FOR.A®
INNOVATIONS IN VIDEO
and AUDIO TECHNOLOGY

OPERATION MANUAL

DCC-NETOU
DCC Network Operation Unit

1st Edition - Rev.2

FOR-A COMPANY LIMITED

Precautions

Important Safety Warnings

[Power]

Caution	Operate unit **only** on the specified supply voltage.
	Disconnect power cord by connector only. **Do not** pull on cable portion.
Stop	**Do not** place or drop heavy or sharp-edged objects on power cord. A damaged cord can cause fire or electrical shock hazards. Regularly check power cord for excessive wear or damage to avoid possible fire / electrical hazards.

[Grounding]

Caution	**Ensure** unit is properly grounded at all times to prevent electrical shock hazard.
Hazard	**Do not** ground the unit to gas lines, units, or fixtures of an explosive or dangerous nature.
Caution	**Ensure** power cord is firmly plugged into AC outlet.

[Operation]

Hazard	**Do not** operate unit in hazardous or potentially explosive atmospheres. Doing so could result in fire, explosion, or other dangerous 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 unit malfunction.
	If foreign material does enter the unit, turn power off and disconnect power cord **immediately.** Remove material and contact authorized service representative if damage has occurred.

[Transportation]

Caution	**Handle** with care to avoid shocks in transit. Shocks may cause malfunction. When you need to transport the unit, use the original packing materials or alternate adequate packing.

[Circuitry Access]

	Do not remove covers, panels, casing, or access circuitry with power applied to the unit! Turn power off and disconnect 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 power is disconnected. Capacitors associated with the power supply are especially hazardous. Avoid contact with any capacitors.
Hazard	Unit **should not** be operated or stored with cover, panels, and / or casing removed. Operating unit with circuitry exposed could result in electric shock / fire hazards or unit malfunction.

[Potential Hazards]

Caution	If abnormal smells or noises are noticed coming from the unit, turn power off immediately and disconnect power cord to avoid potentially hazardous conditions. If problems similar to above occur, contact authorized service representative **before** attempting to again operate unit.

[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. Otherwise, it may cause damage to the internal circuits or components of the unit. If you remove the rubber feet attached on the unit, **do not** reinsert the screws securing the rubber feet.

[Consumables]

Caution	The consumables used in unit must be replaced periodically. 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, they should be replaced at an early date. For details on replacing the consumables, contact your dealer.

Upon Receipt

Unpacking

DCC-NETOU 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.

ITEM	QTY	REMARKS
DCC-NETOU	1	Operation unit
Power Cord	1 set	
Rack Mount Brackets	1 set	EIA standard type
Operation Manual	1	

IMPORTANT
The DCC-NETOU controls UFM-30DCC modules through the UFM-30CTL control card. The UFM-30DCC and UFM-30CTL are a separate purchase. They are module cards. A dedicated UFM frame (UF-112 or UF106B) is required.

Check

Check to ensure no damage has occurred during shipment. If damage has occurred, or items are missing, inform your supplier immediately.

Rack Mounting

The product can be mounted to EIA standard rack units. When rack mounting a unit, remove the rubber feet and use the accessory rack mount brackets (rack ears).

Installing the AC Cord Retaining Clip

1) Securely plug the AC cord into the AC inlet
2) Attach the retaining clip onto the AC cord from the top.

Table of Contents

1. Prior to Starting

1-1. Welcome

Congratulations! By purchasing DCC-NETOU Operation 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 DCC-NETOU Operation Unit is a control unit that controls the UFM-30DCC Digital Color Corrector units that have been installed into a UFM Frame via the UFM-30CTL Module Controller.

- Up to 1200 main units (UFM-30DCC) can be controlled
- UP to 10 DCC-NETOU units can be connected to a single UFM-30DCC module at a time.
- Up to 99 settings can be stored separately from UFM-30DCC

1-3. System Requirements of a PC for DCC-NETOU Setting

PC	Recommended
CPU	Intel Pentium 4, 2.4GHz or faster
Memory	1GB or more
OS	Windows XP SP2 or later (*1), Windows Vista SP1 or later, Windows 7
Available disk space	1MB or more
Interface	Ethernet, at least one port
Web browser	Internet Explorer7, Internet Explorer8, Firefox3.6 or later (JavaScript must be enabled.)
Display	Resolution of 1024 x 768 pixels or better Must be capable of full color (24-bit or 32-bit) display

(*1) If you update Windows XP SP2 with SP3, the system may not work properly.
Please leave it at SP2 or clean install SP3 from scratch.

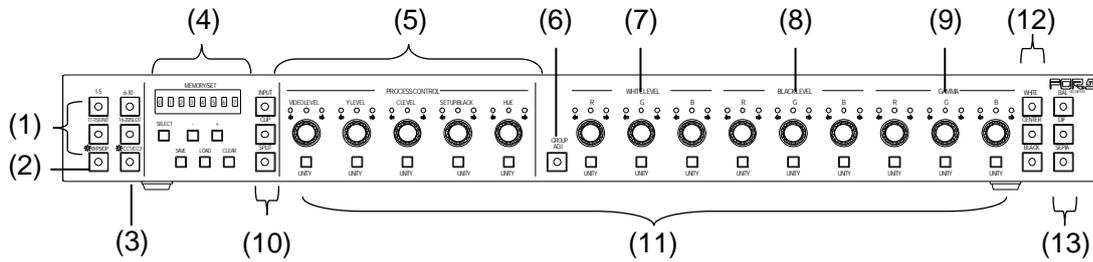## 1-4. Supported UFM-30DCC and UFM-30CTL Versions

To control the UFM-30DCC using the DCC-NETOU, a UFM-30CTL module is required.
The DCC-NETOU supports the following versions of UFM-30DCC and UFM-30CTL.

UFM-30DCC	Version 2.01 and later FPGA Version: 2.05 and later Operation Manual 3rd Edition and later
UFM-30CTL	WEB Version : 2.11 and later SNMP Version: 2.01 and later Operation Manual: 3rd Edition-Revision 1 and later

Refer to UFM-30DCC and UFM-30CTL Operation Manuals for checking versions. Other versions of these units cannot connect to the DCC-NETOU. They are needed to upgrade. Please consult your FOR-A reseller for upgrading.
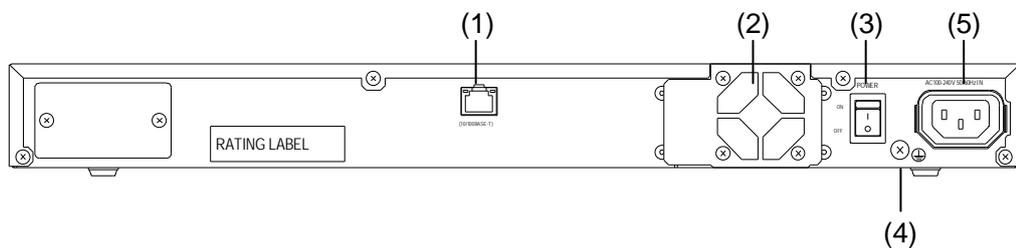
2. Panel Descriptions

2-1. Front Panel

No	Name	Description
(1)	ID1-5, ID6-10, ID11-15/UNIT, ID16-20/SLOT	Allow you to select an UFM-30DCC module controlled from the DCC-NETOU.
(2)	BYPS/ OP (OPERATE/ BYPASS)	Allows you to select between BYPASS and OPERATE mode.
		Lit — The system is in OPERATE mode. The color correction settings are applied.
		Flashing — The system is in BYPASS mode. Unprocessed signals are output from the controlled UFM-30DCC modules.
(3)	CC1/CC2	Allows you to select the channel in Dual Channel mode. The selection switches between CHANNEL1 and CHANNEL2 every time the button is pressed. CHANNEL1 is selected when lit and CHANNEL2 is selected when flashing. (This button is enabled only when in Dual Mode withUFM-3DCC2C.)
(4)	MEMORY/SET	Allows you to store and load the settings. See section 6. "Event Memory" for details. Setting values are displayed during the memory operation. See section 5-6 "Display Panel."
(5)	PROCESS CONTROL	In Color Correction mode (CLIP button (10) unlit), these control knobs allow you to adjust the process control settings. (See section 5-3. "Process Control" and 5-4. "Color Correction" for details.) In Clip mode (CLIP button (10) lights up), the three control knobs in the center allow you to adjust the clip settings. (See section 5-5. "Clip Settings" for details.)
(6)	GROUP ADJ	Allows you to adjust the R, G, and B of the WHITE LEVEL, BLACK LEVEL, or GAMMA values at once. When this button is lit, turning any one of control knobs changes all R, G, and B values at once.
(7)	WHITE LEVEL	Allows you to adjust White Level. It doesn't function if selecting the Sepia mode.
(8)	BLACK LEVEL	Allows you to adjust Black Level. It doesn't function if selecting the Sepia mode.
(9)	GAMMA LEVEL	Allows you to adjust Gamma Level. In Sepia mode, only the Y signal can be adjusted using the G control knob.
(10)	INPUT	Allows you to select the UFM-30DCC input signal in Single Channel mode. The selection switches between INPUT1 and INPUT2 on UFM-30DCC every time the button is pressed.
	CLIP	Allows you to switch between Color Correction mode and Clip mode. Pressing and holding CLIP changes the mode to CLIP. See section 5-5. "Clip Settings".
	SPLIT	Changes the video output mode every time the button is pressed. (OFF > MODE1 > MODE2 > MODE3)

No	Name	Description
(11)	UNITY	Pressing the UNITY button resets the value to the default setting. Pressing the button again returns the default value to the previous value.
(12)	WHITE/ CENTER/ BLACK	Selects a gamma curve type from the following three: WHITE, CENTER and BLACK.
(13)	BAL/DIF/SEPIA	Selects a color corrector mode from the following three: BAL (balanced: used for RGB signals), DIF (differential: used for YPbPr signals), SEPIA (sepia color)

2-2. Rear Panel

No.	Name	Descriptions
(1)	LAN	Ethernet port that allows connection to the UFM-30DCC modules via the UFM-30CTL . (10/100BASE-TX, RJ-45)
(2)	Cooling fan	Used to air cool unit to prevent overheating. Do not block fan intake with other equipment or objects.
(3)	Power switch	Used to turn the power of the DCC-NETOU on and off.
(4)	Ground terminal	Used to ground the unit and protect operators from electrical shock.
(5)	AC IN	Used to connect to an AC power source via the accessory power cord.

3. Connecting the UFM-30DCC and the UFM-30CTL

To connect the DCC-NETOU and UFM-30DCC, connect the DCC-NETOU and UFM-30CTL via Ethernet.
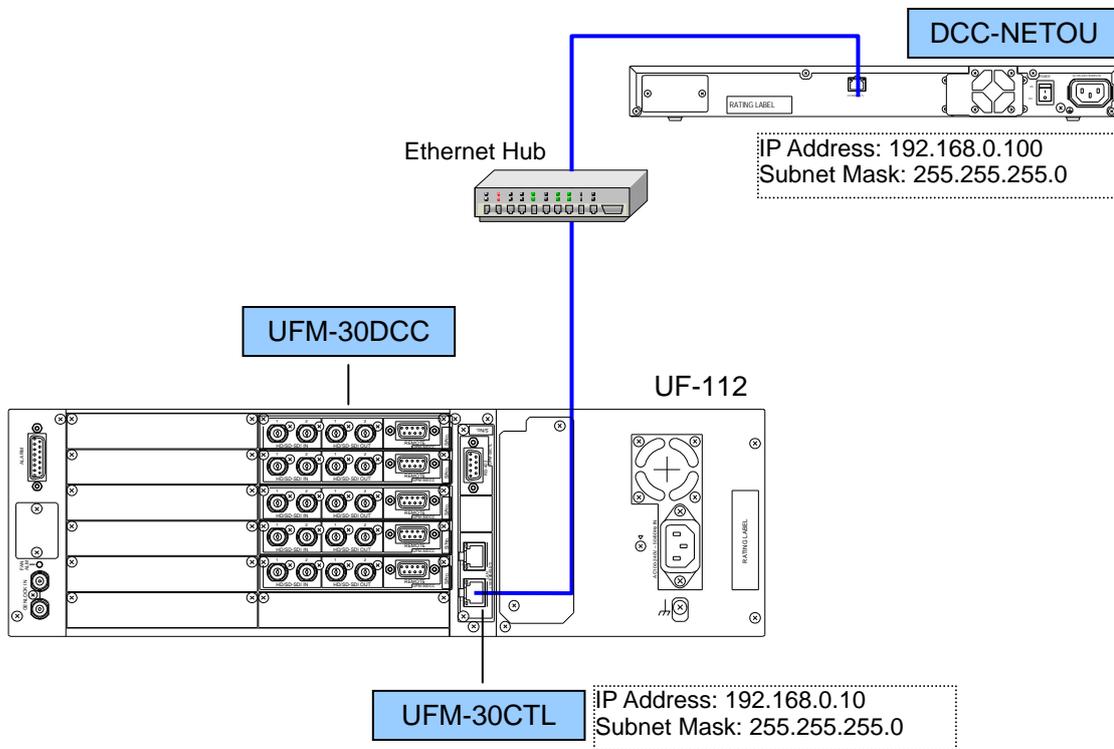
3-1. Basic System

In the example below, five UFM-30DCC modules have been installed into a UF-112 frame. The DCC-NETOU can control five UFM-30DCC modules via the UFM-30CTL simultaneously. A single DCC-NETOU and single UFM-30CTL can be connected with the default settings without changing the network settings.

◆ **DCC-NETOU and UFM-30CTL IP Address Settings**
  The factory default Ethernet port settings of the DCC-NETOU and UFM-30CTL are as below.

Device	IP Address	Subnet Mask
DCC-NETOU	192.168.0.100	255.255.255.0
UFM-30CTL	192.168.0.10	255.255.255.0

DCC-NETOU

Ethernet Hub

IP Address: 192.168.0.100
Subnet Mask: 255.255.255.0

UFM-30DCC

UF-112

UFM-30CTL

IP Address: 192.168.0.10
Subnet Mask: 255.255.255.0

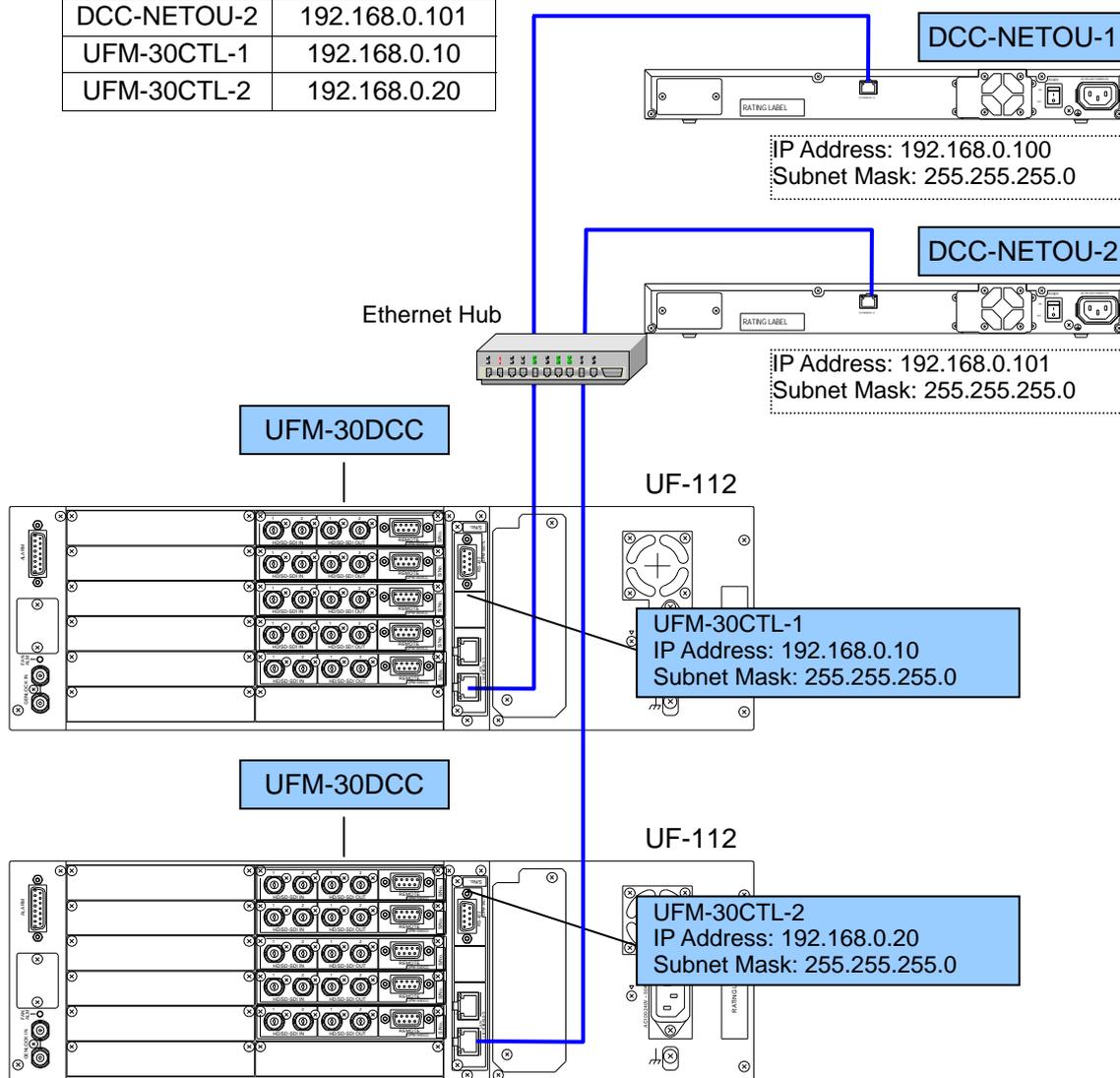| **NOTE** |
|---|
| Please turn off the power of all devices before connection. |

3-2. Connecting Multiple Units

In the example below, five UFM-30DCC modules have been installed into each of two UF-112 frames. The DCC-NETOU-1 and DCC-NETOU-2 can control the UFM-30DCC modules in the respective UF-112 frame via the UFM-30CTL-1 and UFM-30CTL-2 respectively. In this case, the IP addresses of the DCC-NETOU-2 and UFM-30CTL-2 must be changed. See section 4-2. Changing the DCC-NETOU's IP Address for details.

◆ **DCC-NETOU and UFM-30CTL IP Address Settings**
   Set the Ethernet ports of the DCC-NETOU and UFM-30CTL as below.

Device	IP Address
DCC-NETOU-1	192.168.0.100
DCC-NETOU-2	192.168.0.101
UFM-30CTL-1	192.168.0.10
UFM-30CTL-2	192.168.0.20

DCC-NETOU-1

IP Address: 192.168.0.100
Subnet Mask: 255.255.255.0

DCC-NETOU-2

IP Address: 192.168.0.101
Subnet Mask: 255.255.255.0

Ethernet Hub

UFM-30DCC

UF-112

UFM-30CTL-1
IP Address: 192.168.0.10
Subnet Mask: 255.255.255.0

UFM-30DCC

UF-112

UFM-30CTL-2
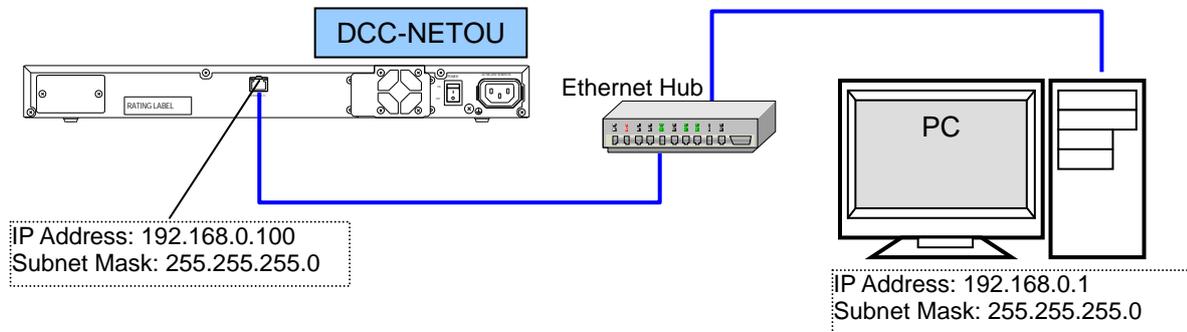IP Address: 192.168.0.20
Subnet Mask: 255.255.255.0

NOTE
Please turn off the power of all devices before connection.
If you are connecting multiple DCC-NETOU units and UFM-30CTL cards, make sure that the IP address is not duplicated.

4. Setup

4-1. Connecting a Computer and DCC-NETOU

(1) Connect a computer and DCC-NETOU directly as shown in the figure below. Set the IP address of the PC to **192.168.0.1**, for example, so that it will be in the same network as the DCC-NETOU.

DCC-NETOU

Ethernet Hub

PC

IP Address: 192.168.0.100
Subnet Mask: 255.255.255.0

IP Address: 192.168.0.1
Subnet Mask: 255.255.255.0

(2) Launch a web browser on the computer. While Microsoft Internet Explorer is being used in this example, other browsers can also be used to change settings.
(3) Enter the IP address of the DCC-NETOU in the address bar in the browser. (The default IP address is **192.168.0.100**.)
(4) Once the connection has been successfully established, the **Information** page will be displayed.

4-2. Changing the DCC-NETOU's IP Address

(1) Click **Nework Setting** in the left pane.

DCC-NETOU

Information

➡ Network Setting

User Setting

Module Name Setting

Direct Mode Setting

Backup & Restore

Restart

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Information

Unit Information
DSP:0.99
Version: FPGA:1.02
Front:0.00D
Serial Number: 13660003
MAC Address: 00:10:B1:04:E0:03
IP Address: 192.168.0.100
Subnet Mask: 255.255.255.0
Default Gateway: 0.0.0.0
Coonect Port: 50000

Connect Status
Status: Disconnect
Unit Number: 1
Unit Address: 192.168.0.10
Unit Name: *No Name*
Slot Number: 1
Module Name: *No Name*

Routing Information

| IP Address	Subnet Mask	Flags		Gateway
192.168.0.0	255.255.255.0	U	C	IF-1
192.168.0.10	255.255.255.255	H		IF-1
192.168.0.100	255.255.255.255	U	H L	
192.168.0.240	255.255.255.255	U	H	IF-1

Refresh

(2) A dialog box appears, requesting a username and password.

Enter the username and password as below (default settings).

User Name: dcc-netou
Password: foranetwork

(3) Once you have successfully logged in, the **Network Setting** page will be displayed in the right pane.
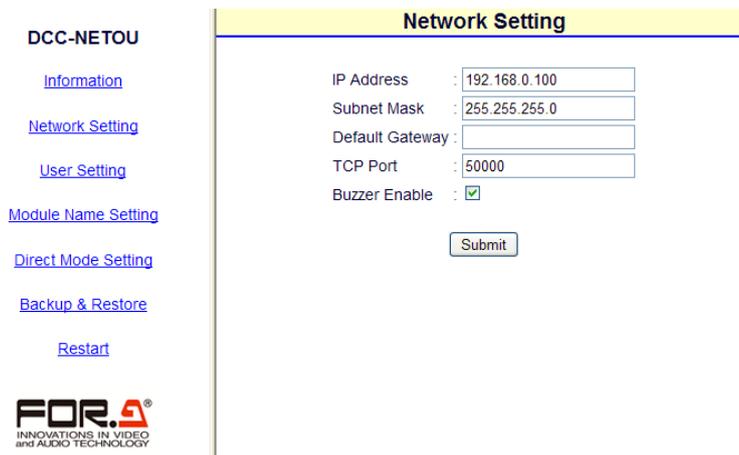
(4) Enter the DCC-NETOU's IP address (for example, **192.168.0.101**).
(5) Click **Submit**.
(6) Wait at least 1 second and click **Restart** in the left pane. Click the **Restart** button in the right pane to restart the DCC-NETOU. The settings are applied after the restart.

Changing the IP address is now complete. Make sure that the IP addresses of the computer and the DCC-NETOU are not duplicated.

4-3. Browser Setting Pages

4-3-1. Information

The following information will be displayed on the **Information** page.

- The network settings of the device
- The serial number of the device
- The version of the device
- Information on the currently connected units and modules
- The network routing table

Flags

U: Active address
H: Host address (destination)
C: Subnet address
L: Local address (self)
G: Gateway

4-3-2. Network Settings

In the **Network Setting** page the network settings on DCC-NETOU can be changed. After you are sure that all settings are appropriate, click **Submit**.

Item	Default Setting	Description
IP Address	192.168.0.100	Sets the IP address if DCC-NETOU so that each unit has a unique IP address in the network.
Subnet Mask	255.255.255.0	Sets the subnet mask and default gateway.
Default Gateway	Disabled	Change the TCP port only when port 50000 is already used in the network. Be sure to set the same port number on both DCC-NETOU and UFM-30CTL
TCP Port	50000	
Buzzer Enable	Enabled	Uncheck the check box if

IMPORTANT
Be sure to reboot the DCC-NETOU after the changes. (See section 4-3-7 "Rebooting DCC-NETOU".) The changes will be applied after rebooting the DCC-NETOU.

4-3-3. User Settings

In the **User Setting** page the username and password to login to the setting pages can be changed.

NOTE
Be sure to reboot the DCC-NETOU after the changes. (See section 4-3-7 "Rebooting DCC-NETOU".) The changes will be applied after rebooting the DCC-NETOU.

4-3-4. Module Name Settings

In the **Module Name Setting** page the IP address of Unit 1 (UF-112/UFM-30CTL) that is connected from DCC-NETOU can be set.
If you are going to use Direct mode (see section 4-3-5. Direct Mode Settings), be sure to set the connected unit (UFM frames with UFM-30CTL) here. You can name each unit and their slots. It helps to recognize devices easily when controlling multiple UFM-30DCCs.

(1) Pointing the mouse over a group of unit numbers displays a list of units. Click to select the unit number (UF-112/UFM-30CTL) you wish to select.
(2) The page for the selected unit number will be displayed. Enter the IP address of the unit (UF-112/UFM-30CTL).
(3) Enter the name of the unit.
(4) Enter the name for each slot (Slot1-12) where UFM-30DCC is installed.
(5) After you are sure that all settings are appropriate, click **Submit**.

4-3-5. Direct Mode Settings

In the **Direct Mode Setting** page, a specific slot of a specific unit can be assigned to an ID that can be called up in Direct mode. Up to 20 UFM-30DCC modules can be assigned. Using this feature allows you to select a specific module easily. (See section 5-1-2. Connecting to a Module in Direct Mode for more details.)

(1) Enter the unit number and slot number for ID to 5. Use the unit and slot numbers set in the Module Name Setting page. ID1 to ID5 are assigned to the 1-5 button. The registered units are successively called up each time the button is pressed in Direct Mode. In this case, unregistered numbers are skipped.

(2) Enter the unit number and slot numbers to save modules to the 6-10, 11-15 and 16-20 buttons in the same way.

(3) After you are sure that all settings are appropriate, click **Submit**.

NOTE
To specify a device in Direct mode, the unit number and IP address must be set in advance in the Module Name Setting page. Otherwise, the device will not be able to be called up.
The registered names set in the Module Name Setting page are shown when calling up UFM-30DCC modules using the 6-10, 11-15 and 16-20 buttons in Direct Mode.

4-3-6. Backup & Restore

Click **Backup & Restore** in the left pane to display the **Backup & Restore** page. In the **Backup & Restore** page, the following functions are available.

- Saving the destination settings
- Restoring the destination Settings
- Saving the stored Event Memory data
- Restoring the Event Memory data
- Copying settings to other DCC-NETOU units.

◆ **Saving the Destination Settings**

Clicking **Config Data** allows you to save the network and connection settings in a file on the computer as shown in the procedure below.

(1) Click **Config Data** in **Backup**. The **Download** dialog box appears.
(2) Click the **Save** button.
(3) A dialog box for selecting the destination appears. Select the destination and click the **Save** button. The network settings and the destination settings are saved with the following name.

DCC-NETOU_XXX_XXX_XXX_XXX.ini
(XXX_XXX_XXX_XXX represents the IP address of the unit)

Change the file name as required.

◆ **Restoring the Destination Settings**

Clicking **Config Data** allows you to restore the network and connection settings from the file saved as above in the following way.

(1) In **Config Data Restore**, select the check boxes of the items you wish to restore.
(2) Check the **Restore Network Config** box to restore the network settings.
(3) Check the **Restore Module Name** box to restore the settings of the destination module.
(4) Check the **Restore Direct Mode** box to restore the Direct mode settings.
(5) Click the **Browse** button and select the file including the setting data.
(6) Click the **Restore** button to load the settings included in the file.
(7) Wait at least 1 second and reboot the DCC-NETOU. The destination settings will be restored.

```
┌─────────────────────────────────────────────────────────────┐
│                         IMPORTANT                            │
├─────────────────────────────────────────────────────────────┤
│ Bear in mind that the network restoration using Restore     │
│ Network Config is complete after restarting the DCC-NETOU.  │
│ After restoring the network settings, be sure to reboot the │
│ DCC-NETOU. (See section 4-3-7 "Rebooting DCC-NETOU".)       │
└─────────────────────────────────────────────────────────────┘
```

◆ **Saving Event Memory Data**

All event memory data from 1 to 99 can be saved in a file on the computer.

(1) In **Backup**, click **Event Data**. The **Download** dialog box appears.
(2) Click the **Save** button. A dialog box for selecting the destination appears.
(3) Select the destination and click the **Save** button. The currently stored event memory data is saved with the following name.

DCC-NETOU_EventData.ini

Change the file name as required.

◆ **Restoring Event Memory Data**

All event memory data from 1 to 99 can be restored from the file saved as above.

(1) In **Event Data Restore**, click the **Browse** button. Select the file including the event memory data.
(2) Click the **Restore** button to load the event memory data included in the file.
(3) Wait at least 1 second and reboot the DCC-NETOU. The event memory data will be applied.

```
┌─────────────────────────────────────────────────────────────┐
│                         IMPORTANT                            │
├─────────────────────────────────────────────────────────────┤
│ Keep in mind that restoring data from the backup file will  │
│ overwrite all data in the event memory.  Be careful to      │
│ restore the event data.                                      │
└─────────────────────────────────────────────────────────────┘
```

4-3-7. Rebooting DCC-NETOU

(1) Click **Restart** in the left pane.
(2) Click the **Restart** button in the right pane.
(3) A message will be displayed and the DCC-NETOU is rebooted.
(4) Once the DCC-NETOU is successfully rebooted, the **Information** page will be displayed.

Rebooting DCC-NETOU is required in the following cases:

● Chaging the network settings (See section 4-3-2 "Network Settings.")

● Chaging the User Name or Password (See section 4-3-3 "User Settings.")

● Chaging the network settings by checking the **Restore Network Config** box (See section 4-3-6 "Backup & Restore."

5. Controlling UFM-30DCC Modules

5-1. Selecting a Destination Device

There are two ways to select a destination device (UFM-30DCC).
● Unit mode: Allows you to select a device by specifying the slot number and unit number.
● Direct mode: Allows you to select a device by specifying the ID number for which the slot number and unit number are specified in advance.

NOTE
It will take about one minute and a half at most when connecting to a device immediately after powering on the DCC-NETOU.

5-1-1. Connecting to a Module in Unit Mode

(1) Set the selection mode to Unit mode. (The default setting. See section 5-1-3. Changing the Selection Mode for details.)
(2) Press the 11-15/UNIT button.
(3) Turn the VIDEO LEVEL control knob to select the unit number to be connected.
(4) Press the 16-20/SLOT button
(5) Turn the VIDEO LEVEL control knob to select the slot number to be controlled.
(6) Press 16-20/SLOT or the SELECT button to control the UFM-30DCC installed in the selected slot.
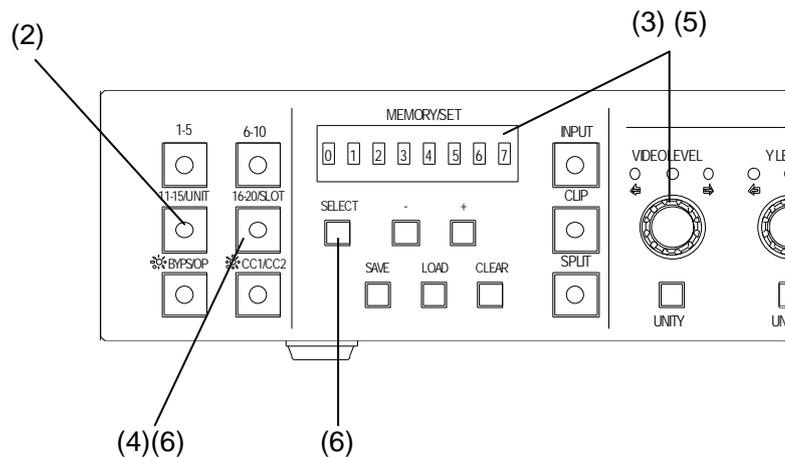
If the destination device is not found, the light on the VIDEO LEVEL control knob blinks and the related button light goes off. In this case, repeat steps (1) to (6), specifying the slot number where the destination device (UFM-30DCC) is installed.

5-1-2. Connecting to a Module in Direct Mode

(1) Set the selection mode to Direct mode. (See section 5-1-3. Changing the Selection Mode for details.)
(2) Press the button of the Direct mode ID you wish to connect to.

Example:
To select ID1, press the 1-5 button once.
To select ID7, press the 6-10 button twice.

The Direct ID will be displayed
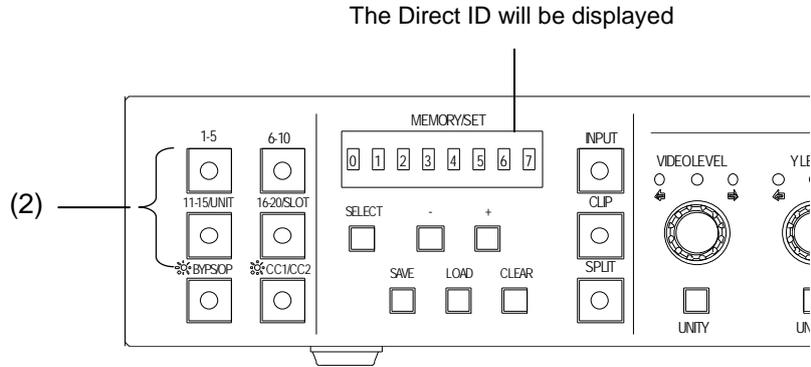
Repeatedly press the button until the desired ID is selected. The selection is changed as below every time the button is pressed.

1-5 button:	1 > 2 >⋯ > 5 > 1
6-10 button:	6 > 7 > ⋯ > 10 > 6
11-15 button:	11 > 12 > ⋯ > 15 > 11
16-20 button:	16 > 17 > ⋯ > 20 > 16

Note that the ID numbers that are not registered are skipped. See section 4-3-5 "Direct Mode Settings".

5-1-3. Changing the Selection Mode

(1) Press and hold the 1-5 button for about 3 seconds.
(2) The mode will change (to Direct mode if in Unit mode or to Unit mode if in Direct mode).

5-2. Selecting Input Signals and Channels

If UFM-3DCC2C (optional) is configured, the UFM-30DCC has 3 operation modes: **Single Channel** mode, **Dual Channel** mode, and **Link** mode.
If UFM-30DCC2C is not configured, the UFM-30DCC has only one operation mode: **Single Channel** mode.

Single Channel mode	A single channel of signal is color corrected and output into two outputs
Dual Channel mode	Two channels of signals are color corrected with two separate color correction settings and output separately.
Link mode	Two channels of signals are color corrected with a common color correction setting and output separately.

NOTE
The operation mode cannot be changed via the DCC-NETOU. Change the operation mode on the front of UFM-30DCC or in the web browser page. See the UFM-30DCC or UFM-30CTL operation manual for details.

5-2-1. Single Channel Mode - Selecting an Input Signal

Press INPUT. The currently selected input signal will be displayed. The selection switches between INPUT1 and INPUT2 each time the button is pressed.

INPUT1 or INPUT2 will be displayed   Press INPUT
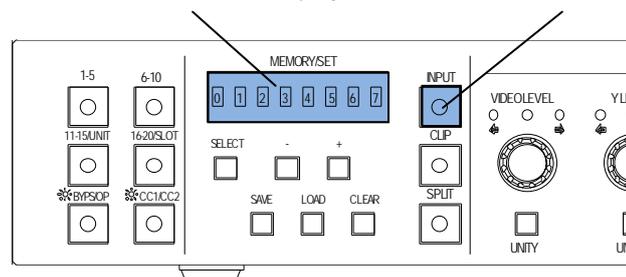
5-2-2. Dual Channel Mode - Selecting a Color Corrector (Channel)

Press CC1/CC2. The currently selected channel will be displayed. The selection switches between CHANNEL1 and CHANNEL2 each time the button is pressed.

CHANNEL1 or CHANNEL2 will be displayed

Press CC1/CC2
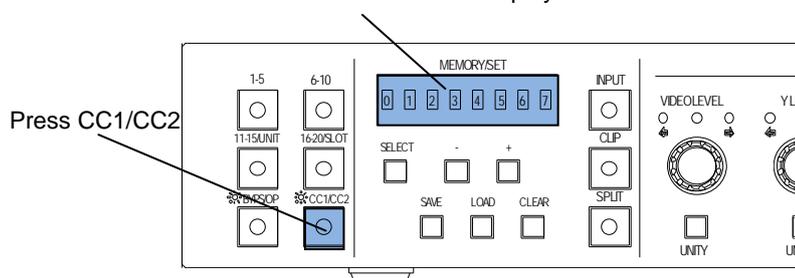
IMPORTANT
The CC1/CC2 button is enabled only when in Dual Channel mode. In this case a UFM-30DCC2C (optional dual channel card) must be installed on the controlled device (UFM-30DCC). See the UFM-30DCC operation manual for details.

5-2-3. Split Display

The SPLIT button allows you to switch between the output display modes in the following order.

OFF > MODE1 > MODE2 > MODE3

OFF	Displays the image after correction in full screen.
MODE1	Splits the screen vertically and displays the images before and after correction.
MODE2	Splits the screen horizontally and displays the images before and after correction.
MODE3	Displays the image before correction in full screen.

MODE: OFF   MODE: 1   MODE: 2   MODE: 3

□ Image before correction

■ Image after correction
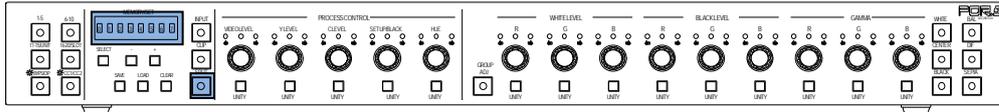
5-2-4. Operational Tips

■ There are three LED indicators above each control knob that indicate status.
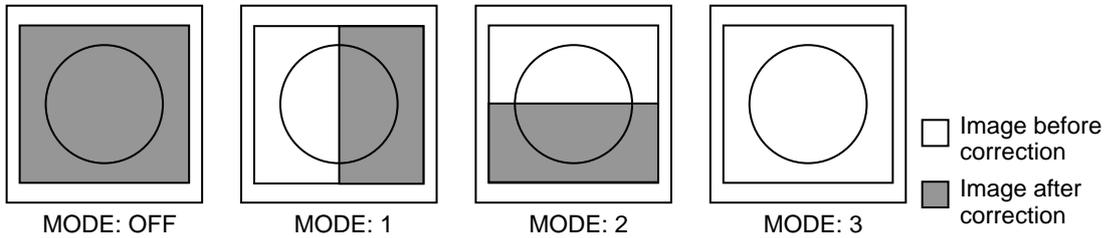The middle indicator lights up when the value is the UNITY (default) value.
The left indicator lights up when the value is less than the UNITY value.
The right indicator lights up when the value is greater than the UNITY value.

■ Pressing the UNITY button below each control knob resets the setting to the UNITY (default) value . Pressing the button again returns the default value to the previous value.

■ If the maximum or minimum value is reached, an error buzzer sounds.

5-3. Process Amp

The following control knobs are used for Process Amp adjustments.

| VIDEO LEVEL	Adjusts the video level.
Y LEVEL	Adjusts the luminance level.
C LEVEL	Adjusts the chroma level. (Adjusts the sepia level in Sepia mode.)
SETUP/BLACK	Adjusts the setup level.
HUE	Adjusts the hue. (Adjusts the sepia color in Sepia mode.)

NOTE
The Process Amp adjustments are disabled when bypassing input, or performing clip settings.

5-4. Color Correction

Press BAL, DIF, or SEPIA to select the color mode. The selected button lights up.

    BAL (Balance):   RGB mode
    DIF (Differential): Differential (YPbPr) mode
    SEPIA: Sepia mode
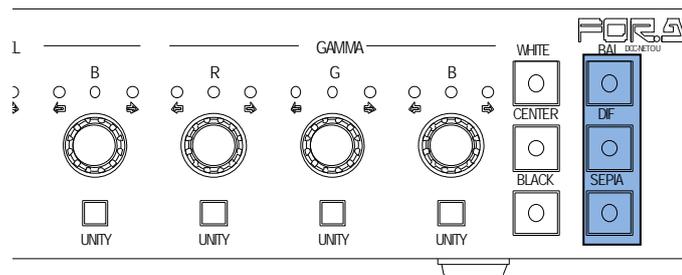
The following color correction settings are available.

WHITE LEVEL	Adjusts the white level in RGB. (Disabled in Sepia mode)
BLACK LEVEL	Adjusts the black level in RGB. (Disabled in Sepia mode)
GAMMA	Adjusts the gamma level in RGB. (Only the Y signal can be set using the G control knob in Sepia mode. R and B are disabled.)

The GROUP ADJ button affects how the WHITE LEVEL, BLACK LEVEL, and GAMMA control knobs respond. When the GROUP ADJ button is turned off (indicator unlit), the RGB control knobs operate independently and settings for all components are separately set. When the button is turned on (indicator lit), control knobs do not operate independently. Turning any one control knob in the WHITE LEVEL, BLACK LEVEL, and GAMMA section changes all control knob settings in this section by the same degree.

NOTE
The color correction settings are disabled when bypassing input, or performing clip settings.

5-5. Clip Settings

To set the clip settings, first you need to change the mode from Color Correction mode to Clip mode.

(1) Press and hold down the CLIP button for at least 5 seconds.
(2) A buzzer sounds and the CLIP button flashes to indicate that you are in Clip mode.

Hold down the CLIP button
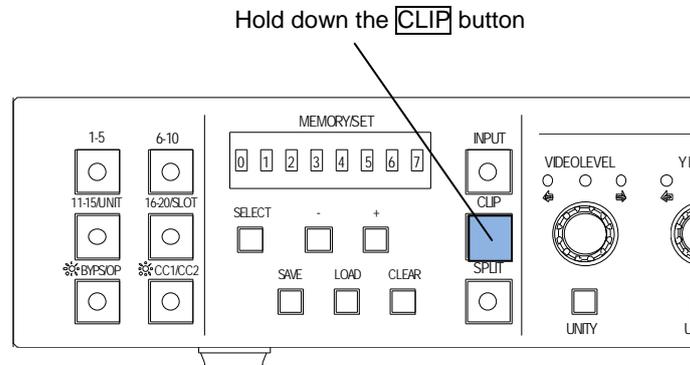
(3) Once the setting is complete, press the CLIP button to return to Color Correction mode.

5-5-1. YPbPr Clip Settings

(1) Press the DIF button on the right end of the front panel. To disable, press the button again.

(2) The following process control settings are available.

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

(3) Adjust the clip setting while viewing the three indicators above the control knobs and the value on the MEMORY/SET display panel. (See "Clip Settings and Indicators" on the next page for details.) Pressing the UNITY button below the value resets the clip value to the default.

(4) Repeat steps (2) and (3) to adjust the settings.

◆ Clip Settings and Indicators

The relationship between the indicators, control knobs, and clip settings are as shown below.
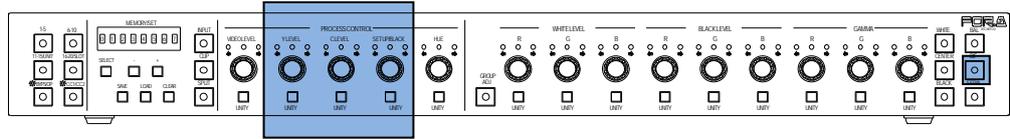
① Y White Clip Level
Setting range:　　50 to 109%
Default (UNITY):　109%
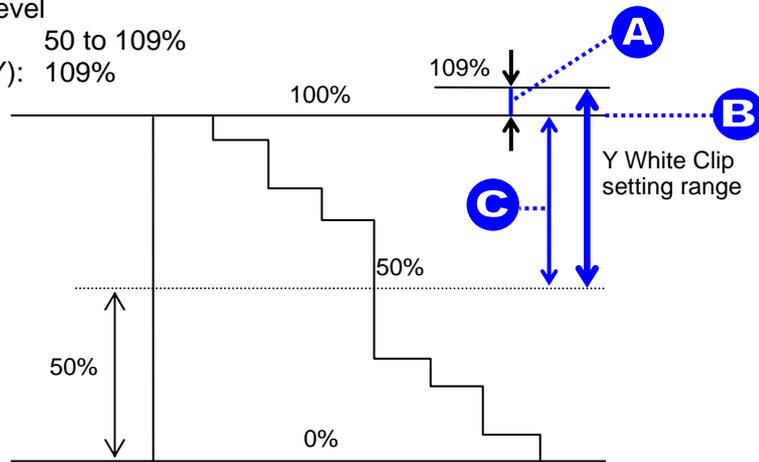
SMPTE 100% color bars when 100% white

Button	Setting	Indicator	Display Panel
Y LEVEL	A	Lit orange Flashes at 109% (UNITY)	101 to 109%
	B	Lit green	100%
	C	Lit orange Flashes at 50%	50 to 99%

② Y Black Clip Level
Setting range:　　-8 to 50%
Default (UNITY):　-8%

SMPTE 100% color bars when 100% black

Button	Setting	Indicator	Display Panel
SETUP/ BLACK	A	Lit orange Flashes at -7% (UNITY)	-7% to 1%
	B	Lit green	0%
	C	Lit orange Flashes at 50%	1% to 50%

③ C Clip Level
Setting range:　　50 to 113%
Default (UNITY):　113%

SMPTE 100% color bars when color 700mVp-p

Button	Setting	Indicator	Display Panel
C LEVEL	A	Lit orange Flashes at 113% (UNITY)	101 to 113%
	B	Lit green	100%
	C	Lit orange Flashes at 50%	50 to 99%

5-5-2. RGB Clip Settings

(1) Press the BAL button on the right end of the front panel. To disable, press the button 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 control knobs and the value on the MEMORY/SET display panel. (See "Clip Settings and Indicators" below for details.) Pressing the UNITY button below the value resets the clip value to the default.

(4) Repeat steps (2) and (3) to adjust the settings.

◆ **Clip Settings and Indicators**
The relationship between the indicators, control knobs, and clip settings are as shown below.
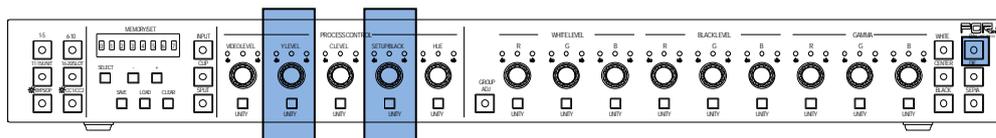
① RGB WHITE LEVEL (YLEVEL)
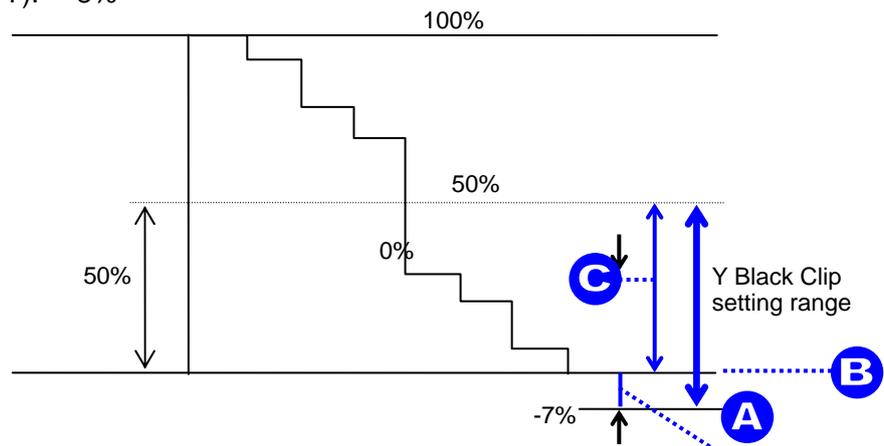 Setting range: 50 to 300%
  Default (UNITY): 300%

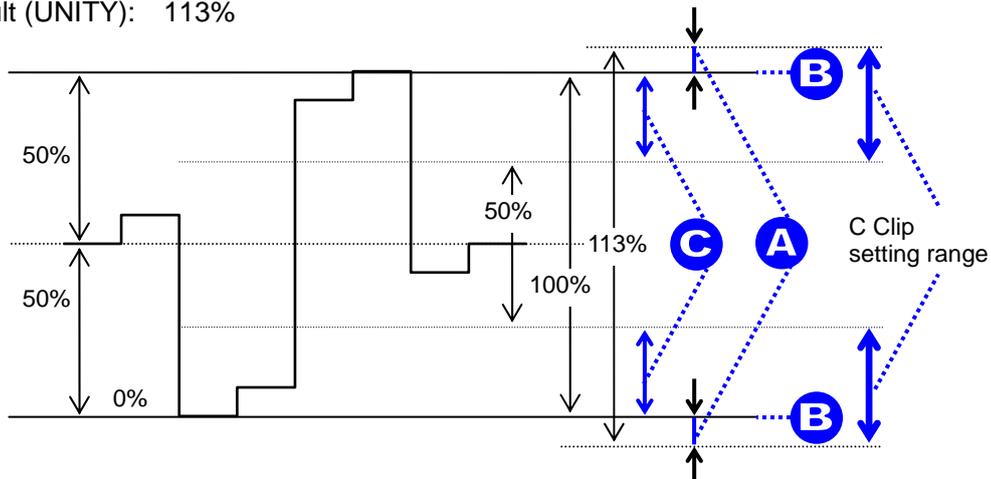| Button	Setting	Indicator	Display Panel
Y LEVEL	A	Lit orange Flashes at 300% (UNITY)	101 to 300%
	B	Lit green	100%
	C	Lit orange Flashes at 50%	50 to 99%

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

Button	Setting	Indicator	Display Panel
SETUP/ BLACK	A	Lit orange Flashes at -200% (UNITY)	-200 to -1%
	B	Lit green	0%
	C	Lit orange Flashes at 50%	1 to 50%

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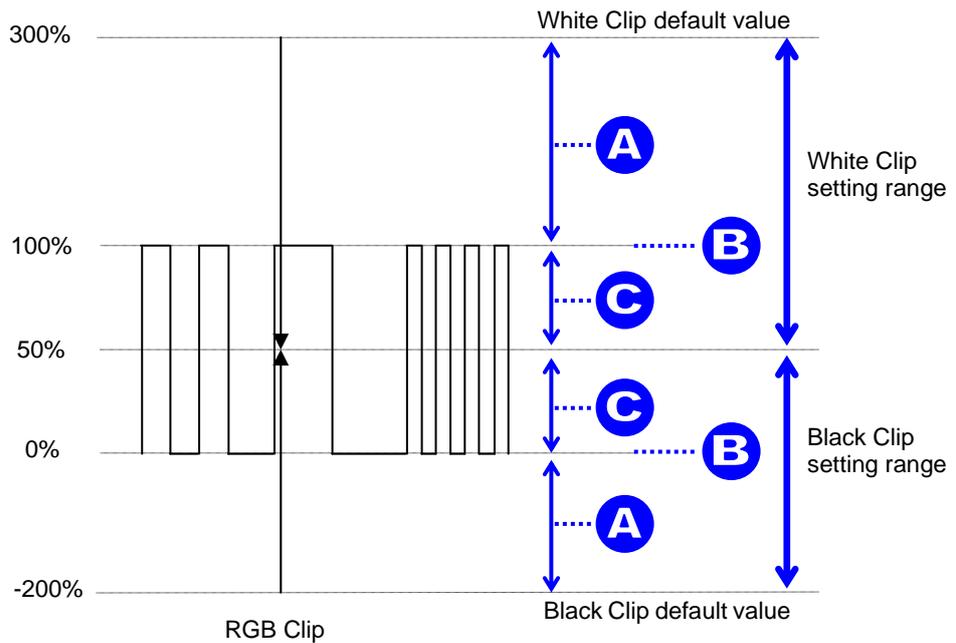
5-5-3. Composite (VBS) Clip Settings

(1) Press the SEPIA button on the right end of the front panel. To disable, press the button again.

(2) The following process control settings are available.

Y LEVEL	White clipping of Composite (VBS) signal
SETUP/BLACK	Black clipping of Composite (VBS) signal

(3) Adjust the clip setting while viewing the three indicators above the control knobs and the value on the MEMORY/SET display panel. (See "Clip Settings and Indicators" below for details.) Pressing the UNITY button below the value resets the clip value to the default.

◆ **Clip Settings and Indicators**
The relationship between the indicators, control knobs, and clip settings are as shown below.
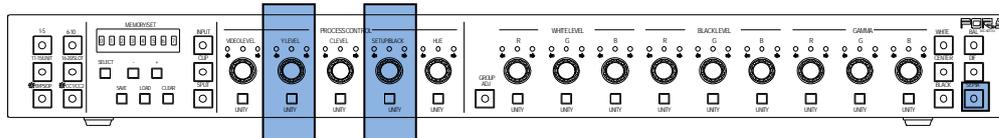
① Composite (VBS) WHITE LEVEL (Y LEVEL)
　　Setting range:　　50 to 150%
　　Default (UNITY):　150%

Button	Setting	Indicator	Display Panel
Y LEVEL	A	Lit orange Flashes at 150% (UNITY)	101 to 150%
	B	Lit green	100%
	C	Lit orange Flashes at 50%	50 to 99%

② Composite (VBS) BLACK LEVEL (SETUP/BLACK)
　　Setting range:　　-50 to 50%
　　Default (UNITY):　-50%

Button	Setting	Indicator	Display Panel
SETUP/ BLACK	A	Lit orange Flashes at -50% (UNITY)	-50 to -1%
	B	Lit green	0%
	C	Lit orange Flashes at 50%	1 to 50%

White Clip default value

150%

100%

50%

0%

-50%

A

B

C

C

B

A

White Clip
setting range

Black Clip
setting range

Composite (VBS) Clip

Black Clip default value

23
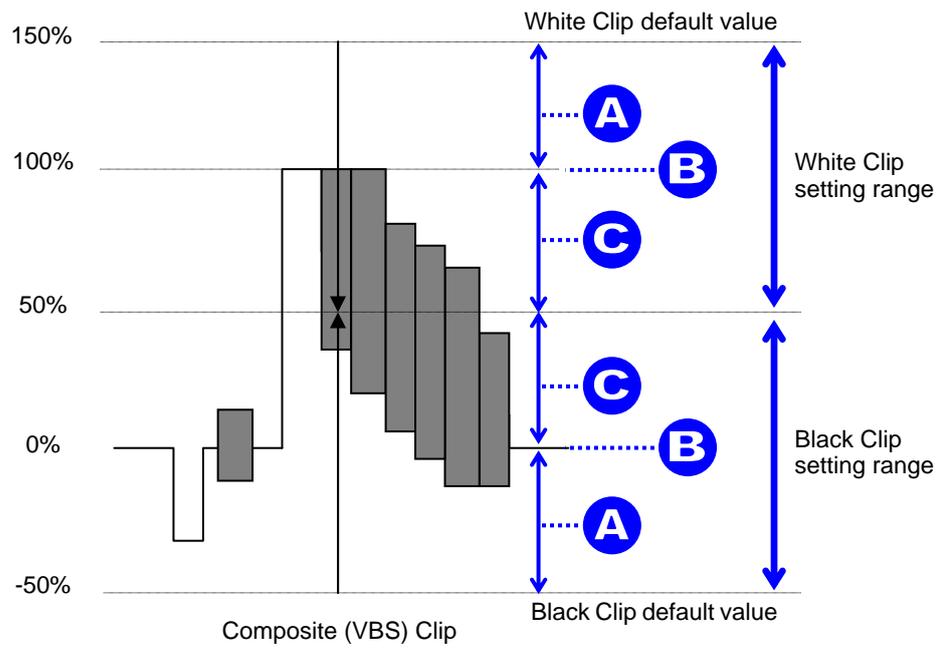
5-6. Display Panel

The currently selected setting will be displayed on the 8-digit display panel

UFM-30DCC Select

Item	Button	Condition	Setting Range (Display Panel)
Unit selection mode	1-5		UNIT MODE, DIRECT MODE
Unit mode Unit select	11-15/UNIT > VIDEO LEVEL > SELECT	Unit name specified	UNIT name
		Unit name unspecified	UNIT 1 - UNIT100
Unit mode Slot select	16-20/SLOT > VIDEO LEVEL > SELECT	Slot name specified	SLOT name
		Slot name unspecified	SLOT 1-SLOT12
Direct selection mode	1-5, 6-10, 11-15, 16-20	Direct ID name specified (Unit name or slot name specified)	ID name (Unit name or slot name)
		DIRECT ID name unspecified	U1S1-U100S12

Input Select/Channel Select/Display Mode

Item	Button	Condition	Setting Range (Display Panel)
Input select	INPUT	Single Channel mode	INPUT 1, INPUT 2
Channel select	C1/C2	Dual Channel mode	CHANNEL1, CHANNEL2
Video display mode	SPLIT		OFF, MODE 1, MODE 2, MODE 3

Event Memory

Item	Button	Condition
Save	SAVE	SAVE 01-SAVE 99
Load	LOAD	LOAD 00-LOAD 99

Processing Amplifier

Item	Button	Condition	Setting Range (Display Panel)
VIDEO LEVEL	VIDEO LEVEL	DIF mode BAL mode	VL 0% to VL 200% (UNITY 100%)
Y LEVEL	Y LEVEL	DIF mode BAL mode	YL 0% to YL 200% (UNITY 100%)
C LEVEL	C LEVEL	DIF mode BAL mode	CL 0% to 200% (UNITY 100%)
SETUP/BLACK	SETUP/BLACK	DIF mode BAL mode	SB -7% to 25% (UNITY 0%)
HUE	HUE	DIF mode BAL mode	HUE -179.9° to 180° (UNITY 0°)
SEPIA LEVEL	C LEVEL	SEPIA mode	SL 0% to 100% (UNITY 25%)
SEPIA COLOR	HUE	SEPIA mode	SC -179.9° to 180° (UNITY -160°)

Color Correction

Item	Button	Condition	Setting Range (Display Panel)
Correction mode	BAL	BAL mode	BALANCE
	DIF	DIF mode	DIFFERENTIAL (a scrolling text)
	SEPIA	SEPIA mode	SEPIA
WHITE LEVEL	R	DIF mode BAL mode	WR 0% to WR 200% (UNITY 100%)
	G	DIF mode BAL mode	WG 0% to WG 200% (UNITY 100%)
	B	DIF mode BAL mode	WB 0% to WB 200% (UNITY 100%)
BLACK LEVEL	R	DIF mode BAL mode	BR 0% to BR 200% (UNITY 100%)
	G	DIF mode BAL mode	BG 0% to BG 200% (UNITY 100%)
	B	DIF mode BAL mode	BB 0% to BB 200% (UNITY 100%)
GAMMA LEVEL	R	DIF mode BAL mode	GR 0% to GR 200% (UNITY 100%)
	G	DIF mode BAL mode	GG 0% to GG 200% (UNITY 100%)
	B	DIF mode BAL mode	GB 0% to GB 200% (UNITY 100%)
GAMMA CURVE	WHITE	DIF mode BAL mode	GAMMA W
	CENTER	DIF mode BAL mode	GAMMA C
	BLACK	DIF mode BAL mode	GAMMA B

Clip

Item	Button	Condition	Setting Range (Display Panel)
Clip ON/OFF	BAL	RGB clip mode	RGB ON/ CLIP OFF
	DIF	YPbPr clip mode	YBR ON/ CLIP OFF
	SEPIA	Composite clip mode	VBS ON/ CLIP OFF
WHITE CLIP	Y LEVEL	RGB clip mode	RW 50% to RW 300% (UNITY 300%）
BLACK CLIP	SETUP/BLACK	RGB clip mode	RB -200% to RB 50% (UNITY -200%）
Y WHITE CLIP	Y LEVEL	YPbPr clip mode	YW 50% to YW 109% (UNITY 109%)
Y BLACK CLIP	SETUP/BLACK	YPbPr clip mode	YB -7% to YB 50% (UNITY -7%）
CHROMA CLIP	C LEVEL	YPbPr clip mode	CW 50% to CW 113% (UNITY 113%)
WHITE CLIP	Y LEVEL	Composite clip mode	VW 50% to VW 150% (UNITY 150%)
BLACK CLIP	SETUP/BLACK	Composite clip mode	VB -50% to VB 50% (UNITY -50%)

5-7. Checking the Settings

While connected to the UFM-30DCC, repeatedly pressing the SELECT button displays the settings one after the other.

5-7-1. Checking the Settings in Correction Mode

In BALANCE or DIFFERENTIAL Correction Mode, repeatedly pressing the SELECT button displays the settings one after the other in the following order.

    VIDEO LEVEL > Y LEVEL > C LEVEL > SETUP/BLACK > HUE >
    WHITE LEVEL R > WHITE LEVEL G > WHITE LEVEL B >
    BLACK LEVEL R > BLACK LEVEL G > BLACK LEVEL B >
    GAMMA LEVEL R > GAMMA LEVEL G > GAMMA LEVEL B

In SEPIA Correction Mode, repeatedly pressing the SELECT button displays the settings one after the other in the following order.

    VIDEO LEVEL > Y LEVEL > SEPIA LEVEL > SETUP/BLACK > SEPIA COLOR >
    > GAMMA LEVEL G

5-7-2. Checking the Settings in Clip Mode

In RGB Clip Mode, repeatedly pressing the SELECT button displays the settings one after the other in the following order.

    RGB WHITE CLIP > RGB BLACK CLIP

In YPbPr Clip Mode, repeatedly pressing the SELECT button displays the settings one after the other in the following order.

    Y WHITE CLIP > CHROMA CLIP > Y BLACK CLIP

In Composite (VBS) Clip Mode, repeatedly pressing the SELECT button displays the settings one after the other in the following order.

    Composite WHITE CLIP > Composite BLACK CLIP

NOTE
Repeatedly pressing the SELECT button displays the settings one after the other. When the end is reached, it returns to the top item. If the control knob is turned while displaying settings using the SELECT button, the changed setting will be displayed. Pressing the SELECT button after that displays the next setting.
Example: Pressing the SELECT button and adjusting SETUP/BLACK while Y LEVEL (YL 100%) is displayed shows "SB 10%". Pressing the SELECT button after that displays "HUE0°."

6. Event Memory

6-1. About Event Memory

Event Memory allows you to save the DCC-NETOU settings and load them when needed. In the EVENT MEMORY up to 99 (1 through 99) correction settings can be stored.

6-2. Saving the Correction Data

After you are sure that all settings are appropriate, follow the below procedures.

(1) Press the SAVE button. A beep sounds and the event memory number flashes. To cancel, press CLEAR.

(2) Select a memory number from SAVE1 through SAVE99 using the + and − buttons. A beep sounds every time the button is pressed. Press + and − to increase and decrease the memory number. Holding down + or − for several seconds quickly increases or decreases the number. Pressing + and − simultaneously sets the memory number to 1.

(3) Press the SAVE button. After a beep, the event memory number lights up and the data will be stored to memory.

- Press the CLEAR button to clear the event memory number from the display panel.
- If any of the loaded value is changed, the event memory number is cleared from the display panel.

IMPORTANT
The following items are not saved to the event memory. 　　　BYPASS/OPERATE 　　　INPUT 　　　GRP　ADJ 　　　CC1/CC2 　　　SPLIT

6-3. Loading the Correction Data

Follow the below procedures for loading the data. Note that the current settings will be lost after loading the data.

(1) Press the LOAD button. A beep sounds and the event memory number flashes.
To cancel, press CLEAR.

(2) Select the memory number from LOAD0 through LOAD99 using the + and − buttons. (If set to 0, all settings are loaded at their UNITY settings.) A beep sounds every time the button is pressed. Press + and − to increase and decrease the memory number. Holding down + or − for several seconds quickly increases or decreases the number. Pressing + and − simultaneously sets the memory number to 0.

(3) Press the LOAD button. After a beep, the event memory number lights up and the data will be loaded from the memory.

- Press the CLEAR button to clear the event memory number from the display panel.
- If any of the loaded value is changed, the event memory number is cleared from the display panel.

7. Checking the Network Address and Version Information

The GROUP ADJ button allows you to check the network address and version information. Press and hold down the GROUP ADJ button. A beep sounds and you will enter the mode to check the network address and version information. The IP address "I192.168.0.100" will be displayed as a scrolling text on the display panel. The following information will be displayed as you turn the VIDEO LVL control knob.

I192.168.0.100
↓
S255.255.255.0
↓
G0.0.0.0
↓
DSP Ver:1.00
↓
FPGA Ver:1.02
↓
FRONT Ver:1.00

Turning the VIDEO LVL control knob left displays the previous information. Pressing the GROUP ADJ button again allows you to exit the mode.

Item	Description
I192.168.0.100	IP Address
S255.255.255.0	Subnet Mask
G0.0.0.0	Default Gateway
DSP Ver:1.00	DSP version
FPGA Ver:1.02	FPGA version
FRONT Ver:1.00	FRONT CPU version

To change the network address, see section 4-3-2. "Network Settings" for details.

NOTE
While checking the network address and version information, all other settings are disabled.

8. Initializing Settings

If you forget your username or password to login to the DCC-NETOU setting pages, initialize the DCC-NETOU, login with the default username and password, and set a new username and password.

IMPORTANT
Be careful to perform an initialization, because all setting data are returned to the factory default settings.

8-1. Initialization

(1) Turn off the power of the DCC-NETOU.
(2) Open the top cover of the DCC-NETOU.
(3) Change the dipswitch S1 settings according to your needs.

To initialize the network settings and login settings: Set S1-1 to On
To initialize the destination settings: Set S1-2 to On
To initialize the event memory: Set S1-3 to On
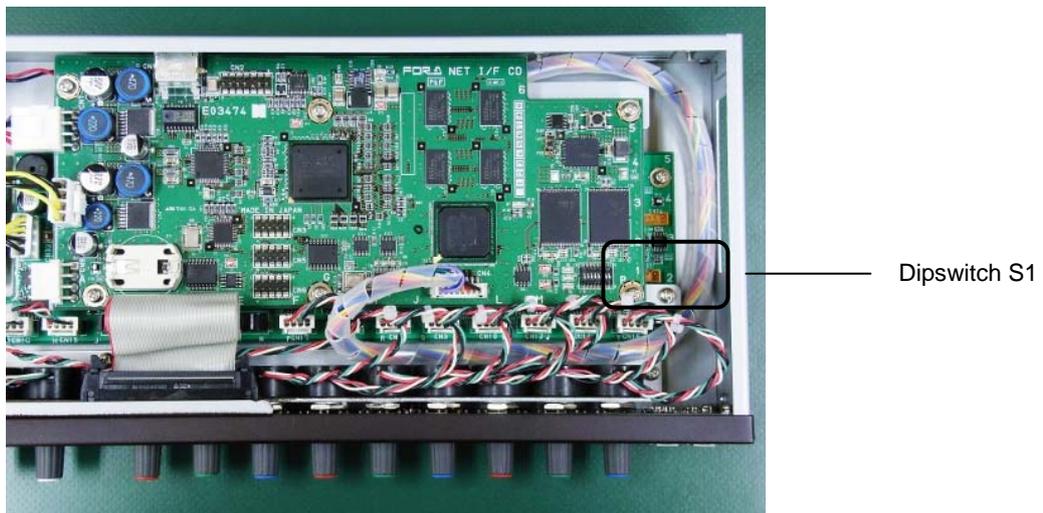
Dipswitch S1

Dipswitch S1	Description
1	Network settings, login settings
2	Destination settings
3	Event memory
4	Not used (must be set to Off)
5	Not used (must be set to Off)
6	Not used (must be set to Off)
7	Not used (must be set to Off)
8	Not used (must be set to Off)

(4) Turn on the power of the DCC-NETOU.
(5) The specified settings will be initialized.
(6) A beep sounds and the front panel buttons and control knobs are enabled.
(7) Turn off the power of the DCC-NETOU and set all dipswitches to Off.
(8) Close the top cover of the DCC-NETOU.

9. Specifications and Dimensions

9-1. Specifications

Interface
     LAN   10/100BASE-TX compatible, RJ-45, 1 port

Temperature   0°C - 40°C

Humidity   30% - 90% (no condensation)

Power   100VAC - 240VAC ±10%, 50/60Hz

Consumption   18VA (10W) at 100VAC
     24VA (12W) at 200VAC

Dimensions   430 (W) x 44 (H) x 145 (D) mm

Weight   Approx. 2.2kg

Consumables (if used 24 hours a day at room temperature)
     Power unit: JBW12-1R3   Replace every 5 years
     Cooling fans: P-1436   Replace every 5 years

9-2. External Dimensions

(All dimensions in mm.)

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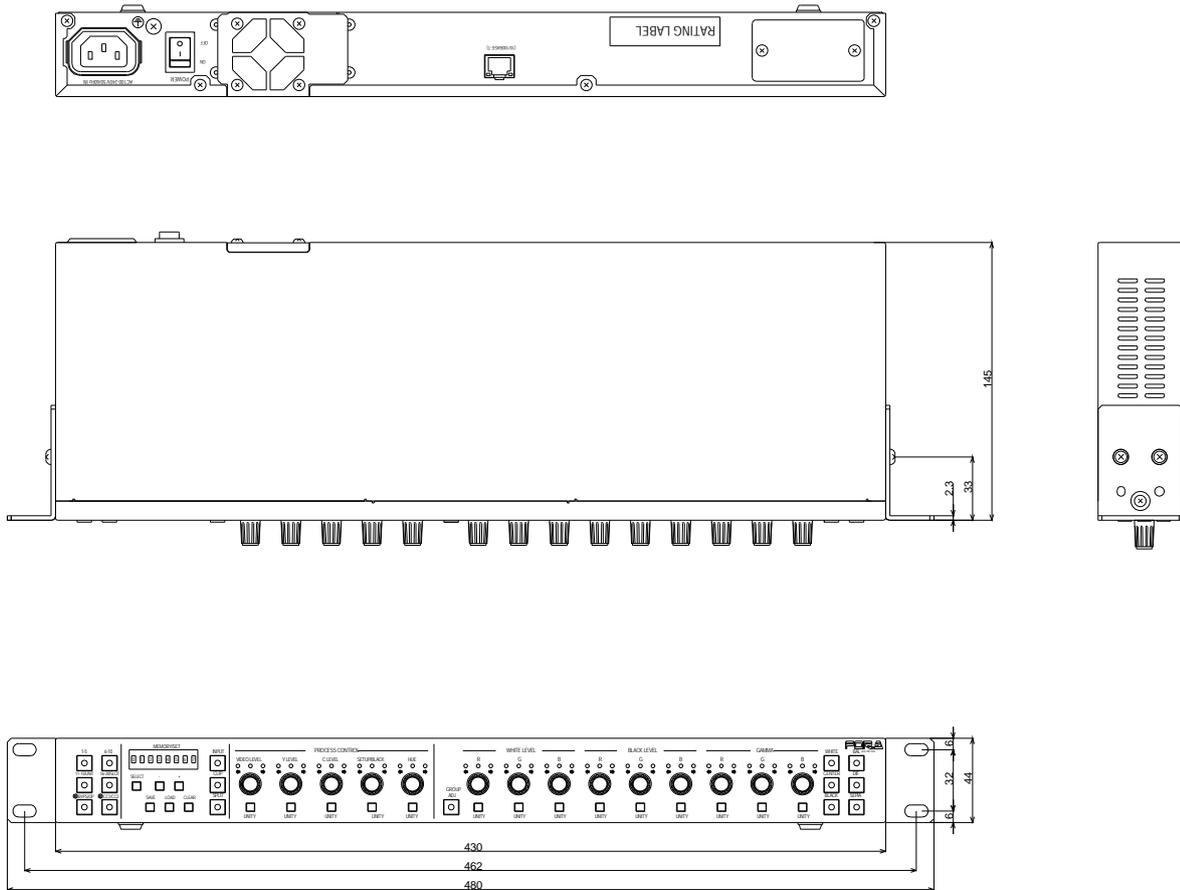
Warning

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

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*The contents of this manual are subject to change without notice.