ decreases the number by one.
- ④ Repeat ② and ③ to change the address.
- ⑤ Press **SET** to move the cursor to the right-most digit.
- ⑥ Press **SET** again to confirm the change.



To cancel the setting process, press **MENU** to move the cursor to the left-most digit. Press **MENU** again to exit the menu.

3-5. Remote Box Menu List

The following Remote Box menus are available only on Remote Box and can be accessed in Config mode.

3-5-1. ETHERNET SETUP

Submenu	Description		Submenu	Description
ETHERNET SETUP	IP ADDRESS	-	192.168.0.103	000.000.000.000 to 255.255.255.255
	SUBNET MASK	-	255.255.255.0	
	DEFAULT GATEWAY	-	0.0.0.0	
	PORT NUMBER		8211	1024 to 65535
	MAC ADDRESS	-	(Unique interface address)	(Display only)

Submenu	Description	
IP ADDRESS	-	Sets the Remote Box IP address.
SUBNET MASK	-	Sets the Remote Box subnet mask.
DEFAULT GATEWAY	-	Sets the Remote Box default gateway.
PORT NUMBER	-	Sets the port number that receives packets from the Main Unit.
MAC ADDRESS	-	Displays the Remote Box MAC address.

◆ LAN Settings

IP ADDRESS, SUBNET MASK and DEFAULT GATEWAY settings are applied to the LAN port on the Remote Box (EDA-20RU). If the settings are changed, new values are enabled after restart.

Do not set a gateway address that does not exist in the network. If no gateways are used, set to "0.0.0.0."

Refer to Sec. □. "Changing Remote Box IP Address and Port Number" for details on how to change network settings.

3-5-2. REMOTE SETUP

Menu	Submenu		Default	Setting
REMOTE SETUP	REM1 IP ADDRESS	-	192.168.0.101	000.000.000.000 to 255.255.255.255
	REM1 PORT NUMBER		8210	1024 to 65535
	REM2 IP ADDRESS	-	192.168.0.102	000.000.000.000 to 255.255.255.255
	REM2 PORT NUMBER		8210	1024 to 65535

Submenu	Description	
REM1 IP ADDRESS	-	Sets the REMOTE 1 Main Unit IP address.
REM1 PORT NUMBER	-	Sets the REMOTE 1 Main Unit port number.
REM2 IP ADDRESS	-	Sets the REMOTE 2 Main Unit IP address.
REM2 PORT NUMBER	-	Sets the REMOTE 2 Main Unit port number.

3-5-3. SYSTEM SETUP

Menu	Submenu		Default	Setting
SYSTEM SETUP	LCD BACKLIGHT	-	ON	ON 60MIN 30MIN 10MIN 1MIN 30SEC 10SEC OFF
	USER MEMORY	LOAD	-	1 to 8
		SAVE	-	
	FACTORY SET	ALL	-	(Confirmation message)
		ETHERNET		
		REMOTE		
		USER MEMORY		
REBOOT	-	-	(Confirmation message)	
VERSION	-	-	(Display only)	

Submenu		Description
LCD BACKLIGHT	-	Sets the idle time after which the Remote Box backlight automatically turns off.
USER MEMORY		Saves/loads a set of Main Unit settings using USER MEMORY 1-8.
	LOAD	Loads settings in a USER MEMORY number to Main Unit.
	SAVE	Saves current Main Unit settings to a USER MEMORY number.
FACTORY SET	ALL	Resets all Remote Box settings to factory default.
	ETHERNET	Resets ETHERNET SETUP settings to factory default.
	REMOTE	Resets REMOTE SETUP settings to factory default.
	USER MEMORY	Clears USER MEMORY 1 (-8).
REBOOT	-	Reboots (restarts) EDA-20RU. Rebooting is required after changing ETHERNET SETUP or REMOTE SETUP settings.
VERSION	-	(Display only) Displays software and CPLD versions.

4. Ethernet Interface

The Remote Box and main unit can communicate with each other via Ethernet .

4-1. Control Connection

4-1-1. Communication Specifications

Interface	100BASE-TX (RJ-45)
Protocol	UDP (EDA-1000/2000 dedicated protocol)
Control device	Remote Box (EDA-20RU) UDP port number for receiving packets: 8211 (default)
Controlled device	EDA-1000/2000 UDP port number for receiving packets: 8210 (default)

4-1-2. Connecting to an Main Unit

- 1) Verify that IP address and port number settings are correctly made.
- 2) Connect the Remote Box and Main Unit(s) using LAN cables.
- 3) Press **REMOTE1** or **REMOTE2** on the Remote Box to connect to the Main Unit.
- 4) When communication sessions start, REMOTE LED indicators on both devices light green. See Sec. 3-3-1. "Selecting a Target Unit" for details on how to switch the main unit.

IMPORTANT

- If adding the EDA-2000 system to an existing network, consult the network administrator.
- If the connection is incorrectly disconnected caused by cable faults or other problems, the Remote Box may not connect to the Main Unit for several minutes. In such cases, wait for a while or restart the Remote Box and reconnect to the Main Unit.

5. Troubleshooting

If any of the following problems occur while operating your Remote Box, proceed as indicated below to see if the problem can be corrected before assuming a unit malfunction has occurred.

IMPORTANT

If the problem is unable to be corrected by the below procedures, turn the unit off and then on again. If this still does not correct the problem, contact your FOR-A representative.

Problem	Check	Remedy
Cannot connect to Main Unit.	Are ETHERNET settings set correctly?	Verify IP addresses, port numbers, or other network settings in the ETHERNET SETUP and REMOTE SETUP menus. See Sec. 3-5-1 "ETHERNET SETUP" and Sec. 3-5-2. "REMOTE SETUP." Verify that REMOTE CONTROL is set to ON in the Main Unit NETWORK SETUP menu.
Main Unit response is too slow.	Is network traffic heavy? Are there another Remote Box or other devices that use the same port numbers?	Connect the Main Unit and Remote Box directly through LAN to avoid communication disturbances. Change IP addresses or port numbers in accordance with your network conditions. See Sec. 3-5-1 "ETHERNET SETUP" and Sec. 3-5-2. "REMOTE SETUP."
Remote Box front panel won't work.	Is PANEL INH turned on?	If PANEL INH is turned on, the front panel is locked. To unlock the panel, press PANEL INH . See Sec. 3-3-2 "Panel Inhibit."

6. Specifications and Dimensions

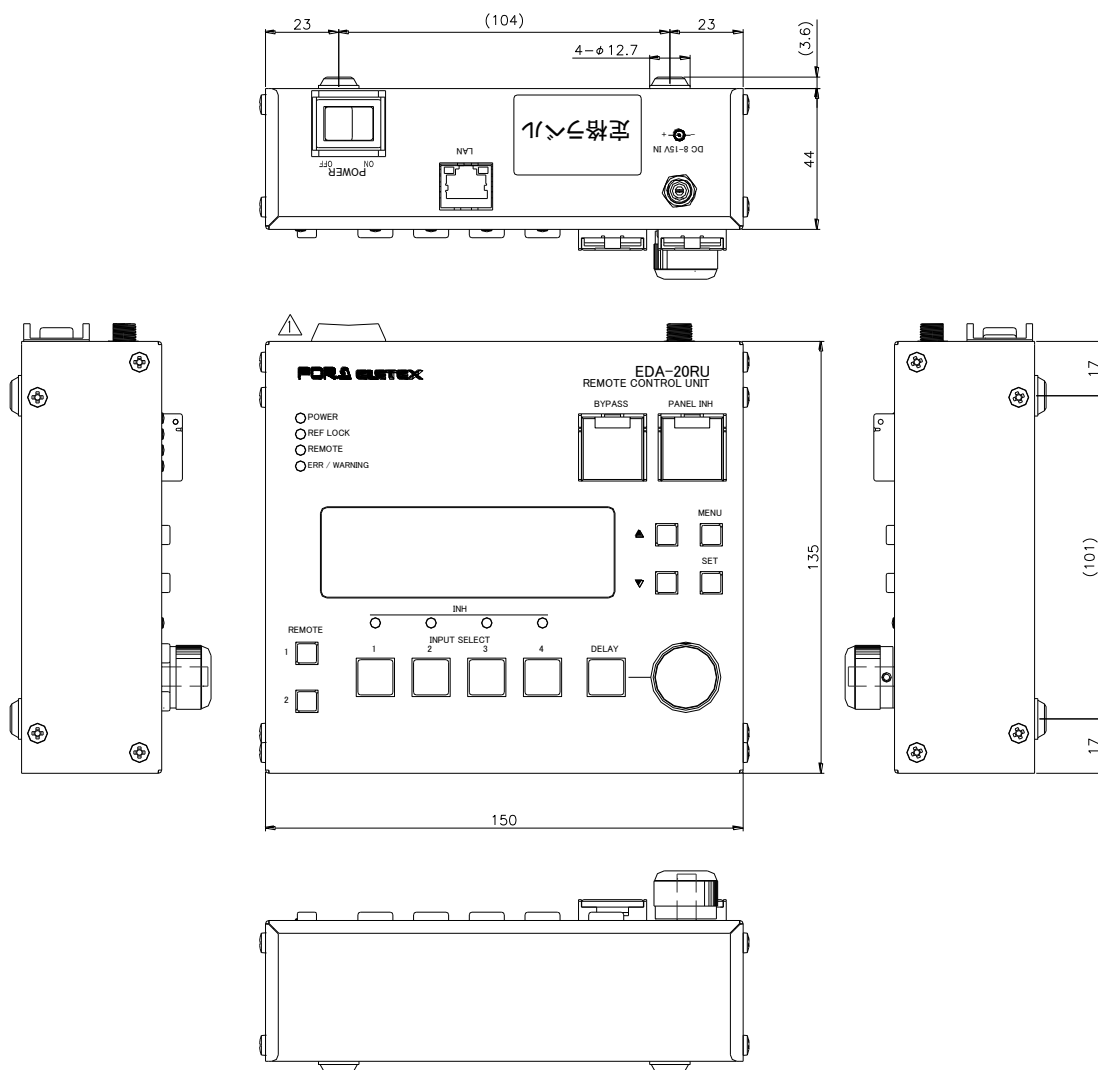
6-1. Unit Specifications

LAN	100BASE-TX, RJ-45 x 1 (for EDA-1000/2000 control)
Operational temperature/humidity	0°C to 40°C, 10% to 80% (No condensation)
Non-operational temperature/humidity	-20°C to 60°C, less than 80% (No condensation)
Power	8-15 V DC (12 V DC: Supplied AC adapter)
Consumption	260 mA (3.12 W) at 12 V DC
Dimensions	150 (W) x 44 (H) x 135 (D) mm (excluding projections)
Weight	Approx. 0.8 kg

* External dimensions and unit's specifications may be subject to change without notice.

6-2. External Dimensions

(All dimensions in mm.)



Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.



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