FOR.A®
INNOVATIONS IN VIDEO
and AUDIO TECHNOLOGY

OPERATION MANUAL

FA-10DCCRU

Remote Control Unit

4th Edition

Software Version 4.00 – Higher

FOR-A COMPANY LIMITED

Edition Revision History

Edit.	Rev.	Date	Description	Section/Page
1	-	2014/06/30	1st Edition	
2	-	2014/12/17	Supported FA-505 units. Changed event save/load procedure.	 7
2	1	2015/05/29	Changed default IP address to 192.168.0.101. Factual errors corrected	5-2, 5-6
3	-	2016/05/30	Supported HDR in FA-505	2, 6-10, 6-11-2, 6-9-9, 6-10-2-3, 7-3
3	1	2016/07/29	Supported FA-505 (Ver. 2.10) HDR changes.	2-1 6-10-3 6-11-2 9-9
3	2	2016/09/28	Changed the White Input Clip setting range for RGB Clip. Factual errors corrected.	6-10-2-1
4	—	2018/11/05	Supported FA-9600 units.	

Precautions

Important Safety Warnings

[Power]

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

[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.
 Caution	**Ensure** the power cord is firmly plugged into the AC outlet.

[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.
	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]

 Caution	**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.

[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.

[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.

[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.

Upon Receipt

Unpacking

FA-10DCCRU units and their accessories are fully inspected and adjusted prior to shipment. Operation can be performed immediately upon completing all required connections and operational settings.
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.

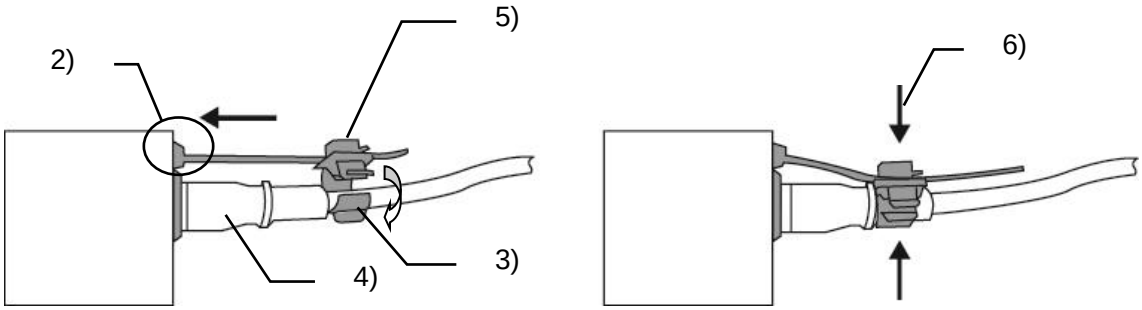
ITEM	QTY	REMARKS
FA-10DCCRU	1	
AC Cord	1 set	(Including an AC cord retaining clip)
Rack Mount Brackets	1 set	EIA standard type
CD-ROM	1	Installation Disc User manual (PDF) included
Quick Setup Guide	1	

Installing the AC Cord Retaining Clip

Secure the AC cord with the supplied ladder strap/retaining clip assembly to prevent accidental removal from the unit.

◆ **Installing the clip**

1) Wrap the retaining clip around the AC cord. (with the anchor of the ladder strap toward the unit.)
2) Insert the anchor into the hole next to the AC IN socket.
3) Lightly fasten the clip around the AC cord.
4) Plug in the power cord.
5) Slide the clip on the ladder strap toward the plug.
6) Fasten the clip tightly.
7) Gently pull on the AC cord to ensure it is secured.



◆ **Unpluging the AC cord**

1) Push the tab on the retaining clip up to unfasten the clip.
2) Push the tab on the ladder strap up and slide the clip back.
3) Unplug the AC cord.

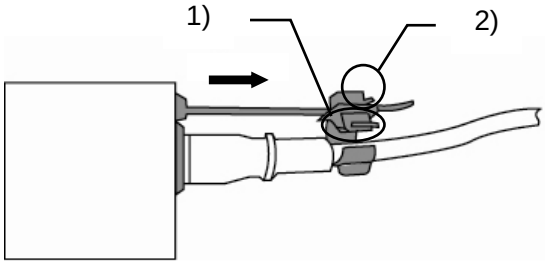


Table of Contents

1. Prior to Starting

1-1. Welcome

Congratulations! By purchasing an FA-10DCCRU Remote Control Unit you have entered the world of FOR-A and its many innovative products. Thank you for your patronage and we hope you will turn to FOR-A products again and again to satisfy your video and audio needs.
FOR-A provides a wide range of products, from basic support units to complex system controllers, which have been increasingly joined by products for computer video-based systems. Whatever your needs, talk to your FOR-A representative. We will do our best to be of continuing service to you.

1-2. Features

The FA-10DCCRU is a dedicated remote control unit for color correction, which can control FA-505, FA-1010, FA-9520, FA-9500 and FA-9600 units.

- Control of up to 100 FA-505 / FA-1010 / FA-9520 / FA-9500 / FA-9600 units via Ethernet.
- Coexist with FA-10RU and FA-95RU in a system.
- Direct operation with 14 rotary encoders
- FA-505 / FA-1010 / FA-9520 / FA-9500 / FA-9600 can accept up to 5 FA-10DCCRU control units simultaneously.
- Save up to 100 sets of settings in FA-10DCCRU
- GPI 30 inputs and 30 outputs
- Expansion control panel: FA-AUX30 (option)
- Windows-based GPIO utility: FA GPIO Editor

1-3. System Requirements for FA-10DCCRU Setup PC

OS	Windows® 7 /8.1 Professional (32/64bit)	Windows® 10 Professional (32/64bit)
CPU	Intel® Core™ 2 Duo processor 2GHz or higher	Intel® Core™ 2 Duo processor 2GHz or higher
Web browser	Internet Explorer® 11 Firefox®54 Chrome®59 Opera®46	Internet Explorer® 11 Firefox®54 Chrome®59 Opera®46
Memory	2GB or more	4GB or more
Display	1024 x 768 or better, 24-bit true color or better	
LAN interface	Ethernet x 1 port 100BASE-TX/1000BASE-T	

2. Main Unit Compatibility

FA-10DCCRU units do not support all FA-505, FA-1010, FA-9520, FA-9500 or FA-9600 versions. Refer to the tables below for compatibility details. Main units with earlier software versions are unable to be (or to be fully) controlled by FA-10DCCRU units.
Upgrade your main unit if it is fully or partially incompatible with the FA-10DCCRU.
Refer to each Operation Manual for details on software version verification.

◆ **FA-505 Compatibility**

FA-505 Software Version	Supported/unsupported functions
1.00 - 1.10	Able to be controlled, with the following functions unavailable: RGB Clip (HDR), Color Space settings, Gamma Range
2.03	Supported the following functions. RGB Clip (HDR), Color Space settings, Gamma Range
2.10 or later	Changed the following function specifications. RGB Clip (HDR), Color Space settings, Gamma Range

◆ **FA-1010 Compatibility**

FA-1010 Software Version	Supported/unsupported functions
1.00 - 2.01	Unable to connect with FA-10DCCRU.
2.22	Able to be controlled, with the following functions unavailable: BY-PASS/OPERATE, Y Level, SPLIT RGB Clip (HDR), Color Space settings, Gamma Range
3.00 or higher	Able to be controlled, with the following functions unavailable: RGB Clip (HDR), Color Space settings, Gamma Range

◆ **FA-9520 Compatibility**

FA-9520 Software Version		Supported/unsupported functions
FA-9520 mode	FA-9500 mode	
1.00 - 2.01	7.00 - 8.01	Unable to connect with FA-10DCCRU.
2.02 or higher	8.02 or higher	Able to be controlled, with the following functions unavailable: BY-PASS/OPERATE, Y Leve, SPLIT RGB Clip (HDR), Color Space settings, Gamma Range

◆ **FA-9500 Compatibility**

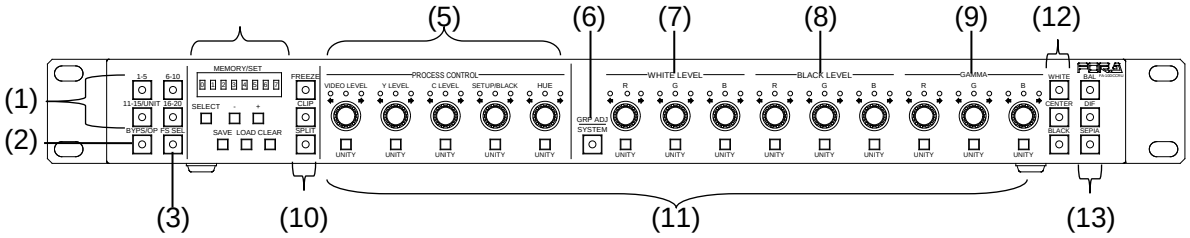
FA-9500 Software Version	Supported/unsupported functions
1.00 - 8.00	Unable to connect with FA-10DCCRU.
8.01 or higher	Able to be controlled, with the following functions unavailable: BY-PASS/OPERATE, Y Level, SPLIT RGB Clip (HDR), Color Space settings, Gamma Range

◆ **FA-9600 Compatibility**

Able to be controlled with all FA-10DCCRU versions.
Only BY-PASS/OPERATE is unavailable

3. Panel Descriptions

3-1. Front Panel



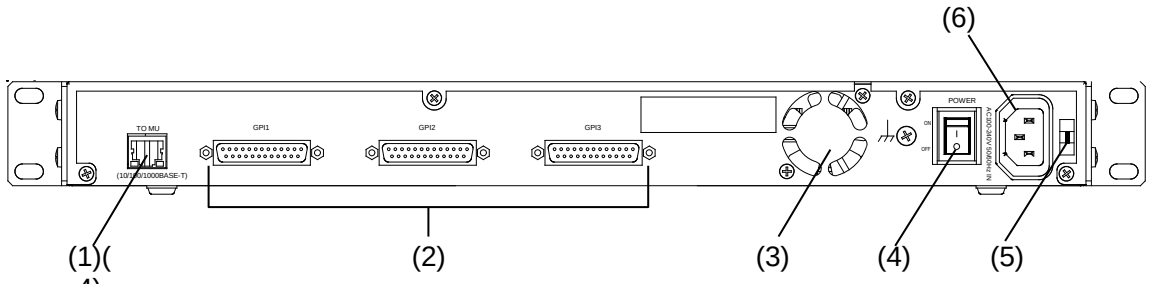
No.	Name	Description	
(1)	1-5, 6-10, 11-15/UNIT, 16-20	Main Unit selection buttons. Before selecting Main Unit ID numbers with these buttons, assign Main Units (FA-505, FA-1010, FA-9520 / FA-9500 and FA-9600) to Unit ID numbers using IP addresses. See section 5-3-4. “Unit ID Assignment” and section 5-3-5. “Direct Mode Settings” for more details. Two connection modes are available: **Direct** and **Unit**. See section 6-1. “Selecting Main Units.”	
(2)	BYPS/OP (BYPASS / OPERATE)	Allows you to select the operation mode by pressing the button.	
		Lit	Performs the correction and outputs the corrected signal. (Operate mode)
		Flashing	Outputs the input signal without performing color correction (Bypass mode)
(3)	FS SEL	Allows you to select an **FS** for which to adjust color correction settings when connecting to an FA-505, FA-1010, FA-9520 (in FA-9520 mode) or FA-9600. The button is disabled when connecting to an FA-9520 from FA-9500 unit. See section 6-3. “Selecting an FS Channel.” Holding down the button allows you to select the **Connection mode** between Direct and Unit. See section 6-1-3. “Selecting the Connection Mode.”	
(4)	MEMORY/SET	Allows you to save settings to / load settings from memory as needed. See section 7. “How to Use Event Memory.” Setting values are displayed while saving or loading settings. See section 9. “Information Display.”	
(5)	PROCESS CONTROL	Allows you to adjust **Proc Amp** settings in Color Correction mode (with CLIP (10) unlit). See section 6-8. “Process Control” and section 6-9. “Color Correction.” Allows you to clip signal levels in Clip mode (with CLIP (10) lit) using the three center buttons. See section 6-10. “Clipping Signal Levels.” The settings apply to the selected FS if controlling an FA-505, FA-1010, FA-9520 in FA-9520 mode or FA-9600.	
(6)	GROUP ADJ SYSTEM	Allows you to adjust **R, G, and B component levels** (White, Black or Gamma) **all together**. While the button is lit, R, G and B component levels can be set together by turning the R, G or B control button. When holding down the button, the button blinks and the menu changes to **SYSTEM settings** mode. See section 8. “System Settings.”	
(7)	WHITE LEVEL	Allows you to adjust the white level. This setting is disabled in Sepia mode. The level adjustment applies to the selected FS if controlling an FA-505, FA-1010, FA-9520 in FA-9520 mode or FA-9600.	
(8)	BLACK LEVEL	Allows you to adjust the black level. This setting is disabled in Sepia mode. The level adjustment applies to the selected FS if controlling an FA-505, FA-1010, FA-9520 in FA-9520 mode or FA-9600.	

No.	Name	Description
(9)	GAMMA LEVEL	Allows you to adjust the gamma level. In Sepia mode, only Y signal can be adjusted using the G control button. The level adjustment applies to the selected FS if controlling an FA-505, FA-1010, FA-9520 in FA-9520 mode or FA-9600.
(10)	FREEZE	Allows you to toggle Freeze On or Off. The button turns on while the video is frozen. See section 6-4. “Freeze Setting.” The setting applies to the selected FS if controlling an FA-505, FA-1010, FA-9520 in FA-9520 mode or FA-9600.
	CLIP	Allows you to toggle the mode between **Color Correction** and **Clip**. Holding down the buttons simultaneously changes the mode to Clip. See section 6-10. ” Clipping Signal Levels.” The setting applies to the selected FS if controlling an FA-505, FA-1010, FA-9520 in FA-9520 mode or FA-9600.
	SPLIT (*1)	Allows you to change the video display mode in the following order: OFF > MODE1 > MODE2 > MODE3. The setting applies to the selected FS (by FS SEL) in an FA-505, FA-1010 or FA-9600.
(11)	UNITY (*2)	Pressing the UNITY button resets the value to default. Pressing the button again returns the default value to the previous value.
(12)	WHITE/ CENTER/ BLACK	Selects a gamma curve from WHITE, CENTER or BLACK. The setting applies to the selected FS if controlling an FA-505, FA-1010, FA-9520 in FA-9520 mode or FA-9600. For FA-9600 units, these buttons can toggle each clip on/off.
(13)	BAL/DIF/SEPIA	Selects a correction type for Color Correction mode from the following: BAL (Balanced, mainly used for RGB signals) DIF (Differential, mainly used for YPbPr signals) SEPIA (Sepia color) The setting applies to the selected FS if controlling an FA-505, FA-1010, FA-9520 in FA-9520 mode or FA-9600. For FA-9600 units, SEPIA mode cannot be controlled. Instead. the SEPIA button selects the Proc Amp process (post- or pre-process) if FA-96AHDR is installed.

(*1) Split control is available if the FA-1010 software version is 3.00 or higher.
Split control is not available for FA-9520 or FA9500.

(*2) Two operation modes, **Linked Unity** and **Unlinked Unity**, are available for setting WHITE LEVEL, BLACK LEVEL and GAMMA LEVEL using the R, G and B UNITY buttons. See section 8. “SYSTEM Settings” and section 6-7. “UNITY Button and Unity Mode” for more details.

3-2. Rear Panel

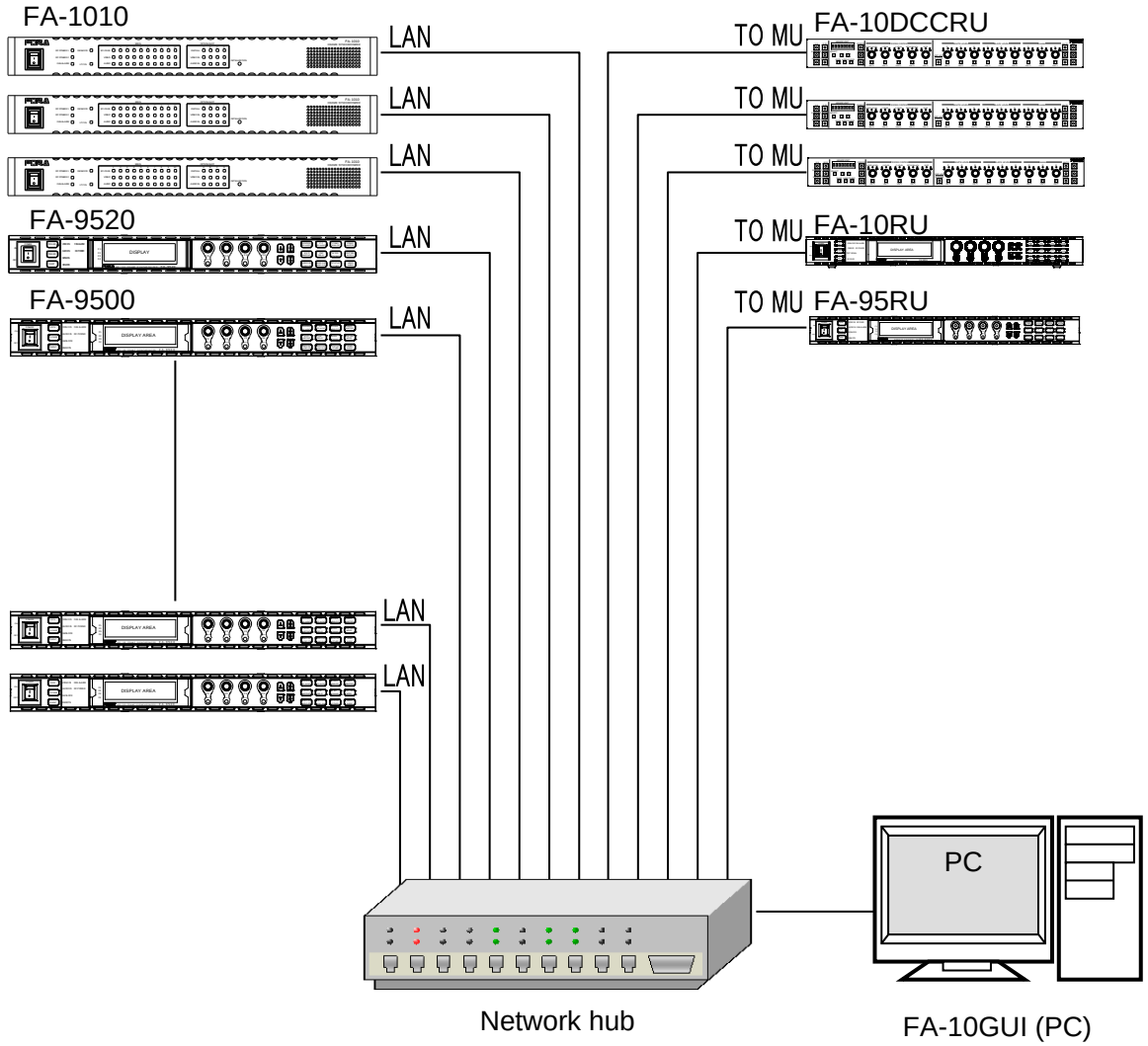


No.	Name	Description
(1)	TO MU	Used to connect to an FA-505, FA-1010, FA-9520, FA-9500 or FA-9600 via LAN. Set the unique IP address and connect to the network.
(2)	GPI1 to GPI3	Used to connect an FA-AUX30 or external expansion switch panel(s). To assign GPI functions, install the **FA GPIO Editor** software using the supplied CD-ROM. See section 10. “GPI Interface” for details on GPI connectors.
(3)	Cooling Fan	Used to air cool the unit to prevent overheating. Do not block the ventilation openings.
(4)	Ground Terminal	Used to ground the unit to protect operators against static electricity and / or electrical shock.
(5)	AC cord retaining clip anchor hole	Used to anchor the AC cord retaining clip.
(6)	AC IN	Used for connection to an AC power source via the supplied accessory cord. (AC 100 V-240 V 50/60 Hz)

4. Connecting to Main Units (FA-505 / 1010 / 9520 / 9500 / 9600)

Connect FA-10DCCRU units to main units (FA-505, FA-1010, FA-9520, FA-9500 and FA-9600) via Ethernet. FA-10RU and FA-95RU units can be connected in the same network.

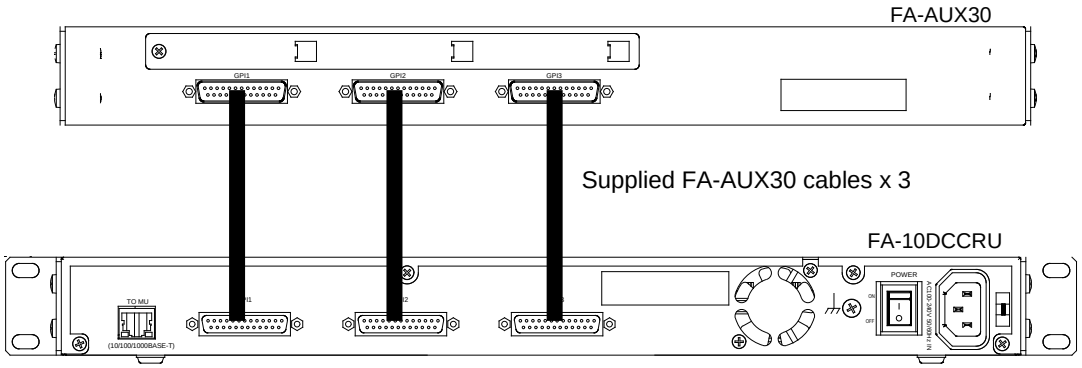
4-1. Basic Configuration



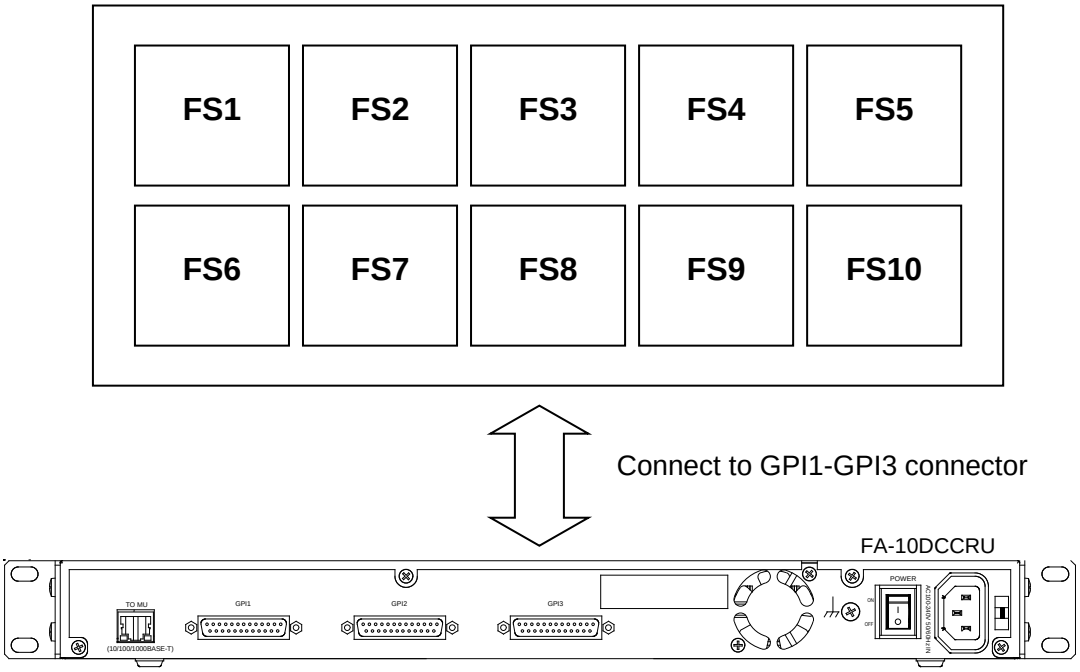
Specify unique IP addresses for all devices connected to the network.
See section 5-3-2. “Network Settings” for details on IP address settings.
A single FA-505, FA-1010, FA-9520, FA-9500 or FA-9600 unit can be controlled by up to 5 remote FA-10DCCRU, FA-10RU and/or FA-95RU units.
An attempted 6th connection will not be accepted.

4-2. Optional Configuration

◆ **Connection with an FA-AUX30 option**



◆ **Connection with a user-made switch box**

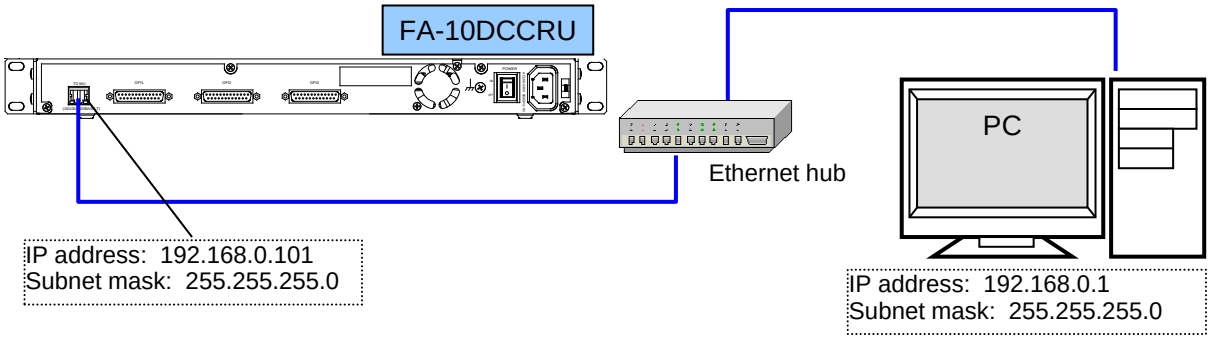


* See section 10. “GPI Interface” for details on GPI connectors.

5. Setup

5-1. Connecting an FA-10DCCRU to the Computer

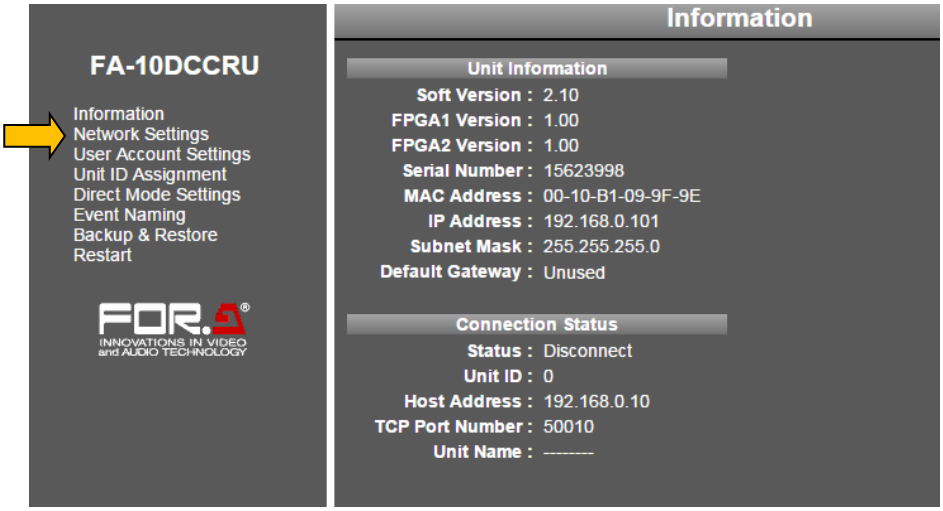
(1) Connect the FA-10DCCRU and your PC. Set the IP address of the PC so that it appears on the same LAN subnet. For example, 192.168.0.1 as shown below.



(2) Launch your web browser on the PC. Microsoft Internet Explorer is used in this manual. Other web browsers are also supported.
(3) Enter the IP address of the FA-10DCCRU (default: **192.168.0.101**) in your browser's address bar.
(4) When the FA-10DCCRU connection is established, the **Information** page will appear.

5-2. Changing the FA-10DCCRU IP Address

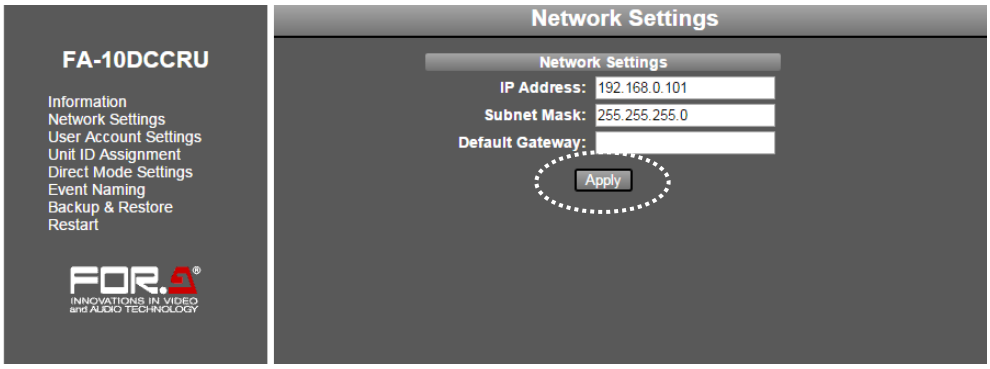
(1) In the left pane of the Web GUI, click **Network Settings**.



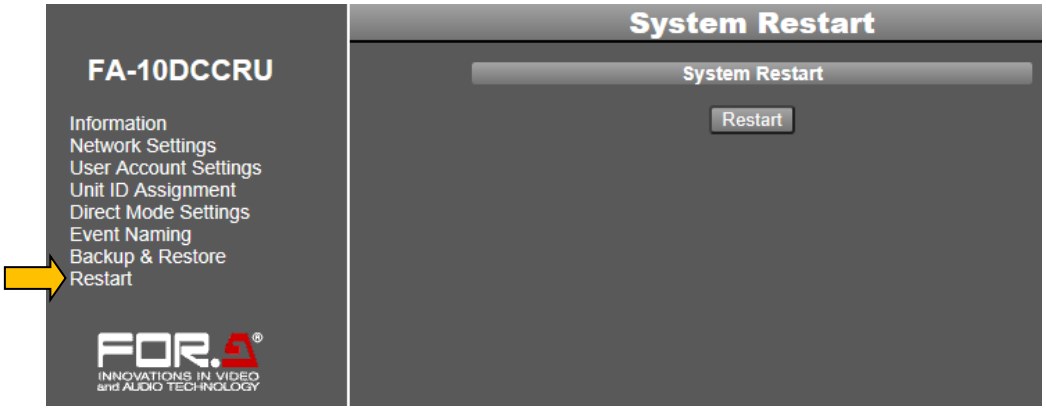
(2) If a login dialog window as shown below appears, enter the following user name and password.

Default User name and Password
User name: **fa10dccru**
Password: **foranetwork**

(3) The Network Settings page is displayed in the right pane.
(4) Change the FA-10DCCRU IP address as needed. Set a unique IP address and subnet mask in the LAN.
(5) Click **Apply**.



(6) Wait at least 1 second then click **Restart** in the left pane to display the System Restart page. Click **Restart** in the right pane to restart the FA-10DCCRU. New network settings are applied after the restart.

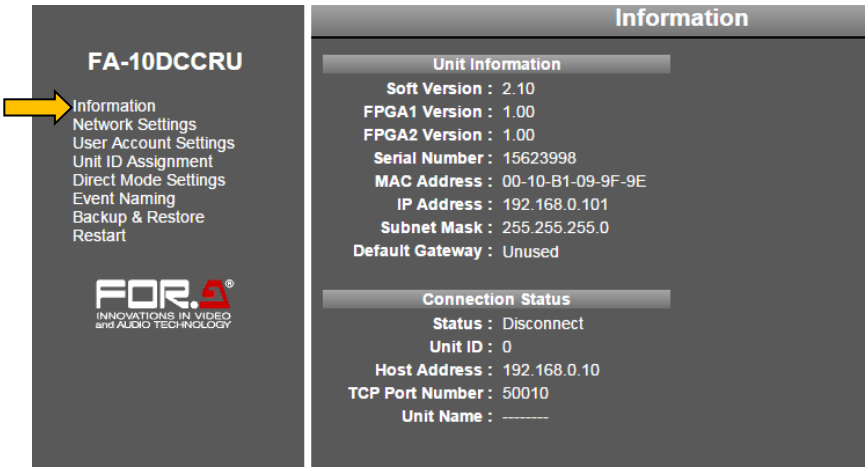


5-3. Web GUI

5-3-1. Information

Click **Information** in the left pane to display the Information page, in which Unit Information and Connection Status details of the FA-10DCCRU are displayed.

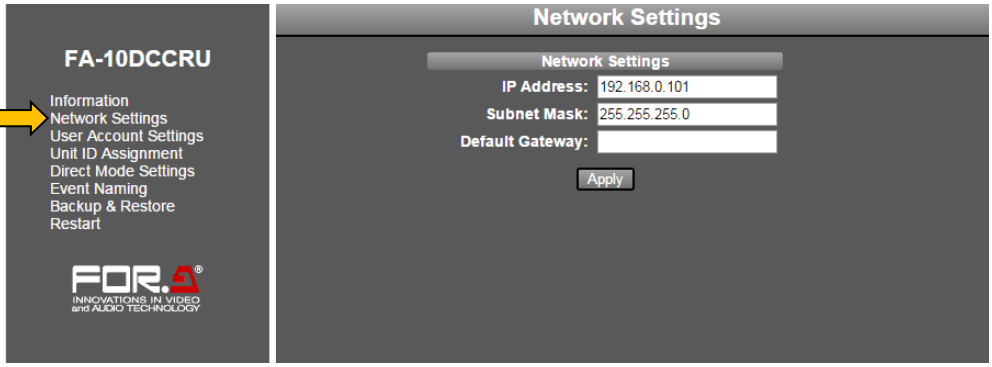
- FA-10DCCRU version, serial number and network setting details
- Main Unit information



Click **Refresh** to refresh the page.

5-3-2. Network Settings

In the left pane of the Web GUI, clicking **Network Settings** displays the Network Settings page in the right pane, in which FA-10DCCRU network settings are entered. After settings are complete, click **Apply** to apply them.



Item	Default	Description
IP Address	192.168.0.101	Allows you to set the FA-10DCCRU IP address and subnet mask. Set a unique IP address and connect to a LAN network.
Subnet Mask	255.255.255.0	
Default Gateway		This setting is not required. Set the Default Gateway address according to your network circumstances.

IMPORTANT
Network Settings are applied after the FA-10DCCRU restarts. See section 5-3-8. “System Restart.”

5-3-3. User Account Settings

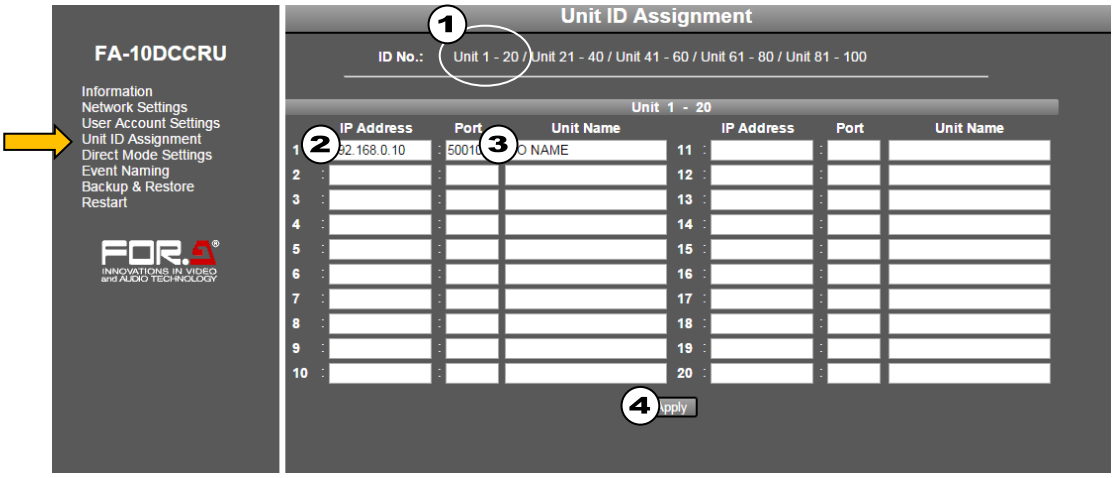
This page allows you to change user name and password settings by logging in through the Web GUI.

(1) Click **User Account Settings** in the left pane.
(2) Enter a user name (Alphanumeric, up to 15 characters).
Enter a password (Alphanumeric, up to 15 characters).
Re-enter the password.
(3) Click **Apply**.
(4) Wait at least 1 second, then click **Restart** in the left pane to display the System Restart page. Click **Restart** in the right pane to restart the FA-10DCCRU. The new network settings are applied after the restart.

IMPORTANT
User Account Settings are applied after the FA-10DCCRU restarts. See section 5-3-8. “System Restart.”
Do **not** forget your user name or password.
If you forget your user name or password, set the FA-10DCCRU back to factory default settings (see section 12. “Resetting to Factory Default Settings”) and reset your user name and password.

5-3-4. Unit ID Assignment

Click **Unit ID Assignment** in the left pane to display the Unit ID Assignment page. This page allows you to assign Main Units to **Unit ID** numbers using IP addresses and unit names. When controlling multiple main units, unit names can help you identify units. Up to 100 units can be registered in the list.



(1) Move the mouse over the desired Unit ID numbers at the top of the page to display the list. Then click on the ID numbers (**Unit 1- 20** for example).

(2) Enter an IP address (required) under the Unit ID number for each unit (FA-505, FA-1010, FA-9520, FA-9500 or FA-9600) as shown above.

If a unit is not registered in the list, the message “No Assigned IP Address” will appear when trying to connect to the unit.

(3) Enter a unit name (not required) under the Unit ID number. Units names must be alphanumeric and within 15 characters.

Unit names are displayed on the FA-10DCCRU front panel while selecting a main unit or after connection is established. If a unit name is not specified, the IP address will be displayed instead of a unit name.

Change the Port (TCP port number) setting only when another device than those below exists in the LAN and uses this port number:

FA-505 / FA-50GUI / FA-1010 / FA-10GUI /
FA-9520 / FA-9500 / FA-9600/ FA-10RU / FA-95RU /
FA-10DCCRU

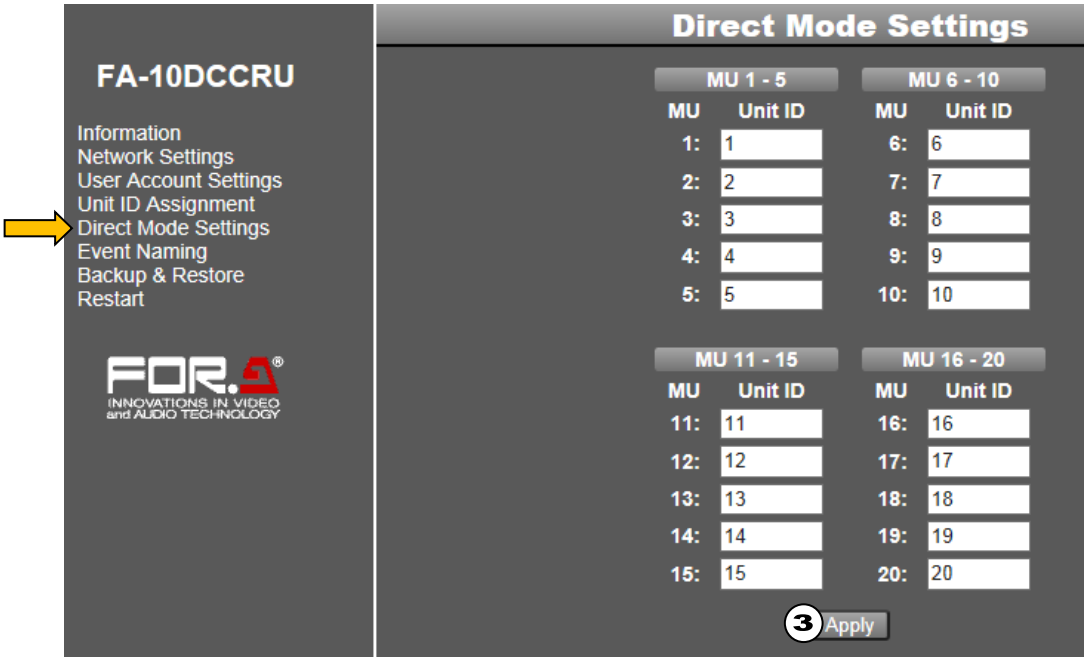
If a port number is changed, set the same number for all devices listed above.

(4) After all settings are finished, click **Apply**.

IMPORTANT
Do **not** forget to click **Apply**. When the list display or menu page is changed without clicking **Apply**, the settings in the list are ignored and they will return to their previous settings.

5-3-5. Direct Mode Settings

Click **Direct Mode Settings** in the left pane to display the Direct Mode Settings page. This page allows you to assign Main Units to **MU1** to **MU20**, which are used for direct mode connections.
Up to 20 MU units (MU 1 – MU 20) can be registered in the Direct Mode list, but they must be registered in the Unit ID list. (See the previous page).
See section 6-1-2. “Connecting a Main Unit in Direct Mode” for details on the connection procedure.
As factory default, **Unit ID 1 to 20** are set to **MU 1 to 20**. If you need to change these assignments, follow the procedure below.

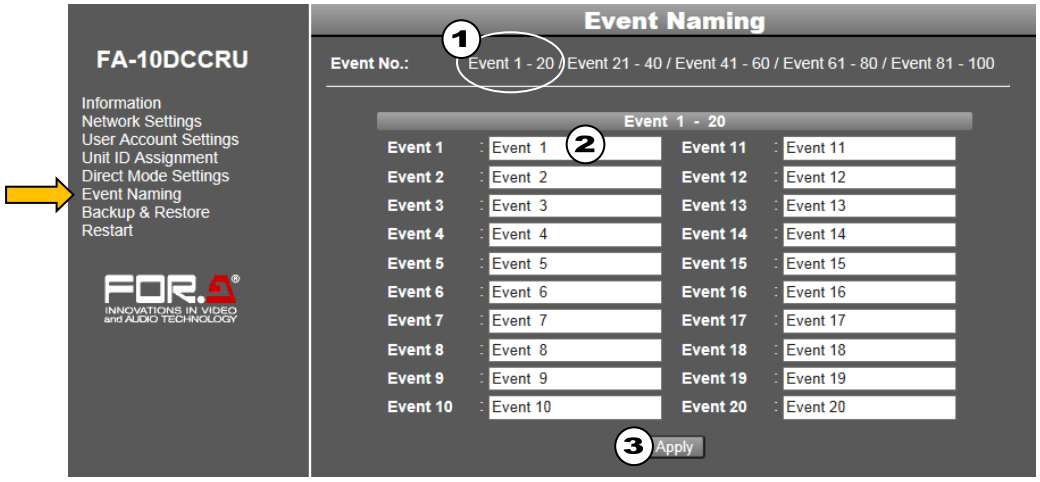


(1) Change the Unit ID numbers for MU 1 to MU 5. Click the **MU 1–5** button.
(2) Change the Unit ID numbers for MU 6 to MU 10, then click the **MU 2-10** button. Change other settings in the same way.
(3) When all settings are finished, click **Apply**.
Note that if another page is entered without clicking **Apply**, the settings are ignored.

IMPORTANT
Note that if an IP address is not set under the associated Unit ID number in the Unit Assignment page (see section 5-3-4), it cannot be accessed using the Unit ID or MU number. When connecting to main units using the 1-5, 6-10, 11-15 or 16-20 button in Direct mode, user names set in the Unit Assignment page are displayed. If user names are not set, IP addresses are displayed. Setting **Unit ID** to “**0**” in the Direct Mode Settings page disables the connection. Use “0,” as necessary.

5-3-6. Event Naming

Click **Event Naming** in the left pane to display the Event Naming page. This page allows you to assign names to events. The default names are **Event 1** to **Event 100**.
To change event names, follow the procedure below.



(1) Move the mouse over the desired event numbers at the top of the page to display the list. Then click on the event numbers (**Event 1- 20** for example).
(2) Type a new name (alphanumeric, within 15 characters) under each event.
(3) Click **Apply**.

IMPORTANT
Do **not** forget to click **Apply**. When the list display or menu page is changed without clicking **Apply**, the settings in the list are ignored and the event names return to the their previous settings.

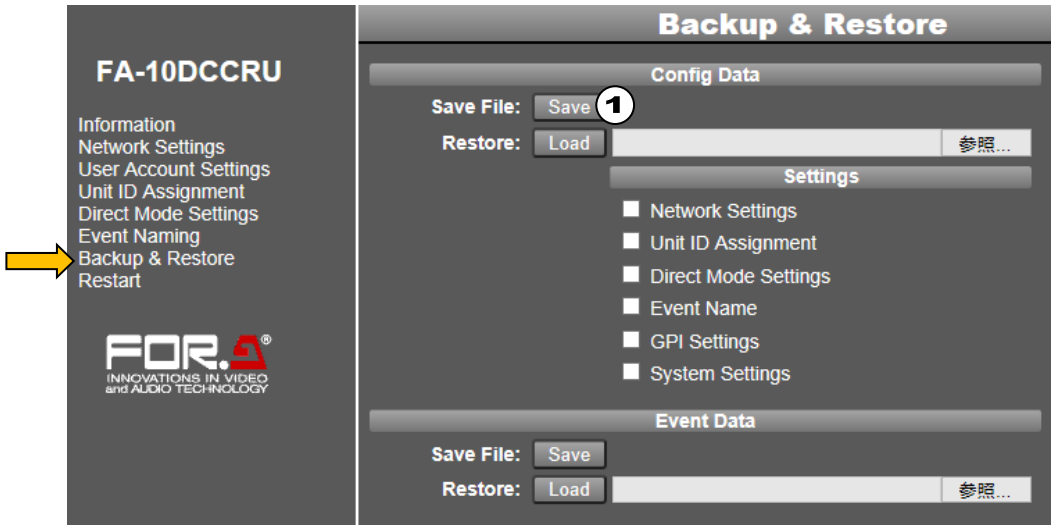
5-3-7. Backup & Restore

Click **Backup & Restore** in the left pane to display the Backup & Restore page. This page allows you to perform the following backup and restoration tasks.

- Backup and restore **Network Settings**, **Unit ID Assignment**, **Direct Mode Settings**, and **Event Name** pages, and **GPI** and **System** settings.
- Backup and restore **Event** data (See sections 7-4 and 7-5.)
- Copy settings to another FA-10DCCRU unit. (See sections 7-2 and 7-3.)

◆ Backing Up All FA-10DCCRU Settings (excluding Event Data)

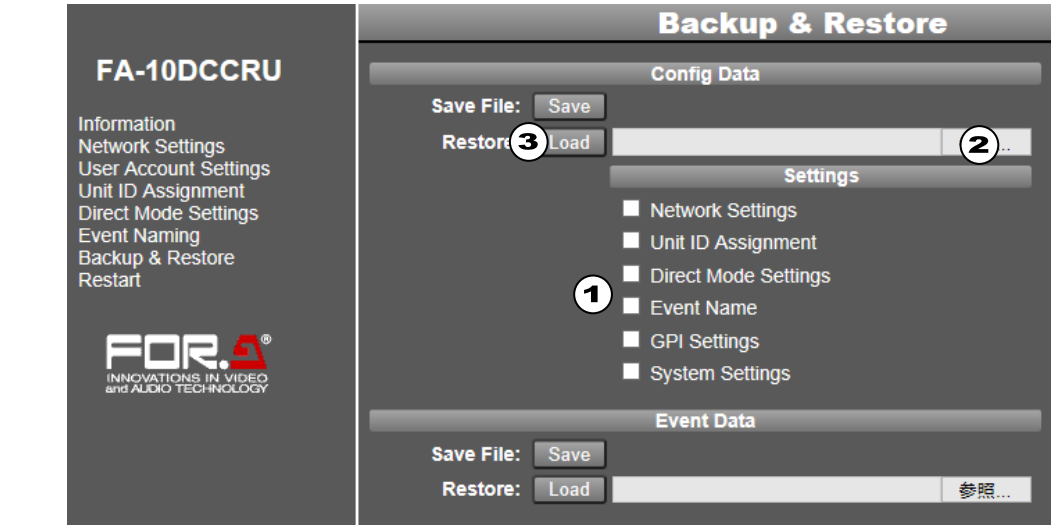
Clicking **Save** in the Config Data area allows you to save all settings as shown below.



(1) Click **Save** in the Config Data area to display the Download dialog.
(2) Click **Save** in the dialog.
(3) A Select Destination dialog will appear. Specify the destination folder and click **Save**.
The FA-10DCCRU settings are automatically stored in the backup file named "**fa10dccru.csv**." Change the file name as necessary.

◆ Restoring Settings

To restore stored settings, proceed as follows.

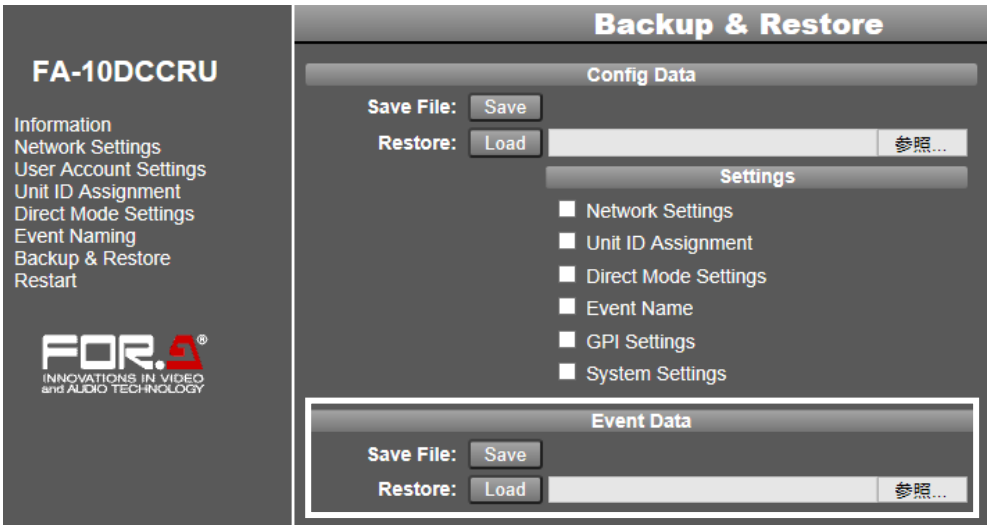


(1) Check on the checkboxes in the Config Data area to select data.
(2) Click **Browse** to select the backup file.
(3) Click **Load**. A confirmation dialog will appear. Click **OK** to load the settings. It will take up to one minutes to complete the loading process.
To cancel the process, click **Cancel**.

IMPORTANT
After loading network settings, restart the FA-10DCCRU. (See section 5-3-8. “System Restart.”

◆ Saving Event Data

This procedure allows you to save all event data (1 – 100) in a file.



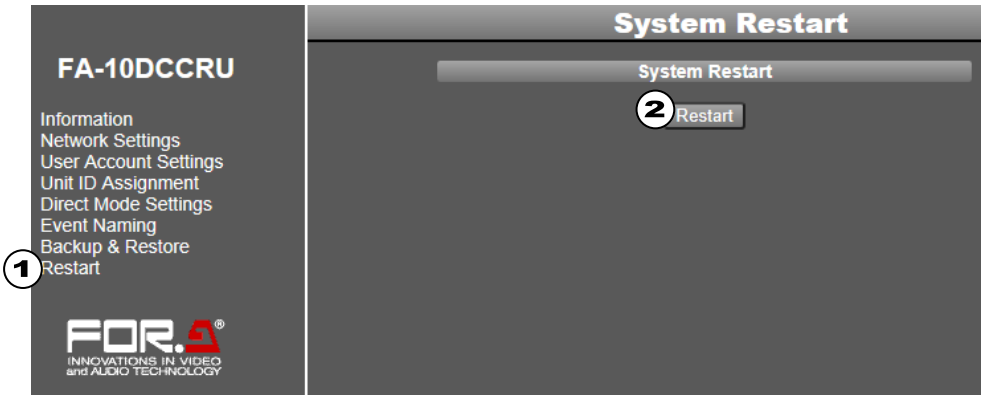
(1) Click **Save** in the Config Data area to display the Download dialog.
(2) Click **Save** in the dialog.
(3) Specify the destination folder and click **Save**. All event data are automatically stored in the file named **fa10dccru_evt.1re**. Change the file name as necessary.

◆ Restoring Event Data

(1) Click the browse button in the Event Data area and select the event backup file.
(2) Click **Load**. All event data stored in the file are loaded. It will take up to one minutes to complete the loading process.

IMPORTANT
Note that once event data are loaded, all settings in the FA-10DCCRU are replaced.

5-3-8. System Restart



(1) Click **Restart** in the left pane to display the System Restart page.
(2) Click **Restart** in the right pane.
(3) A confirmation dialog will appear. Click **OK** to restart the FA-10DCCRU.

Note that the following settings require a system restart and that they are applied after the restart. Do not forget to restart the FA-10DCCRU.

- Network Settings (See section 5-3-2. “Network Settings.”)
- User name or password settings (See section 5-3-3. “User Account Settings.”)
- Network Settings from the Backup & Restore page (See section 5-3-6. “Backup & Restore.”)

6. Controlling FA-505 / 1010 / 9520 / 9500 / 9600 Units

6-1. Selecting Main Units

When connecting Main Units (FA-505, FA-1010, FA-9520, FA-9500 and FA-9600) from an FA-10DCCRU, the following two connection modes are available:

- **Unit** mode: Connects to Main Units using Unit ID numbers.
- **Direct** mode: Connects to Main Units using Direct Numbers (**MU1** to **MU20**)
  (Default connection mode is Direct mode.)

IMPORTANT
When powered on, wait at least 1 second and a half before the connection is establishd.

6-1-1. Connecting a Main Unit in Unit Mode

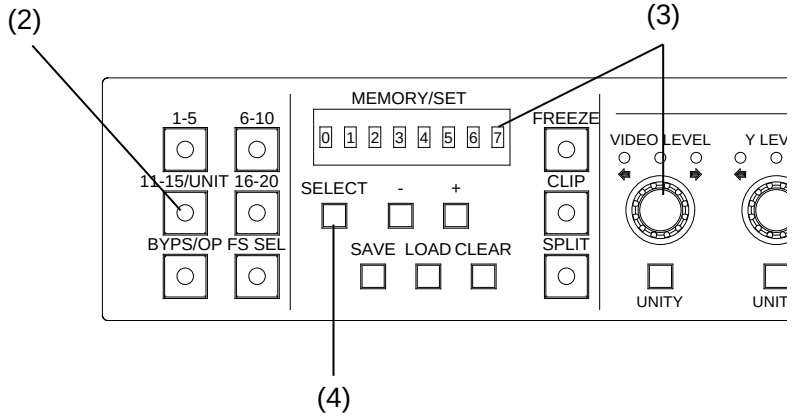
(1) Set connection mode to **Unit**. (See section 6-1-3. “Selecting the Connection Mode.”)
(2) Press 11-15/UNIT.
(3) Turn VIDEO LEVEL to select a Unit ID. (+ and − buttons also available. Pressing and holding these buttons scrolls selections.)
The Unit ID number is displayed while a selection is being entered.
About 2 seconds later when the selection is confirmed, the Unit Name or IP address will also be displayed in a scroll view.

<Display examples>

ID01: FA-1010	When **IP Address** and **User Name** are set under Unit ID 01:
ID01: 192.168.0.10 (No Name)	When only **IP Address** is set under the Unit ID number:
ID01: No Assigned IP Address	When nothing is set under Unit ID 01: FA-10DCCRU cannot connect to a unit using Unit ID 01. Set an IP address and User Name for this number. See section 5-3-4. “Unit ID Assignment.”

If **Disconnect** is selected instead of a Unit ID number, this connection channel is disabled.

(4) Press SELECT or 11-15/UNIT to start the connection. While connecting to a main unit, “Connecting(Unit)” is displayed. If the connection time is too short, the message may not appear.



To cancel the connection process, press CLEAR.

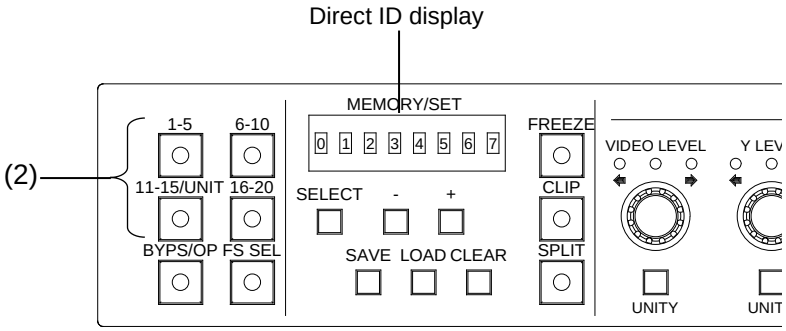
<Display Examples (after connection)>

Connected: FA-1010	When **IP Address** and **User Name** (FA-1010) are set under the Unit ID number :
Connected: IP 192.168.0.10	When only **IP Address** (192.168.0.10) is set under the Unit ID number:

6-1-2. Connecting a Main Unit in Direct Mode

(1) Set the connection mode to **Direct**. (See section 6-1-3. “Selecting the Connection Mode.”)

(2) Press a number button within the desired Unit ID sequence: 1-5, 6-10, 11/15/UNIT or 16-20. Scrolling through a sequence, press the associated button as many times as needed; for example, to connect to an FA-1010 with Direct ID 1, press 1-5 once, to connect to an FA-1010 with Direct ID 7, press 6-10 twice. (See “Selecting an MU ID” below.)



(3) While connecting to a main unit, “Connecting(Direct)” is displayed. If the connection time is too short, the message may not appear.

To cancel the connection process, press CLEAR. The message “Please Choose Direct MU No” will then be displayed, and the number buttons will blink, allowing you to reselect a Direct ID number.

<Display Examples (after connection)>

Connected: FA-1010	When **User Name** is set for the connected main unit:
Connected: IP 192.168.0.10(No Name)	When **User Name** is not set for the connected main unit:
Disconnect	No main unit is connected:

* See section 5-3-4. “Unit ID Assignment” for details on Unit Name settings.

◆ **Selecting an MU ID**

To select a desired MU ID, press the button until the desired ID number is displayed. Every time each number button is pressed, the displayed number will scroll through in the following order.

1-5 button: MU 1→2→···→5→1
6-10 button: MU 6→7→···→10→6
11-15 button: MU 11→12→···→15→11
16-20 button: MU 16→17→···→20→16

If an IP address is not registered for an MU ID number, the number will be skipped.
See section 5-3-5. “Direct Mode Setting” for details on MU ID number settings.
See section 5-3-4. “Unit ID Assignment” for details on main unit assignments.

6-1-3. Selecting the Connection Mode

(1) Press and hold down the FS SEL button for about 3 seconds.
(2) The current connection mode is displayed in a scroll view.
(3) To change to “Direct Mode Connection,” press −.
To change to “Unit Mode Connection,” press +.
(4) Verify the selection on the display and press SELECT or FS SEL to confirm the selection.

IMPORTANT
If the connection mode is changed from **Unit** to **Direct**, the message “Please Choose Direct MU No” will appear and the number buttons will blink. Select a Direct ID number to connect to a main unit.

6-2. BYPS/OP (Bypass/Operate)

Pressing the BYPS/OP button changes the Bypass/Operation mode:
-Bypass mode: The button is flashing and FA-505 / FA-1010 Color Correction is bypassed.
-Operate mode: The button is lit.

This mode cannot be changed while adjusting Clip levels. (See section 6-10. “Clipping Signal Levels.”)

* Bypass can be selected when the FA-1010 software version is 3.00 or higher.
Bypass cannot be selected for the FA-9520, FA-9500 or FA-9600.

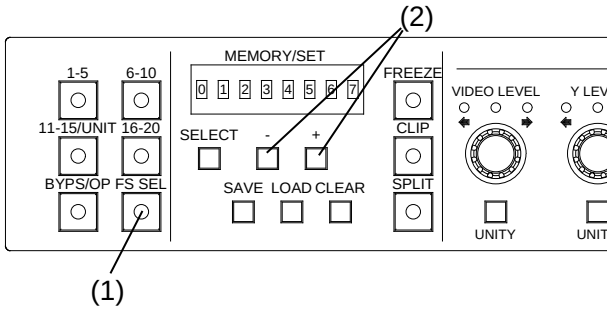
6-3. Selecting an FS Channel

When connecting FA-505 units, an FS channel can be selected from FS1 to FS5.
When connecting FA-1010 units, an FS channel can be selected from FS1 to FS10.
When connecting an FA-9520 in FA-9520 mode, an FS can be selected between FS1 and FS2.
When connecting an FA-9520 in FA-9500 mode or FA-9600, an FS cannot be selected.

(1) Press FS SEL to turn on the button. The selected FS number is displayed.
(2) Use − and + to change the FS for control.
When connecting FA-505 / FA-1010 / FA-9600 units and FS names are registered, the selected FS is displayed by its name. (FS names are not displayed for FA-9520 units in FA-9520 mode.)

Pressing and holding the − or + button scrolls selections.
While selecting an FS, the name is displayed in short form such as “FS1.”
About 2 seconds after a selection, the name will appear in long form such as “FA-1010 FS1.”

* See “FA-1010 Operation Manual” for details on setting FS Names.
* See “FA-505 Operation Manual” for details on setting FS Names.
* See “FA-9600 Operation Manual” for details on setting FS Names.



NOTE
While controlling an FS (FS SEL lit), other settings than the FS selection are not displayed. To display other settings, press FS SEL to turn the button light off.

6-4. Freeze Setting

The Freeze setting is available only when **Sync Mode** is set to **Frame** in the main FA-505, FA-1010, FA-9520, FA-9500 or FA-9600 unit. (See the respective Operation Manuals for details on Sync Mode.)

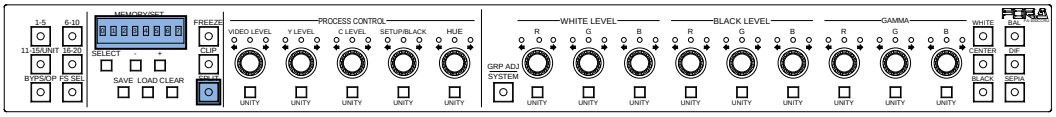
Pressing the FREEZE button turns Freeze On (button lit) or Off (button unlit)
The “Freeze” function is applied to FS channels for FA-505, FA-1010 and FA-9520 (FA-9520 mode) units.
The “Freeze” function is applied to main units for FA-9520 (FA-9500 mode), FA-9500 and FA-9600 units.

NOTE
Freeze is unable to be set while a main unit is being selected or when changing system settings. The Freeze setting do not appear when FS SEL is lit.

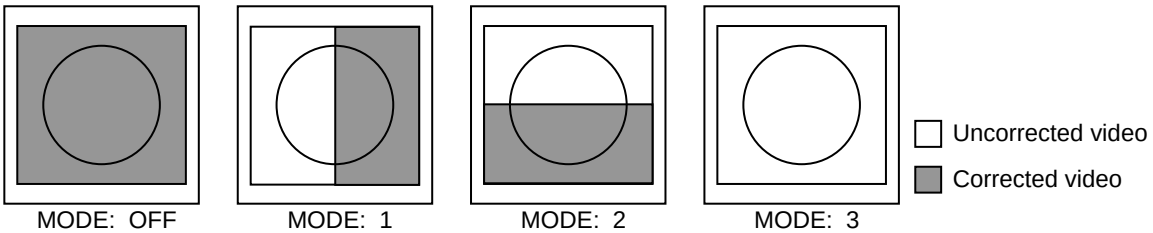
6-5. Split Display

The mode switches every time the SPLIT button is pressed, in the following order: OFF > MODE1> MODE2> MODE3 and displays images before and after correction as shown below.

SPLIT mode	FA-505	FA-1010 (V3.00 -)	FA-9600
OFF	Image after correction in full screen		
MODE1	Left and Right	Left and Right	Top and Bottom
MODE2	Top and Bottom	Top and Bottom	Left and Right
MODE3	Image before correction in full screen		



◆ **Display Example (FA-505/1010)**



* Split is unable to be set for FA-9520 or FA-9500.

NOTE
Split is unable to be set while in Bypass mode or when changing system settings. The Split setting do not appear when FS SEL is lit.

6-6. UNITY Settings and Indicators

- Three indicators on each level control button indicate level status as shown below

  A center indicator that is turned on indicates the level is set to UNITY.
  A left indicator that is turned on indicates the level is set to less than UNITY level.
  A right indicator that is turned on indicates the level is set to more than UNITY level.

- Pressing a UNITY button resets the associated value to default. Pressing the button again returns the default value to the previous value.

- An error alarm will sound when a higher or lower limit is exceeded.

6-7. UNITY Button and Unity Mode

UNITY buttons have two operation modes: **Unlinked Unity** and **Linked Unity**.

- Unlinked Unity mode
  UNITY is applied only to the **selected** FS.

- Linked Unity mode
  UNITY is applied to all linked FS channels (FS Link On).
  Unsupported in FA-9600 units

  * See section 8. “SYSTEM Settings” for more details on setting UNITY mode.
  * See section 11. “FS Link” for more details on FS Linking.

6-8. Process Control (Proc Amp)

In this section, use the following parameters to perform Proc Amp adjustments.

VIDEO LEVEL	Adjusts the video level.
Y LEVEL	Adjusts the luminance level. * Y LEVEL can be adjusted when the FA-1010 software version is 3.00 or higher. Y LEVEL is unable to be adjusted for FA-9520 or FA-9500.
C LEVEL	Adjusts the CHROMA LEVEL. (Adjusts the sepia level in Sepia Mode.)
SETUP/BLACK	Adjusts the SETUP/BLACK level.
HUE	Adjusts the HUE. (Adjusts the SEPIA color in Sepia Mode.)

In FA-9600 units, SEPIA functions as shown below.

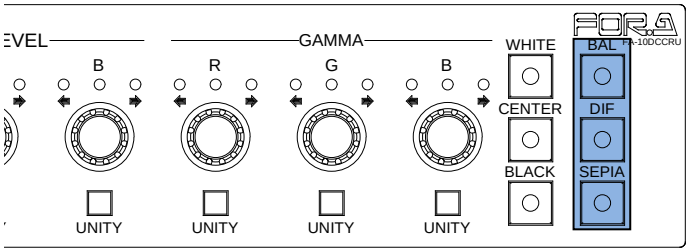
SEPIA	Selects the Proc Amp process: Post-process (button lit) or pre-process (button unlit) if FA-96AHDR is installed.

IMPORTANT
Proc Amp is disabled while in Bypass, MU Selection, Clip Setting or System Setting mode. Proc Amp settings do not appear when FS SEL is lit. Note that changes are applied to all linked FS channels (FS Link On) in FA-505, FA-1010 or FA-9520 (FA-9520 mode). See section 11. “FS Link” for more details.

6-9. Color Correction

In order to enter the Color Correction settings, first you need to select a correction mode using the following three buttons:

BAL (Balance) button: RGB mode
DIF (Differential) button: Color Difference (YPbPr) mode
SEPIA button: Sepia mode (Disabled in FA-9600 units)



The following settings are available in Color Correction mode.

WHITE LEVEL	White Level setting using the R, G and B components. (Disabled in Sepia mode.)
BLACK LEVEL	Black Level setting using the R, G and B components. (Disabled in Sepia mode.)
GAMMA	Gamma Level setting using the R, G and B components. (Only Y signal is adjustable using G in Sepia mode.) Three gamma curves (White, Center and Black) are selectable.

GROUP ADJ allows you to select between **Group adjustment** and **Individual adjustment**.
When GROUP ADJ is turned **off**, R, G and B levels can be set individually.
When GROUP ADJ is turned **on**, R, G and B levels can all be set together by changing R, G or B.

IMPORTANT

Color Correction is disabled while in Bypass, MU Selection, Clip Setting or System Setting mode.

Color Correction settings are not displayed when FS SEL is lit.

Note that changes are applied to all linked FS channels (FS Link On) in FA-505, FA-1010 or FA-9520 (FA-9520 mode). See section 11. “FS Link” for more details.

6-10. Signal Level Clip, Color Space and HDR Settings

To enter clip, color space and HDR settings, first, change the mode from Color Correction to Clip. *Color Space is supported only in FA-505 Software Version 2.00 or later.)

* HDR settings are supported only in FA-9600 and unsupported in other units.

In the following situations, Clip mode is unable to be selected:

◆ **While in System Settings (GRP ADJ/SYSTEM is flashing)**
To enter Clip mode, press GRP ADJ/SYSTEM to exit the System setting mode.

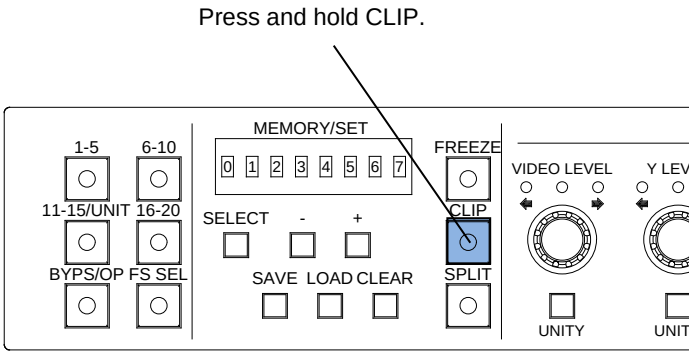
◆ **While Changing Connection Mode (FS SEL is flashing)**
To enter Clip mode, press SELECT or FS SEL to complete the change, or complete the connection process.

◆ **While Selecting a Unit ID (11-15 UNIT is flashing)**
To enter Clip mode, complete the connection process.

◆ **While in Bypass mode (BYPS/OP is flashing)**
To enter Clip mode, change the mode to **Operate**.

IMPORTANT
Clip settings are not displayed when FS SEL is lit. Note that changes are applied to all linked FS channels (FS Link On) in FA-505, FA-1010 or FA-9520 (FA-9520 mode). However, FS Link does not support Color Space settings in FA-505. See section 11. “FS Link” for more details. See section 11. “FS Link” for more details. If Color Corrector is remotely set to Bypass by another remote unit (FA-10DCCRU or FA-10RU) or FA-10GUI, the system automatically exits CLIP mode.

(1) Press CLIP for at least 3 seconds.
(2) A beep will sound and the CLIP button will flash to indicate the mode has changed to Clip.



(3) After all clip settings are finished, press CLIP to return to the Color Correction mode.

* To enter clip settings in another FS when connecting to an FA-505, FA-1010, FA-9520 (FA-9520 mode) or FA-9600 unit, press FS SEL to turn on the button light, then select an FS. Note that clip settings are applied to the selected FS while FS SEL is unlit.

6-10-1. YPbPr Clip

(1) **If connecting an FA-9600 unit:**
While CLIP is flashing, the system is in YPbPr clip mode if DIF is lit.
The system is in KNEE(RGB clip) mode if BAL is lit (and DIF is unlit),
To change clip mode, press the respective button.
CENTER can toggle YPbPr Clip On (button lit) /Off (unlit).

If connecting another main unit:
With CLIP flashing, press DIF on the right end of the front panel to enable YPbPr Clip.
(To disable the function, press DIF again.)

(2) The following process control settings are available.

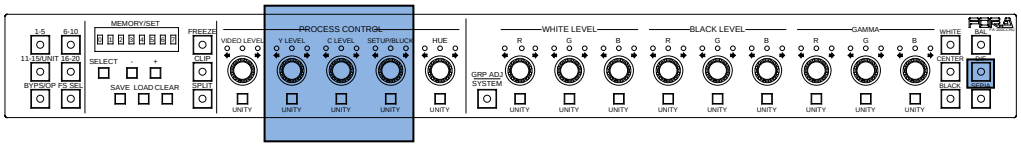
Y LEVEL	Y signal White clipping
C LEVEL	C signal White clipping
SETUP/BLACK	Y signal Black clipping

(3) Adjust the clip setting while viewing the three indicators above the controls and the value on the MEMORY/SET display panel. (See “Signal levels and level display” below.)
Pressing the UNITY button below the value resets the clip value to the default.

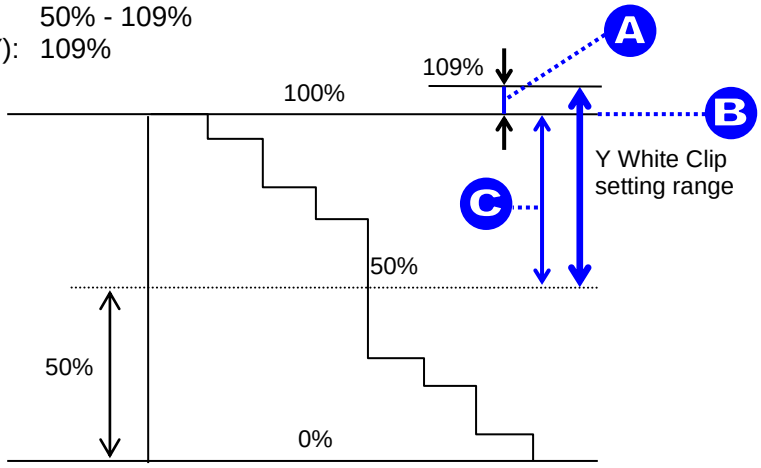
(4) Repeat steps (2) and (3) to enter additional adjustments.

IMPORTANT
Note that changes are applied to all linked FS channels (FS Link On) in an FA-505, FA-1010 or FA-9520 (FA-9520 mode). See section 11. “FS Link” for more details.

◆ **Signal levels and level display**
The relationship between indicators, controls, and clip settings are as shown below.



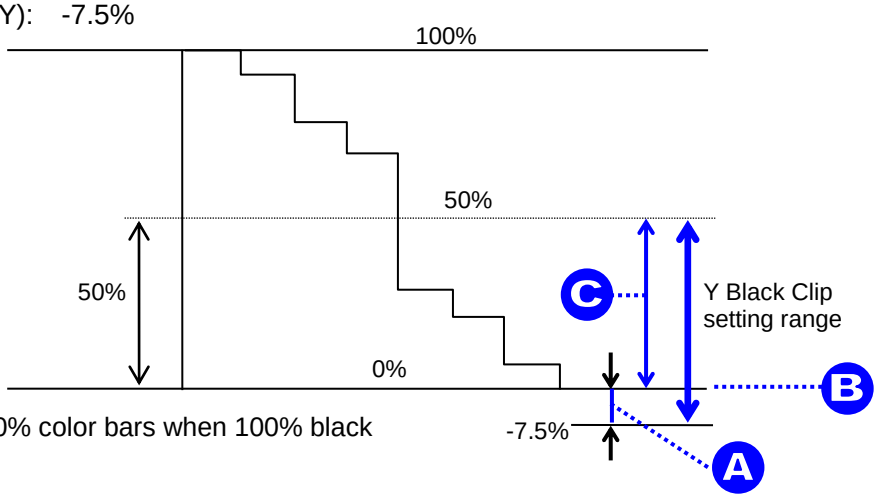
① Y White Clip Level
Setting range: 50% - 109%
Default (UNITY): 109%



SMPTE 100% color bars when 100% white

Button	Setting	Level indicators	Panel display
Y LEVEL	A	Lit orange. Flashes at 109% (UNITY).	101% - 109%
	B	Lit green	100%
	C	Lit orange. Flashes at 50%	50% - 99%

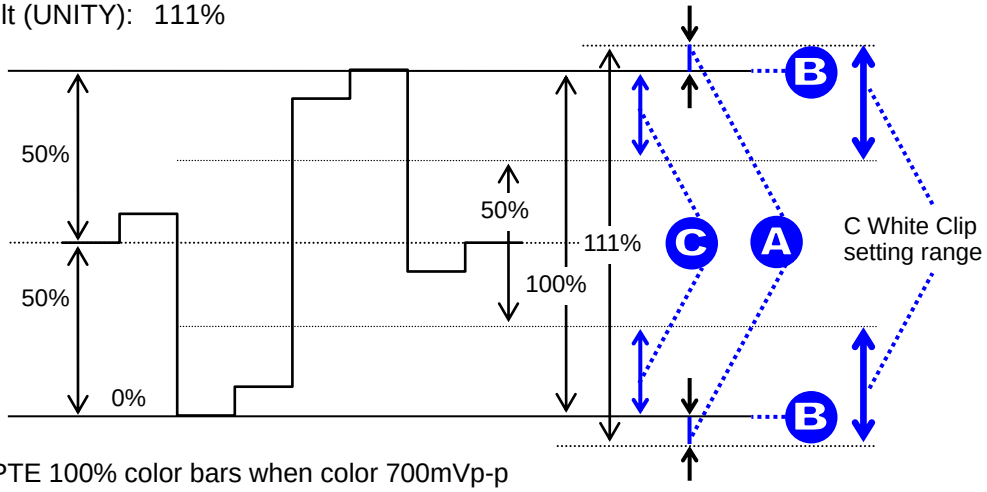
② Y Black Clip Level
Setting range: -7.5% - 50%
Default (UNITY): -7.5%



SMPTE 100% color bars when 100% black

Button	Setting	Level indicators	Panel display
SETUP/ BLACK	A	Lit orange. Flashes at -7% (UNITY)	-7.5% - -1%
	B	Lit green	0%
	C	Lit orange. Flashes at 50%.	1% - 50%

③ C White Clip Level
Setting range: 50% - 111%
Default (UNITY): 111%



SMPTE 100% color bars when color 700mVp-p

Button	Setting	Level indicators	Panel display
C LEVEL	A	Lit orange. Flashes at 111% (UNITY)	101% - 111%
	B	Lit green	100%
	C	Lit orange. Flashes at 50%.	50% - 99%

6-10-2. RGB Clip

The RGB Clip menu changes depending on the main unit and its software version.

- FA-9600
- FA-505 with Software Version 2.10 or later
- FA-505 with Software Version 2.03
- FA-1010/FA-9500/FA-9520 and FA-505 with Software Version 1.21 or earlier

6-10-2-1. FA-9600

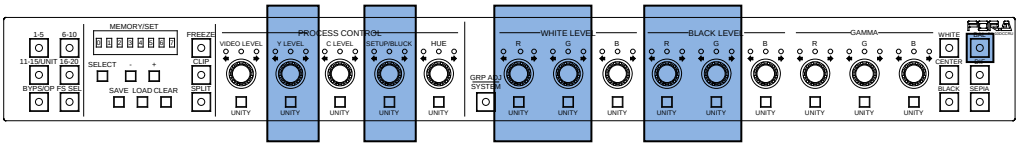
(1) With CLIP flashing, press BAL on the right end of the front panel to enable RGB Clip.
If RGB CLIP (White) is enabled, WHITE lights. (To disable RGB CLIP (White), press WHITE.)
If RGB CLIP (Black) is enabled, BLACK lights. (To disable RGB CLIP (White), press BLACK.)

(2) The following process control settings are available.

Y LEVEL	KNEE (RGB CLIP) White Output Clip
WHITE LEVEL R	KNEE (RGB CLIP)White Knee Slope
WHITE LEVEL G	KNEE (RGB CLIP) White Knee Point
SETUP/BLACK	RGB CLIP (Black) Output Clip

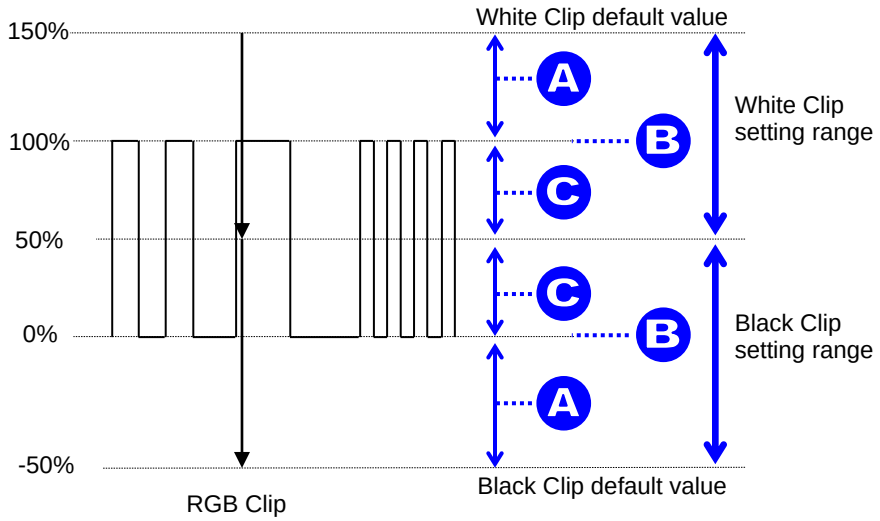
(3) Adjust the clip setting while viewing the three indicators above the controls and the value on the MEMORY/SET display panel. (See “Signal levels and level display” below.)
Pressing the UNITY button below the value resets the clip value to default.

(4) Repeat steps (2) and (3) to enter additional adjustments.



Signal levels and level display

The relationship between indicators, controls, and clip settings are as shown below.
KNEE (RGB CLIP) White Output Clip and White Knee Point affect and interact with each other and change their setting range accordingly. (RGB CLIP (Black) Output Clip and Black Knee Point function in the same manner.)



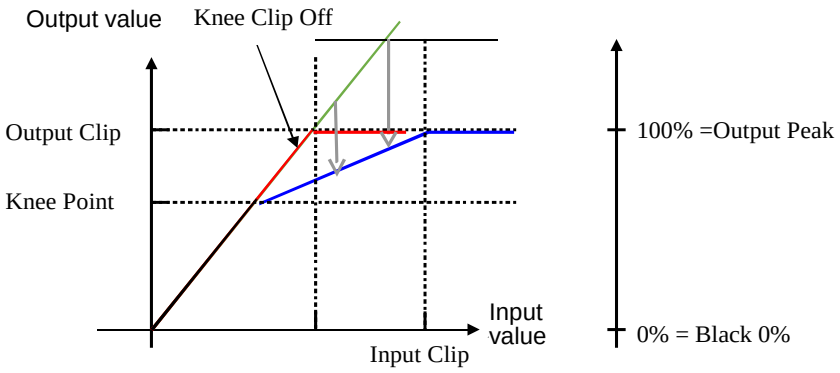
① KNEE (RGB CLIP) White Output Clip
Setting range: 50% - 150%
Default (UNITY): 100%

Button	Setting	Level indicators	Panel display
Y LEVEL	A	Lit orange. Flashes at 150%	101% - 150%
	B	Lit green (UNITY)	100%
	C	Lit orange. Flashes at 50%.	50% - 99%

② RGB CLIP (Black) Output Clip (SETUP/BLACK)
Setting range: -50% - 50%
Default (UNITY): 0%

Button	Setting	Level indicators	Panel display
SETUP/ BLACK	A	Lit orange. Flashes at -50%	-50% - -1%
	B	Lit green (UNITY)	0%
	C	Lit orange. Flashes at 50%.	1% - 50%

Knee Clip Setting



Knee Clip allows you to output high-luminance areas (indicated in green line in the figure above) in images with enough resolution (indicated in blue line), which will be overexposed in traditional methods. Knee Clip is mainly used when images are converted from wide color range to small color range.
The clip levels are calculated on the basis of the **Output Peak** value (as 100%).
When Knee Point is the same as the clip level, the hard clip processing, the legacy RGB clip, will be performed (indicated in red line).

③ KNEE (RGB CLIP)White Knee Slope (WHITE LEVEL R)
Setting range: 0.10 to 1.00 (in 0.05 steps)
Default (UNITY): 1.00

Button	Setting	Level indicators	Panel display
WHITE LEVEL R	B	Lit green	1.00
	C	Lit orange. Flashes at 0.10.	0.10 to 0.95

④ KNEE (RGB CLIP)White Knee Point (WHITE LEVEL G)
Setting range: 50% to 150
Default (UNITY): 100%

Button	Setting	Level indicators	Panel display
WHITE LEVEL G	A	Lit orange. Flashes at 150%.	101% to 150%
	B	Lit green (Unity)	100%
	C	Lit orange. Flashes at 50%.	50% to 99%

6-10-2-2. FA-505 (Software Version 2.10 or later)

(1) With CLIP flashing, press BAL on the right end of the front panel to enable RGB Clip. (RGB Clip cannot be On/Off in these versions. To release video signals from RGB Clip offset, reset all the parameters shown in the table under (2).)

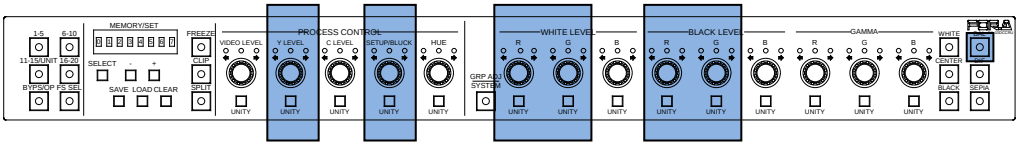
(2) The following process control settings are available.

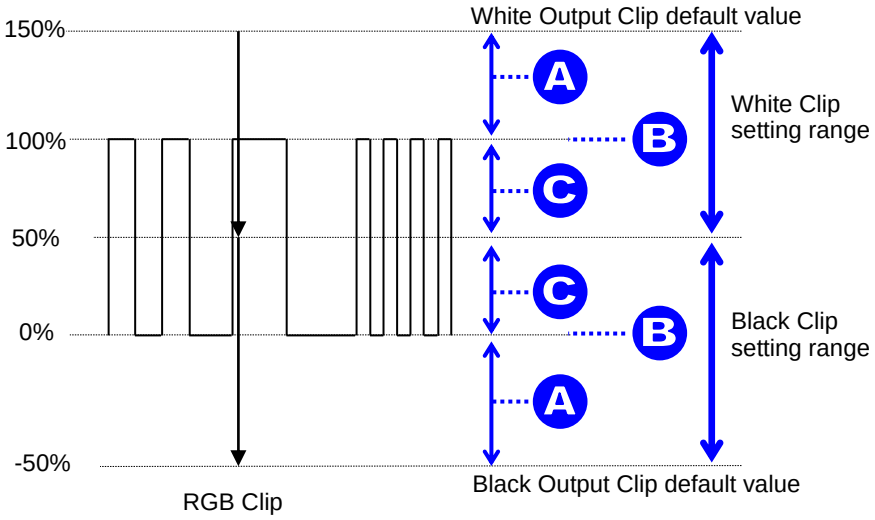
Y LEVEL	White Output Clip
SETUP/BLACK	Black Output Clip
WHITE LEVEL R	White Input Clip
WHITE LEVEL G	White Knee Point
BLACK LEVEL R	Black Input Clip
BLACK LEVEL G	Black Knee Point

(3) Adjust the clip setting while viewing the three indicators above the controls and the value on the MEMORY/SET display panel. (See “Signal levels and level display” below.)
Pressing the UNITY button below the value resets the clip value to default.

(4) Repeat steps (2) and (3) to enter additional adjustments.

Signal levels and level display
The relationship between indicators, controls, and clip settings are as shown below. RGB White Level and White Knee Point affect and interact with each other and change their setting range accordingly. (RGB Black Level and Black Knee Point function in the same manner.)





① White Output Clip (YLEVEL) (*)
Setting range: 50% - 150%
Default (UNITY): 100%

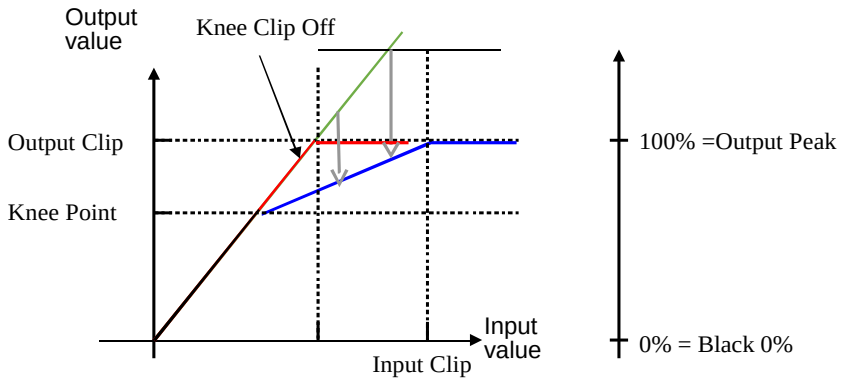
Button	Setting	Level indicators	Panel display
Y LEVEL	A	Lit orange. Flashes at 150%	101% - 150%
	B	Lit green (UNITY)	100%
	C	Lit orange. Flashes at 50%.	50% - 99%

② Black Output Clip (SETUP/BLACK) (*)
Setting range: -50% - 50%
Default (UNITY): 0%

Button	Setting	Level indicators	Panel display
SETUP/ BLACK	A	Lit orange. Flashes at -50%	-50% - -1%
	B	Lit green (UNITY)	0%
	C	Lit orange. Flashes at 50%.	1% - 50%

* Adjustable ranges for White Level and Black Level change depending on whether the FA-505 Software Version is 2.00 and later or other versions, Values will return to default settings if they exceed the adjustable range due to loading events.

Knee Clip Setting



Knee Clip allows you to output high-luminance areas (indicated in green line in the figure above) in images with enough resolution (indicated in blue line), which will be overexposed in traditional methods. Knee Clip is mainly used when images are converted from wide color range to small color range.
The clip levels are calculated on the basis of the **Output Peak** value (as 100%).
On the other side, Black is fixed to 0.0% (equal to **Black 0%**). When **Knee Point** is the same as the **Output Clip** level, the legacy RGB clip will be performed (indicated in red line).
Note that **Knee Point** cannot exceed the **Output Clip** level in the White side and **Knee Point** cannot lower the **Output Clip** level in the Black side.

③ White Input Clip (WHITE LEVEL R)
Setting range: 0.5% to 100% (FA-505 Software Version 2.13 or later)
50% to 150% (FA-505 Software Version 2.12 or earlier)
Default (UNITY): 100%

Button	Setting	Level indicators	Panel display
WHITE LEVEL R	A	Lit orange. Flashes at 100% (Ver. 2.13 or later) or 150% (Ver. 2.12 or earlier).	100% - 150%
	B	Lit green (Ver. 2.12 or earlier)	100%
	C	Lit orange. Flashes at 0% (Ver. 2.13 or later) or 50% (Ver. 2.12 or earlier).	0% - 99%

④ White Knee Point (WHITE LEVEL G)
Setting range: 50% to WHITE OUTPUT CLIP value
Default (UNITY): WHITE OUTPUT CLIP value

Button	Setting	Level indicators	Panel display
WHITE LEVEL G	A	Lit orange. Flashes when matched with the WHITE OUTPUT CLIP value.	101% - (Variable)
	B	Lit green	100%
	C	Lit orange. Flashes at 50%.	50% - 99%

⑤ Black Input Clip (BLACK LEVEL R)
Setting range: -50% - 50%
Default (UNITY): 0%

Button	Setting	Level indicators	Panel display
BLACK LEVEL R	A	Lit orange. Flashes at 50%.	1% - 50%
	B	Lit green	0%
	C	Lit orange. Flashes at -50%.	-50% - 1%

⑥ Black Knee Point (BLACK LEVELG)
Setting range: BLACK OUTPUT CLIP value to 50%
Default (UNITY): BLACK OUTPUT CLIP value

Button	Setting	Level indicators	Panel display
BLACK LEVEL G	A	Lit orange. Flashes when matched with the BLACK OUTPUT CLIP value.	(Variable) - 1%
	B	Lit green.	0%
	C	Lit orange. Flashes at 50%.	1% - 50%

6-10-2-3. FA-505 (Software Version 2.03)

(1) With CLIP flashing, press BAL on the right end of the front panel to enable RGB Clip. (RGB Clip cannot be On/Off in these versions. To release video signals from RGB Clip offset, reset all the parameters shown in the table under (2).)

(2) The following process control settings are available.

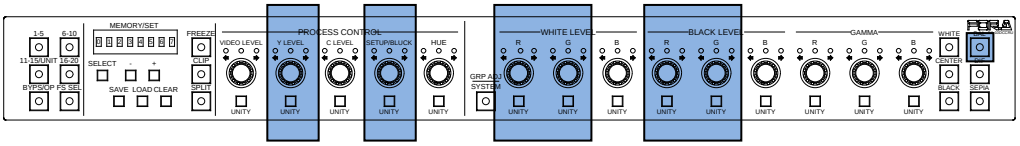
Y LEVEL	White clipping of RGB signal
SETUP/BLACK	Black clipping of RGB signal
WHITE LEVEL R	White Knee Point
WHITE LEVEL G	White Knee Slope
BLACK LEVEL R	Black Knee Point
BLACK LEVEL G	Black Knee Slope

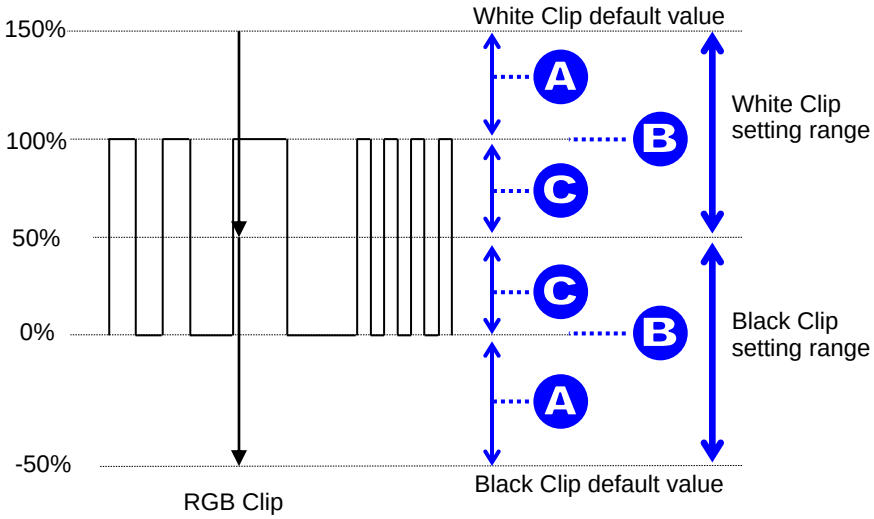
(3) Adjust the clip setting while viewing the three indicators above the controls and the value on the MEMORY/SET display panel. (See “Signal levels and level display” below.)
Pressing the UNITY button below the value resets the clip value to default.

(4) Repeat steps (2) and (3) to enter additional adjustments.

Signal levels and level display

The relationship between indicators, controls, and clip settings are as shown below. RGB White Level and White Knee Point affect and interact with each other and change their setting range accordingly. (RGB Black Level and Black Knee Point function in the same manner.)





① RGB WHITE LEVEL (YLEVEL) (*)
Setting range: 50% - 150%
Default (UNITY): 100%

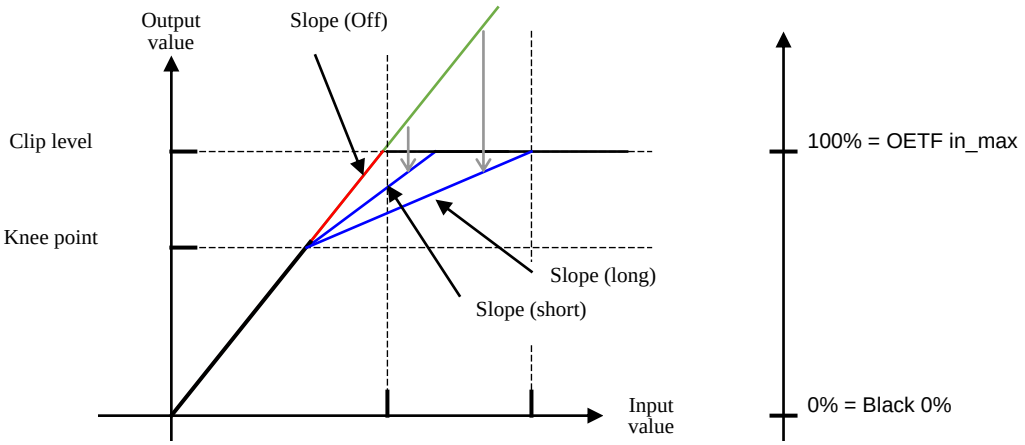
Button	Setting	Level indicators	Panel display
Y LEVEL	A	Lit orange. Flashes at 150%	101% - 150%
	B	Lit green (UNITY)	100%
	C	Lit orange. Flashes at 50%.	50% - 99%

② RGB BLACK LEVEL (SETUP/BLACK) (*)
Setting range: -50% - 50%
Default (UNITY): 0%

Button	Setting	Level indicators	Panel display
SETUP/ BLACK	A	Lit orange. Flashes at -50%	-50% - -1%
	B	Lit green (UNITY)	0%
	C	Lit orange. Flashes at 50%.	1% - 50%

* Adjustable ranges for White Level and Black Level change depending on whether the FA-505 Software Version is 2.00 and later or other versions, Values will return to default settings if they exceed the adjustable range due to loading events.

Knee Clip Setting



Knee Clip allows you to output high-luminance areas (indicated in green line in the figure above) in images with enough resolution (indicated in blue line), which will be overexposed in traditional methods. Knee Clip is mainly used when images are converted from wide color range to small color range.
The clip levels are calculated on the basis of the **OETF Maximum Input** value (as 100%). On the other side, Black is fixed to 0.0% (equal to **Black 0%**). When Knee Point is the same as the clip level, or Knee Slope is set to **OFF**, the hard clip processing, the legacy RGB clip, will be performed (indicated in red line).

③ White Knee Point (WHITE LEVEL R)
Setting range: 50% to RGB WHITE LEVEL value
Default (UNITY): RGB WHITE LEVEL value

Button	Setting	Level indicators	Panel display
WHITE LEVEL R	A	Lit orange. Flashes when matched with the RGB WHITE LEVEL value.	101% - (Variable)
	B	Lit green	100%
	C	Lit orange. Flashes at 50%.	50% - 99%

④ White Knee Slope (WHITE LEVEL G)
Setting range: Off to 15
Default (UNITY): Off

Button	Level indicators	Panel display
WHITE LEVEL G	Lit orange. Flashes at 15.	1 - 15
	Lit orange. Flashes at Off (UNITY).	Off

⑤ Black Knee Point (BLACK LEVEL R)
Setting range: RGB BLACK LEVEL value to 50%
Default (UNITY): RGB BLACK LEVEL value

Button	Setting	Level indicators	Panel display
BLACK LEVEL R	A	Lit orange. Flashes when matched with the BLACK LEVEL value.	(Variable) - 1%
	B	Lit green.	0%
	C	Lit orange. Flashes at 50%.	1% - 50%

⑥ Black Knee Slope (BLACK LEVEL G)
Setting range: Off - 15
Default (UNITY): Off

Button	Level indicators	Panel display
BLACK LEVEL G	Lit orange. Flashes at 15.	1 - 15
	Lit orange. Flashes at Off (UNITY).	Off

6-10-2-4. FA-1010/9500/9520 and FA-505 (Version 1.21 or earlier)

(1) With CLIP flashing, press BAL on the right end of the front panel to enable RGB Clip. (To disable, press BAL again.)

(2) The following process control settings are available.

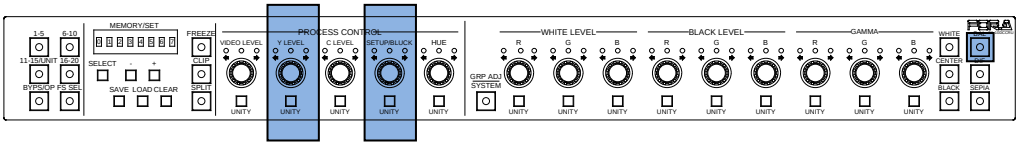
Y LEVEL	White clipping of RGB signal
SETUP/BLACK	Black clipping of RGB signal

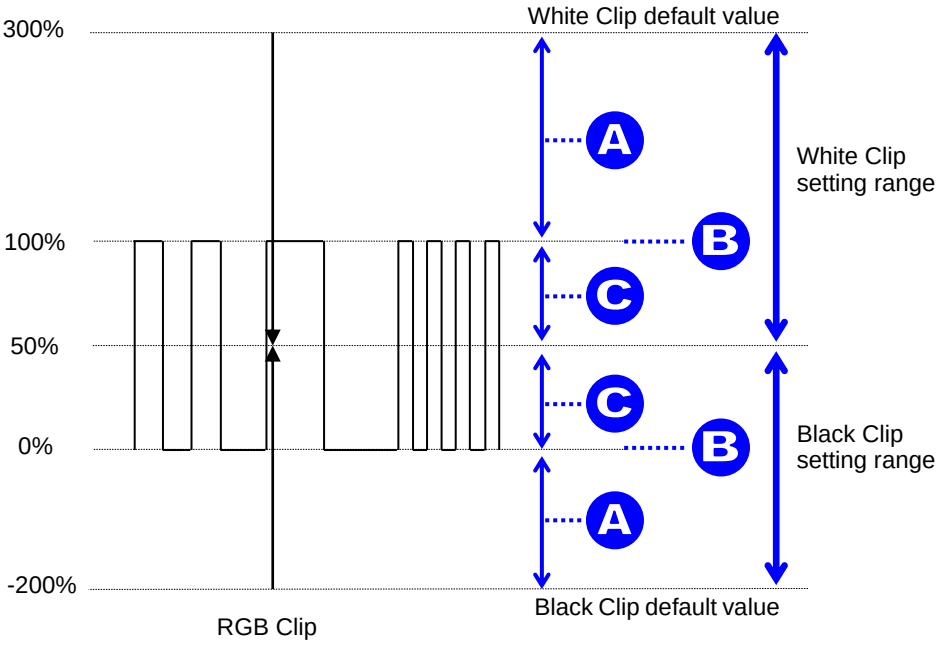
(3) Adjust the clip setting while viewing the three indicators above the controls and the value on the MEMORY/SET display panel. (See “Signal levels and level display” below.)
Pressing the UNITY button below the value resets the clip value to default.

(4) Repeat steps (2) and (3) to enter additional adjustments.

Signal levels and level display

The relationship between indicators, controls, and clip settings are as shown below.





① RGB WHITE LEVEL (YLEVEL)
Setting range: 50% - 300%
Default (UNITY): 300%

Button	Setting	Level indicators	Panel display
Y LEVEL	A	Lit orange. Flashes at 300% (UNITY)	101% - 300%
	B	Lit green	100%
	C	Lit orange. Flashes at 50%.	50% - 99%

② RGB BLACK LEVEL (SETUP/BLACK)
Setting range: -200% - 50%
Default (UNITY): -200%

Button	Setting	Level indicators	Panel display
SETUP/ BLACK	A	Lit orange. Flashes at 200% (UNITY)	-200% - -1%
	B	Lit green	0%
	C	Lit orange. Flashes at 50%.	1% - 50%

IMPORTANT
Note that changes are applied to all linked FS channels (FS Link On) in an FA-505, FA-1010 or FA-9520 (FA-9520 mode). See section 11. “FS Link” for more details.

6-10-3. Color Space Setting (FA-505)

The Color Space menu is supported in FA-505 Software Version 2.00 and later.

(1) With CLIP flashing, press SEPIA on the right end of the front panel.

(2) Repeatedly pressing SELECT displays items one after another in the following order. Pressing SELECT while Gamma Range is selected jumps back to the top.

FA-505 with Software Version 2.10	FA-505 with Software Version 2.03
① EOTF ↓ ② In Color Space ↓ ③ OETF ↓ ④ Out Color Space ↓ ⑤ Input Peak Luminance Input Peak Variable ↓ ⑥ Output Peak Luminance Output Peak Variable ↓ ⑦ Dynamic Range ↓ ⑧ Gamma Range ↓ ①EOTF (Back to the top)	① EOTF ↓ ② In Color Space ↓ ③ OETF ↓ ④ Out Color Space ↓ ⑤ ST 2084 (PQ) Range ↓ ⑦ Dynamic Range ↓ ⑧ Gamma Range ↓ ① EOTF (Back to the top)

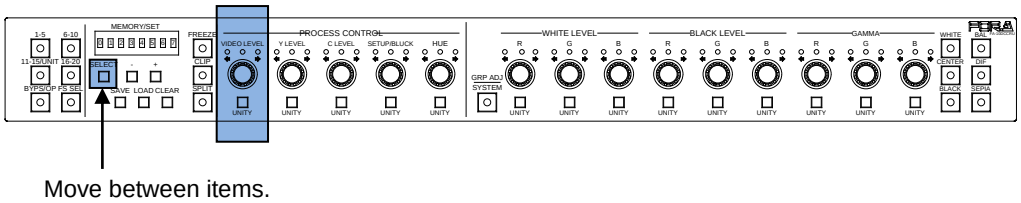
Select an item and turn VIDEO LEVEL to set or adjust the selected item.

(3) Adjust the clip setting while viewing the three indicators above the controls and the value on the MEMORY/SET display panel. (See “Signal levels and level display” below.) Pressing the UNITY button below the value resets the clip value to default.

(4) Repeat steps (2) and (3) to enter additional adjustments.

◆ Signal levels and level display

The relationship between indicators, controls, and clip settings are as shown below.



① EOTF* (Input Gamma Curve)

FA-505 Ver.	Setting range	Default (Unity)
2.03	By-pass, SDR 2.2 Rec.1886, SDR 2.4 Rec.1886, HLG SG 1.0, HLG SG 1.2, HLG SG 1.4, ST2084(Narrow), ST2084(SDI), ST2084(Full)	By-pass
2.10-	By-pass, Rec. ITU-R BT.709, Rec. ITU-R BT.1886, Hybrid Log Gamma, SMPTE ST 2084, S-Log3, Canon Log2	By-pass

* EOTF: Electric Optical Transfer Function

② In Color Space

FA-505 Ver.	Setting range	Default (Unity)
2.03	Rec. 709, Rec. 2020	Rec. 709
2.10-	Rec. 709, Rec. 2020, User 1 – 5	Rec. 709

③ OETF* (Output Gamma Curve)

The setting range and default value (Unity) are the same as those for EOTF* (Input Gamma Curve).

* OETF: Optical Electric Transfer Function

④ Out Color Space

The setting range and default value (Unity) are the same as those for In Color Space.

⑤ ST 2084 (PQ) Range

FA-505 Ver.	Setting range	Default (Unity)
2.03	1 - 64%	64%

Setting method

Button	Setting	Level indicators	Panel display
VIDEO LEVEL	A	Lit orange. Flashes at 64%.	64%
	C	Lit orange. Flashes at 1%.	1% - 63%

⑤ Input Peak Luminance

FA-505 Ver.	Setting range	Default (Unity)
2.10-	Maximum, 100, 200, 300, 400, 500, 800, 1000, 2000, 4000, 8000, 10000, Variable	Maximum

If **Variable** is selected, set the value as shown below.

Setting range: 50-10000 Default (Unity): 10000

Button	Setting	Level indicators	Panel display
VIDEO LEVEL	A	Lit orange. Flashes at 10000.	10000
	C	Lit orange. Flashes at 50.	50 - 10000

⑥ Output Peak Luminance

The setting range, default value (Unity) and setting method are the same as those for Input Peak Luminance.

⑦ Dynamic Range

FA-505 Ver.	Setting range	Default (Unity)
2.03	0.5 - 65%	Changes depending on the EOTF setting (②)
2.10-	50 - 10000	Changes depending on the EOTF setting (②)

Setting method

Button	Setting	Level indicators
VIDEO LEVEL	A	Lit orange. Flashes at 65% / 10000.
	C	Lit orange. Flashes at 0.5% / 50.

⑧ Gamma Range

FA-505 Ver.	Setting range	Default (Unity)
2.03 2.10-	25 - 100%	100%

Setting method

Button	Setting	Level indicators	Panel display
VIDEO LEVEL	A	Lit orange. Flashes at 100%.	100%
	C	Lit orange. Flashes at 0.5%.	25% - 100%

6-10-4. HDR Settings (FA-9600)

The HDR menu is supported only in FA-9600 units..

(1) With CLIP flashing, press SEPIA on the right end of the front panel.

(2) Repeatedly pressing SELECT displays items one after another in the following order.

Menu display order
① Dynamic Range Conv ↓ ② Gamma Curve (EOTF) ↓ ③ In Color Space ↓ ④ Gamma Curve (OETF) ↓ ⑤ Out Color Space ↓ ⑥ Gamma Range ↓ ⑦ OOTF for HLG ↓ ⑧ OOTF(Input Side) System Gamma Display Peak Display Black ↓ ⑨ OOTF(Output Side) System Gamma Display Peak Display Black ↓ ① Dynamic Range Conv (Back to the top)

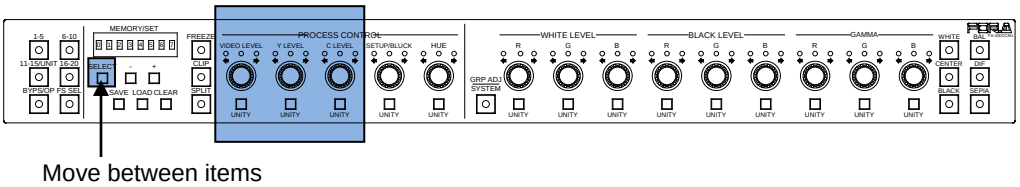
Select an item and turn VIDEO LEVEL to set or adjust the selected item.

(3) Adjust the clip setting while viewing the three indicators above the controls and the value on the MEMORY/SET display panel. (See “Control Knobs and Buttons” below.)
Pressing the UNITY button below the value resets the clip value to default.

(4) Repeat steps (2) and (3) to enter additional adjustments.

◆ Control Buttons

Control buttons and indicators used for HDR settings are indicated as shown below.



① Dynamic Range Conv.

Button	Setting range	Default (Unity)
VIDEO LEVEL	Bypass, operate	Bypass

② Gamma Curve (EOTF)

Button	Setting range	Default (Unity)
VIDEO LEVEL	User 01: SDR 2.2 BT.1886 User 02: SDR 2.4 BT.1886 User 03: HLG BT.2100 User 04: HLG (RGB SG1.2) User 05: HLG (RGB SG1.4) User 06: ST 2084 (PQ) User 07: SDR 2.2 BT.709 User 08: S-Log3 User 09: Canon Log 2 User 10: SDR 2.4 BT.1886	User 01: SDR 2.2 BT.1886

* User 01-10 listed above are default names in FA-9600. New names are displayed if they are changed.

③ In Color Space

Button	Setting range	Default (Unity)
VIDEO LEVEL	Rec. ITU-R BT.709 Rec. ITU-R BT.2020 User 01: S-Gamut/Gamut3 User 02 User 03 User 04 User 05	Rec. ITU-R BT.709

* User 01-05 listed above are default names in FA-9600. New names are displayed if they are changed.

④ Gamma Curve (OETF)

Button	Setting range	Default (Unity)
VIDEO LEVEL	User 01: SDR 2.2 BT.1886 User 02: SDR 2.4 BT.1886 User 03: HLG BT.2100 User 04: HLG (RGB SG1.2) User 05: HLG (RGB SG1.4) User 06: ST 2084 (PQ) User 07: SDR 2.2 BT.709 User 08: S-Log3 User 09: Canon Log 2 User 10: SDR 2.4 BT.1886	User 01: SDR 2.2 BT.1886

* User 01-10 listed above are default names in FA-9600. New names are displayed if they are changed.

⑤ Out Color Space

Button	Setting range	Default (Unity)
VIDEO LEVEL	Rec. ITU-R BT.709 Rec. ITU-R BT.2020 User 01: S-Gamut/Gamut3 User 02 User 03 User 04 User 05	Rec. ITU-R BT.709

* User 01-05 listed above are default names in FA-9600. New names are displayed if they are changed.

⑥ Gamma Range

Item	Setting range	Default (Unity)
Gamma Range	0.5～100%	100%

Setting method

Button	Setting	Level indicators	Panel display
VIDEO LEVEL	A	Lit orange. Flashes at 100%.	100%
	C	Lit orange. Flashes at 0.5%.	0.5% - 100%

⑦ OOTF for HLG

Button	Setting range	Default (Unity)
VIDEO LEVEL	Disable, Enable	Disable

* Enabled only when **HLG BT.2100** is selected for **Input / Output Gamma Curve**. In other cases, set **OOTF for HLG** to **Disable**. If enabled, HLG OOTF settings are available in the OOTF for HLG (INPUT SIDE) or OOTF for HLG (OUTPUT SIDE) menu. (FA-96AHDR required).

⑧ OOTF (Input Side)

Button	Setting range	Default (Unity)
VIDEO LEVEL	Disable, Enable	Disable

Item	Setting range	Default (Unity)
System Gamma	1.0 - 2.0	1.2

Setting method

Button	Setting	Level indicators	Panel display
Y LEVEL	A	Lit orange. Flashes at 2.0.	1.3 - 2.0
	B	Lit green	1.2
	C	Lit orange. Flashes at 1.0.	1.0 - 1.1

Item	Setting range	Default (Unity)
Display Peak	100 - 10,000 cd/m2	1,000 cd/m2

Setting method

Button	Setting	Level indicators	Panel display
C LEVEL	A	Lit orange. Flashes at 10,000.	1,100 -10,000 cd/m2
	B	Lit green	1,000 cd/m2
	C	Lit orange. Flashes at 100.	100 -900 cd/m2

Item	Setting range	Default (Unity)
Display Black	0 - 100 cd/m2	0 cd/m2

Setting method

Button	Setting	Level indicators	Panel display
SETUP/ BLACK	A	Lit orange. Flashes at 100.	10 -100 cd/m2
	B	Lit green	0 cd/m2

⑨ OOTF (Output Side)

Item	Setting range	Default (Unity)
System Gamma	(Setting method and range are the same as those for Input.)	
Display Peak	(Setting method and range are the same as those for Input.)	
Display Black	(Setting method and range are the same as those for Input.)	

6-11. Verifying Settings

Repeatedly pressing the [+] (or [-]) button displays settings one after another.
Settings are not be displayed while [FS SEL] is lit.

6-11-1. When in Color Correction Mode

When in BALANCE or DIFFERENTIAL Correction Mode, repeatedly pressing the [+] button displays settings one after another in the following order.

Video Level→Y Level→C Level→Setup/Black→Hue→
White R Level→White G Level→White B Level→
Black R Level→Black G Level→Black B Level→
Gamma R Level→Gamma G Level→Gamma B Level

* Pressing the [-] button displays settings in the reverse order.

When in SEPIA Correction Mode, repeatedly pressing the [+] button displays settings one after another in the following order.

Video Level→Y Level→Sepia Level→Setup/Black→Sepia Color→Gamma G Level

* Pressing the [-] button displays settings in the reverse order.

6-11-2. When in Clip Mode

6-11-2-1. RGB Clip

With the RGB Clip menu displayed, pressing [+] (and with [FS SEL] unlit) displays the following settings. (Pressing the [-] button displays settings in the reverse order.)
The menu items and display order vary depending on the main unit software version.

(FA-9600)
KNEE (RGB CLIP) White Enable → KNEE (RGB CLIP) White Output Clip→KNEE (RGB CLIP)White Knee Slope → KNEE (RGB CLIP) White Knee Point → KNEE (RGB CLIP) Black Enable →RGB CLIP (Black) Output Clip

(FA-505 with Software Version 2.10 or later)
White Output Clip→Black Output Clip
→White Input Clip→White Knee Point
→Black Input Clip→Black Knee Pont

(FA-505 with Software Version 2.03)
RGB White Clip→RGB Black Clip
→White Knee Point→White Knee Slope
→Black Knee Pont→Black Knee Slope

(FA-1010/FA-9500/FA-9520 and FA-505 with Software Version 1.21 or earlier)
RGB White Clip→RGB Black Clip

6-11-2-2. YPbPr Clip

With the YPbPr Clip menu displayed, pressing [+] (and with [FS SEL] unlit) displays settings in the following order.

(FA-9600)
YPbPr Enable → Y White Clip→Chroma Clip→Y Black Clip

(Other main units)
Y White Clip→Chroma Clip→Y Black Clip

IMPORTANT
Repeatedly pressing the [+] (or [-]) button displays settings one after another. When the end setting is reached, the display returns to the top item. If the control is turned while displaying settings using the [+] button, the changed setting is displayed. Pressing the [+] button after that displays the next setting of the setting displayed before the control is turned. Example: Pressing the [+] button and adjusting SETUP/BLACK while Y LEVEL (YL 100%) is displayed shows “SB 10%”. Pressing the [+] button after that displays “Hue 0°.” The [-] button works in the same way but in the reverse direction.

7. Event Memory

7-1. About Event Memory

Event Memory allows you to save FA-10DCCRU settings and load them when needed. EVENT MEMORY can store 100 (1-100) settings, which are saved in the FA-10DCCRU and cannot be used from main units.

IMPORTANT
Note that FA-9600 event data cannot be loaded from other FA event data and vice versa.

In the following situations, event operations are disabled:

◆ **While selecting an FS for FA-505, FA-1010, FA-9520 in FA9520 mode or FA-9600 (FS SEL is lit)**
To enable event operation, press FS SEL to turn off the button light.

◆ **While in System Settings (GRP ADJ/SYSTEM is flashing)**
To enable event operation, press GRP ADJ/SYSTEM to exit the System setting mode.

◆ **While Changing Connection Mode (FS SEL is flashing)**
To enable event operation, press SELECT or FS SEL to complete the change, or complete the connection process.

◆ **While Selecting a Unit ID (11-15 UNIT is flashing)**
To enable event operation, complete the connection process.

7-2. Data Stored in Events

◆ **When connecting an FA-505, FA-1010 or FA-9520 (in FA9520 mode)**
The current FS settings are saved to events.

◆ **When connecting an FA-9520 (in FA-9500 mode), FA-9500 or FA-9600**
The Main Unit settings are saved to events.

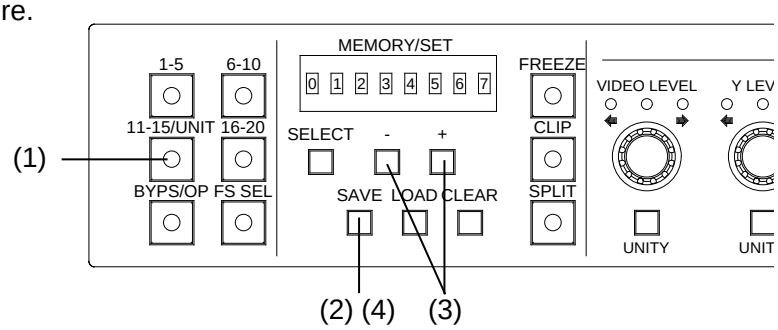
7-3. Data Loaded from Events

◆ **When connecting an FA-505(*), FA-1010, FA-9520 (in FA9520 mode) or FA-9600**
Event data is loaded to the current FS.
* In FA-505 Soft Version 2.00 and later, setting ranges of White Level and Black Level in RGB Clip are different from those in other versions. Values will return to default settings if they exceed the adjustable range due to loading events.

◆ **When connecting an FA-9520 (in FA-9500 mode) or FA-9500**
Event data is loaded to the Main Unit.

7-4. Saving Settings to Events

Once all setup settings are completed, save the settings to event memory using the following procedure.



(1) When connecting to an FA-505, FA-1010, FA-9520 (FA-9520 mode) or FA-9600, select an FS.
(2) Press SAVE. A beep will sound and an event number is displayed. The event memory number will appear. (To cancel the process, press CLEAR.)
(3) If you need to change the event number, use + and - to select the desired number (**Event1** - **Event100**)

Press + and - to increase and decrease the number.
Holding down + or - for several seconds quickly increases and decreases the number.
Pressing UNITY of VIDEO LEVEL sets the number to Event1.

(4) Press SAVE. A beep will sound and the current settings are saved to the selected event.

IMPORTANT		
Note that the following settings are not saved to event memory but are stored in the FA-10DCCRU.		
-BYPASS/OPERATE	-FREEZE	-GRP ADJ
-FS SEL	-SPLIT	

7-5. Loading Settings from Events

Follow the instructions below to load settings. Note that the current settings will be lost after settings are loaded.

(1) When connecting to an FA-505, FA-1010, FA-9520 (FA-9520 mode) or FA-9600, select an FS.
(2) Press the LOAD button. A bleep sounds and the event memory number flashes.
(To cancel the operation, press CLEAR.)
(3) Select the memory number from **Default**, **Event0** to **Event100** using the + and - (or VIDEO LEVEL) buttons.

Press + and - to increase and decrease the number.
Holding down + or - for several seconds quickly increases and decreases the number.
Pressing UNITY of VIDEO LEVEL sets to **Default**.

(4) Press the LOAD button. After a beep, the data is loaded from the memory.

8. SYSTEM Settings

Press and hold the GRP ADJ/SYSTEM button to enter System Setting mode.
The GRP ADJ/SYSTEM button flashes in this mode.
Pressing the flashing GRP ADJ/SYSTEM button exits System Setting mode and the button functions as a Group ADJ On/Off.

The SELECT button allows you to select a setting. Successively pressing the button scrolls setting items in the following order. When the end setting is reached, the display returns to the top item.

① Unity Mode: Unlinked
↓
② Front Buzzer: Enable
↓
③ GPI Buzzer: Enable
↓
④ Display Mode: Full
↓
⑤ Display BRIGHT: 30%
↓
⑥ GPI 1 No.1-10
↓
⑦ GPI 2 No.11-20
↓
⑧ GPI 3 No.21-30
↓
⑨IP: 192.168.0.101
↓
⑩ Subnet 255.255.255.0
↓
⑪ Gateway 0.0.0.0
↓
⑫ FAN: Normal
↓
⑬ Soft Ver: 4.00
↓
⑭ FPGA1 Ver: 1.00
↓
⑮ FPGA2 Ver. 1.00
↓
Unity Mode: Unlinked (Back to the top)

IMPORTANT
Note that in System Setting mode system settings can be checked and changed without a main unit connection. Other settings cannot be performed in this mode.

8-1. System Settings

No.	Menu item	Setting buttons	Description
①	Unity Mode	−, + buttons	− Unlinked: UNITY is applied only to the relevant FS channel. + Linked: UNITY is applied to all linked FS channels. See section 11. “FS Link” for more details. Fixed to Unlinked in FA-9600
②	Front Buzzer	−, + buttons	− Disable: Disables the front buzzer. + Enable: Enables the front buzzer.
③	GPI Buzzer	−, + buttons	− Disable: Disables the buzzer for GPI settings. + Enable: Disables the buzzer for GPI settings.
④	Display Mode	−, + buttons	− Full: Displays settings in detailed format. + Simple: Displays settings in short format.
⑤	Display BRIGHT	−, + buttons	Sets front panel brightness. Options are 1.7%, 3.3%, 5%, 6.7%, 8.3%, 11.7%, 15%, 18%, 23%, 30%(default), 37%, 47%, 60%, 80% and 100%
⑥	GPI1 No.1-10	Rotary encoder (*1)	Sets brightness for GPI OUT LED indicators (No1 – 10) from 0 to 255. (Default: 50)
⑦	GPI2 No.11-20	Rotary encoder (*1)	Sets brightness for GPI OUT LED indicators (No11 – 20) from 0 to 255. (Default: 50)
⑧	GPI3 No.21-30	Rotary encoder (*1)	Sets brightness for GPI OUT LED indicators (No21 – 30) from 0 to 255. (Default: 50)
⑨	IP: 192.168.0.101	(Display only)	Displays the FA-10DCCRU IP address.
⑩	Subnet 255.255.255.0	(Display only)	Displays the FA-10DCCRU subnet mask.
⑪	Gateway 0.0.0.0	(Display only)	Displays the FA-10DCCRU default gateway.
⑫	FAN (*2)	(Display only)	Displays the FA-10DCCRU fan status. Normal: The fan is functioning normally. Stopped: The fan has stopped.
⑬	Software Ver. 4.00	(Display only)	Displays the software version.
⑭	FPGA1 Ver. 1.00	(Display only)	Displays the FPGA1 version.
⑮	FPGA2 Ver. 1.00	(Display only)	Displays the FPGA2 version.

(*1) See section 8-2. “GPI OUT LED Indicator Brightness Settings.”

(*2) When the fan has stopped, turn off the unit power, notify your FOR-A reseller or supplier and change the fan.

8-2. GPI OUT LED Indicator Brightness Settings

GPI OUT No.	Controller	System menu item (GPI connector)	FA-AUX30 block
GPI- OUT 1	VIDEO LEVEL	⑦ GPI1 No.1-10 (GPI1)	Left block
GPI- OUT 2	Y LEVEL		
GPI- OUT 3	C LEVEL		
GPI- OUT 4	SETUP/BLACK		
GPI- OUT 5	HUE		
GPI- OUT 6	WHITE LEVEL R		
GPI- OUT 7	WHITE LEVEL G		
GPI- OUT 8	WHITE LEVEL B		
GPI- OUT 9	BLACK LEVEL R		
GPI- OUT 10	BLACK LEVEL G		
GPI- OUT 11	VIDEO LEVEL	⑧ GPI2 No.11-20 (GPI2)	Center block
GPI- OUT 12	Y LEVEL		
GPI- OUT 13	C LEVEL		
GPI- OUT 14	SETUP/BLACK		
GPI- OUT 15	HUE		
GPI- OUT 16	WHITE LEVEL R		
GPI- OUT 17	WHITE LEVEL G		
GPI- OUT 18	WHITE LEVEL B		
GPI- OUT 19	BLACK LEVEL R		
GPI- OUT 20	BLACK LEVEL G		
GPI- OUT 21	VIDEO LEVEL	⑨ GPI3 No.21-30 (GPI3)	Right block
GPI- OUT 21	Y LEVEL		
GPI- OUT 23	C LEVEL		
GPI- OUT 24	SETUP/BLACK		
GPI- OUT 25	HUE		
GPI- OUT 26	WHITE LEVEL R		
GPI- OUT 27	WHITE LEVEL G		
GPI- OUT 28	WHITE LEVEL B		
GPI- OUT 29	BLACK LEVEL R		
GPI- OUT 30	BLACK LEVEL G		

* See section 10-4. “GPI1-GPI3 Pin Assignments.“

9. Information Display

While setting up the FA-10DCCRU, relevant information is displayed on the 8-digit display in two modes (**Full** and **Simple**). The following Information Display lists show when these information messages are displayed.

Full: Displays information or message in detailed format. Note that while setting menu items, information is displayed in Simple mode and about 2 seconds after entering a setting, it is displayed in Full mode.
Simple: Displays information or message in short format.
* To change the display mode, set under ④ **Display Mode** (See section 8. "SYSTEM Settings.")

9-1. Messages during Main Unit Connection

(**: Setting values)

Displayed message (Full / Simple)	When information/message is displayed:	Refer to
Please Choose Direct MU No	FA-10DCCRU is in Direct Connection mode, but no main unit is selected. Connect to a main unit using 1-5, 6-10, 11-15 or 16-20 button.	6-1-2
ID**	When FA-10DCCRU is connected to a main unit in Unit ID Connection mode, its Unit ID number is displayed.	6-1-1
Disconnect	FA-10DCCRU is in Unit ID Connection mode, but **no** main unit is connected. It is also displayed while trying to connect to a main unit.	6-1-1 6-1-2
ID**: No IP Address Assigned	FA-10DCCRU is trying to connect to a main unit in Unit ID Connection mode, but no IP address has been set for the specified Unit ID number.	6-1-1
ID**: IP**. **. **. ** (No Name)	When FA-10DCCRU is connected to a main unit in Unit ID Connection mode and no Unit Name is set for the main unit, its IP address is displayed.	6-1-1
ID**: FA-1010	When FA-10DCCRU is connected with a main unit, its Unit Name is displayed.	6-1-1
Direct Mode Connection	While changing the connection mode to **Direct**.	6-1-2
Unit Mode Connection	While changing the connection mode to **Unit ID**.	6-1-1
No Assigned IP Address	FA-10DCCRU is trying to connect to a main unit in Direct Connection mode by pressing a number button (1-5, 6-10, 11-15 or 16-20), but no IP address has been set for the specified MU ID number. Set an IP address for the MU ID (Unit ID) number.	6-1-1
Connecting(Direct)	FA-10DCCRU is connecting to a main unit in Direct Connection mode. If the connection time is too short, the message may not appear.	6-1-1
Connecting (Unit)	FA-10DCCRU is connecting to a main unit in Unit ID Connection mode. If connection time is too short, the message may not appear.	6-1-2
No Connection Established (IP **. **. **. **)	When the FA-10DCCRU fails to connect to a main unit, the message and specified main unit IP address are displayed. Verify the network connection and settings. Note that the FA-10DCCRU will attempt to connect to the main unit while the message is being displayed.	6-1

Displayed message (Full / Simple)	When information/message is displayed:	Refer to
Over Limit (IP **. **. **. **)	When FA-10DCCRU is attempting to connect to a main unit, the main unit has connected with 5 remote control units (maximum) and this connection fails. To connect to the main unit, the main unit must disconnect one of the connected remote control units. This message may also be displayed when a disconnection is being improperly performed. Note that it will take 1 minute at most to complete the disconnection process.	6-1
Connected: IP **.**.**.** (No Name)	When FA-10DCCRU is connected to a main unit in Direct Connection mode and no Unit Name is set for the main unit, its IP address is displayed. The message is cleared when there is no operation within 1 minute.	
Connected: FA-1010	When FA-10DCCRU is connected to a main unit in Direct Connection mode, the message is displayed with its Unit Name (FA-1010) for about 7 seconds.	6-1
MU is Local Mode	When the FA-10DCCRU is connected to a main unit, but the main unit operates in local mode, this message will appear and the main unit cannot be controlled from the FA-10DCCRU. To control the main unit, change the operation mode to **Remote** in the main unit.	-

9-2. Messages during Bypass Setting

Displayed message (Full / Simple)	When information/message is displayed:	Refer to
By-pass	Displayed when the connected FA-505/FA-1010 is set to **Bypass**.	6-2
Operate (*1)	Displayed when the connected FA-505/FA-1010 is set to **Operate**.	6-2
By-pass No Support (*1)	Displayed when trying to set to Bypass for the main unit that has no bypass function.	2 6-2

(*1) The display is automatically turned off when there is no operation within 1 minute.

9-3. Messages during FS Selection

Displayed message (Full)	Displayed message (Simple)	When information/message is displayed:	Refer to
FS*	(Same as in Full mode)	FS number of connected FA-9520 (9520 mode).	6-3
FS*: FS1 Name	FS*	FS number and FS Name (FS1 Name) of connected FA-505 / FA-1010 / FA-9600.	6-3
FS*(No Name)	FS*	FS number (without FS Name) of connected FA-505 / FA-1010 / FA-9600. See each main unit operation manual for details on how to assign names to FSs.	6-3
FS Select No Support	(Same as in Full mode)	Displayed when attempting to select an FS for an FA-9520 (FA-9500 mode) or FA-9500. The display is automatically turned off when there is no operation within 1 minute.	2 6-3

9-4. Messages during Event Memory Operation

Displayed message (Full)	Displayed message (Simple)	When information/message is displayed:	Refer to
Default	Default	Displayed when default settings are being loaded.	7-3
Load **: Event1	Load **	Event number and name (Event1 in this example) displayed when loading an event.	5-3-6 7-3
Load **(No Name)	Load **	Event number (with no name) displayed when loading an event.	5-3-6 7-3
Loading	(Same as in Full mode)	Displayed while loading events.	7-3
Loaded Default (*1)	(Same as in Full mode)	Displayed when an event with default settings has been loaded.	7-3
Loaded Event** (*1)	(Same as in Full mode)	Displayed when an event with no name has been loaded.	5-3-6 7-3
Loaded Event**: Event1 (*1)	(Same as in Full mode)	Displayed when a named event (Event1) has been loaded.	5-3-6 7-3
Save **: Event1	Save **	Event number and name (Event1) displayed when saving settings to an event.	5-3-6 7-2
Save **(No Name)	Save **	Event number (with no name) displayed when saving settings to an event.	5-3-6 7-2
Saving	(Same as in Full mode)	Displayed while saving settings to events.	7-2
Saved Event** (*1)	(Same as in Full mode)	Displayed when settings have been saved to an event with no name.	5-3-6 7-2
Saved Event**: Event1 (*1)	(Same as in Full mode)	Displayed when settings have been saved to a named event (Event1).	5-3-6 7-2

(*1) The display is automatically turned off when there is no operation within 1 minute.

9-5. Messages during Freeze Setting

Displayed message (Full)	Displayed message (Simple)	When information/message is displayed:	Refer to
Freeze On	(Same as in Full mode)	Displayed when Freeze is set to On.	6-4
Freeze Off	(Same as in Full mode)	Displayed when Freeze is set to Off.	6-4

The display is automatically turned off when there is no operation within 1 minute.

9-6. Messages during Split Setting

Displayed message (Full)	Displayed message (Simple)	When information/message is displayed:	Refer to
Split: Off	Off	Displayed when Split is set to Off.	6-5
Split: Mode1	Mode1	Displayed when Split is set to Mode1.	6-5
Split: Mode2	Mode2	Displayed when Split is set to Mode2.	6-5
Split: Mode3	Mode3	Displayed when Split is set to Mode3.	6-5
Split No Support	(Same as in Full mode)	Displayed when trying to set Split to a main unit that has no Split function.	2 6-5

The display is automatically turned off when there is no operation within 1 minute.

9-7. Messages during Proc Amp Settings

In Full display mode, text in parentheses are displayed during menu settings.
When verifying settings using [−] and [+] buttons, information is displayed in Simple display mode.

Displayed message (Full)	Displayed message (Simple)	When information/message is displayed:	Refer to
Video Level: ***.*% (***.*%)	VL ***%	Displayed when the Video Level setting is changed.	6-8
Y Level: ***.*% (***.*%)	YL ***%	Displayed when the Y Level setting is changed.	6-8
Y Level No Support	(Same as in Full mode)	Displayed when trying to change the Y Level setting of a main unit with no Y Level parameters.	2
Chroma Level: ***.*% (***.*%)	CL ***%	Displayed when the Chroma Level setting is changed.	6-8
Setup/Black: ***.*% (***.*%)	BL **%	Displayed when the Setup/Black Level setting is changed.	6-8
Hue: *.*° (*.*°)	Hue *°	Displayed when Hue is changed.	6-8

The display is automatically turned off when there is no operation within 1 minute.

Post-process or Pre-process

Displayed message (Full)	Displayed message (Simple)	When information/message is displayed:	Refer to
Post-process	(Same as in Full mode)	Displayed when switched to Post-Process.	6-8
Pre-process	(Same as in Full mode)	Displayed when switched to Pre-Process.	6-8

When Color Correction mode is set to Sepia:

Displayed message (Full)	Displayed message (Simple)	When information/message is displayed:	Refer to
Sepia Level : ***.*% (***.*%)	SL ***%	Displayed when the Sepia Level setting is changed.	6-8 6-9
Sepia Color: *.*° (***.*°)	SC *°	Displayed when the Sepia Color setting is changed.	6-8 6-9

The display is automatically turned off when there is no operation within 1 minute.

9-8. Messages during Color Correction Settings

In Full display mode, text in parentheses are displayed during menu settings.
When verifying settings using [−] and [+] buttons, information is displayed in Simple display mode.
See section 6-9. “Color Correction” for more details.

Displayed message (Full)	Displayed message (Simple)	When information/message is displayed:
White R Level: ***.*% (***.*%)	WR ***%	Displayed when the White R Level setting is changed.
White G Level: ***.*% (***.*%)	WG ***%	Displayed when the White G Level setting is changed.
White B Level: ***.*% (***.*%)	WB ***%	Displayed when the White B Level setting is changed.
Black R Level: ***.*% (***.*%)	BR ***%	Displayed when the Black R Level setting is changed.
Black G Level: ***.*% (***.*%)	BG ***%	Displayed when the Black G Level setting is changed.
Black B Level: ***.*% (***.*%)	BB ***%	Displayed when the Black B Level setting is changed.
Gamma R Level: ***.*% (***.*%)	GR ***%	Displayed when the Gamma R Level setting is changed.
Gamma G Level: ***.*% (***.*%)	GG ***%	Displayed when the Gamma G Level setting is changed.
Gamma B Level: ***.*% (***.*%)	GB ***%	Displayed when the Gamma B Level setting is changed.

The display is automatically turned off when there is no operation within 1 minute.

In Full display mode, text in parentheses are displayed during menu settings.

Displayed message (Full)	Displayed message (Simple)	When information/message is displayed:
Curve White (White)	White	Displayed when Gamma Curve is set to White.
Curve Center (Center)	Center	Displayed when Gamma Curve is set to Center.
Curve black (Black)	Black	Displayed when Gamma Curve is set to Black.
Balance	(Same as in Full mode)	Displayed when Color Correction Mode is set to Balance.
Differential (DIF)	DIF	Displayed when Color Correction Mode is set to Differential.
Sepia	(Same as in Full mode)	Displayed when Color Correction Mode is set to Sepia.

The display is automatically turned off when there is no operation within 1 minute.

9-9. Messages during Video Clip Settings

In Full display mode, text in parentheses are displayed during menu settings.
When verifying settings using [−] and [+] buttons, information is displayed in Simple display mode.
See section 6-10. “Clipping Signal Levels” for more details.

◆ FA-505 with Software Version 2.10 or later

Displayed message (Full)	Displayed message (Simple)	When information/message is displayed:
Clip Off	(Same as in Full mode)	Displayed when Video Clip Mode is set to Off.
RGB Clip	(Same as in Full mode)	Displayed when Video Clip Mode is set to RGB.
YPbPr Clip (YPbPr)	YPbPr	Displayed when Video Clip Mode is set to YPbPr.
White Out Clip: ***.*% (***.*%)	WOC ***%	Displayed when the White Output Clip Level setting is changed.
Black Out Clip: ***.*% (***.*%)	BOC ***%	Displayed when the Black Output Clip Level setting is changed.
White In Clip: ***.*% (***.*%)	WIC ***%	Displayed when the White Input Clip setting is changed.
White Knee Point: ***.* (****.*%)	WKP ***%	Displayed when the White Knee Point setting is changed.
Black In Clip: ***.*% (***.*%)	BIC ***%	Displayed when the Black Input Clip setting is changed.
Black Knee Point: ***.* (***.*%)	BKP ***%	Displayed when the Black Knee Point setting is changed.
Y White Clip: ***.*% (***.*%)	YW ***%	Displayed when the Y White Clip Level setting is changed in YPbPr mode.
Y Black Clip: ***.*% (***.*%)	YB ***%	Displayed when the Y Black Clip Level setting is changed in YPbPr mode.
Chroma Clip: ***.*% (***.*%)	CW ***%	Displayed when the Chroma Clip Level setting is changed in YPbPr mode.
Input Color Space: *******	(Same as in Full mode)	Displayed when the Input Color Space setting is changed.
EOTF: *******	(Same as in Full mode)	Displayed when the EOTF setting is changed.
Output Color Space: ******	(Same as in Full mode)	Displayed when the Output Color Space setting is changed.
OETF: *******	(Same as in Full mode)	Displayed when the OETF setting is changed.
Input Peak Luminance: ****** (******)	(Same as in Full mode)	Displayed when the Input Peak Luminance setting is changed.
Input Peak(Variable): ***** (*****)	IV*****%	Displayed when the Variable of Input Peak Luminance setting is changed.
Output Peak Luminance: ****** (******)	(Same as in Full mode)	Displayed when the Output Peak Luminance setting is changed.
Output Peak(Variable): ***** (*****)	OV*****%	Displayed when the Variable of Output Peak Luminance setting is changed.
Dynamic Range: **.*%	DR **%	Displayed when the Dynamic Range setting is changed.
Gamma Range: ***.*%	GRng ***%	Displayed when the Gamma Range setting is changed.

◆ **FA-505 with Software Version 2.03**

Displayed message (Full)	Displayed message (Simple)	When information/message is displayed:
Clip Off	(Same as in Full mode)	Displayed when Video Clip Mode is set to Off.
RGB Clip	(Same as in Full mode)	Displayed when Video Clip Mode is set to RGB.
YPbPr Clip (YPbPr)	YpbPr	Displayed when Video Clip Mode is set to YPbPr.
RGB White Clip: ***.*% (***.*%)	RW ***%	Displayed when the RGB White Clip Level setting is changed.
RGB Black Clip: ***.*% (***.*%)	RB ***%	Displayed when the RGB Black Clip Level setting is changed.
White Knee Point: ***.* (****.*%)	WKP***%	Displayed when the White Knee Point setting is changed.
White Knee Slope: **	WKS **	Displayed when the White Knee Slope setting is changed.
Black Knee Point: ***.* (***.*%)	BKP ***%	Displayed when the Black Knee Point setting is changed.
Black Knee Slope: **	BKS **	Displayed when the Black Knee Slope setting is changed.
Y White Clip: ***.*% (***.*%)	YW ***%	Displayed when the Y White Clip Level setting is changed in YPbPr mode.
Y Black Clip: ***.*% (***.*%)	YB ***%	Displayed when the Y Black Clip Level setting is changed in YPbPr mode.
Chroma Clip: ***.*% (***.*%)	CW ***%	Displayed when the Chroma Clip Level setting is changed in YPbPr mode.
Input Color Space: *******	(Same as in Full mode)	Displayed when the Input Color Space setting is changed.
EOTF: *******	(Same as in Full mode)	Displayed when the EOTF setting is changed.
Output Color Space: ******	(Same as in Full mode)	Displayed when the Output Color Space setting is changed.
OETF: *******	(Same as in Full mode)	Displayed when the OETF setting is changed.
PQ Range: ****.*%	PQ **%	Displayed when the ST2084 (PQ) Range setting is changed.
Dynamic Range: **.*%	DR **%	Displayed when the Dynamic Range setting is changed.
Gamma Range: ***.*%	GRng ***%	Displayed when the Gamma Range setting is changed.

The display is automatically turned off when there is no operation within 1 minute.

◆ **FA-1010/FA-9500/FA-9520 and FA-505 with Software Version 1.21 and earlier**

Displayed message (Full)	Displayed message (Simple)	When information/message is displayed:
Clip Off	(Same as in Full mode)	Displayed when Video Clip Mode is set to Off.
RGB Clip	(Same as in Full mode)	Displayed when Video Clip Mode is set to RGB.
YPbPr Clip (YPbPr)	YPbPr	Displayed when Video Clip Mode is set to YPbPr.
RGB White Clip: ***.*% (***.*%)	RW ***%	Displayed when the RGB White Clip Level setting is changed.

RGB Black Clip: ***.*% (***.*%)	RB ***%	Displayed when the RGB Black Clip Level setting is changed.
Y White Clip: ***.*% (***.*%)	YW ***%	Displayed when the Y White Clip Level setting is changed in YPbPr mode.
Y Black Clip: ***.*% (***.*%)	YB ***%	Displayed when the Y Black Clip Level setting is changed in YPbPr mode.
Chroma Clip: ***.*% (***.*%)	CW ***%	Displayed when the Chroma Clip Level setting is changed in YPbPr mode.

The display is automatically turned off when there is no operation within 1 minute.

◆ **FA-9600 (Successive display using - and + is unavailable for HDR settings)**

Displayed message (Full)	Displayed message (Simple)	When information/message is displayed:
RGB Clip	(Same as in Full mode)	Displayed when KNEE(RGB) Clip is selected for Video Clip.
WClip Enable	(Same as in Full mode)	Displayed when White Clip of KNEE(RGB) Clip is enabled.
WClip Disable	(Same as in Full mode)	Displayed when White Clip of KNEE(RGB) Clip is disabled.
RGB White Clip: ***.*% (***.*%)	RW ***%	Displayed when RGB White Clip is changed.
Knee Slope: *.** (*.**)	KS *	Displayed when Knee Slope is changed.
Knee Point: ***.*% (***.*%)	KP ***%	Displayed when Knee Point is changed.
BClip Enable	(Same as in Full mode)	Displayed when RGB Clip(Black is enabled.
BClip Disable	(Same as in Full mode)	Displayed when RGB Clip(Black is disabled.
RGB Black Clip: ***.*% (***.*%)	RB ***%	Displayed when RGB Black Clip is changed.
YPbPr Clip (YPbPr)	YPbPr	Displayed when YPbPr(YCbCr) Clip is selected for Video Clip.
Clip Enable	(Same as in Full mode)	Displayed when YPbPr(YCbCr) Clip is enabled.
Y White Clip: ***.*% (***.*%)	YW ***%	Displayed when Y White Clip of YPbPr is changed.
Y Black Clip: ***.*% (***.*%)	YB ***%	Displayed when Y Black Clip of YPbPr is changed.
Chroma Clip: ***.*% (***.*%)	CW ***%	Displayed when Chroma Clip of YPbPr is changed.
Dynamic Range Conv.: Bypass (Bypass)	DRC: Bypass	Displayed when Dynamic Range Conv. is set to Bypass.
Dynamic Range Conv.: Operate (Operate)	DRC: Operate	Displayed when Dynamic Range Conv. is set to Operate.
EOTF: *******	(Same as in Full mode)	Displayed when EOTF is changed.
Input Color Space: *******	(Same as in Full mode)	Displayed when Input Color Space is changed.
OETF: *******	(Same as in Full mode)	Displayed when OETF is changed.
Output Color Space: ******	(Same as in Full mode)	Displayed when Output Color Space is changed.
Gamma Range: ***.*%	GRng ***%	Displayed when Gamma Range is changed.

OOTF for HLG Mode: Disable	(Same as in Full mode)	Displayed when Mode of OOTF for HLG is disabled.
OOTF for HLG Mode: Enable	(Same as in Full mode)	Displayed when Mode of OOTF for HLG is enabled.
OOTF: Enable	(Same as in Full mode)	Displayed when OOTF is enabled.
OOTF: Disable	(Same as in Full mode)	Displayed when OOTF is disabled.
System Gamma(In):*.* (*.*)	SGI *.*	Displayed when System Gamma for OOTF (input) is changed.
Display Peak(In):****cd/m2 (****)	DPI ****	Displayed when Display Peak for OOTF (input) is changed.
Display Black(In):*** cd/m2 (***)	DBI ***	Displayed when Display Black for OOTF (input) is changed.
Inverse OOTF: Enable	(Same as in Full mode)	Displayed when Inverse OOTF is enabled.
Inverse OOTF: Disable	(Same as in Full mode)	Displayed when Inverse OOTF is disabled.
System Gamma(Out):*.* (*.*)	SGO *.*	Displayed when System Gamma for OOTF (output) is changed.
Display Peak(Out):****cd/m2 (****)	DPO ****	Displayed when Display Peak for OOTF (output) is changed.
Display Black(Out):*** cd/m2 (***)	DBO ***	Displayed when Display Black for OOTF (output) is changed.

The setting display (excluding HDR) is automatically turned off when there is no operation within 1 minute.

9-10. Messages during System Settings

Text in parentheses are displayed during menu settings.
See section 8. “System Settings” for more details.

Displayed message (Full / Simple)	When information/message is displayed:
Unity Mode: Unlinked	Displayed while Unity Mode is being set to Unlinked.
Unity Mode: Linked	Displayed while Unity Mode is being set to Linked.
Front Buzzer: Enable	Displayed while Front Buzzer is being enabled.
Front Buzzer: Disable	Displayed while Front Buzzer is being disabled.
GPI Buzzer: Enable	Displayed while GPI Buzzer is being enabled.
GPI Buzzer: Disable	Displayed while GPI Buzzer is being disabled.
Display Mode: Full	Displayed while Display Mode is being set to Full.
Display Mode: Simple	Displayed while Display Mode is being set to Simple.
Display BRIGHT: **%	Displayed while Brightness is being changed.
GPI1 No.1-10	Displayed when entering the GPI1 Brightness setting.
GPI2 No.11-20	Displayed when entering the GPI2 Brightness setting.
GPI3 No.21-30	Displayed when entering the GPI3 Brightness setting.
GPI Port* BRIGHT: ** (No.* : **)	Displayed while a GPI OUT LED Brightness is being changed.
IP: **. **. **. **	IP address of FA-10DCCRU.
Subnet: **. **. **. **	Subnet mask of FA-10DCCRU
Gateway: **. **. **. **	Default gateway of FA-10DCCRU
FAN: Normal	Displayed when the FA-10DCCRU FAN is functioning normally.
FAN: Stopped	Displayed when the FA-10DCCRU FAN has stopped.
Soft Ver. *. **	Software version of FA-10DCCRU
FPGA1 Ver. *. **	FPGA1 version of FA-10DCCRU
FPGA2 Ver. *. **	FPGA2 version of FA-10DCCRU

Other

Factory Setting	Displayed when resetting to factory default settings. See section 12. ”Resetting to Factory Default Settings.”

10. GPI Interface

GPI input /output functions can be assigned to GPI ports 1-30 (GPI 1-3 connectors) on the FA-10DCCRU using the supplied FA GPIO Editor software.
GPI input and output functions can be assigned to ports individually or in 10-port groups. (See section 10-4.)
GPI settings can be backed up to and restored from files using Export and Import. (See section -2)

10-1. FA-GPIO Editor

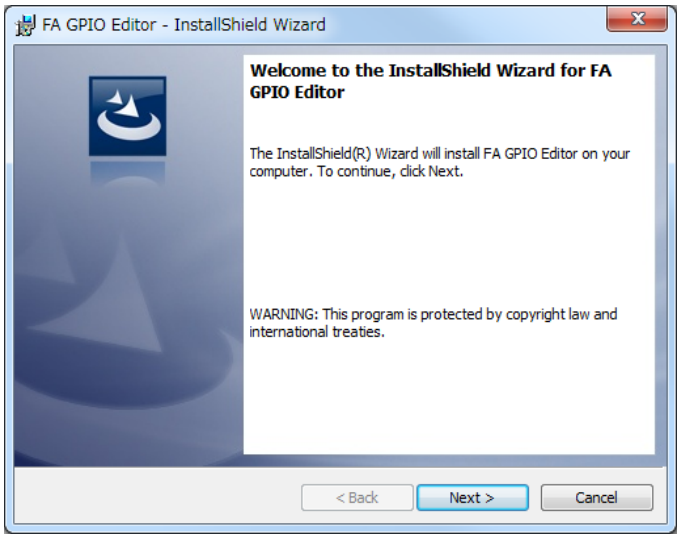
10-1-1. Installing the FA GPIO Editor

Use the supplied CD-ROM to install the FA GPIO Editor software.

Before installing this software, close all other applications on the computer.

(1) Insert the supplied CD-ROM into the PC. Click “FA GPIO Editor > setup “ on the CD-ROM to start the installation wizard.

(2) Click **Next**.

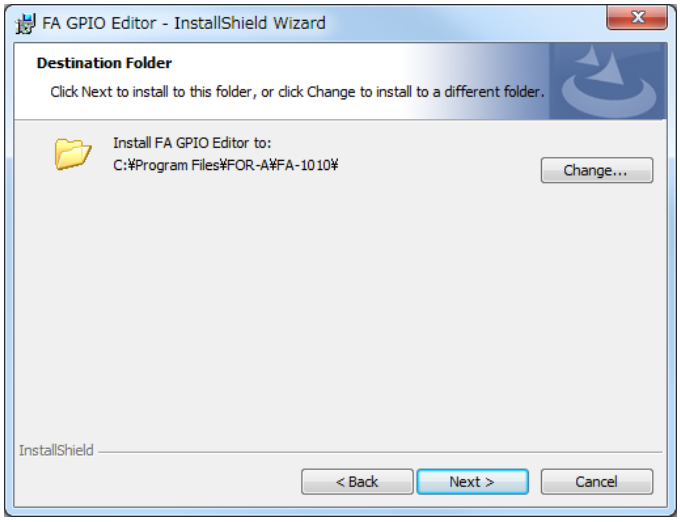


(3) The Software License Agreement window appears. Read the agreement statement and check the **I accept the terms in license agreement** check box, then click **next**.
To cancel the installation, click **Cancel**.

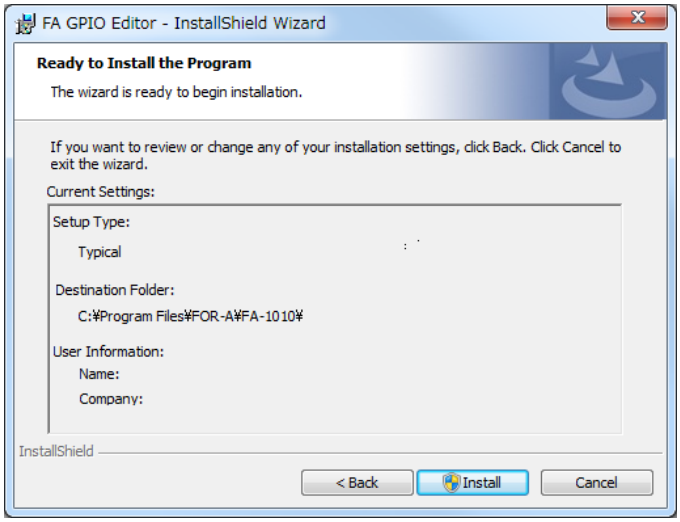
NOTE
To print the Software License Agreement, click **Print**. Before printing the License agreement, verify that your printer is actually connected to the PC.

(4) The installation directory of the FA GPIO Editor is displayed.
To change the default installation directory, click **Change…** and specify a new directory.

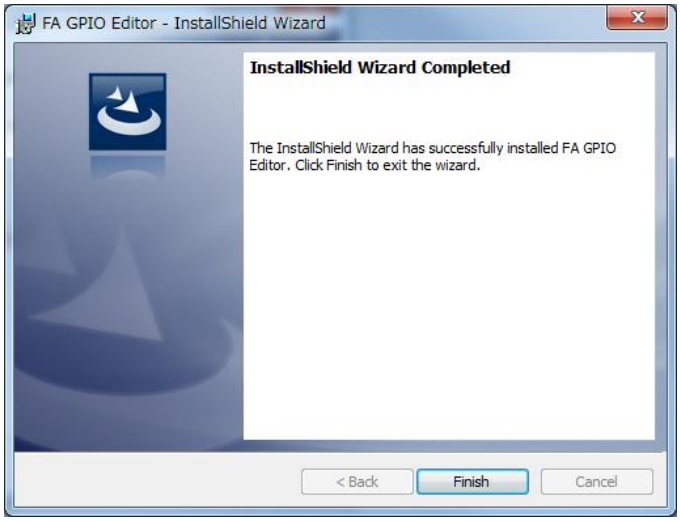
(5) Click **Next**.



(6) The last wizard page is displayed. Verify the installation settings and click **Install** to install the software.
To change settings, click on **Back**, change installation settings as required, then click **Install**.



(7) When the software installation is complete, the window as shown below will appear. Click **Finish** to finish the installation.



10-2. About the FA GPIO Editor

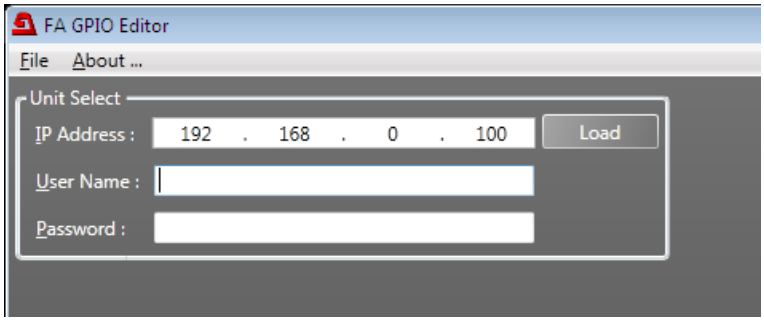
GPI input /output functions can be assigned to 30 GPI ports (GPI 1-3 connectors) on the FA-10DCCRU using the supplied FA GPIO Editor software.
GPI assignments are very flexible: an input or output or both can be assigned to a port, GPI pulse signals can be output inversely and assignments can be performed individually or in groups using Pattern Load.
In addition, GPI settings can be backed up to and restored from files using Export and Import.

10-2-1. Connecting FA GPIO Editor to the FA-10DCCRU

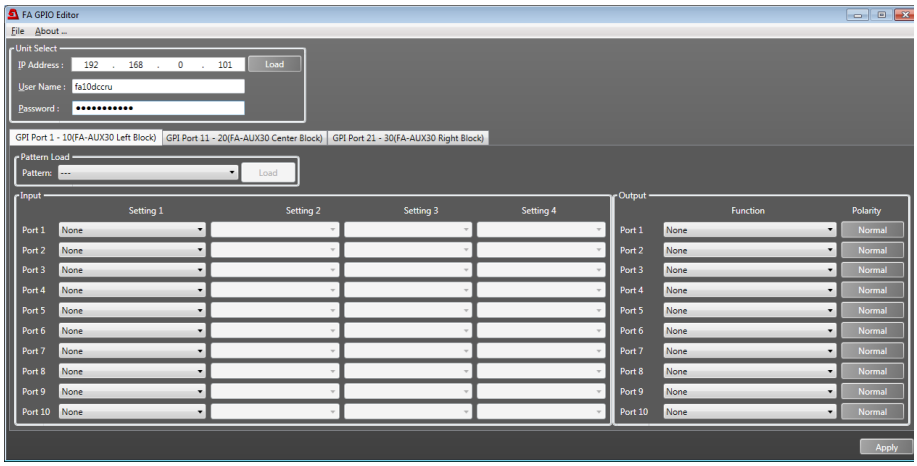
(1) Click the FA GPIO Editor shortcut icon on the desktop to start FA GPIO Editor.

(2) When the software window appears, enter the FA-10DCCRU IP address, user name and password. Click **Load**.

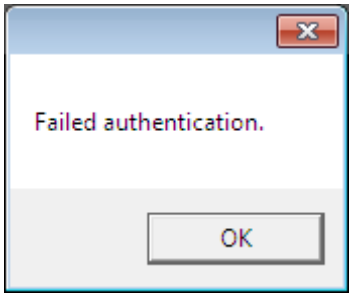
< Default FA-10DCCRU settings>
IP address: **192.168.0.101**
User name: **fa10dccru**
Password: **foranetwork**



(3) When the user name and password are accepted, a window as shown below is displayed and FA-10DCCRU GPI settings are loaded in the window.



When the user name and password are not accepted, the following pop-up dialog windows appears. Click **OK** to close the dialog.
Enter the correct user name and password and click **Load**.

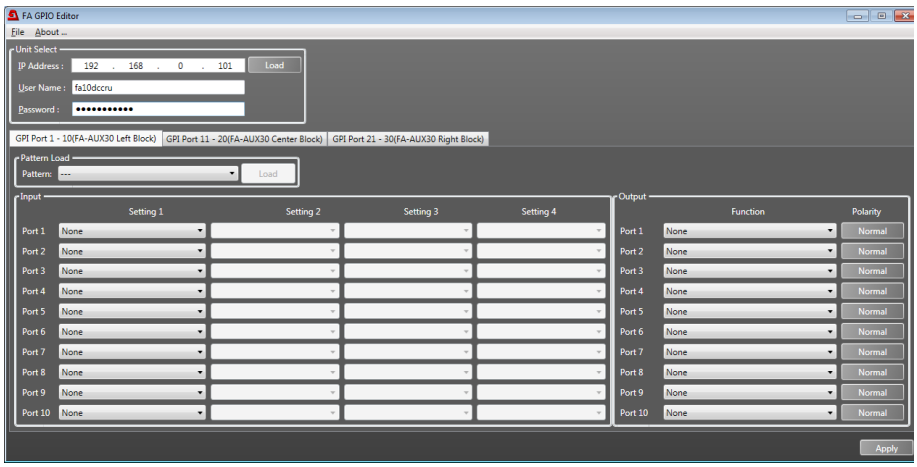


10-2-2. Loading and Assigning GPI Functions

As factory default, GPI functions are all set to **None (no function).**
Use the FA-GPIO Editor to perform GPI assignments for GPI1 - 3 (Ports 1-30) connectors.
Select a GPI connector (10 ports) by clicking a tab from the following three:

GPI Port 1 - 10(FA-AUX30 Left Block)
GPI Port 11 - 20(FA-AUX30 Center Block)
GPI Port 21 - 30(FA-AUX30 Right Block)

Note that “(FA-AUX30…)” indicates a button block (seen from the front side) when connecting an FA-AUX30 unit.



10-2-3. GPI Input Settings

A combination of GPI input settings (**Setting 1**, **Setting 2** and **Setting 3**) can be assigned to each GPI port.
GPI ports are activated when they are closed with a common port.

(1) First, set **Setting 1**. To disable ports, set **None** under Setting 1.

Detailed Input Settings

Setting 1 setting	Description	Refer to
None	No function	-
MU Select	MU Select allows you to select a main unit under Setting 2 (**Unit ID1 - 100**) and an FS of the main unit under Setting 3 (**FS1 - 10**). If set to **None** under Setting 3, the last controlled FS is selected. Main unit IP addresses must be set for Unit ID numbers in advance. If set to **Disconnect** under Setting 2, the port can disconnect main units.	5-3-4
FS Select	FS Select allows you to select an FS under Setting 2, FS1 - FS10 if connecting to FS-1010 and FS1 or FS2 if connecting to FA -9520 (FA-9520 mode). FS Select is inoperative when connecting with FA-9520 (FA-9500 mode) or FA-9500 units.	-
FS Link (toggled On/Off)	Allows you to link or unlink an FS under Setting 2. If **All Clear** is set under Setting 2, all FS channels are unlinked. * FS Link is not supported in FA-9600.	11
Freeze (toggled On/Off)	Allows you to set Freeze to On or Off. If an FS is selected under Setting 2, the controlled FS is changed to the selected one and a Freeze setting is applied to it. If **None** is set under Setting 2, a Freeze setting applies to the current FS.	6-4
Split Mode	Allows you to set Split mode under Setting 2. If an FS is selected under Setting 3, the controlled FS is changed to the selected one and a Split Mode setting is applied to it. If **None** is set under Setting 3, a Split Mode setting applies to the current FS.	6-5
CC Mode	Allows you to set Color Correction mode under Setting 2. If an FS is selected under Setting 3, the controlled FS is changed to the selected one and a CC Mode setting is applied to it. If **None** is set under Setting 3, a CC Mode setting applies to the current FS.	6-9
Gamma Curve	Allows you to set Gamma Curve under Setting 2. If an FS is selected under Setting 3, the controlled FS is changed to the selected one and a Gamma Curve setting is applied to it. If **None** is set under Setting 3, a Gamma Curve setting applies to the current FS.	6-9
Clip	(FA-505 Software Version is 2.00 or later) Allows you to select Clip mode. **Off**: Turns Off YPbPr Clip and opens the YPbPr Clip setting menu. **YPbPr Clip**: Turns On YPbPr Clip and opens the YPbPr Clip setting menu. **RGB Clip**: Opens the RGB Clip setting menu. (FA-505 Software Version is 1.10 or earlier) Allows you to set Clip mode under Setting 2. If an FS is selected under Setting 3, the controlled FS is changed to the selected one and a Clip setting is applied to it. If **None** is set under Setting 3, a Clip setting applies to the current FS. (FA-9600)	6-10

	Allows you to set Clip mode. **Off**: Exits the Clip menu if in the Clip menu. **YPbPr Clip**: Opens the YPbPr Clip setting menu. **RGB Clip**: Opens the RGB Clip setting menu.	
GPI Lock (toggled On/Off)	Allows you to enable (GPI Lock Off) / disable (GPI Lock On) all GPI inputs.	-
Group Adjust (toggled On/Off)	Allows you to enable / disable group adjustment. The group adjustment functions are adjusted in the same manner as those in FA-10DCCRU.	6-9
Event Load	Allows you to load an event set under Setting 2 (**Event1 - 100**).	7
Event Save	Allows you to save settings to an event set under Setting 2 (**Event1 - 100**).	7

(2) Set **Setting 2** and **Setting 3** according to **Setting 1**.

Input Setting List

Port No.	Setting 1	Setting 2	Setting 3
1 - 30	None	-	-
	MU Select	Disconnect	-
		Unit ID1 - 100	None FS1 - FS10
	FS Select	FS1 - FS10	-
	FS Link(On/Off)	All Clear FS1 - FS10	-
	Freeze(On/Off)	None FS1 - FS10	-
	Split Mode	Off Mode1 - 3	None FS1 - FS10
	CC Mode	Balance Differential Sepia	None FS1 - FS10
	Gamma Curve	Center Black White	None FS1 - FS10
	Clip	Off YPbPr RGB	None FS1 - FS10
	GPI Lock(On/Off)	-	-
	Group Adjust(On/Off)	-	-
	Event Load	Default Event1 - 100	-
	Event Save	Event1 - 100	-

10-2-4. GPI Output Settings

Available GPI output functions are shown below.

Output Setting List

Port No.	Function	When tally signals are supplied
Port 1 - 30	None	No tally output
	Follow GPI In Settings	When the input function of the same port is enabled.
	All DC/FAN Alarm (*1)	When one or more cooling fans or power supply units in the main unit and FA-10DCCRU fail.
	FA-10DCCRU FAN Alarm	When the FA-10DCCRU cooling fan fails.
	MU/FA-10DCCRU FAN Alarm	When one or more cooling fans in the main unit and FA-10DCCRU fail.
	MU FAN1 Alarm	When FAN1 in the main unit fails.
	MU FAN2 Alarm	When FAN2 in the main unit fails.
	MU FAN3 Alarm (*2) (*6)	When FAN3 in the main unit fails.
	MU FAN4 Alarm (*2)	When FAN4 in the main unit fails.
	DC Power Alarm (*3)	When one or more power supply units in the main unit fail.
	DC Power1 Alarm (*3)	When Power Supply 1 in the main unit fails.
	DC Power2 Alarm (*3)	When Power Supply 2 in the main unit fails.
	Reference Input Video Status	When a reference input video is detected in the main unit.
	FS1 Input Video Status	When an input video for FS1 is present in the main unit.
	FS2 Input Video Status (*4)	When an input video for FS2 is present in the main unit.
	FS3 Input Video Status (*5)	When an input video for FS3 is present in the main unit.
	FS4 Input Video Status (*5)	When an input video for FS4 is present in the main unit.
	FS5 Input Video Status (*5)	When an input video for FS5 is present in the main unit.
	FS6 Input Video Status (*2)	When an input video for FS6 is present in the main unit.
	FS7 Input Video Status (*2)	When an input video for FS7 is present in the main unit.
	FS8 Input Video Status (*2)	When an input video for FS8 is present in the main unit.
	FS9 Input Video Status (*2)	When an input video for FS9 is present in the main unit.
	FS10 Input Video Status (*2)	When an input video for FS10 is present in the main unit.

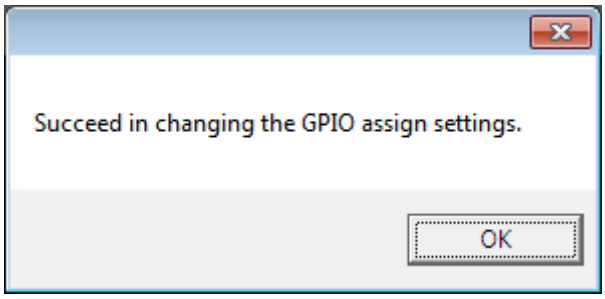
(*1) The system detects DC power alarm/s, as needed, for the second power supply in the main unit.
(*2) Used for FA-1010 connection.
(*3) Used for main units with redundant power supplies
(*4) Used for FA-505, FA-1010, FA-9520 (in FA-9520 mode) or FA-9600 connection
(*5) Used for FA-505 or FA-1010 connection
(*6) Used for FA-9600 connection

10-2-5. Inverting GPI Output Pulse Polarity

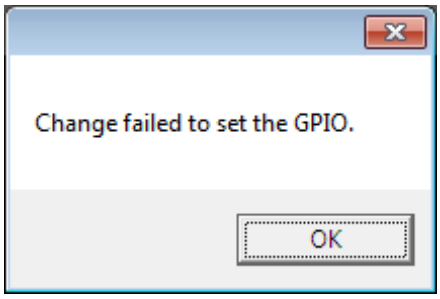
To invert the polarity of GPI output pulse, change **Polarity** from **Normal** to Invert.
This function is used in such cases such as when inverting a tally condition, or using output devices that work in inverse logic.
When connecting to FA-AUX30 units, set Polarity to **Normal**.

10-2-6. Sending GPI Settings

After all GPI settings are finished, click **Apply** to send all settings to the FA-10DCCRU unit. The following message indicates that GPI ports have successfully been set. Click **OK** to close the dialog window.



The following message indicates that GPI settings have failed. Click **OK** to close the dialog window. Verify the network connection and settings, then click **Apply** to reenter settings.



10-2-7. Pattern Load

The Pattern Load function allows you to assign GPIO functions in groups by loading patterns.

<Pattern Load Procedure>

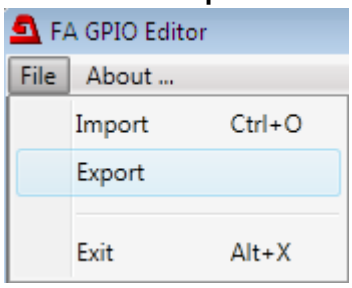
(1) Click to select a tab from **GPI Port 1 - 10(FA-AUX30 Left Block), GPI Port 11 - 20(FA-AUX30 Center Block)** and **Port 21 - 30(FA-AUX30 Right Block)**.
(2) Click on the Pattern box to select a pattern from the dropdown menu.
(3) Click **Load** to load the pattern. Ten GPI input/output ports are quickly set. Loaded settings can be changed in the same manner as that of assignments. (See section 10-2-3. “GPI Input Settings” and section 10-2-4. “GPI Output Settings.”)
(4) After all GPI settings are finished, click **Apply** to send the settings to the FA-10DCCRU unit. If a “Successful settings” message appears, GPI settings are complete.

See section 10-2-8. “GPI Pattern List” for details on GPI patterns.

10-2-8. Exporting GPI Settings to Files

GPI settings can be backed up to and loaded from files in the computer.

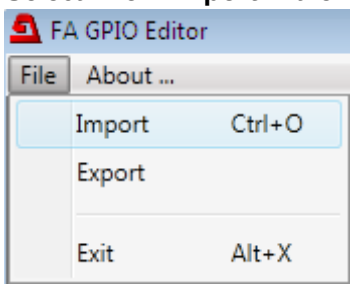
Select **File** > **Export** in the menu bar.



Specify a file name and location to save the settings. The default file name is FA-10DCCRU GPIO.csv. Change the file name, as needed, then click **OK**.

10-2-9. Importing GPI Settings from Files

Select **File** > **Import** in the menu bar.



Specify the file name and location.
Verify settings in the FA GPIO Editor, then click **Apply** to send the settings to the FA-10DCCRU unit. (See section 10-2-6. “Sending GPI Settings.”)

10-2-10. Verifying GPIO Editor Version

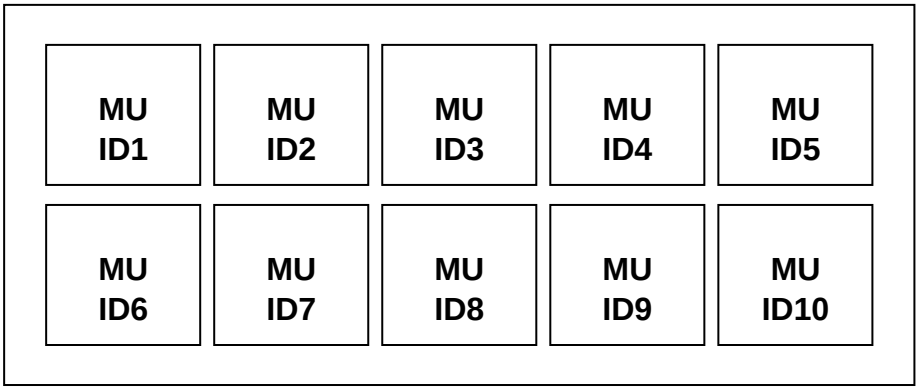
Click **Version Information** in the menu bar.
A window as shown below will appear.

To close the window, click **OK**.

10-3. GPI Pattern List

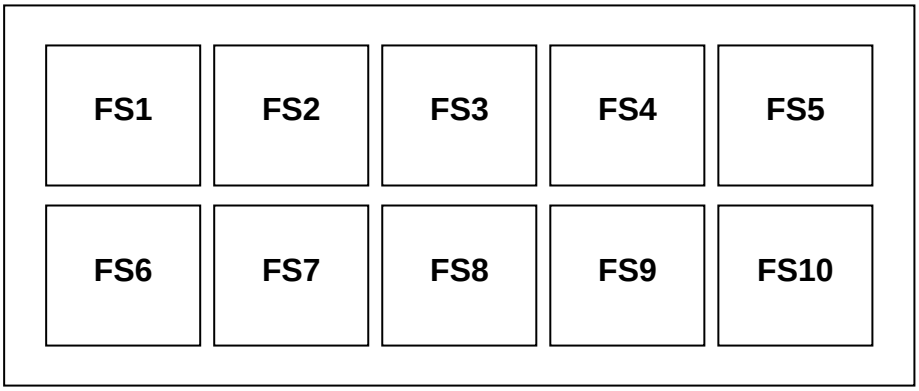
The following available GPI patterns are mainly for FA-AUX30 use.
Buttons and their functions shown in each pattern represent a button block of FA-AUX30 units.

◆ **MU Select**



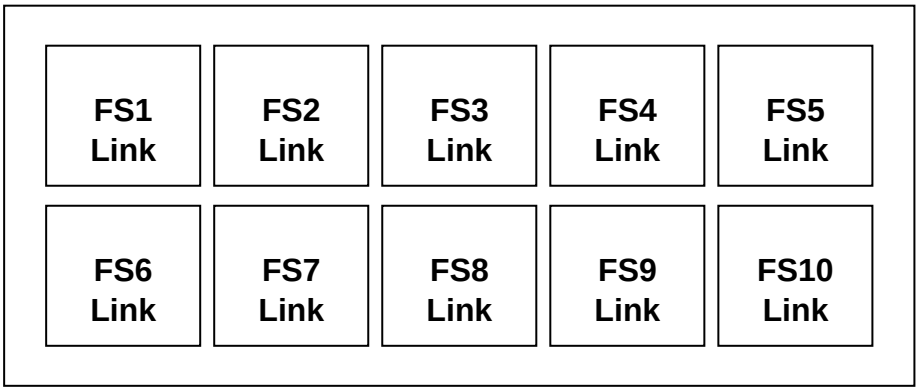
Button function	Description
MU ID1 - 10	Used for MU selection by specifying ID1 – ID10. The LED lights while an MU is connected.

◆ **FS Select**



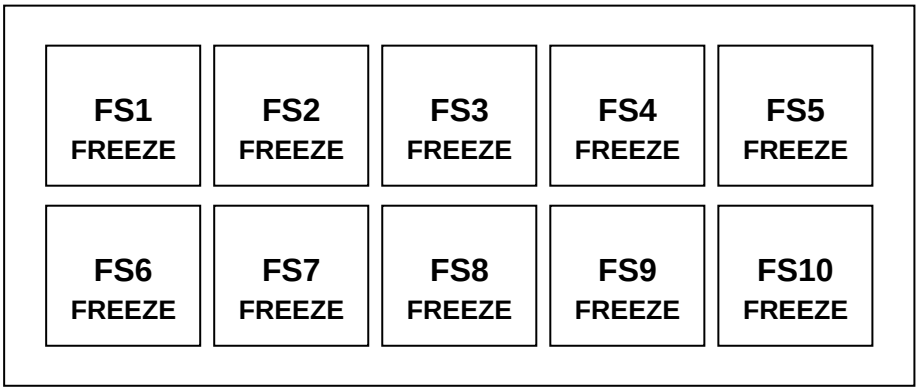
Button function	Description
FS1 - 10	Used for FS selection from FS1 - FS10. The LED lights while an FS is being controlled.

◆ **FS Link Select**



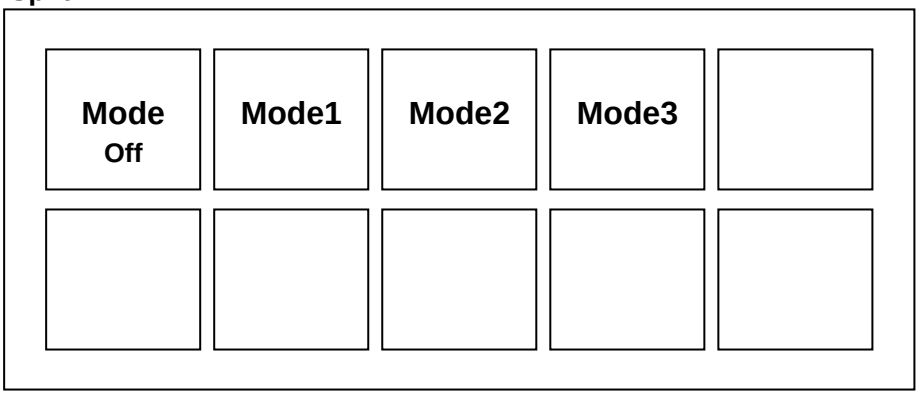
Button function	Description
FS1 – 10 Link	Used to enable FS Link. The LED lights while an FS is linked. When the FS cannot be linked, an error beep sounds.

◆ **FREEZE**



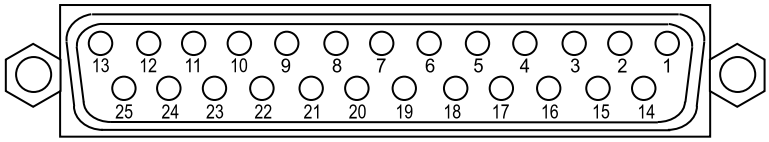
Functions	Description
FS1 – 10 Freeze	Used to set Freeze On/Off on each FS.

◆ **Split**



Functions	Description
Mode Off Mode1-3	Used for Split mode selection.

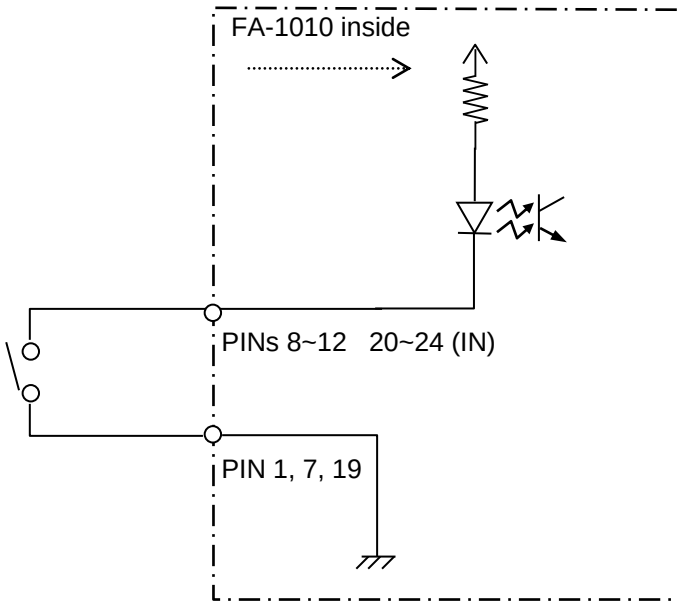
10-4. GPI1-GPI3 Pin Assignments



◆ **Pin assignments (25-pin D-sub, female)**

Pin No.	Signal		
	GPI1	GPI2	GPI3
1	GND (Ground)		
2	GPI OUT 1 (Output)	GPI OUT 11 (Output)	GPI OUT 21 (Output)
3	GPI OUT 2 (Output)	GPI OUT 12 (Output)	GPI OUT 22 (Output)
4	GPI OUT 3 (Output)	GPI OUT 13 (Output)	GPI OUT 23 (Output)
5	GPI OUT 4 (Output)	GPI OUT 14 (Output)	GPI OUT 24 (Output)
6	GPI OUT 5 (Output)	GPI OUT 15 (Output)	GPI OUT 25 (Output)
7	GND (Ground)		
8	GPI IN 1 (Input)	GPI IN 11 (Input)	GPI IN 21 (Input)
9	GPI IN 2 (Input)	GPI IN 12 (Input)	GPI IN 22 (Input)
10	GPI IN 3 (Input)	GPI IN 13 (Input)	GPI IN 23 (Input)
11	GPI IN 4 (Input)	GPI IN 14 (Input)	GPI IN 24 (Input)
12	GPI IN 5 (Input)	GPI IN 15 (Input)	GPI IN 25 (Input)
13	DC OUT (5.0 V output, maximum 200 mA DC)		
14	GPI OUT 6 (Output)	GPI OUT 16 (Output)	GPI OUT2 6 (Output)
15	GPI OUT 7 (Output)	GPI OUT 17 (Output)	GPI OUT2 7 (Output)
16	GPI OUT 8 (Output)	GPI OUT 18 (Output)	GPI OUT 28 (Output)
17	GPI OUT 9 (Output)	GPI OUT 19 (Output)	GPI OUT 29 (Output)
18	GPI OUT 10 (Output)	GPI OUT 20 (Output)	GPI OUT 30 (Output)
19	GND (Ground)		
20	GPI IN 6 (Input)	GPI IN 16 (Input)	GPI IN 26 (Input)
21	GPI IN 7 (Input)	GPI IN 17 (Input)	GPI IN 27 (Input)
22	GPI IN 8 (Input)	GPI IN 18 (Input)	GPI IN 28 (Input)
23	GPI IN 9 (Input)	GPI IN 19 (Input)	GPI IN 29 (Input)
24	GPI IN 10 (Input)	GPI IN 20 (Input)	GPI IN 30 (Input)
25	NC		

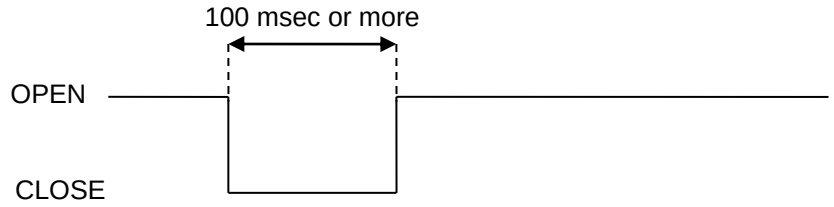
10-5. GPI Input Circuit



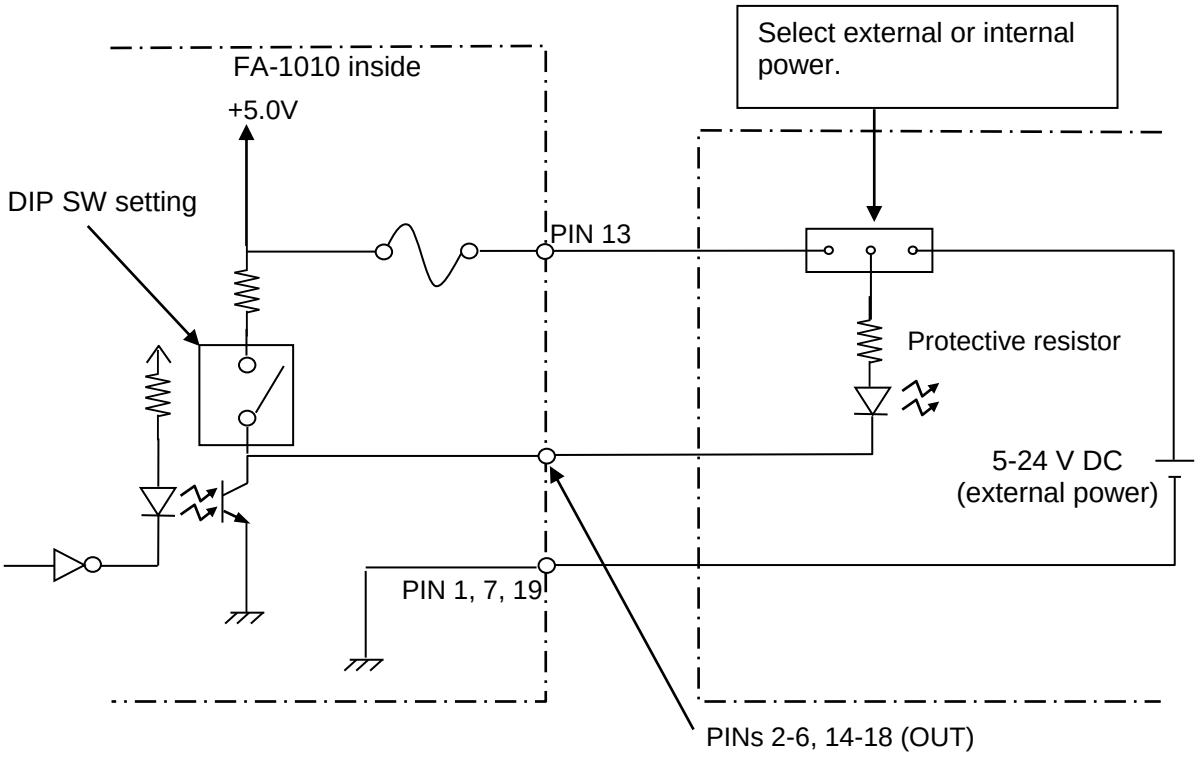
10-6. GPI Input Control

◆ **Pulse signals**

The pulse signal level change (OPEN to CLOSE) triggers each operation.
OPEN to CLOSE: The assigned function will be turned on.



10-7. GPI Output Circuit (Same for GPI 1-3)



IMPORTANT
Note that the allowed current for each GPI output circuit is **50 mA** and the external power supply should be **5-24 VDC**.

11. FS Link

The FS Link function allows you to simultaneously apply the same settings (Proc Amp, Color Correction and Clip) to all linked FS channels in FA-505, FA-1010 or FA-9520 (FA-9520 mode). This function is available only when FS links are enabled. FS link settings can be performed by GPI inputs sent from an FS-AUX30 or other GPI device/s to the FA-10DCCRU.
FS Link is not supported in FA-9600.

11-1. Requirements for FS Link

1. The same Color Correction mode is set in linked FS channels.
2. The same Clip mode is set in linked FS channels.

FS channels cannot be linked if the above two requirements are not met.
In addition, Color Correction and Clip modes cannot be changed in FS-linked channels.
To change these modes, set FS link to off.

11-2. Notes on FS Link

An FA-10DCCRU always selects and controls an FS when connecting an FA-505, FA-1010 or FA-9520 (FA-9520 mode).
If the FS is not linked, settings are applied only to the FS.
If the FS is linked, settings are applied simultaneously to all linked FS channels.

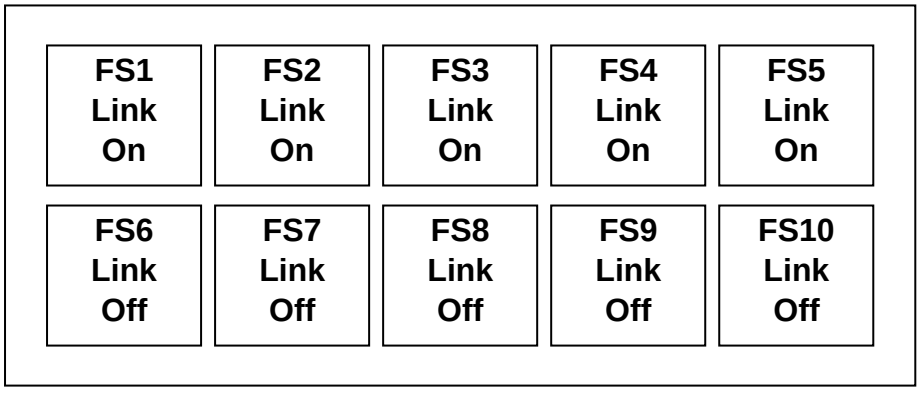
* FS links can be set only by GPI inputs sent from GPI devices such as an FA-AUX30.
* Refer to section 10-2-3. “GPI Input Settings” for details on how to assign the FS Link function to GPI inputs.
* Refer to section 16-9. “Color Correction” for details on Color Correction mode.
* Refer to section 6-10. “Clipping Signal Levels” for details on Clip mode.
* Refer to section 6-3. “Selecting an FS Channel” for details on FS selection.

To prevent unexpected operational errors, assigning “FS Select” functions to GPI inputs is recommended.

11-3. FS Link Examples

Assume that the main unit is FA-1010 and that FS1 - FS10 are set as shown below.

- Color Correction mode is set to **Balance** in FS1 - FS8.
- Clip mode is set to **Off** in FS1 - FS8.
- FS1 - FS5 are **linked On**. FS6 - FS10 are **linked Off**. (See the figure below.)
- Color Correction mode is set to **Differential** in FS9.
- Clip mode is set to **RGB** in FS10.



In conditions described in the previous page, the following five procedures will change FS states as shown below.

1. If FS1 is selected:
   If any value in Proc Amp, Color Correction or Clip is increased or decreased, the difference is applied to all FS channels FS1 – FS5 due to FS link.
   Same as above if FS2, FS3, FS4 or FS5 is selected.
   Color correction and Clip modes cannot be changed in FS1- FS5, because they are linked.

2. If FS6 is selected:
   If any value in Proc Amp, Color Correction or Clip is changed, the new value is applied only to FS6.
   Same as above if FS7, FS8, FS9 or FS10 is selected.

3. If setting FS7 link to On (by pressing the FS7 Link button in the previous page):
   FS7 link is enabled because Color Correction and Clip modes settings in FS7 are the same as those in FS1-FS5.
   The LED indicator of the FS7 Link button turns on.
   Same as above for FS6 and FS8.

4. If FS9 Link is set to On (by pressing the FS9 Link button in the previous page):
   FS9 linking is **not** enabled because Color Correction and Clip mode settings in FS9 are different from those in FS1-FS5.
   A beep sounds and the FS9 link fails.

5. If FS10 Link is set to On (by pressing the FS10 Link button in the previous page):
   FS10 linking is **not** enabled because Color Correction and Clip mode settings in FS10 are different from those in FS1-FS5.
   A beep sounds and the FS10 link fails.

12. Resetting to Factory Default Settings

To reset FA-10DCCRU to factory settings, power on the FS-10DCCRU by simultaneously pressing BLACK and SEPIA.
When the reset process starts, the message “Factory Setting” appears on the front panel.
Wait for about 10 seconds, power the unit off then on again.

IMPORTANT
Ensure that this operation resets all parematers saved in the FS-10DCCRU to factory default settings. It is recommended to back up your current data to files before resettig your FA-10DCCRU. (See section 5-3-7. “Backup & Restore.”)

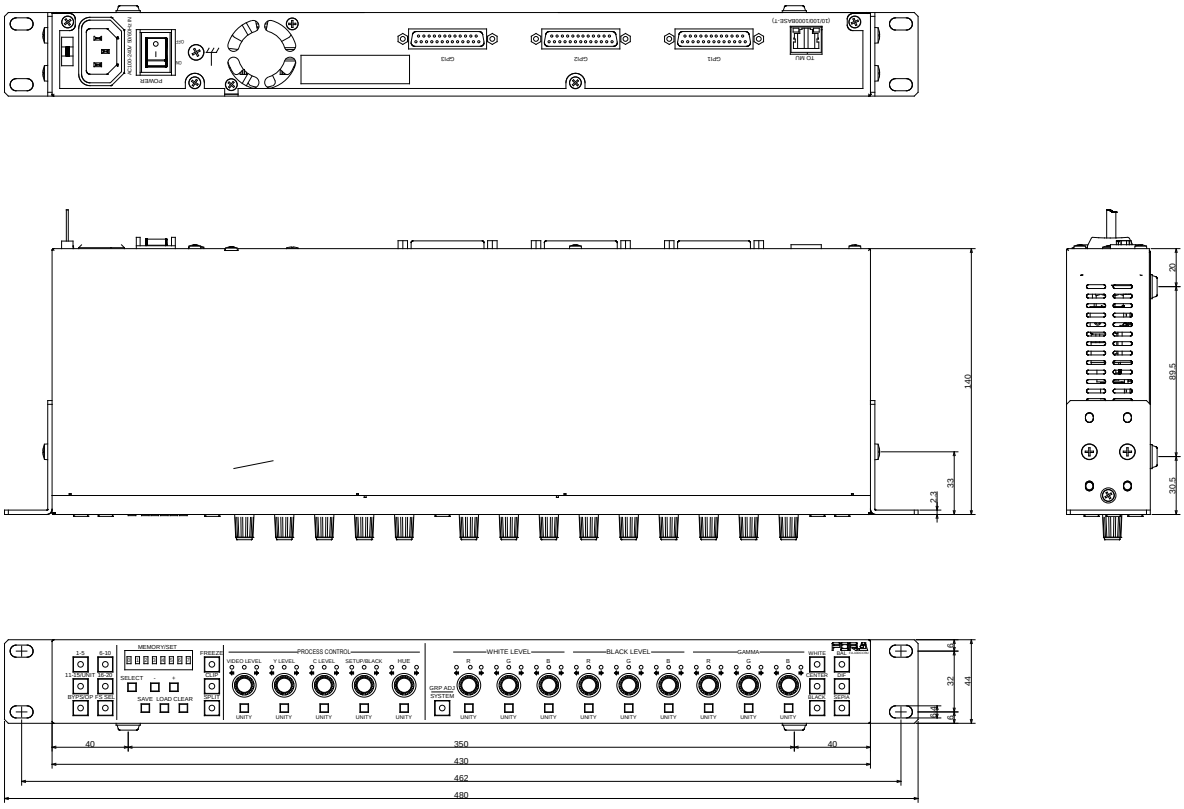
13. Specifications and Dimensions

13-1. Unit Specifications

Interfaces	
TO MU	10/100/1000 BASE-T, RJ-45 x 1 port
GPI	25-pin D-sub (female) x 3, 30 inputs and 30 outputs
Temperature	0ºC to 40ºC
Humidity	30% to 90% (no condensation)
Power	100V - 240V AC ±10%, 50/60Hz
Power Consumption	21VA (11W) (at 100 V AC) 24VA (11W) (at 200 V AC)
Dimensions	430 (W) x 44 (H) x 140 (D) mm
Weight	2.4 kg
Consumables	Power supply unit: Replace every 5 years
	Cooling fan: P1467-1, replace every 5 years
Accessories	Operation Manual (CD-ROM) , AC cord, Rack mount brackets

13-2. 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.

October 31, 2018 Printed in Japan

FOR-A COMPANY LIMITED

Head Office	3-8-1 Ebisu, Shibuya-ku, Tokyo 150-0013, Japan
Overseas Division	Tel: +81(0)3 3446 3936 Fax: +81(0)3 3445 5116
Japan Branch Offices	Osaka/Okinawa/Fukuoka/Hiroshima/Nagoya/Sendai/Sapporo
R&D/Production	Sakura Center/Sapporo Center

FOR-A Corporation of America
11155 Knott Ave., Suite G&H, Cypress, CA 90630, USA.
Tel: +1 714 894 3311 Fax: +1 714 894 5399

FOR-A Corporation of America East Coast Office
2 Executive Drive, Suite 670, Fort Lee Executive Park, Fort Lee, NJ 07024, USA
Tel: +1 201 944 1120 Fax: +1 201 944 1132

FOR-A Corporation of America Distribution & Service Center
2400 N.E. Waldo Road, Gainesville, FL 32609, USA
Tel: +1 352 371 1505 Fax: +1 352 378 5320

FOR-A Corporation of America Miami Office
8333 North West 53rd Street Suite 427 Doral, FL 33166, USA
Tel: +1 305 931 1700 Fax: +1 714 894 5399

FOR-A Europe S.r.l.
Via Volturno 37, 20861 Brugherio MB, Italy
Tel: +39 039 91 64 811 Fax: +39 039 878 140

FOR A UK Limited
Trident Court, 1 Oakcroft Road, Chessington, KT9 1BD, UK
Tel: +44 (0)20 3044 2935 Fax: +44(0)20 3044 2936

FOR-A Italia S.r.l.
Via Volturno 37, 20861 Brugherio MB, Italy
Tel: +39 039 881 086/103 Fax: +39 039 878 140

FOR-A Corporation of Korea
1007, 57-5, Yangsan-ro, Yeongdeungpo-gu, Seoul 150-103, Korea
Tel: +82 (0)2 2637 0761 Fax: +82 (0)2 2637 0760

FOR-A China Limited
708B Huateng Building, No. 302, 3 District, Jinsong, Chaoyang, Beijing 100021, China
Tel: +86 (0)10 8721 6023 Fax: +86 (0)10 8721 6033

FOR-A Middle East-Africa Office
Dubai Media City, Aurora Tower, Office 1407, P.O. Box 502688, Dubai, UAE
Tel: +971 (0)4 551 5830 Fax: +971 (0)4 551 5832

Agiv (India) Private Limited (FOR-A India)
2nd Floor, Valecha Chambers, Link Road, Andheri(W), Mumbai 400053
Tel: +91-22-26733623 Fax: +91-22-26393415