

OPERATION MANUAL

MBP-12RU

MBP-1244 Remote Control Unit

1st Edition - Rev.3

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.
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[Circuitry Access]

 Stop	<p>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.</p>
 Stop	<p>Do not touch any parts / circuitry with a high heat factor. Capacitors can retain enough electric charge to cause mild to serious shock, even after power is disconnected. Capacitors associated with the power supply are especially hazardous. Avoid contact with any capacitors.</p>
 Hazard	<p>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.</p>

[Potential Hazards]

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

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

 Caution	<p>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.</p>
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Upon Receipt

Unpacking

MBP-12RU 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
MBP-12RU	1	
AC Cable	1	
Rack Mount Brackets	1 set	EIA standard type
Operation Manual	1	
MBP-12RU Switch Assign Builder	1	CD-ROM

Check

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

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1. Prior to Starting

1-1. Welcome

Congratulations! By purchasing MBP-12RU 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

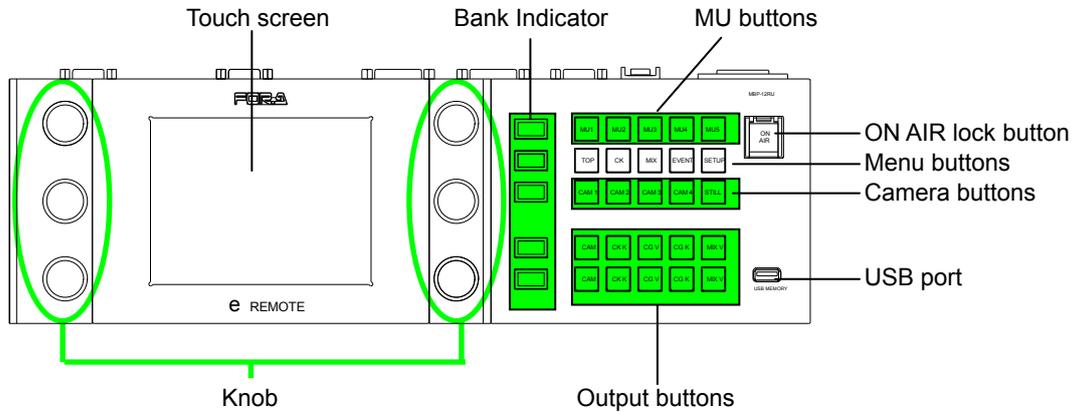
MBP-12RU is a remote control unit for MBP-1244 Multimedia Broadcasting Platform for Virtual Processing. Controlling MBP-100CK or MBP-12CK Chromakey option is also supported. MBP-12GUI, a software application for controlling MBP-1244 or MBP-100CK, is also available as a separate option.

On the Brainstorm PC in which MBP-1244 is installed or on the MBP-100CK, MBP-12Server is installed. MBP-12RU and MBP-12GUI control MBP-1244 or MBP-100CK through MBP-12Server using the TCP/IP protocol. MBP-12RU is supported for switchable controls of up to 5 MBP-1244 or MBP-100CK units. Meanwhile, multiple MBP-12RU and/or MBP-12GUI can control the same MBP-1244. Up to 5 devices can be connected in the same network.

- Up to 5 MBP-1244 or MBP-100CK units can be controlled
- The Ethernet connection (100BASE-TX) is used to connect MBP-1244 or MBP-100CK
- Multiple MBP-12RU and/or MBP-12GUI can control the same MBP-1244 or MBP-100CK
- Touch screen for easy operation
- USB ports for USB devices; keyboard, mouse, USB memory device
- User customizable front panel button assignments

2. Panel Descriptions

2-1. Front Panel



Name	Description	Ref.
Touch screen	Displays menus, so you can change settings.	
Knob	Used to change and set values for menus.	
Bank indicator	Used to show the function of buttons in the row next to the indicator. (Changeable)	Appendix
MU selection buttons	Used to select a MBP-1244/100CK to be controlled.	5-2
ON AIR lock button	Used to disable the control over MBP-1244/100CK. MBP-12RU is disabled to control MBP-1244/100CK unless the lock is cancelled by pressing the button again.	4-9
Menu selection buttons	Used to display corresponding menus on the touch screen.	3-4-2
Camera selection buttons	Used to select a camera to be used.	5-1
Output selection buttons	Buttons in the upper row are used to select a signal to output from OUT1. Buttons in the lower row are used to select a signal to output from OUT2.	4-3-2
USB port	Used to connect a USB device such as a memory stick, a keyboard, or a mouse. USB2.0, A type	

2-1-1. Selection Buttons

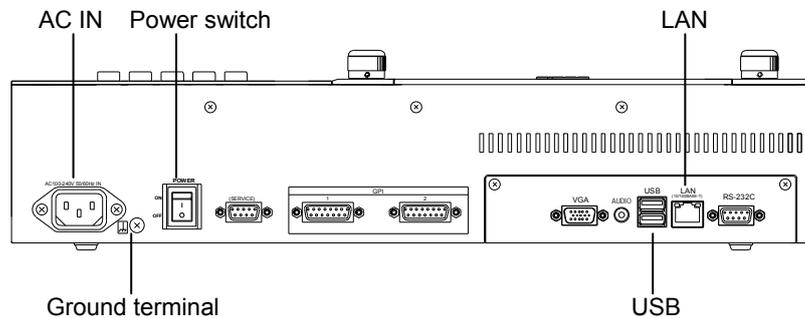
Those selection buttons have functions described in the above table. Pressing the button will activate the function. The buttons also have following characteristics.

- These buttons allow you to activate the function from whichever the menu you are in.
- The selectable buttons illuminate green, the currently selected buttons illuminate orange, and unavailable buttons are unlit.
- You can select functions from the function options and assign them to the buttons.

The next table shows the standard function assignments of the buttons. (The button banks are numbered from the top row to the bottom row in the above figure.)

Bank	Button		Action	Operation
1	MU buttons	MU1 - 5	Press the button	Selects a MU to be controlled.
2	Menu buttons	TOP	Press the button	Displays Top menu.
		CK	Press the button	Displays CK menu.
		MIX	Press the button	Displays MIX menu.
		EVENT	Press the button	Displays EVENT menu.
		SETUP	Press the button	Displays SETUP menu.
3	Camera buttons	CAM1 - 4	Press the button	Selects a camera to be used.
	STILL buttons	STILL	Press the button	Displays STILL&CAPTURE menu
4	Output buttons (Upper row)	CAM	Press the button	Outputs the camera input to OUT1.
		CK K	Press the button	Outputs CK KEY image to OUT1.
		CG V	Press the button	Outputs CG VIDEO image to OUT1.
		CG K	Press the button	Outputs CG KEY image to OUT1.
		MIX V	Press the button	Outputs MIX VIDEO image to OUT1.
5	Output buttons (Lower row)	CAM	Press the button	Outputs the camera input to OUT2.
		CK K	Press the button	Outputs CK KEY image to OUT2.
		CG V	Press the button	Outputs CG VIDEO image to OUT2.
		CG K	Press the button	Outputs CG KEY image to OUT2.
		MIX V	Press the button	Outputs MIX VIDEO image to OUT2.

2-2. Rear Panel



Name	Description
AC IN	Apply AC power (AC100V-240V 50/60Hz).
Ground terminal	Ground unit to protect operators against static electricity and / or electrical shock.
Power switch	Used to power ON or OFF the unit. Switching to " " powers on.
LAN	An ethernet port. Used for the connection with MBP-1244/100CK. 10BASE-T/100BASE-TX, RJ-45
USB	Used to connect USB devices such as a memory stick, a keyboard, or/and a mouse. USB2.0, A type

Other connectors are not to be used.

3. Preparation

3-1. Powering On

Connect all the devices and units you need for your system, then power on the units. The power switch for MBP-12RU is placed on the rear panel. After MBP-12RU is powered on buttons on the front panel start to illuminate and then the [Top menu] as below appears in about 40 seconds.



3-2. Setting IP Address

First, set IP address for your MBP-12RU.

*The settings for NETWORK and RU can be made without connecting MU (MBP-1244 installed PC).

1) Press the **SETUP** button to open the SETUP menu.



2) Then press the **NETWORK** button to go to the NETWORK menu.



3) In the NETWORK menu, set the IP address for your MBP-12RU (this unit).



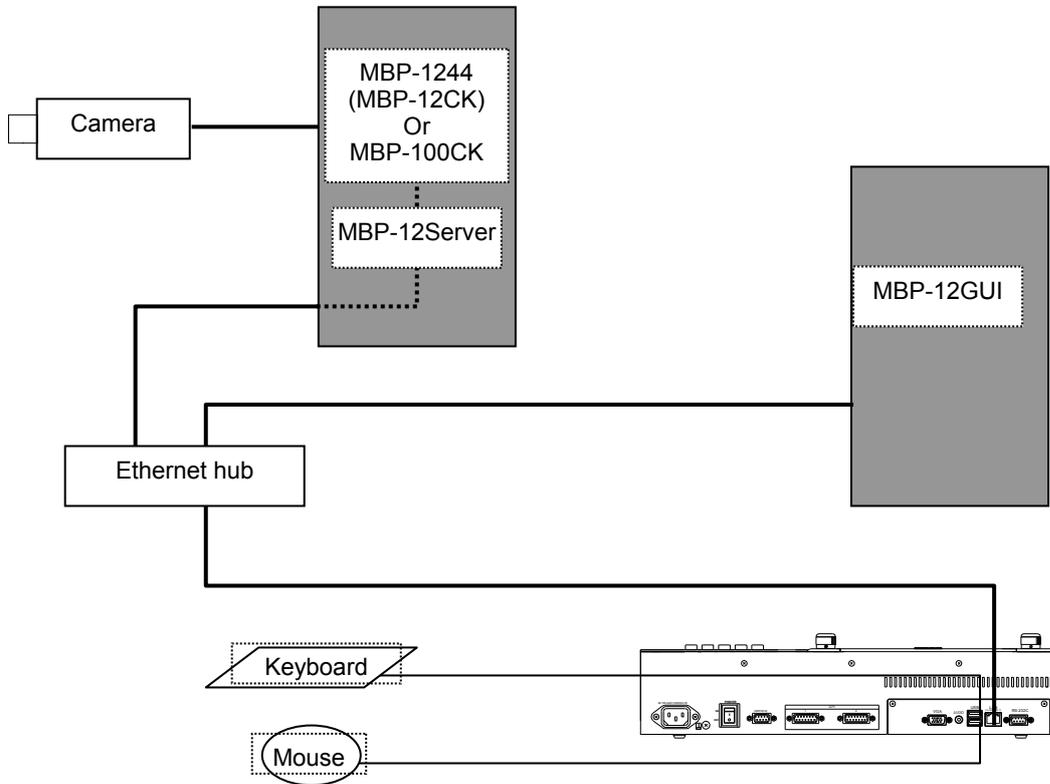
- a) Turn the knob at top left, or touch a box of digits to select a box in RU IP address which you are going to change the value of. (The selected box turns to green.)
 - * As you turn the knob, each box of RU and MU1 through 5 gets focused from left to right and the top row to the bottom row.
 - b) Turn the knob at top right to change the value.
 - c) Repeat the step a) and b) for all the digits need to be changed. (If you are going to change MU IP addresses, continue to do the same thing to the MUs before going to the next step.)
 - d) Press the **ACCEPT** button to confirm the changes.
 - e) The "Do you want to change RU IP address?" message will appear. Press the **OK** button.
 - f) MBP-12RU automatically shuts down and reboots. So do not do anything and **just wait** until GUI will be displayed again. The settings are completed when the GUI is displayed.
 - *Set the RU IP address "0.*.*", then the IP address will be automatically assigned for the MBP-12RU by the DHCP server if there is a DHCP server in the network.
- 4) In the NETWORK menu, set the IP address for the connected MUs.
- a) Turn the knob at top left, or touch a box of digits to select a box in MU 1 to 5 IP addresses which you are going to change the value of. (The selected box turns to green.)
 - * As you turn the knob, each box of RU and MU1 through 5 gets focused from left to right and the top row to the bottom row.
 - b) Turn the knob at top right to change the value.
 - c) Repeat the step a) and b) for all the digits need to be changed.
 - d) Repeat the steps a) to c) for other MUs if necessary.
 - e) Press the **ACCEPT** button to confirm the changes.
 - f) The "Do you want to change MU IP address?" message will appear. Press the **OK** button. (The "Do you want to change RU IP address?" message will appear, if you have changed the IP address for RU.)
 - g) This GUI will be automatically closed if you have changed the IP address only for MU. Double-click the "MBP-12RU" icon on the desktop to restart the GUI. MBP-12RU automatically shuts down and reboots if the IP address for RU was also changed. Then, do not do anything and **just wait** until the GUI will be displayed again. The settings are completed when the GUI is displayed in either cases.

IMPORTANT

DO NOT POWER OFF MBP-12RU during the automatic processing for the IP address changes made for the MBP-12RU.

3-3. Connections

After completing the IP address settings, establish a connection with the system. Use an Ethernet hub for the connection with the MU (the PC in which MBP-1244 and MBP-12Server are installed, or MBP-100CK). See the MBP-1244 Operation Manual for setting up the system. You can use the USB ports provided one on the front panel and two on the rear panel for connecting USB devices, such as USB memory devices, keyboards, and mice.



3-4. Menu Operations

3-4-1. Menu Structure

The MBP-12RU menu structure is as follows.

Level 1	Level 2	Description	
TOP	CK	AUTO CK	Allows you to set auto chromakeying.
		MANUAL CK	Allows you to manually set a backing color for the chromakey.
		MATTE DENSITY FINE TUNING	Allows you to adjust the backing color setting.
		COLOR SUPPRESSION FINE TUNING	Allows you to finely adjust suppression of backing color to prevent foreground images to be affected.
		FG OPTION	Allows you to set optional effects, such as noise filters, useful for adjusting foreground images.
		MATTE OPTION	Allows you to set optional effects, such as noise filters, useful for adjusting matte signals.
		WINDOW MASK	Allows you to specify a rectangular masking area for chromakeying.
		COLOR ADJUST	Allows you to make level adjustments to chromakeyed signal.
	MIX & OUT	MIXER1 SETTING	Allows you to specify whether to output the layer or how to mix layers for each layer in Mixer 1.
		MIXER2 SETTING	Allows you to specify whether to output the layer or how to mix layers for each layer in Mixer 2.
		OUTPUT SELECT	Allows you to select signals to output to OUTPUT1 through 4.
	EVENT	Allows you to control event data stored in MBP-1244/100CK.	
	SETUP	VIDEO	Allows you to select TV standards and types of sync signal, and to adjust phase for gunlock(sync) signals.
		DELAY SETTING	Allows you to set camera delay.
		OUT OPTION	Allows you to set whether to show the chromakey cursor for each output.
		NETWORK	Allows you to set IP address for the MBP-12RU and each MU.
		RU SETTING	Allows you to change the brightness of LCD screen and also the brightness and assignments of the buttons on the front panel.
	STILL & CAPTURE	STILL	Allows you to select image files to output to STILL OUT.
		CAPTURE	Allows you to capture or save the camera input image, or to control internal camera signals.
	INFO	Data display for maintenance.	

3-4-2. Displaying Menus

The Top menu appears when MBP-12RU is started up. From the Top menu, you can go to other menus by pressing **CK**, **MIX & OUT**, **EVENT**, **SETUP**, and **STILL** buttons. You can also access the menus by pressing the **CK**, **MIX**, **EVENT**, **SETUP**, and **STILL** buttons on the front panel.

The settings for MU (MBP-1244 installed PC) and MBP-12RU can be made in the submenus (the second level menus shown in section 3-4-1. "Menu Structure") accessed from the menus opened by the above mentioned buttons.

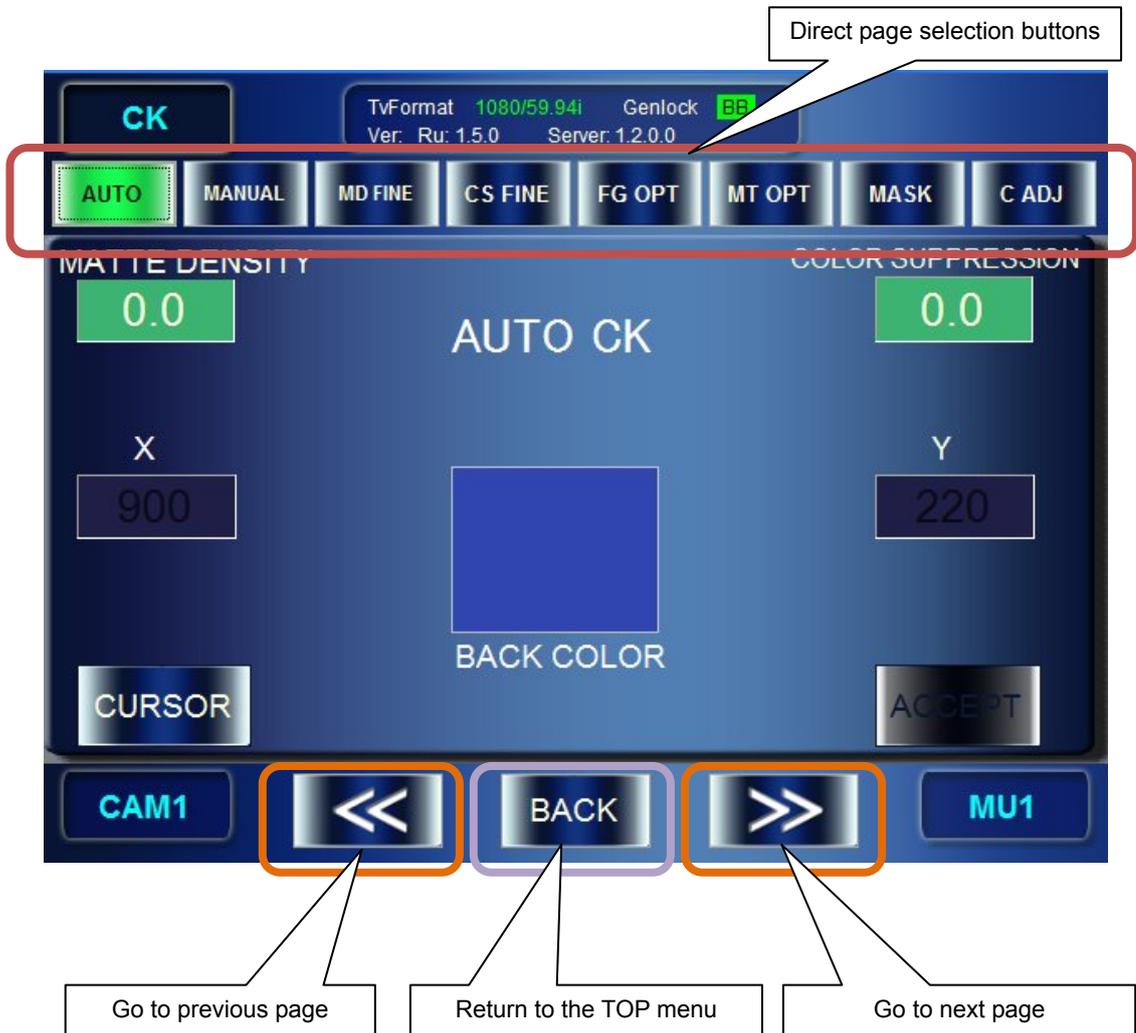
Front panel menu buttons



- * Pressing **INFO** button displays system data for maintenance.
- * The **STILL&CAPTURE** button is active only when MBP-100CK is connected.

3-4-3. Menu Navigation Tools

The respective second level menus shown in section 3-4-1. "Menu Structure" have some pages under them. To go to those pages, you can use double-arrow buttons which allows you to go to next page or previous page at the bottom of menu pages, or you can use direct menu buttons at near the top of menu pages.



* BACK button allows you to go back to the Top menu from the second level menus.

* The front panel TOP, CK, MIX, EVENT, SETUP, and STILL buttons allow you to access those menus directly from any menu.

3-4-4. Basic Functions

3-4-4-1. GUI

The MBP-12RU is equipped with a touch screen. You can press the GUI buttons displayed on the screen by touching them on the screen.

- If there are selection buttons, press a button for your selection. The selected button turns green.
- The grayed out buttons are not selectable.
- If you touch the numeric value box, the numeric input panel opens to allow you to input numeric values.

3-4-4-2. Buttons on Front Panel

The MBP-12RU is equipped with buttons on its front panel.

- The buttons can directly operate some functions the same as the GUI.
- You can press the buttons that are illuminating green.
- The selection buttons illuminate orange when selected.
- You can customize the function assignment for the buttons.

3-4-4-3. Knobs

The MBP-12RU is equipped with six knobs on its front panel. Those knobs allow you to select items to set and change the values on the GUI.

Changing values

- Turn the knob to change the value.
- Press the knob to switch the value between UNITY and VARIABLE (the value applied right before it set to UNITY).
- Press and hold down the knob (at least two seconds) to change the adjustment mode between COARSE and FINE.

Selecting items

- Turn the knob to select the item.
- Press the knob to confirm the selection.

3-4-4-4. Setting Example

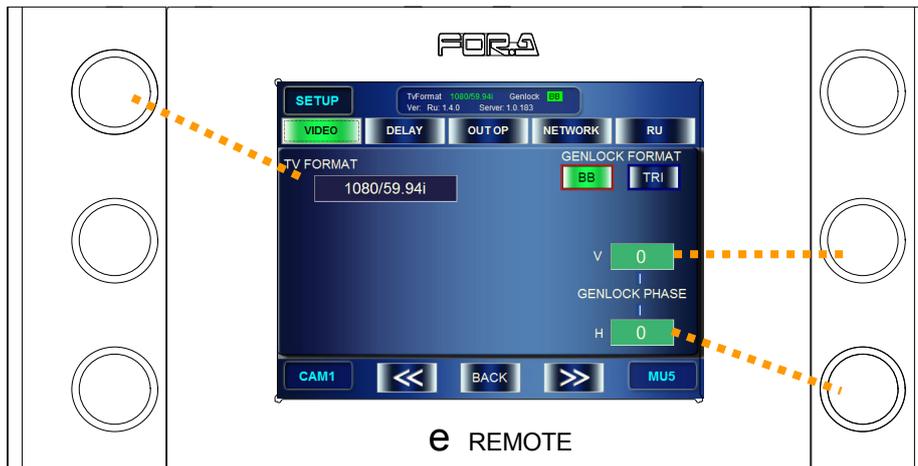
The followings are the setting examples for the SETUP - VIDEO CONFIG menu.

TV FORMAT

Press the top left knob to open the format selection menu. Turn the knob and select a TV standard, then press the knob to confirm the selection.

GENLOCK FORMAT

Press either the **BB** button or the **TRI** button to select a sync signal. The selected button turns green. If it is not synchronized, the button flashes green.



GENLOCK V PHASE

- Turn the middle right knob to change the value.
- Every press on the knob switches the value between UNITY (0) and VARIABLE.
- Press and hold down the knob (at least three seconds) to change the adjustment mode between COARSE (step of ± 10) and FINE (step of ± 1).
- The setting box is colored green when it is set to FINE, and it is colored blue when it is set to COARSE.

GENLOCK H PHASE

You can set the same as GENLOCK V PHASE using the bottom right knob.

3-5. Powering Off

To terminate the operation;

- 1) Press the **TOP** button on the front panel to open the Top menu.
- 2) Press the **EXIT** button at the top right corner.
- 3) The message saying "Do you want to quit this application now?" appears. Press **OK**.
* Pressing **CANCEL** cancels the termination. You can continue to operate the application.
- 4) The message saying "Do you want to shutdown now?" appears. Press **OK**.
* Pressing **CANCEL** closes the application only, and returns to Windows.
- 5) Wait for the screen to become white after the GUI is closed and Windows automatically shuts down.
- 6) Turn off the power switch on the rear panel.

3-6. Other Notes

- MBP-12RU uses a compact flash card as the storage medium. The overwrite protection is set for the operation system to protect the data in the flash card. Writable areas in MBP-12RU are as follows. (Creating and overwriting are allowed. Deleting is not allowed.)

Files or folders under the C: \MBP-12RU directory

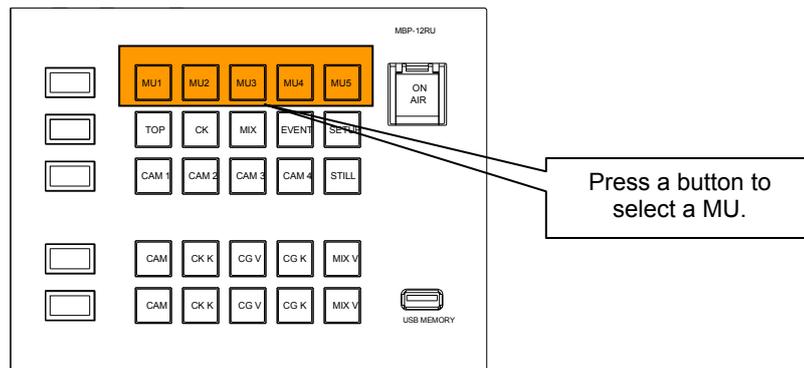
- You cannot save the changes made on the operation system, due to the overwrite protection.

4. Operation

This section briefly explains how to operate MBP-12RU. See section 5. "Menu Descriptions" for more details.

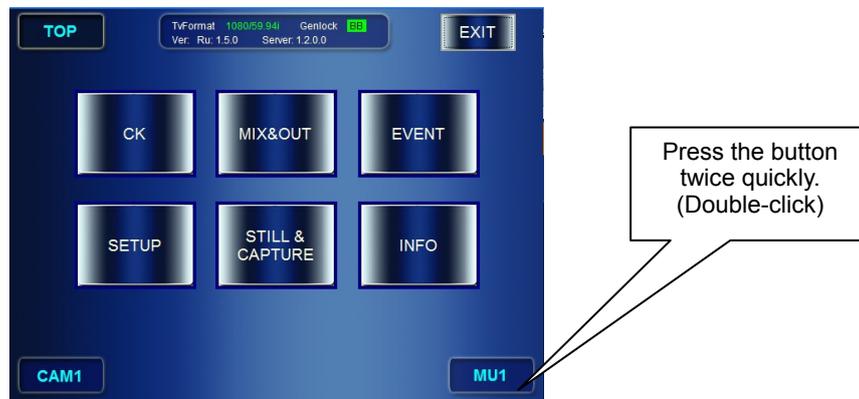
4-1. Selecting MU

4-1-1. Using Buttons on Front Panel

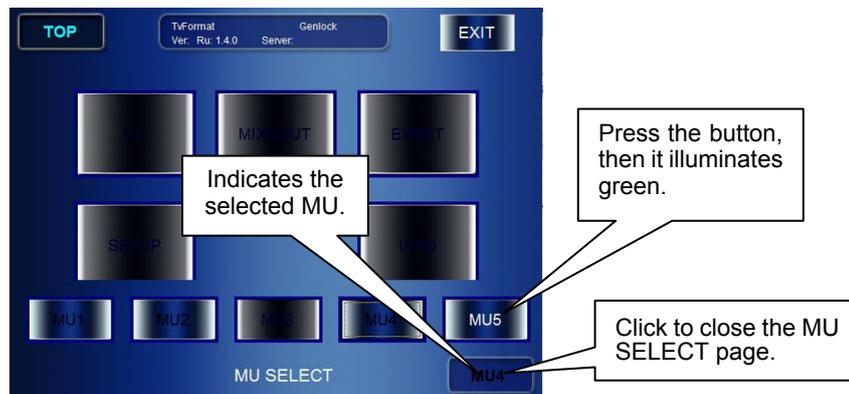


4-1-2. Using Menus

1) Press the MU selection button at the bottom right corner.



2) The [MU SELECT] page is displayed. The buttons for selectable MUs are indicated with white letters. Press a desired MU button. The button illuminates green when the MU is connected. The indication on the bottom MU selection button changes to the selected MU.



4-2. TV Standard / Genlock Signal Settings

4-2-1. Checking Current TV Standard / Genlock Signal

The currently employed TV standard and the type of Genlock signal are displayed at the upper area on the menu page when MBP-12RU is connected with the MU. The Genlock signal type indication illuminate green when it is synchronized. When it is asynchronous the indication is unlit.



4-2-2. Changing TV Format Selection

1) Press the **SETUP** button on the front panel. (Or press **SETUP** in the **TOP** menu.)

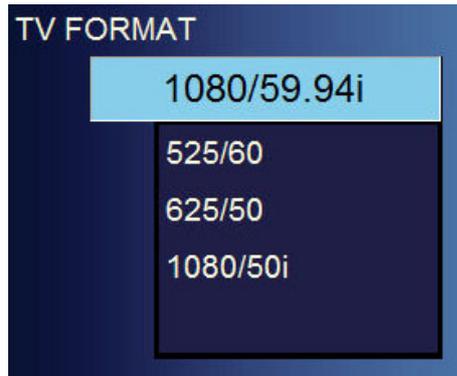


2) If the accessed SETUP menu is not the VIDEO CONFIG menu, press the **VIDEO** button.

3) In the VIDEO CONFIG menu, press the top left button to open the TV FORMAT selection menu.



- 4) Turn the top left knob and select a TV standard, then press the knob to confirm the selection. The message "Do you want to change video format?" appears. Select **OK**. Then the TV standard will be changed.



4-2-3. Changing Genlock Signal Selection

Go to SETUP > VIDEO CONFIG menu. Press either BB or TRI button in the GENLOCK FORMAT section to change the selection.



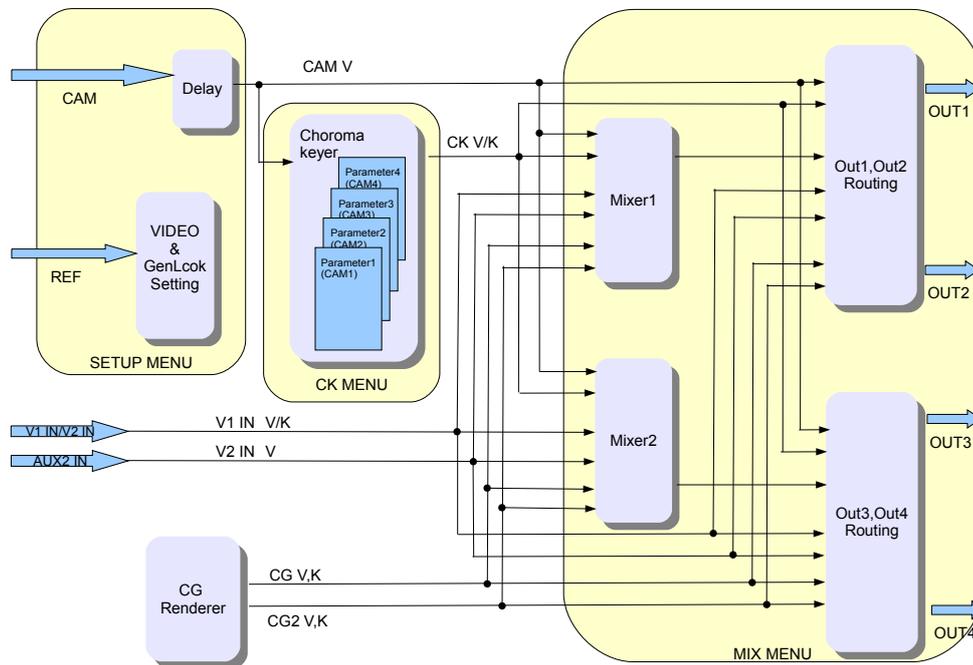
NOTE

To adjust the phase for the sync signal, follow the instruction given in the section 3-4-4-4. "Setting Example".

4-3. Selecting Output Signal

4-3-1. MBP-1244

The Input/Output Circuit of MBP-1244 is as shown below.



Selectable signals to output from OUT1 and OUT2 are as follows.

MIX VIDEO	Video signal used in the mixed image in MIXER1
MIX KEY	Key signal used in the mixed image in MIXER1
CAM	Input camera signal
CG VIDEO	Computer graphics video signal
CG KEY	Computer graphics key signal
CK VIDEO	Video signal used in chromakeying
CK KEY	Key signal used in chromakeying
CG2 VIDEO	CG2 video signal (generated by Brainstorm)
CG2 KEY	CG2 key signal (generated by Brainstorm)
V1 IN VIDEO	Input video signal in V1 IN
V1 IN KEY	Input video signal in V2 IN
V2 IN VIDEO	Input video signal in AUX2

Selectable signals to output from OUT3 and OUT4 are as follows.

MIX VIDEO	Video signal used in mixed images in MIXER2
MIX KEY	Key signal used in mixed images in MIXER2
CAM	Input camera signal
CG VIDEO	Computer graphics video signal
CG KEY	Computer graphics key signal
CK VIDEO	Video signal used in chromakeying
CK KEY	Key signal used in chromakeying
CG2 VIDEO	CG2 video signal (generated by using Brainstorm)
CG2 KEY	CG2 key signal (generated by using Brainstorm)
V1 IN VIDEO	Input video signal in V1 IN
V1 IN KEY	Input video signal in V2 IN
V2 IN VIDEO	Input video signal in AUX2

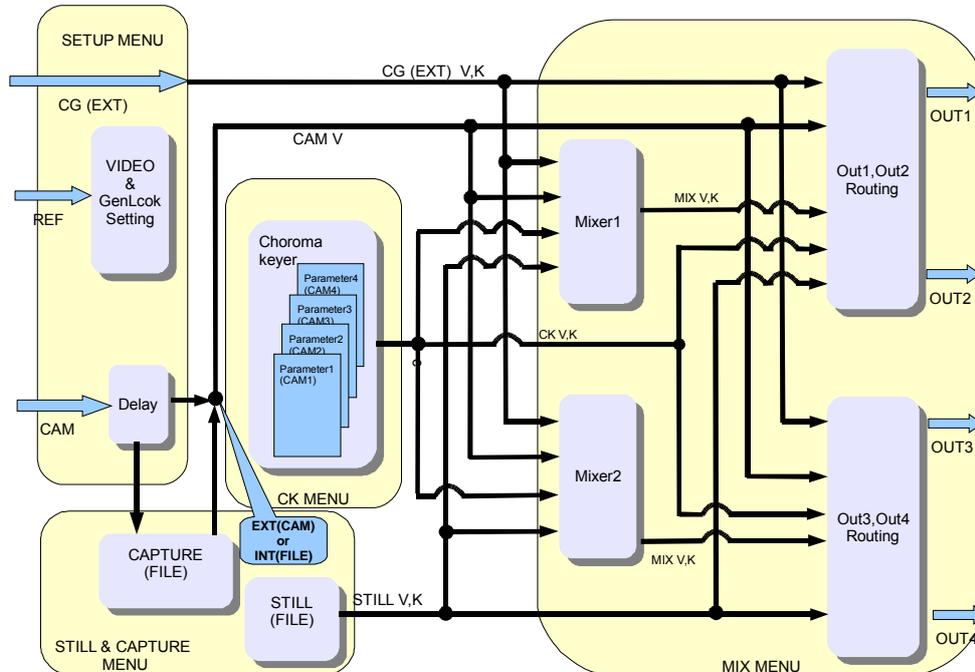
See important note in next page

IMPORTANT

MBP-1244 is provided with two mixing circuit, MIXER1 and MIXER2. The mixed images processed in the MIXER1 can be output from OUT1 and/or OUT2. The mixed images processed in the MIXER2 can be output from OUT3 and/or OUT4. CG2 V/K, V1 IN V/K, and V2 IN VIDEO are not selectable in the system with MBP-100CK.

4-3-2. MBP-100CK

The Input/Output Circuit of MBP-100CK is as shown below.



Selectable signals to output from OUT1 and OUT2 are as follows.

MIX VIDEO	Video signal used in the mixed image in MIXER1
MIX KEY	Key signal used in the mixed image in MIXER1
CAM(EXT or INT)	Camera input signal The signal is switched between an input from external device(EXT) and a filed image(INT) by the INT/EXT setting in the STILL&CAPTURE menu.
CG VIDEO	Computer graphics video signal
CG KEY	Computer graphics key signal
CK VIDEO	Video signal used in chromakeying
CK KEY	Key signal used in chromakeying
STILL VIDEO	Video signal used for generating still image.
STILL KEY	Key signal used for generating still image.

Selectable signals to output from OUT3 and OUT4 are as follows.

MIX VIDEO	Video signal used in the mixed image in MIXER2
MIX KEY	Key signal used in the mixed image in MIXER2
CAM(EXT or INT)	Camera input signal The signal is switched between an input from external device(EXT) and a filed image(INT) by the INT/EXT setting in the STILL&CAPTURE menu.
CG VIDEO	Computer graphics video signal
CG KEY	Computer graphics key signal
CK VIDEO	Video signal used in chromakeying
CK KEY	Key signal used in chromakeying
STILL VIDEO	Video signal used for generating still image.
STILL KEY	Key signal used for generating still image.

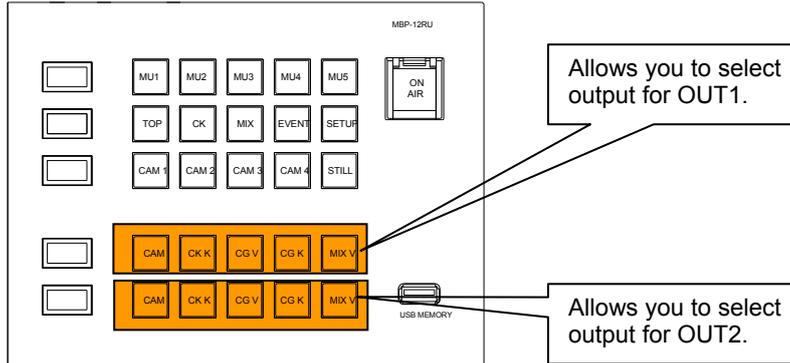
IMPORTANT

MBP-100CK is provided with two mixing circuit, MIXER1 and MIXER2. The mixed images processed in the MIXER1 can be output from OUT1 and/or OUT2. The mixed images processed in the MIXER2 can be output from OUT3 and/or OUT4.

STILL VIDEO and STILL KEY are selectable only in the system with MBP-100CK.

4-3-3. Using Buttons on Front Panel

You can also select output signal for OUT1 and OUT using the output selection buttons on the front panel.



OUT1	CAM	Outputs CAM image from OUT1.
	CK K	Outputs CK KEY image from OUT1.
	CG V	Outputs CG VIDEO image from OUT1.
	CG K	Outputs CG KEY signal from OUT1.
	MIX V	Outputs MIX VIDEO image from OUT1.
OUT2	CAM	Outputs CAM image from OUT2.
	CK K	Outputs CK KEY image from OUT2.
	CG V	Outputs CG VIDEO image from OUT2.
	CG K	Outputs CG KEY image from OUT2.
	MIX V	Outputs MIX VIDEO image from OUT2.

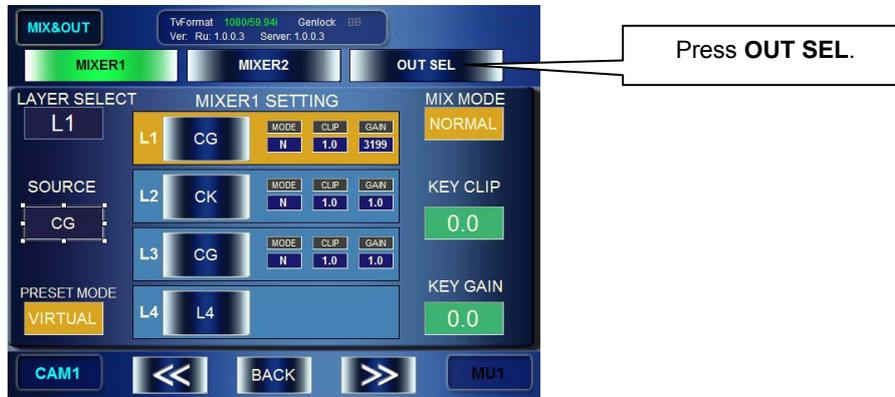
IMPORTANT

You cannot select outputs for OUT3 and OUT4 on the front panel in the standard assignment. Select the outputs in the menu.

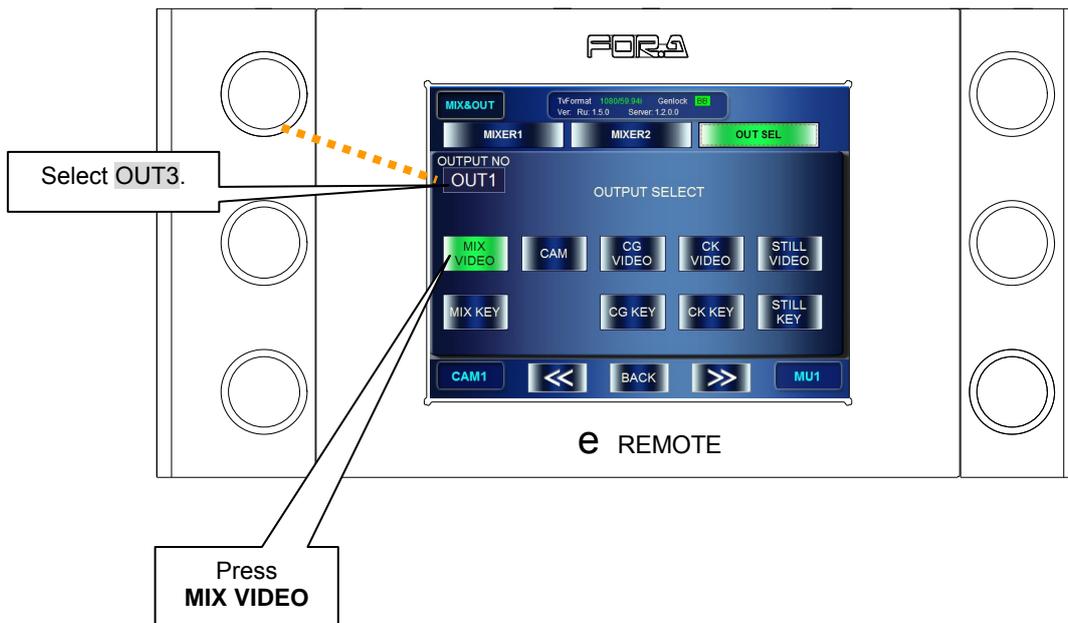
4-3-4. Using Menus

This section shows you an example procedure to output MIX VIDEO from OUT3.

- 1) Press the **MIX** button on the front panel to go to the MIX menu.
- 2) If the accessed MIX menu is not the OUTPUT SELECT menu, press the **OUT SEL** button.



- 3) The OUTPUT SELECT menu is displayed.
- 4) Turn the top left knob and select **OUT3**.
- 5) Press **MIX VIDEO**.



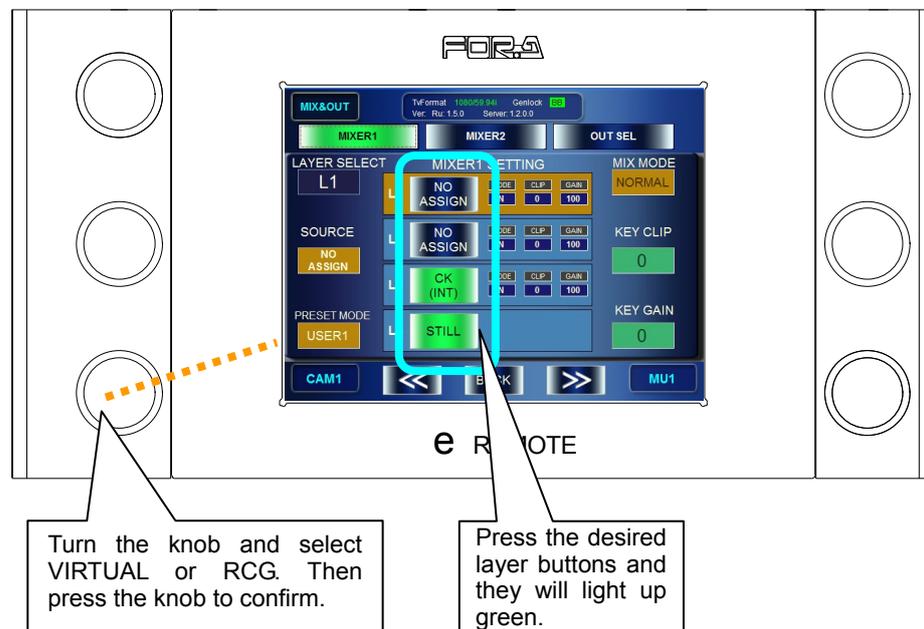
4-4. Setting Layers for Mixed images

MBP-1244/100CK is provided with two mixing circuit, MIXER1 and MIXER2. The mixed images processed in the MIXER1 can be output from OUT1 and/or OUT2. The mixed images processed in the MIXER2 can be output from OUT3 and/or OUT4.

Each mixing circuit consists of four layers (from the top L1, L2, L3, and L4). The layer structure can be selected from two preset structures that are preset as RCG mode and Virtual mode, or can be customized by the users.

4-4-1. Setting Layers of MIXER1 to RCG Mode or VIRTUAL Mode

- 1) Press the **MIX** button on the front panel to go to the MIX menu.
- 2) In the MIX menu press the **MIXER1** button.
- 3) Turn the bottom left knob and change the indication of the PRESET MODE box to either **VIRTUAL** or **RCG**. Then press the knob to confirm the change. The PRESET MODE box changes to orange when it is confirmed. (The selected preset mode is indicated with the orange background.)
- 4) Press the layer buttons you want to mix and the buttons will light up green.



The layer structures in the preset modes are as below.

Preset mode	L1	L2	L3	L4
Virtual	NO ASSIGN	CG image*1 (mask, foreground object)	Chroma keyed image	CG image*1 (Background object)
RCG	CG image *2 (mask, foreground object)	Chroma keyed image	CG image *2 (middle-ground object)	Camera image

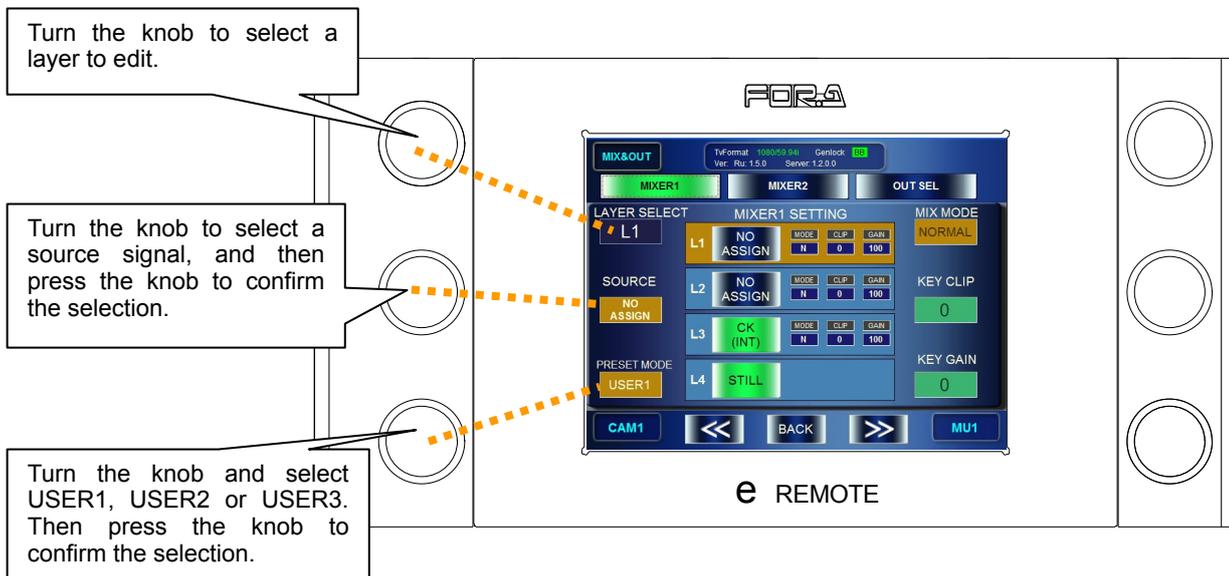
*1 L2 and L4 are carried in the same signal.

*2 L1 and L3 are carried in the same signal.

4-4-2. Customizing Layer Structure of MIXER1

The User mode of MBP-12RU allows you to change layer assignments as you wish. Three customized layer structures can be assigned at the same time as USER1 to USER3. The customized assignments are stored in the event data.

- 1) Press the **MIX** button on the front panel to go to the MIX menu.
- 2) In the MIX menu press the **MIXER1** button.
- 3) Turn the bottom left knob and change the indication of the PRESET MODE box to either **USER1**, **USER2** or **USER3**. Then press the knob to confirm the change. (The PRESET MODE box turns orange when it is confirmed. (The selected preset mode is indicated with the orange background.)
- 4) Turn the top left knob and select a layer to assign from L1 to L4.
- 5) Turn the middle left knob and select a source signal to assign to the layer. Press the knob to confirm the selection. (The SOURCE box changes to orange when it is confirmed. (The selected source signal is indicated with the orange background.)
- 6) Press the layer buttons you want to mix and the buttons will light up green.



Assignable sources are as shown below.

Source	Description
NO ASSIGN	Not assigning any signal. (BLACK image)
CAM (INT/EXT)	Camera input signal In the system with MBP-1244, it is an input signal in CAM connector (EXT). In the system with MBP-100CK, it can be switched between an input signal in CAM connector (EXT) and an internally generated still image signal (INT) by selecting a source material for chromakeying described in section 4-6-2.
CK (INT/EXT)	Chromakeyed signal In the system with MBP-1244, it is a chromakeyed signal input to CAM connector (EXT). In the system with MBP-100CK, it can be switched between an input chromakeyed signal in CAM connector (EXT) and an internally generated chromakeyed signal using still image (INT) by selecting a source material for chromakeying described in section 4-6-2. This signal is selectable only if MBP-12CK Chromakey option is installed.

CG (INT/EXT)	CG signal In the system with MBP-1244, it is an internally generated CG signal (INT) by using Brainstorm. In the system with MBP-100CK, it is an input signal in CG(V/K)INPUT connector (EXT).
STILL	Internally generated CG still image signal Available only if MBP-100CK is connected.
CG2	The secondary CG signal that is generated by using Brainstorm.
V1 IN	The input video or key signal in the V1 IN or V2 IN connector.
V2 IN	The input video signal in the AUX2 connector. V2 will be processed without an associated key signal.

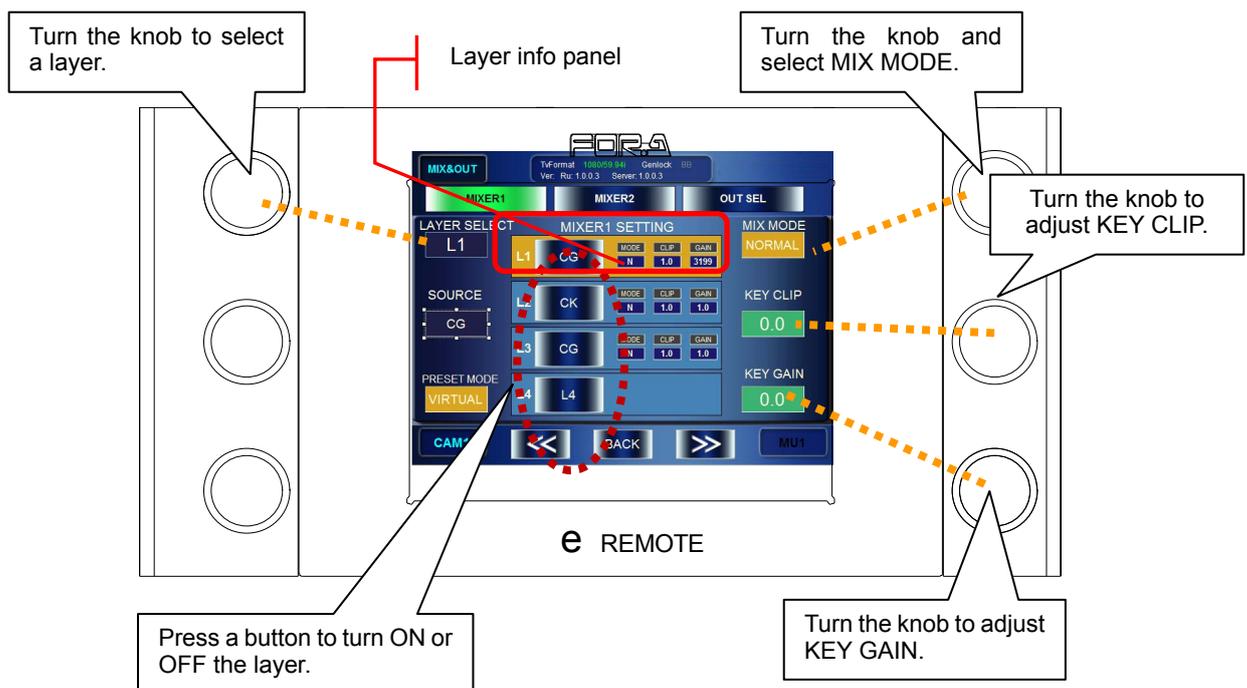
* CG2, V1, and V2 are disabled in the system with MBP-100CK.

4-4-3. Changing Mixing Details of Layers for MIXER1

- 1) Press the **MIX** button on the front panel to go to the MIX menu.
- 2) In the MIX menu, press the **MIXER1** button to go to MIXER 1 SETTING menu.
- 3) Press each of L1, L2, L3, and L4 button to display (ON) or not to display (OFF). It is set to display when the button is green, and it is set not to display when the button is blue.

To change the setting values for MIX MODE, KEY CLIP and KEY GAIN for mixing, change the values for each layer while the layer is selected.

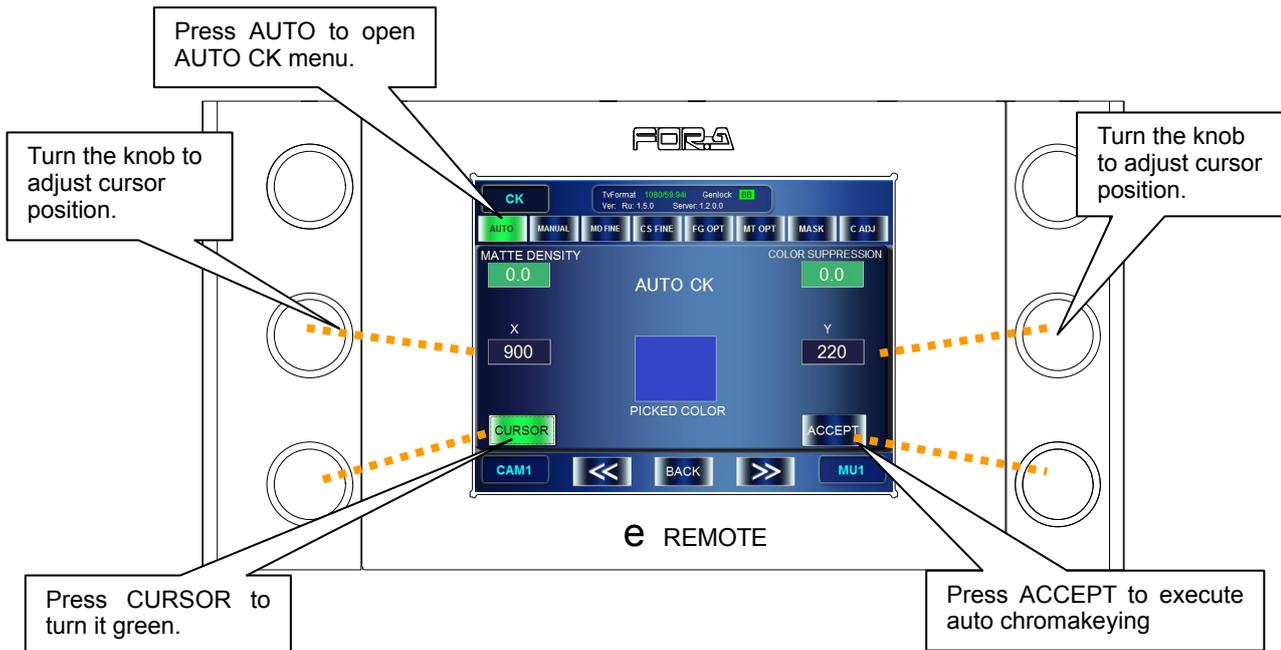
- 4) Turn the top left knob and select a layer. The background of one Layer info panel among L1, L2 and L3 turns orange when the layer is selected. (The mixing parameters of L4 such as MIX MODE cannot be changed.)
- 5) Adjust the mixing details as below.
 - Turn the top right knob and select how to mix from ADD and NORMAL, and then press the knob to confirm the selection. When it is confirmed, the MIX MODE box turns orange.
 - Turn the middle right knob and adjust the key clip level for mixing.
 - Turn the bottom right knob and adjust the key gain level for mixing.



4-5. Creating Chromakeys (MBP-12CK or MBP-100CK)

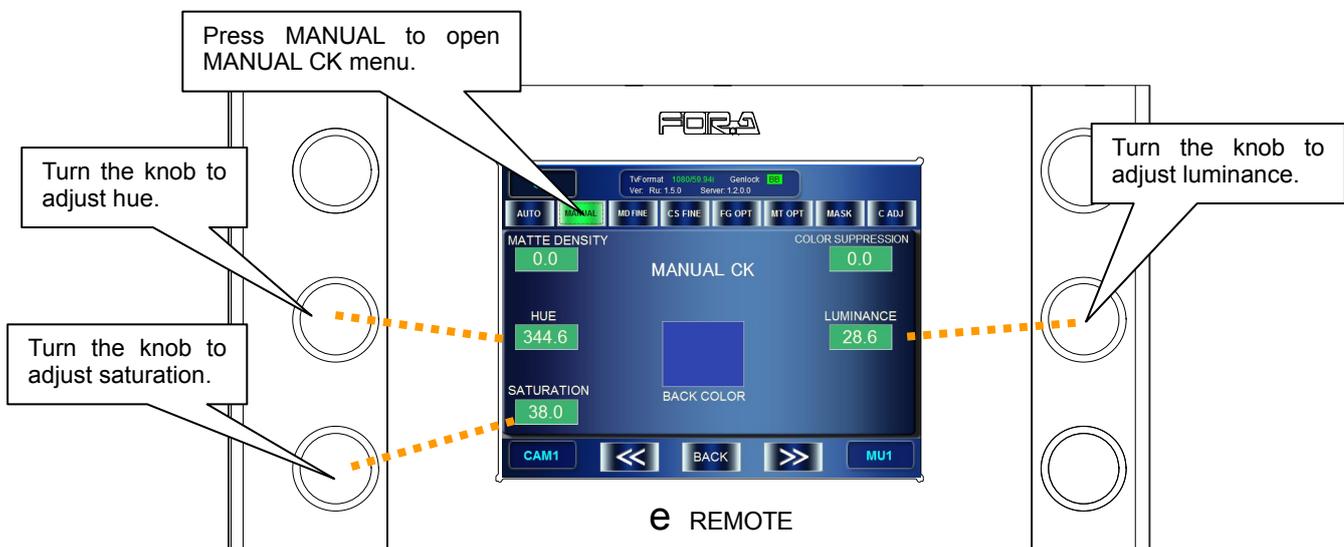
4-5-1. Auto Chromakey

- 1) Press the **CK** button on the front panel to go to the CK menu.
- 2) If the accessed CK menu is not the AUTO CK menu, press the **AUTO** to go to the AUTO CK menu.
- 3) Press the bottom left knob, or press the **CURSOR** button on the GUI to display a chromakey cursor on the output screen. (The **CURSOR** button turns green.)
- 4) Turn the middle left knob and the middle right knob to move the cursor on the output screen to spot the backing color you want to cut.
- 5) Press the bottom right knob, or press the **ACCEPT** button to confirm the settings. (The chromakey cursor automatically disappears.)



4-5-2. Manual Chromakey

- 1) Press the **CK** button on the front panel to go to the CK menu.
- 2) If the accessed CK menu is not the MANUAL CK menu, press the **MANUAL** button on the GUI to go to the MANUAL CK menu.
- 3) Turn the bottom and middle left knobs and the right middle knob to adjust **HUE**, **SATURATION**, and **LUMINANCE** for the backing color to cut. The specified color will be displayed in the **BACK COLOR** box on the GUI.



4-6. Capturing Still Image from Camera Input (MBP-100CK)

MBP-100CK allows you to capture video input in CAM connector, and save the captured images as still image files to the dedicated directory in the MBP-100CK. The still image files can also be used in place of a signal from a camera.

NOTE

MBP-12RU cannot add or delete directories, nor edit the captured files such as deleting or changing file names. Use MBP-12GUI which is installed in the MBP-100CK for managing the directories and files.

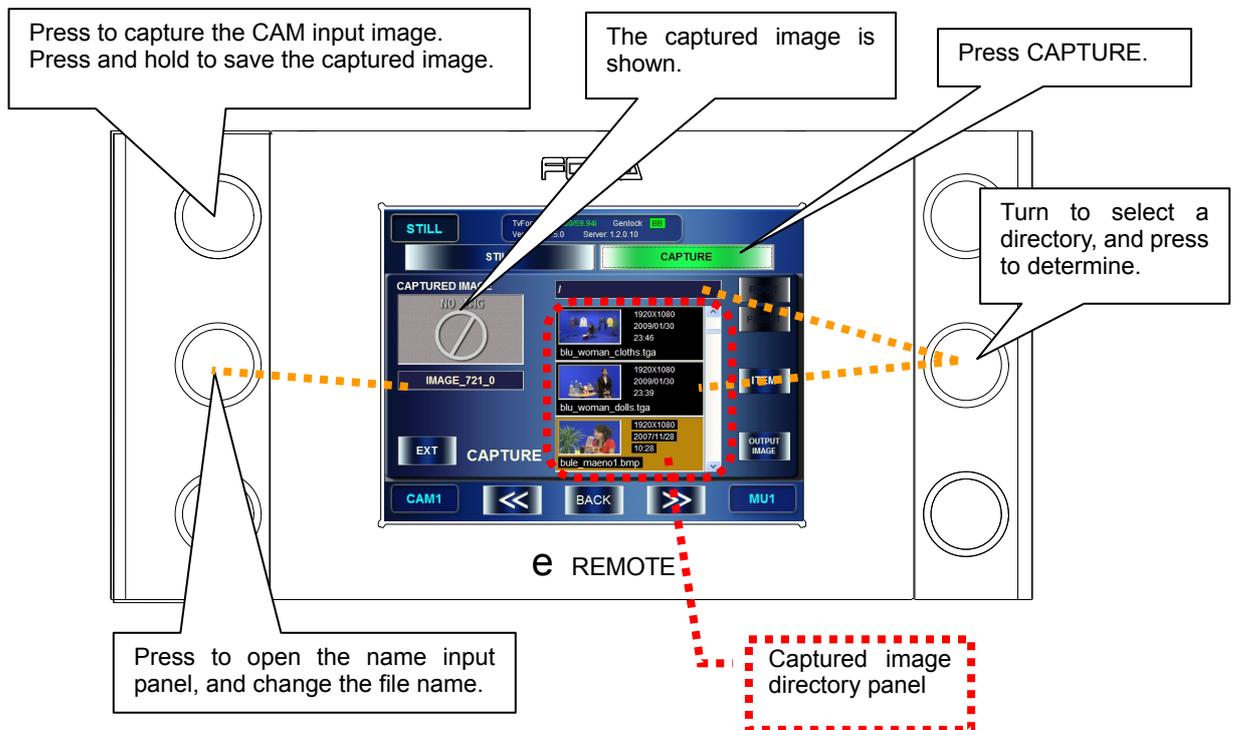
4-6-1. Capturing Image from Camera Input

- 1) Press the **STILL** button on the front panel to go to the STILL & CAPTURE menu.
- 2) In the STILL & CAPTURE menu press the **CAPTURE** button to go to CAPTURE menu.
- 3) Use the middle right knob or **ROOT** and **PARENT** buttons on the GUI, and select a directory to save the captured image in the captured image directory panel.
- 4) Turn the top left knob and capture the input signal in CAM connector. The still image will be shown in the **CAPTURED IMAGE** box. To redo the capturing, press the top left knob. (It recaptures the still image).
- 5) Press and hold the middle left knob to open the name input panel, and name the file to save.

NOTE

See section 5-8-1. "Event Name Input Panel" for how to enter texts.

- 6) Press and hold the top left knob to save the file in the selected directory with the file name set in the step 5. If there is the same file name, the message "**Cannot save. The file name is already in use**" appears and it cancels saving the file.

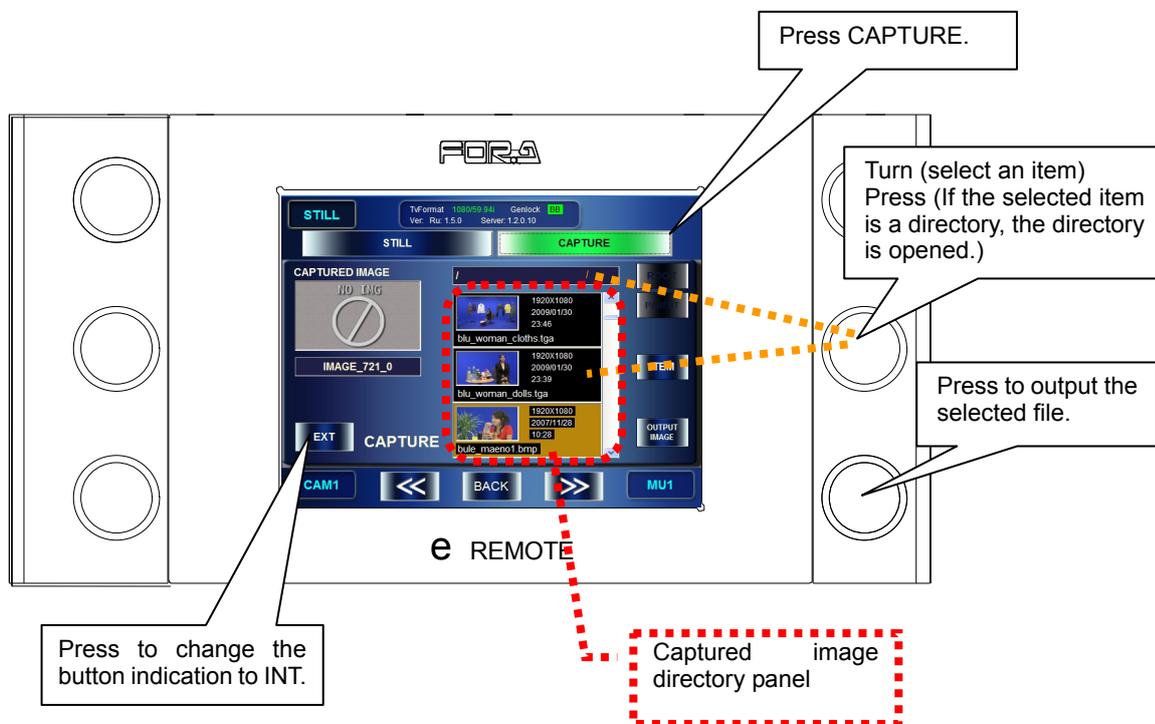


4-6-2. Using Captured Image for Chromakeying

- 1) Press the **STILL** button on the front panel to go to the STILL & CAPTURE menu.
- 2) In the STILL & CAPTURE menu press the **STILL** button to go to STILL & CAPTURE menu.
- 3) Press the **INT/EXT** button on the GUI to make the button to indicate **INT**. The **INT** indicates it is in the internal chromakey mode which is to use internally generated image for chromakey source material.
- 4) Select a directory where the file you want to use is saved in the **Captured image directory panel** using the middle right knob or **ROOT** and **PARENT** buttons on the GUI.
- 5) Press the bottom right knob to confirm the selection of the image to use for chromakeying. The message "Do you want to output this picture?" appears. Press **OK** to output the image. The selected image is shown in the **CAPTURED IMAGE** box. (At the same time, the CAM output image described in section 4-3-2 is changed to the same image.)

NOTE

Check the actual output image to see the image currently used for chromakeying.



4-7. Using Captured Image File as Still Image (MBP-100CK)

MBP-100CK allows you to use the still image files saved to the dedicated directory in MBP-100CK as source materials for layers.

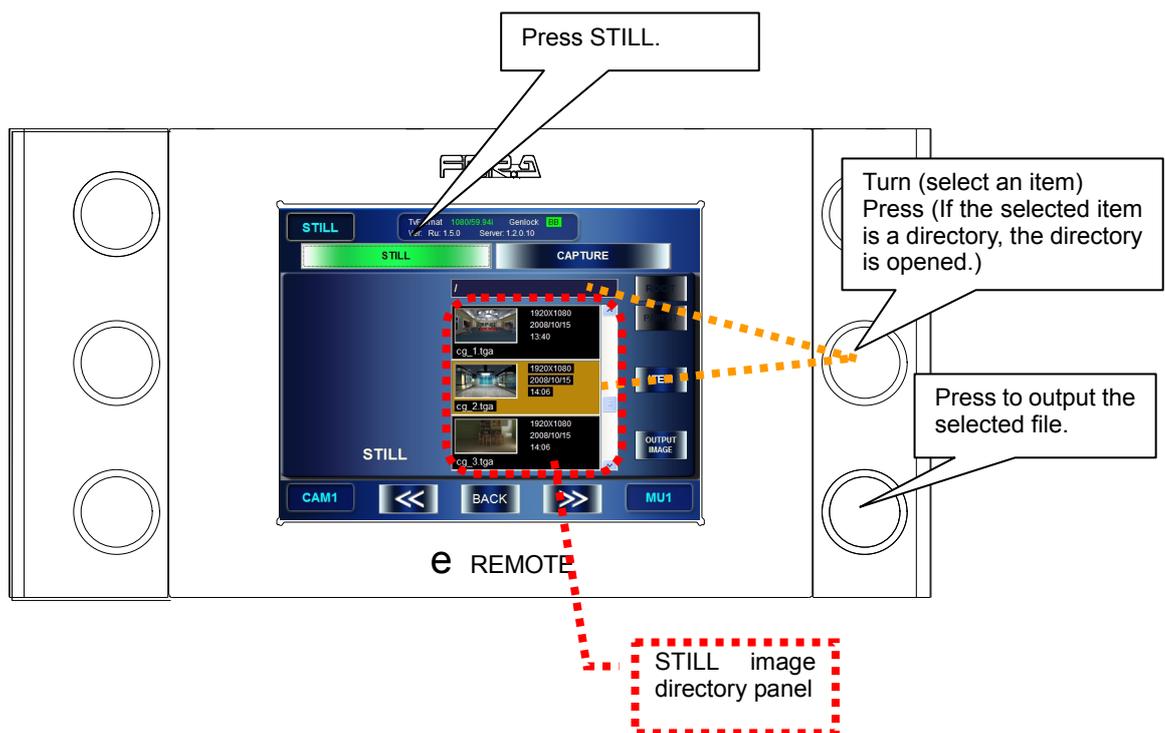
NOTE

MBP-12RU cannot add or delete the directory, nor edit the captured files such as deleting or changing file names. Use MBP-12GUI which is installed in the MBP-100CK for managing.

- 1) Press the **STILL** button on the front panel to go to the STILL & CAPTURE menu.
- 2) In the STILL & CAPTURE menu, press the **STILL** button to go to STILL menu.
- 3) Select a directory where the file you want to use is saved in the Still Image directory panel using the middle right knob or **ROOT** and **PARENT** buttons on the touch panel.
- 4) Press the bottom right knob to confirm the selection of STILL. The message "Do you want to output this picture" appears. Press OK. When the selection is confirmed, The output image from STILL output is changed to the image of the selected file.

NOTE

Check the actual output image to see the image currently used for chromakeying.



4-8. Using Events

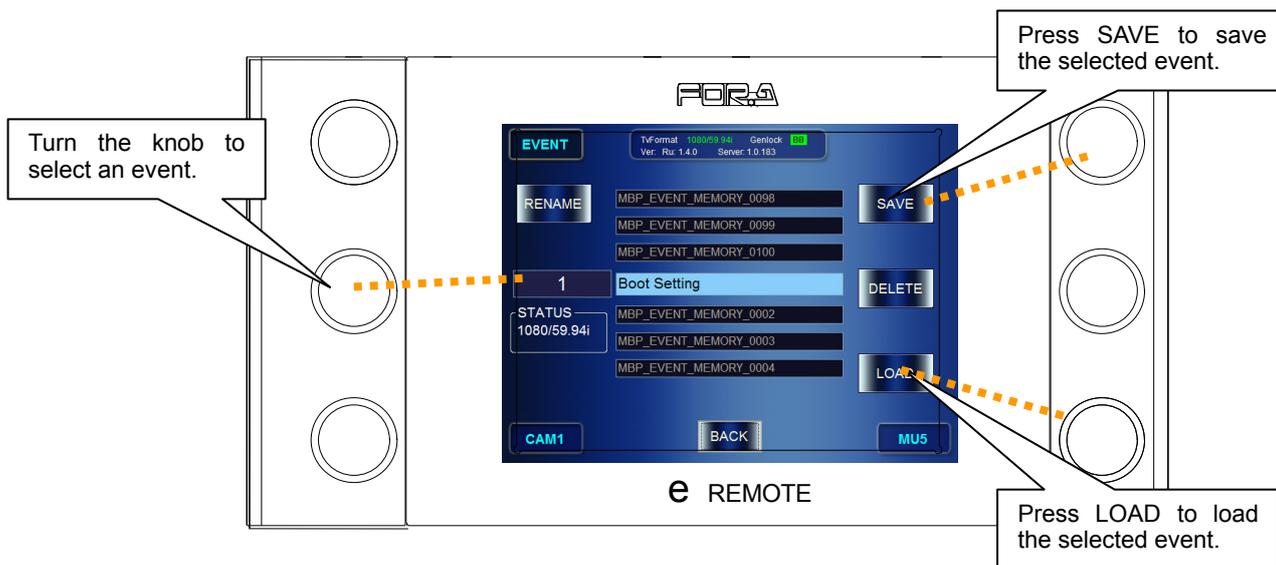
MBP-1244/100CK can store the setting data of its own as events.
MBP-12RU can store, load, delete and rename the events.

4-8-1. Storing Events

- 1) Press the **EVENT** button on the front panel to go to the EVENT menu.
- 2) Turn the middle left knob and select the event number you wish to save.
(Turning the knob let you go up and down on the list at the center of the GUI. The events whose background of the box is black have not been saved yet.)
- 3) Press the top right knob or the **SAVE** button on the GUI to save the selected event. The message saying "Do you want to save EVENT No*?" appears. Press **OK** to save the event.
(If there already is a data in the selected event, the data will be overwritten.)

4-8-2. Loading Events

- 1) Press the **EVENT** button on the front panel to go to the EVENT menu.
- 2) Turn the middle left knob and select the event number you wish to load.
(If the unsaved event is selected, the **LOAD** button on the GUI will be grayed out to indicate the loading cannot be done.)
- 3) Press the bottom right knob or the **LOAD** button on the GUI to load the event. The message saying "Do you want to load EVENT No*?" appears. Press **OK** to load the event.
All the settings are replaced with the loaded event data.



4-9. Lock Functions

In MBP-12RU, the lock functions are provided for preventing accidental operations while MBP-1244/100CK is outputting video. The following three lock functions are available in MBP-12RU.

Table 1 : Lock Functions

Lock Function	Controlling MBP-1244/100CK		Releasing Lock Function	
	Client which applied the lock function	Clients other than the one applied the lock function	Client which applied the lock function	Clients other than the one applied the lock function
On Air Lock (Standard function)	Operating MBP-1244/100CK is inhibited. Viewing the settings and changing its own settings is possible	Same as on the left	Press and hold down ON AIR on the front panel to release the lock function	Press and hold down ON AIR on the front panel and enter the password to release the lock function
Exclusive Lock	Normal operation possible	Operating MBP-1244/100CK is inhibited. Viewing the settings and changing their own settings are possible	Press and hold down EX LOCK on the front panel to release the lock function	Press and hold down EX LOCK on the front panel and enter the password to release the lock function
Operation Lock	Operating MBP-1244 other than releasing The Operation lock is inhibited.	Normal operation possible	Press and hold down OP LOCK on the front panel to release the lock function	Unable to release the lock function

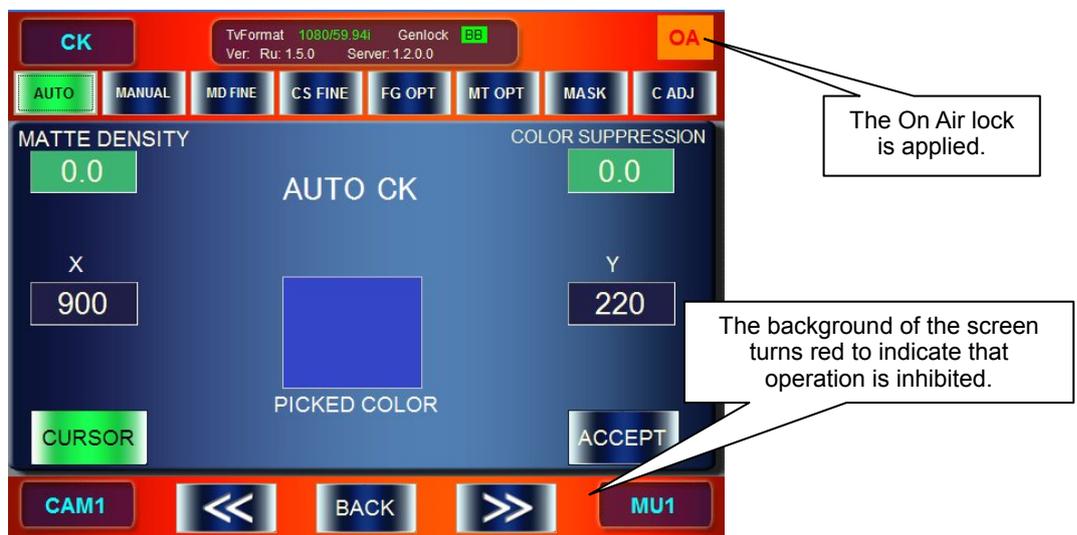
* "Client" is MBP-12RU or MBP-12GUI connected to MBP-1244 or MBP-100CK

4-9-1. On Air Lock (Standard Function)

The On Air lock inhibits (locks) controls of connected MBP-1244/100CK by all clients including the one applied the lock function. The On Air lock is applied by using the **ON AIR** button, which is one of the buttons on the front panel as a standard assignment.

Applying OnAir Lock

- 1) Select a MBP-1244/100CK you wish to apply the On Air lock by pressing a MU button on the front panel.
- 2) Press the **ON AIR** button on the front panel. Once the On Air lock is applied, the background of the page on MBP-12RU turns red as shown in the figure below. (The page also appears the same when the lock function is applied by another client.)

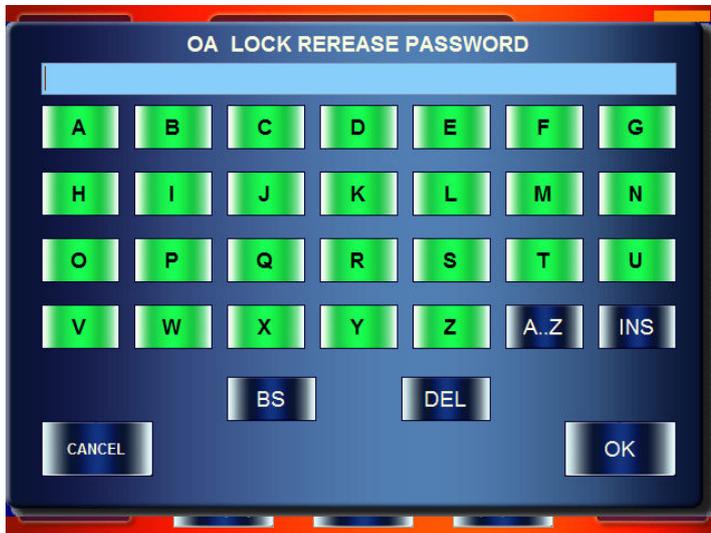


Releasing On Air Lock

1) Press and hold down the **ON AIR** button.

If the On Air lock is self-applied, the lock is released at this step. If the lock is applied by other clients, follow the next step.

2) The password input panel is displayed. Enter the password specified in the MBP-1244/100CK.



See section 5-7-1. "Event Name Input Panel" for details on entering characters. (However, the entered characters are hidden behind the asterisks. (*))

3) If the password is authenticated successfully, the On Air lock is released and the operation becomes possible.

4-9-2. Exclusive Lock

The Exclusive lock inhibits (locks) control of connected MBP-1244/100CK by all clients except the one applied the lock function.

NOTE

The Exclusive lock cannot be applied with the standard button assignment. The assignment needs to be changed and the **EX LOCK** button needs to be assigned.

The effect of the Exclusive lock is different on the client which applies the lock and on the other clients.

4-9-2-1. Self-Applied Exclusive Lock

Applying Exclusive Lock

- 1) Select a MBP-1244/100CK you wish to apply the Exclusive lock by pressing a MU button on the front panel.
- 2) Press the **EX LOCK** button on the front panel.

Once the Exclusive lock is applied, the mark **EX** with the green background is displayed at the upper right of the MBP-12RU screen (lower center for the top menu). The one which applied the lock can still control MBP-1244/100CK, however other clients cannot control MBP-1244/100CK.

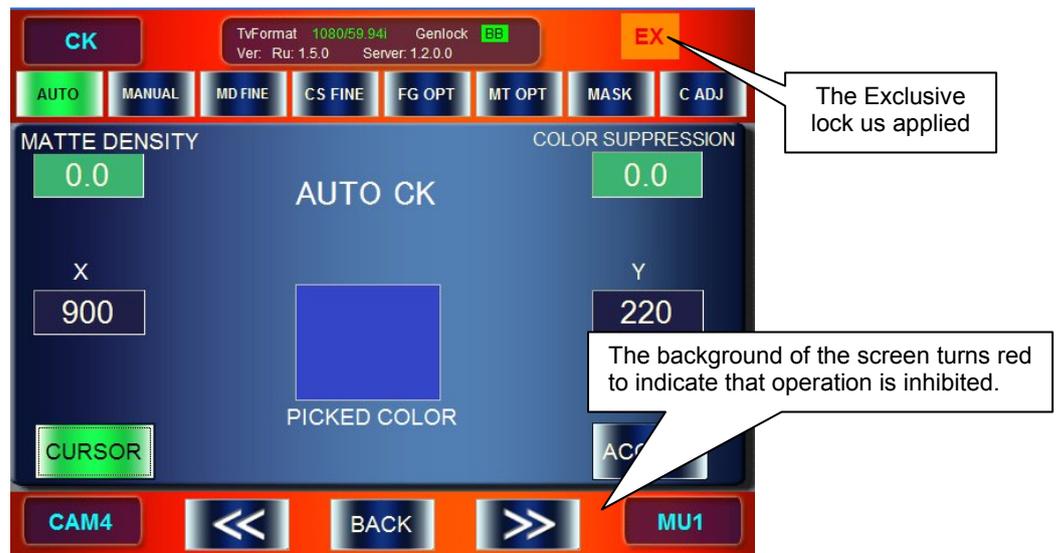


Releasing Exclusive Lock

- 1) Press and hold down the **EX LOCK** button.
- 2) The Exclusive lock is released and the operation through all clients becomes possible.

4-9-2-2. Exclusive Lock by Other Clients

Once the Exclusive lock is applied by other clients, the background of the MBP-12RU page turns red and all operations except for releasing the Exclusive lock are inhibited.



Releasing Exclusive Lock

- 1) Press and hold down the **EX LOCK** button.
- 2) The password input panel is displayed. Enter the password specified for MBP-1244/100CK.
- 3) If the password is authenticated successfully, the Exclusive lock is released and the operation becomes possible.

4-9-3. Operation Lock

The Operation lock inhibits (locks) control of connected MBP-1244 by the client which applied the lock function. It inhibits all MBP-1244 related operations of the client except releasing the Operation lock. It does not lock MBP-1244 itself, therefore other clients can still control MBP-1244/100CK normally.

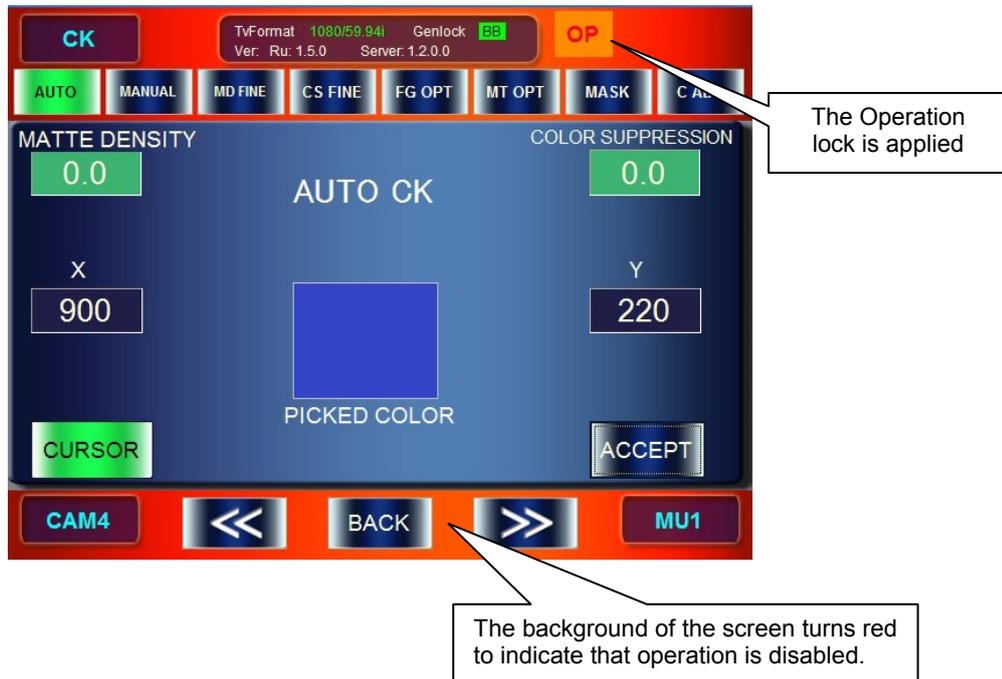
NOTE

The Operation lock cannot be applied with the standard button assignment. The assignment needs to be changed and the **OP LOCK** button needs to be assigned.

Applying Operation Lock

- 1) Press the **OP LOCK** button on the front panel.

Once the Operation lock is applied, the background of the page on MBP-12RU turns red as shown in the figure below.



Releasing Operation Lock

- 1) Press and hold down the **OP LOCK** button on the front panel to release the Operation lock.

4-10. Changeable Function Assignment

You can customize the function assignments for the buttons and the indications on the bank indicators on the MBP-12RU front panel.

- the buttons and indicators can be customized by specifying the assignment files (extension "mru"). (SETUP→RU SETTING→SW CONFIG)
- Save the assignment file (*.mru) under the C:\MBP-12RU\DATA directory in MBP-12RU.
- Assignment files are processed by the application, MBP-12RU Switch Assign Builder (MBP-12RU_SAB), which is different from this GUI.
- Assignable functions are as below. (■ shaded items are the menus set as a standard.)

Category	Function name	Operation	Label indication
MENU SELECT	TOP MENU	Opens the Top menu.	TOP
	CK MENU	Opens the CK menu.	CK
	MIX MENU	Opens the MIX&OUT menu.	MIX
	EVENT MENU	Opens the EVENT menu.	EVENT
	SETUP MENU	Opens the SETUP menu.	SETUP
	STILL MENU	Opens the STILL&CAPTURE menu. (Active only if MBP-100CK is connected.)	STILL
	MENU NEXT	Goes to the next submenu in each menu.	MENU NEXT
	MENU PREV	Goes to the previous submenu in each menu.	MENU PREV
	MENU RETURN	Returns to the Top menu.	MENU RETURN
MU SELECT	MU1 SELECT	Selects MU1.	MU1
	MU2 SELECT	Selects MU2.	MU2
	MU3 SELECT	Selects MU3.	MU3
	MU4 SELECT	Selects MU4.	MU4
	MU5 SELECT	Selects MU5.	MU5
CAM SELECT	CAM1 SELECT	Selects CAM1.	CAM1
	CAM2 SELECT	Selects CAM2.	CAM2
	CAM3 SELECT	Selects CAM3.	CAM3
	CAM4 SELECT	Selects CAM4.	CAM4
OUT1 SELECT	OUT1 MIXV	Changes OUT1 output to a combined video image.	MIX V
	OUT1 MIXK	Changes OUT1 output to a combined key image.	MIX K
	OUT1 MONI V CG	Changes OUT1 output to computer graphics.	CG V
	OUT1 MONI V CK	Changes OUT1 output to a chromakeyed video image.	CK V
	OUT1 MONI CAM	Changes OUT1 output to a Camera image.	CAM
	OUT1 MONI K CG	Changes OUT1 output to a computer graphics key image.	CG K
	OUT1 MONI K CK	Changes OUT1 output to a chromakeyed key image.	CK K
	OUT1 MONI V STILL	Changes OUT1 output to a STILL video image. (Active only if MBP-100CK is connected.)	ST V
	OUT1 MONI K STILL	Changes OUT1 output to a STILL key image. (Active only if MBP-100CK is connected.)	ST K
	OUT1 MONI V CG2	Changes OUT1 output to a CG2 video image.	CG2 V
	OUT1 MONI K CG2	Changes OUT1 output to a CG2 key signal.	CG2 K
	OUT1 MONI V V1	Changes OUT1 output to an input video in V1 IN (V1 video signal).	V1 V
	OUT1 MONI K V1	Changes OUT1 output to an input video in V2 IN (V1 key signal).	V1 K
	OUT1 MONI V V2	Changes OUT1 output to an input video in AUX2 (V2 video signal).	V2 V

Continued to next page

Category	Function name	Operation	Label indication
OUT2 SELECT	OUT2 MIXV	Changes OUT2 output to a combined video image.	MIX V
	OUT2 MIXK	Changes OUT2 output to a combined key image.	MIX K
	OUT2 MONI V CG	Changes OUT2 output to computer graphics.	CG V
	OUT2 MONI V CK	Changes OUT2 output to a chromakeyed video image.	CK V
	OUT2 MONI CAM	Changes OUT2 output to a Camera image.	CAM
	OUT2 MONI K CG	Changes OUT2 output to computer graphics key.	CG K
	OUT2 MONI K CK	Changes OUT2 output to a chromakeyed key image.	CK K
	OUT2 MONI V STILL	Changes OUT2 output to a STILL video image. (Active only if MBP-100CK is connected.)	ST V
	OUT2 MONI K STILL	Changes OUT2 output to a STILL key image. (Active only if MBP-100CK is connected.)	ST K
	OUT2 MONI V CG2	Changes OUT2 output to a CG2 video signal.	CG2 V
	OUT2 MONI K CG2	Changes OUT2 output to a CG2 key signal.	CG2 K
	OUT2 MONI V V1	Changes OUT2 output to an input video in V1 IN (V1 video signal).	V1 V
	OUT2 MONI K V1	Changes OUT2 output to an input video in V2 IN (V1 key signal).	V1 K
	OUT2 MONI V V2	Changes OUT2 output to an input video in AUX2 (V2 video signal).	V2 V
OUT3 SELECT	OUT3 MIXV	Changes OUT3 output to a combined video image.	MIX V
	OUT3 MIXK	Changes OUT3 output to a combined key image.	MIX K
	OUT3 MONI V CG	Changes OUT3 output to computer graphics.	CG V
	OUT3 MONI V CK	Changes OUT3 output to a chromakeyed video image.	CK V
	OUT3 MONI CAM	Changes OUT3 output to a Camera image.	CAM
	OUT3 MONI K CG	Changes OUT3 output to a computer graphics key image.	CG K
	OUT3 MONI K CK	Changes OUT1 output to a chromakeyed key image.	CK K
	OUT3 MONI V STILL	Changes OUT3 output to a STILL video image. (Active only if MBP-100CK is connected.)	ST V
	OUT3 MONI K STILL	Changes OUT3 output to a STILL key image. (Active only if MBP-100CK is connected.)	ST K
	OUT3 MONI V CG2	Changes OUT3 output to a CG2 video signal.	CG2 V
	OUT3 MONI K CG2	Changes OUT3 output to a CG2 key signal.	CG2 K
	OUT3 MONI V V1	Changes OUT3 output to an input video in V1 IN (V1 video signal).	V1 V
	OUT3 MONI K V1	Changes OUT3 output to an input video in V2 IN (V1 key signal).	V1 K
	OUT3 MONI V V2	Changes OUT3 output to an input video in AUX2 (V2 video signal).	V2 V
OUT4 SELECT	OUT4 MIXV	Changes OUT4 output to a combined video image.	MIX V
	OUT4 MIXK	Changes OUT4 output to a combined key image.	MIX K
	OUT4 MONI V CG	Changes OUT4 output to computer graphics.	CG V
	OUT4 MONI V CK	Changes OUT4 output to a chromakeyed video image.	CK V
	OUT4 MONI CAM	Changes OUT4 output to a Camera image.	CAM

Continued to next page

Category	Function name	Operation	Label indication
OUT4 SELECT	OUT4 MONI K CG	Changes OUT4 output to a computer graphics key image.	CG K
	OUT4 MONI K CK	Changes OUT4 output to a chromakeyed key image.	CK K
	OUT4 MONI V STILL	Changes OUT4 output to a STILL video image. (Active only if MBP-100CK is connected.)	ST V
	OUT4 MONI K STILL	Changes OUT4 output to a STILL key image. (Active only if MBP-100CK is connected.)	ST K
	OUT4 MONI V CG2	Changes OUT4 output to a CG2 video image.	CG2 V
	OUT4 MONI K CG2	Changes OUT4 output to a CG2 key image.	CG2 K
	OUT4 MONI V V1	Changes OUT4 output to an input video in V1 IN (V1 video signal).	V1 V
	OUT4 MONI K V1	Changes OUT4 output to an input video in V2 IN (V1 key signal).	V1 K
	OUT4 MONI V V2	Changes OUT4 output to an input video in AUX2 (V2 video signal).	V2 V
MIX SELECT	MIXER1 LAYER1	Sets layer 1 in MIXER1 to ON or OFF.	L1
	MIXER1 LAYER2	Sets layer 2 in MIXER1 to ON or OFF.	L2
	MIXER1 LAYER3	Sets layer 3 in MIXER1 to ON or OFF.	L3
	MIXER1 LAYER4	Sets layer 4 in MIXER1 to ON or OFF.	L4
	MIXER2 LAYER1	Sets layer 1 in MIXER2 to ON or OFF.	L1
	MIXER2 LAYER2	Sets layer 2 in MIXER2 to ON or OFF.	L2
	MIXER2 LAYER3	Sets layer 3 in MIXER2 to ON or OFF.	L3
	MIXER2 LAYER4	Sets layer 4 in MIXER2 to ON or OFF.	L4
EVENT LOAD	EVENT LOAD1	Loads the event of number 1.	EVENT1
	EVENT LOAD2	Loads the event of number 2.	EVENT2
	EVENT LOAD3	Loads the event of number 3.	EVENT3
	EVENT LOAD4	Loads the event of number 4.	EVENT4
	EVENT LOAD5	Loads the event of number 5.	EVENT5
	EVENT LOAD6	Loads the event of number 6.	EVENT6
	EVENT LOAD7	Loads the event of number 7.	EVENT7
	EVENT LOAD8	Loads the event of number 8.	EVENT8
	EVENT LOAD9	Loads the event of number 9.	EVENT9
	EVENT LOAD10	Loads the event of number 10.	EVENT10
OTHER BUTTON	DELAY ON	Sets camera delay function to ON or OFF.	DELAY ON
	VIRTUAL PRESET	Sets layer preset mode to VIRTUAL mode for both MIXER 1 and MIXER2.	VIRTUAL
	RCG PRESET	Sets layer preset mode to RCG mode for both MIXER 1 and MIXER2.	RCG
	ON AIR LOCK	Enables or disables the ON AIR lock.	ON AIR
	EXCLUSIVE LOCK	Enables or disables the EXCLUSIVE lock.	
	OPERATION LOCK	Enables or disables the OPERATION lock.	

- You can also change the button labels using the Labels supplied with the MBP-12RU for MBP-12RU_SAB and other functions.

NOTE
MP-12RU_SAB is described in the Appendix of this manual. See the Appendix for details.

5. Menu Descriptions

5-1. Camera Selection

Double clicking the Camera selection button at the bottom right on the touch screen opens the CAMERA SELECT menu as shown below. This CAMERA SELECT menu can be accessed from any menu.

To change the camera selection, click a button among CAM1 through CAM4. The selected button turns green, and the indication on the Camera selection button changes to the selected camera. To go back to the previous menu, click the Camera selection button at the bottom left once.

You can also change the camera selection by using the CAM1, CAM2, CAM3 or CAM4 button on the front panel.



Operations in the above window are as follows:

	Action	Operation
①	Press the button on touch screen	Selects CAM1
②	Press the button on touch screen	Selects CAM2
③	Press the button on touch screen	Selects CAM3
④	Press the button on touch screen	Selects CAM4

5-2. MU Selection

Double clicking the MU selection button at the right bottom on the touch screen opens the MU SELECT menu as shown below.



This MU SELECT menu can be accessed from any menu.

Up to 5 MU can be selected.

The selectable MU is indicated with the white letters as the buttons numbered ② and ③. The button illuminates green when selected, and the indication on the bottom MU selection button changes to the selected MU.

① is the blue button with the black letters which is indicating that the settings for the MU have been made but the MU is not connected. It flashes when selected.

④ is the black button which is indicating that neither setting nor connection is made for the MU. To go back to the previous menu, click the MU selection button at the bottom right once.

You can also change the MU selection using the MU1, MU2, MU3, MU4 or MU5 button on the front panel.

Operations in the above window are as follows:

	Action	Operation
①	Press the button on touch screen	Settings are made but not connected, so it flashes.
②	Press the button on touch screen	Settings are made and also connected, so it illuminates.
③	Press the button on touch screen	Being controled. Goes off if ② is selected.
④	Press the button on touch screen	Unselectable because of no setting.

* Mu selection buttons on the front panel:

in the status of ③, the button illuminates orange.

In the status of ②, the button illuminates green.

In other status, the button is unlit and unselectable.

5-3. TOP



This Top menu is opened by pressing the TOP button on the front panel. The menu buttons provided at the center of the screen allow you to access corresponding menus.

① Go to the CK menu

Action	Operation
Press the button on touch screen	Opens CK menu.

* Operation is invalid if MU is not connected.

② Go to the MIX menu

Action	Operation
Press the button on touch screen	Opens MIX menu.

* Operation is invalid if MU is not connected.

③ Go to the EVENT menu

Action	Operation
Press the button on touch screen	Opens EVENT menu.

* Operation is invalid if MU is not connected.

④ Go to the SETUP menu

Action	Operation
Press the button on touch screen	Opens SETUP menu.

⑤ Go to the STILL&CAPTURE menu

Action	Operation
Press the button on touch screen	Opens STILL&CAPTURE menu.

* Operation is invalid if MU or MBP-100CK is not connected.

⑥ Open INFO panel

Action	Operation
Press the button on touch screen	Opens INFO panel as shown in the next page.

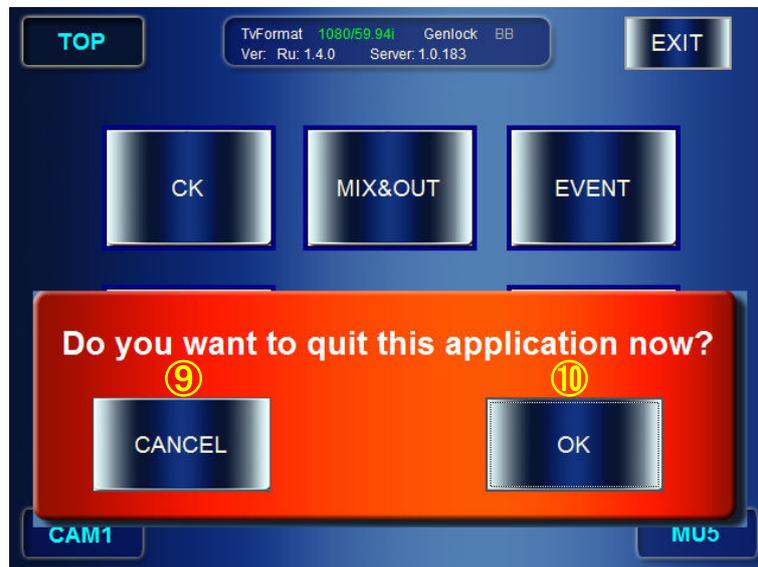


- ⑦ Terminate the application

Action	Operation
Press the button on touch screen	Opens the Quit dialog box as below.

- ⑧ Close the INFO page

Action	Operation
Press the button on touch screen	Closes the INFO page and returns to the TOP menu.



- ⑨ Cancel the termination of the application

Action	Operation
Press the button on touch screen	Returns to Top menu.

- ⑩ Approve the termination of application

Action	Operation
Press the button on touch screen	Closes the application and opens the Shutdown dialog box as follows.



⑪ Cancel the shutdown

Action	Operation
Press the button on touch screen	Closes the application and returns to the Windows.

⑫ Shut down

Action	Operation
Press the button on touch screen	Shuts down the MBP-12RU.

5-4. SETUP

The SETUP menus allow you to make video settings for MBP-1244/100CK and settings of RU.

5-4-1. VIDEO Menu

The VIDEO menu allows you to select TV formats and adjust GENLOCK signals.



① Display / Select TV FORMAT

Indication: Shows the currently employed TV standard.

Action	Operation
Press the top left knob.	Opens / Closes the TV FORMAT selection panel.

NOTE

See section 5-4-1-1. "TV" for the details on the TV FORMAT menu.

② Select GENLOCK FORMAT

Indication: Either **BB** or **TRI** is colored **green** indicating the current employment.

If either button is blacked out, the type of sync signal is not selectable due to the current selection of TV format.

Action	Operation
Press the BB button on touch screen.	Sets GENLOCK FORMAT to BB.
Press the TRI button on touch screen.	Sets GENLOCK FORMAT to TRI.
Press the top right knob.	Confirm the selection indicated by the red frame around either BB or TRI button.
Turn the top right knob.	Moves the red selection frame indicator mentioned above.

③ Adjust vertical phase of the GENLOCK(sync) signal

Indication: Shows the numeric value. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Hold down the middle right knob.	Changes tuning modes between "FINE" and "COARSE".
Press the middle right knob.	Changes the value between UNITY (0) and VARIABLE.
Turn the middle right knob.	Increase (turn clockwise) or decrease (turn counterclockwise) the value. FINE adjustment: ± 1 COARSE adjustment: ± 10 Setting range: Varies depending on TV standard.

④ Adjust horizontal phase of the GENLOCK(sync) signal

Indication: Shows the numeric value. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Hold down the bottom right knob.	Changes tuning modes between "FINE" and "COARSE".
Press the bottom right knob.	Changes the value between UNITY (0) and VARIABLE.
Turn the bottom right knob.	Increase (turn clockwise) or decrease (turn counterclockwise) the value. FINE adjustment: ± 1 COARSE adjustment: ± 10 Max.: Varies depending on TV standard. Min.: Varies depending on TV standard.

⑤ Menu access button

Action	Operation
Press the button on touch screen	Opens RU SETTING menu.

⑥ Return to the Top menu

Action	Operation
Press the button on touch screen	Returns to Top menu.

⑦ Menu access button

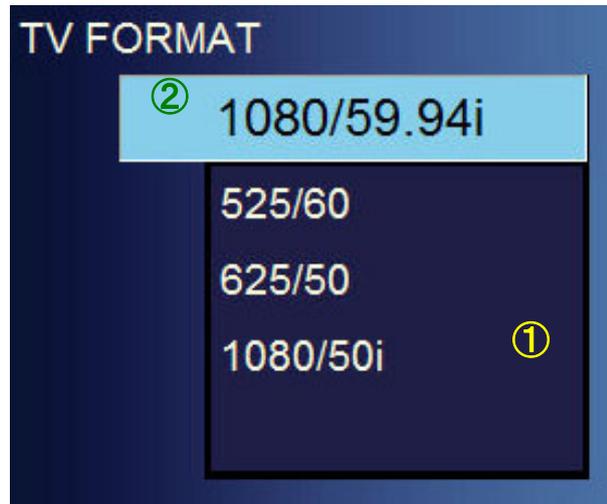
Action	Operation
Press the button on touch screen	Opens DELAY SETTING menu.

⑧ Menu access buttons

Action	Operation
Press the button on touch screen	Opens the menu corresponding to the button pressed.

5-4-1-1. TV FORMAT Selection Panel

The TV FORMAT selection panel opened by the operation shown in 5-4-1-① allows you to select TV standard. (* The figure below depicts a part of a screen.)

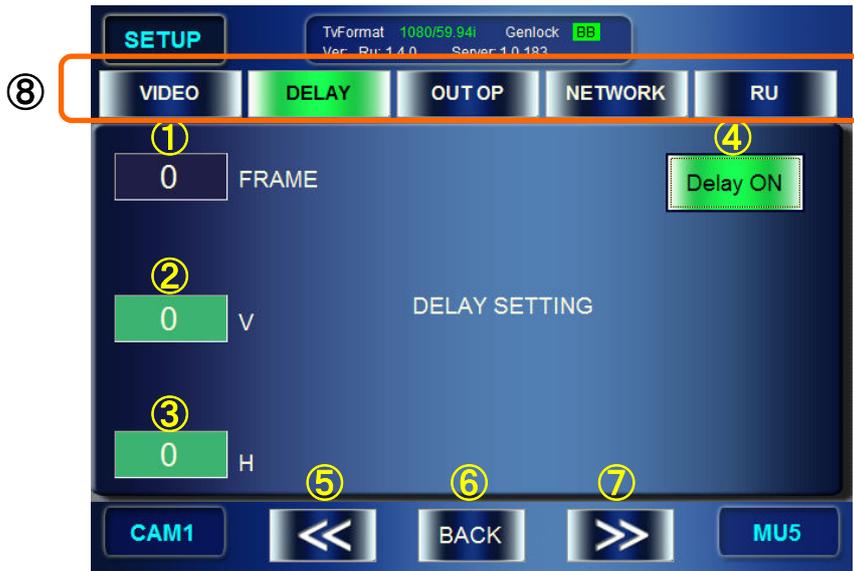


① TV FORMAT selection panel
Indication: Shows the list of TV standards

Action	Operation
Turn the top left knob.	Selects a TV standard in the list. The current selection of the TV format is shown in the ② TV FORMAT box. Selecting a TV standard here does not yet apply to the output.
Press the top left knob.	Changes the TV standard setting in MBP-1244 to the one shown in the box ②, and closes the panel. Before starting the operation, a message "Do you want to change Video format?" appears. Press OK to change the TV standard.

5-4-2. DELAY SETTING Menu

The DELAY SETTING menu shows you and allows you to set the amount of camera delay.



① Display / Set the number of frames of Camera delay

Indication: Shows the value of the current setting.

Action	Operation
Turn the top left knob.	Increases / Decreases the number of frames for camera delay. Increment/Decrement unit: ± 1 Setting range: 0 - 6 frames
Press the top left knob.	Changes the value between UNITY (0) and VARIABLE.

② Display / Set the vertical value of Camera delay

Indication: Shows the value of the current setting. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Hold down the middle left knob.	Changes tuning mode between "FINE" and "COARSE".
Press the middle left knob.	Changes the value between UNITY (0) and VARIABLE.
Turn the middle left knob.	Increases / Decreases the vertical value of camera delay. FINE adjustment: ± 1 COARSE adjustment: ± 10 Setting range: 0 - the maximum value varies depending on TV standard.

③ Display / Set the horizontal value of Camera delay

Indication: Shows the value of the current setting. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Hold down the bottom left knob.	Changes tuning mode between "FINE" and "COARSE".
Press the bottom left knob.	Changes the value between UNITY (0) and VARIABLE.
Turn the bottom left knob.	Increases / Decreases the horizontal value of camera delay. FINE adjustment: ± 2 COARSE adjustment: ± 20 Setting range: 0 - the maximum value varies depending on TV standard.

④ Display / Set active or inactive for camera delay

Indication: Shows whether camera delay setting is active or inactive.

Action	Operation
Press the top right knob.	Sets DELAY ON and OFF. When button is green : DELAY is active blue : DELAY is inactive
Press the button on touch screen	Ditto

⑤ Menu access button

Action	Operation
Press the button on touch screen	Opens VIDEO menu.

⑥ Return to the Top menu

Action	Operation
Press the button on touch screen	Returns to TOP menu.

⑦ Menu access button

Action	Operation
Press the button on touch screen	Opens OUTPUT OPTION menu.

⑧ Menu access buttons

Action	Operation
Press the button on touch screen	Opens the menu corresponding to the button pressed.

* You cannot change values of Delay Frame, V, and H, if DELAY is set to OFF.

5-4-3. OUTPUT OPTION Menu

The OUTPUT OPTION menu allows you to set whether to display a cursor of AUTO CK for each output.



- ① Set to display or not to display a cursor on the VIDEO OUTPUT1 output image.
Indication: Shows the value of the current setting.

Action	Operation
Press the top left knob.	Sets whether to display a cursor on OUTPUT1. When button is green: Display blue: Hide
Press the button on touch screen	Ditto

- ② Set to display or not to display a cursor on the VIDEO OUTPUT2 output image.
Indication: Shows the value of the current setting.

Action	Operation
Press the top right knob.	Sets whether to display a cursor on OUTPUT2. When button is green: Display blue: Hide
Press the button on touch screen	Ditto

- ③ Set to display or not to display a cursor on the VIDEO OUTPUT3 output image.
Indication: Shows the value of the current setting.

Action	Operation
Press the middle left knob.	Sets whether to display a cursor on OUTPUT3. When button is green: Display blue: Hide
Press the button on touch screen	Ditto

- ④ Set to display or not to display a cursor on the VIDEO OUTPUT4 output image.
Indication: Shows the value of the current setting.

Action	Operation
Press the middle right knob.	Sets whether to display a cursor on OUTPUT4. When button is green: Display blue: Hide
Press the button on touch screen	Ditto

⑤ Menu access button

Action	Operation
Press the button on touch screen	Opens DELAY SETTING menu.

⑥ Return to the Top menu

Action	Operation
Press the button on touch screen	Returns to Top menu.

⑦ Menu access button

Action	Operation
Press the button on touch screen	Opens NETWORK menu.

⑧ Menu access buttons

Action	Operation
Press the button on touch screen	Opens the menu corresponding to the button pressed.

5-4-4. NETWORK Menu

The NETWORK menu allows you to make network settings for MBP-12RU and MUs.



- ① Shows IP address of the MBP-12RU.
- ② Shows the IP address of the MBP-1244/100CK designated as MU1.
- ③ Shows the IP address of the MBP-1244/100CK designated as MU2.
- ④ Shows the IP address of the MBP-1244/100CK designated as MU3.
- ⑤ Shows the IP address of the MBP-1244/100CK designated as MU4.
- ⑥ Shows the IP address of the MBP-1244/100CK designated as MU5.

⑦ Menu access button

Action	Operation
Press the button on touch screen	Opens AUTO CK CURSOR ON/OFF menu

⑧ Return to the Top menu

Action	Operation
Press the button on touch screen	Returns to Top menu.

⑨ Menu access button

Action	Operation
Press the button on touch screen	Opens RU SETTINGS menu.

⑩ Menu access buttons

Action	Operation
Press the button on touch screen	Opens the menu corresponding to the button pressed.

⑪ IP address input box

Allows you to change values of the selected cell among 24 cells of ① through ⑥.

Indication: Shows the value of the selected cell among 24 cells of ① through ⑥.

Action	Operation
Turn the top left knob	Selects a cell to be changed the value of.
Turn the top right knob	Changes the value.

⑫ Confirmation button

Action	Operation
Press the button on touch screen	Confirms the change for ① through ⑥. If the your change includes any change for ①, the following "Change RU IPAddress" message appears. If your change does not include a change for ①, "Change MU IPAddress" message appears. Details are given in the next page.
Press the bottom right knob.	Ditto

Change RU IPAddress



⑬ Cancel the changes in the RU IPAddress

Action	Operation
Press the button on touch screen	Cancels the chages made for RU IPAddress and returns to NETWORK menu page.

If you also have changed MU IP address, the Change MU IP Address page opens when the Cancel button is pressed.

⑭ Confirm the changes in the RU IPAddress

Action	Operation
Press the button on touch screen	Confirm the changes made for RU IPAddress.

After the confirmation, the MBP-12RU reboot twice, and then the software will start.

It also confirms the changes made for the IP addresses of MU1 through MU5 along with the changes for RU's IP address here.

Change MU IPAddress



- 15 Cancel the changes in the MU IP Addresses

Action	Operation
Press the button on touch screen	Cancels the changes made for MU IP Addresses, and return to NETWORK menu page.

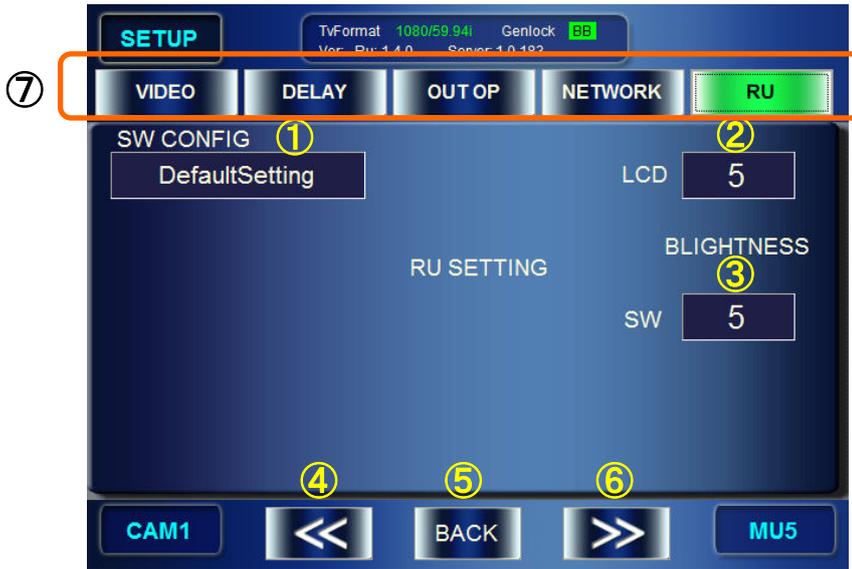
- 16 Confirm the changes in the MU IPAddresses

Action	Operation
Press the button on touch screen	Confirms the changes made for MU IP Addresses.

After the confirmation, the application shuts down and the screen returns to the Windows. On the Windows' desktop, double-click on the Mbp12RUGUI.exe startup icon to restart the application.

5-4-5. RU SETTING Menu

The RU SETTING menu allows you to change the brightness of the RU's LCD and the buttons on the front panel, and to change the assignments of the buttons on the front panel.



- ① Open the SW CONFIG(configuration of buttons on the front panel) selection panel

Action	Operation
Press the top left knob.	Opens SW CONFIG selection panel. See the next section for details.

- ② Adjust the brightness of the LCD

Indication: Shows the value of the current setting of brightness. The larger the value, the brighter the LCD.

Action	Operation
Turn the top right knob.	Changes the value of LCD brightness. Setting range: 0 - 31

- ③ Adjust the brightness of buttons on the front panel. The larger the value, the brighter the buttons.

Action	Operation
Turn the middle right knob.	Changes the brightness value of buttons. Setting range: 0 - 15

- ④ Menu access button

Action	Operation
Press the button on touch screen	Opens NETWORK menu.

- ⑤ Return to the TOP menu

Action	Operation
Press the button on touch screen	Opens TOP menu.

- ⑥ Menu access button

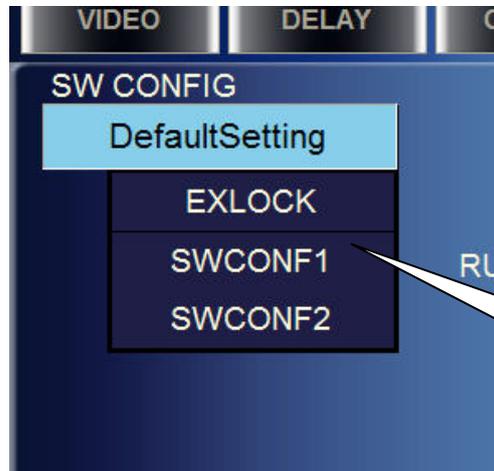
Action	Operation
Press the button on touch screen	Opens VIDEO menu.

- ⑦ Menu access buttons

Action	Operation
Press the button on touch screen	Opens the menu corresponding to the button pressed.

5-4-6. SW CONFIG Panel

The SW CONFIG panel allows you to select assignment files for the buttons on the MV-12RU front panel. The assignment files can be created using the application MBP-12RU_SAB supplied as a standard with the MBP-12RU. The assignment files should be stored under the C:\MBP-12RU\DATA of this MBP-12RU.



* This figure depicts a part of a screen.

*.mru files (assignment files) under the C:\MBP-12RU\DATA are shown in the list.

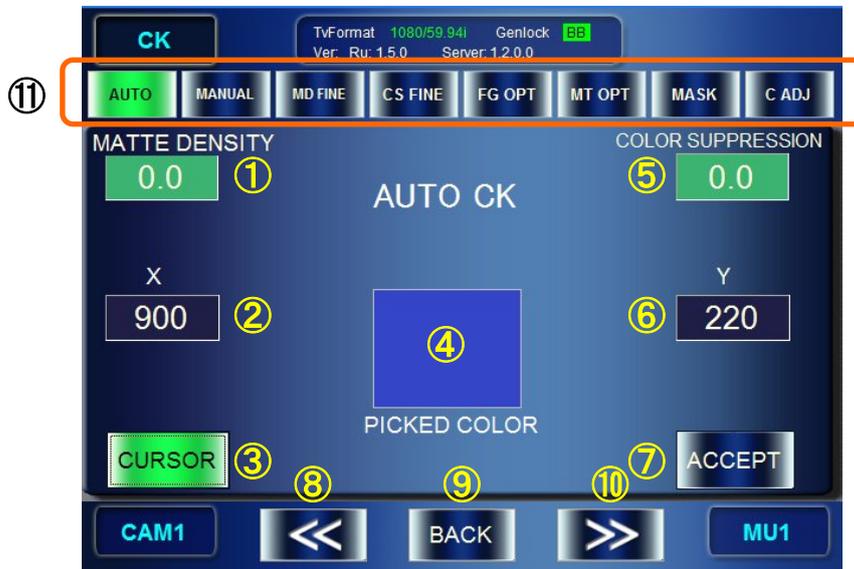
Action	Operation
Turn the top left knob.	Selects an assignment file in the DATA folder (the file with the light blue background is selected).
Press the top left knob.	Confirms to change the assignments with the selected assignments, and closes the SW CONF panel. A message "This change will be active at next boot." Appears. Press OK . The change will be applied at the next startup of this GUI.

5-5. CK Menu

The CK menu allows you to make chromakey settings for MBP-1244/100CK.

5-5-1. AUTO CK Menu

The AUTO CK menu allows you to specify the backing color for generating a matte signal for chromakeying by pointing the color on the screen. (AUTO CK mode)



- ① Adjust the Matte Density (adjust density of matte signal for the backing color with the range of similarity.)

Indication: Shows the value of the current setting. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Hold down the top left knob.	Changes tuning mode between "FINE" and "COARSE".
Press the top left knob.	Changes the value between UNITY (0) and VARIABLE.
Turn the top left knob.	Changes the Density value for matte signal. FINE adjustment: ± 0.5 COARSE adjustment: ± 5 Setting range: -100 - 100

* The same value with the value set in the 5-5-2. MANUAL CK Menu menu item ① will be employed.

- ② X-coordinate input box for the auto chromakeying cursor

Indication: Shows the value of the current setting. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Hold down the middle left knob.	Changes tuning mode between "FINE" and "COARSE".
Press the middle left knob.	Changes the value between UNITY (center of screen) and VARIABLE.
Turn the middle left knob.	Changes the X-coordinate value of the cursor. FINE adjustment: ± 1 COARSE adjustment: ± 10 Setting range: 0 - the maximum value varies depending on TV standard.

* The values can be changed only when Auto chromakeying Cursor is set to ON.

③ Auto chromakeying Cursor ON/OFF button

Indication: If it is set to **ON**, the button is **green**. If set to **OFF** the button is **blue**.

Action	Operation
Press the button on touch screen	If it is OFF : Turns auto chromakeying cursor ON and enters to AUTO CK mode. If it is ON : Exits AUTO CK mode, and turns auto chromakeying cursor OFF.
Press the bottom left knob.	Ditto

④ Display the specified BACK COLOR

Action	Operation
Touch the box on touch screen	If AUTO CK mode is ON : Shows the color of the backing colore where the cursor is positioned. (Picked Color) If AUTO CK mode is OFF : Shows the currently set BACK COLOR. Touching the box shows or hides the BG CONDITION panel.

⑤ Adjust the Color Suppression (Suppress the backing color in the foreground image to prevent color contamination)

Indication: Shows the value of the current setting. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Hold down the top right knob.	Changes tuning mode between "FINE" and "COARSE".
Press the top right knob.	Changes the value between UNITY (0) and VARIABLE.
Turn the top right knob.	Change the Color Suppression value. FINE adjustment: ± 0.5 COARSE adjustment: ± 5 Setting range: -100 - 100

* The same value with the value set in the 5-5-2. MANUAL CK menu item ⑤ will be employed.

⑥ Y-coordinate input box for the auto chromakeying cursor

Indication: Shows the value of the current setting. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Hold down the middle right knob.	Changes tuning mode between "FINE" and "COARSE".
Press the middle right knob.	Changes the value between UNITY (center of screen) and VARIABLE.
Turn the middle right knob.	Changes the Y-coordinate value of the cursor. FINE adjustment: ± 1 COARSE adjustment: ± 10 Setting range: 0 - the maximum value vairies depending on TV standard.

* The values can be changed only when Auto chromakeying Cursor is set to ON.

⑦ BACK COLOR apply button

Indication: Activated when it is in the AUTO CK mode.

Action	Operation
Press the button on touch screen (Active only in AUTO CK mode)	Applies the currently selected Picked Color as the backing color, and performs keying on the video. After this operation, AUTO CK mode will be cancelled and the auto chromakeying cursor will also be turned OFF.
Press the bottom right knob.	Ditto

⑧ Menu access button

Action	Operation
Press the button on touch screen	Opens COLOR ADJUST menu.

⑨ Return to the TOP menu

Action	Operation
Press the button on touch screen	Returns to TOP menu.

⑩ Menu access button

Action	Operation
Press the button on touch screen	Opens MANUAL CK menu.

⑪ Menu access buttons

Action	Operation
Press the button on touch screen	Opens the menu corresponding to the button pressed.

5-5-2. MANUAL CK Menu

The BACK COLOR menu allows you to generate matte signals by adjusting three parameters of HUE, SATURATION, and LUMINANCE of the backing color.



① Adjust the Matte Density (adjust density of matte signal for the backing color with the range of similarity.)

Indication: Shows the value of the current setting. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Hold down the top left knob.	Changes tuning mode between "FINE" and "COARSE".
Press the top left knob.	Changes the value between UNITY (0) and VARIABLE.
Turn the top left knob.	Changes the Density value for matte signal. FINE adjustment: ± 0.5 COARSE adjustment: ± 5 Setting range: -100 - 100

* The same value with the value set in the 5-5-1. AUTO CK Menu item ① will be employed.

② Set the value for BACK COLOR HUE

Indication: Shows the value of the current setting. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Hold down the middle left knob.	Changes tuning mode between "FINE" and "COARSE".
Press the middle left knob.	Changes the value between UNITY (The value set at the last auto chromakeying.) and VARIABLE.
Turn the middle left knob.	Changes the value of the HUE. FINE adjustment: ± 0.5 COARSE adjustment: ± 10 Setting range: 0 - 359.5

③ Set the value for the BACK COLOR SATURATION

Indication: Shows the value of the current setting. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Hold down the bottom left knob.	Changes tuning mode between "FINE" and "COARSE".
Press the bottom left knob.	Changes the value between UNITY (The value set at the last auto chromakeying.) and VARIABLE.
Turn the bottom left knob.	Changes the value of SATURATION. FINE adjustment: ± 0.1 COARSE adjustment: ± 0.5 Setting range: 0 - 100

④ Show the specified BACK COLOR

Action	Operation
Touch the box on touch screen	Shows the backing color specified by the values of HUE, SATURATION, and LUMINUNCE. Touching the box shows or hides the BG CONDITION panel.

⑤ Adjust Color Suppression (Suppress the backing color in the foreground image to prevent color contamination)

Indication: Shows the value of the current setting. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Hold down the top right knob.	Changes tuning mode between "FINE" and "COARSE".
Press the top right knob.	Changes the value between UNITY (0) and VARIABLE.
Turn the top right knob.	Changes the Color Suppression value. FINE adjustment: ± 0.5 COARSE adjustment: ± 5 Setting range: -100 - 100

* The same value with the value set in the 5-5-1. AUTO CK Menu item ① will be employed.

⑥ Set the value for the BACK COLOR LUMINUNCE

Indication: Shows the value of the current setting. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Hold down the middle right knob.	Changes tuning mode between "FINE" and "COARSE".
Press the middle right knob.	Changes the value between UNITY (The value set at the last auto chromakeying.) and VARIABLE.
Turn the middle right knob.	Changes the LUMINUNCE value. FINE adjustment: ± 0.1 COARSE adjustment: ± 1 Setting range: 0 - 109

⑦ Menu access button

Action	Operation
Press the button on touch screen	Opens AUTO CK menu.

⑧ Return to the Top menu

Action	Operation
Press the button on touch screen	Returns to CK menu.

⑨ Menu access button

Action	Operation
Press the button on touch screen	Opens MATTE DENSITY FINE TUNING menu.

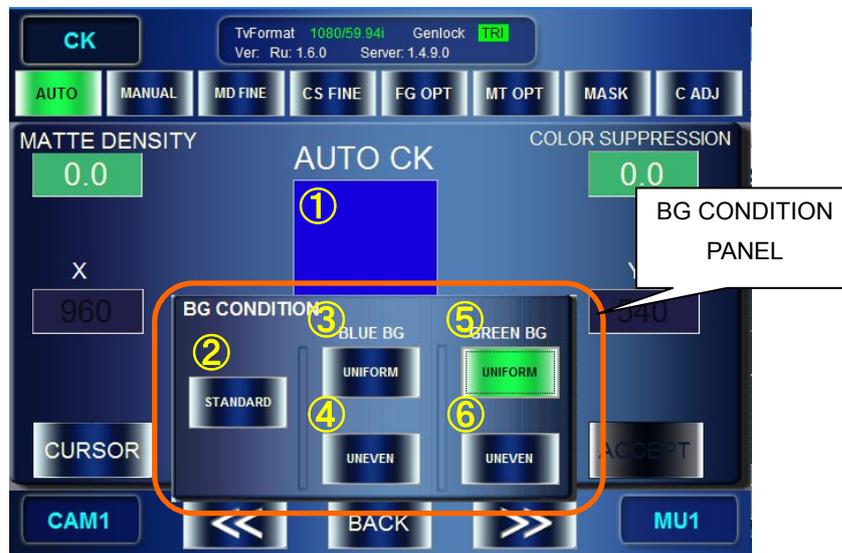
⑩ Menu access buttons

Action	Operation
Press the button on touch screen	Opens the menu corresponding to the button pressed.

5-5-3. BACKGROUND CONDITION

By selecting the most suitable chromakey mode according to the backing color, a better matte (key) signal can be generated. However, the result may not always be as you expected. Please adjust your selection according to the created images if necessary. The following five BG CONDITION modes are selectable.

- STANDARD
Standard settings.
- BLUE BACK UNIFORM
Effective when a backing color is blue and evenly colored.
- BLUE BACK UNEVEN
Effective when a backing color is blue and unevenly colored.
- GREEN BACK UNIFORM
Effective when a backing color is green and evenly colored.
- GREEN BACK UNEVEN
Effective when a backing color is green and unevenly colored.



	Action	Operation
①	Press the PICKED COLOR or BACK COLOR box on touch screen.	Pressing the box while the AUTO CK or MANUAL CK tab page is displayed enables or disables t the BG CONDITION PANEL to be displayed. BG CONDITION settings in the AUTO CK tab page or in the MANUAL CK tab page are the same.
②	Press the button on touch screen	Sets BG CONDITION to STANDARD.
③	Press the button on touch screen	Sets BG CONDITION to BLUE BACK UNIFORM.
④	Press the button on touch screen	Sets BG CONDITION to BLUE BACK UNEVEN.
⑤	Press the button on touch screen	Sets BG CONDITION to GREEN BACK UNIFORM.
⑥	Press the button on touch screen	Sets BG CONDITION to GREEN BACK UNEVEN.

5-5-4. MATTE DENSITY FINE TUNING Menu

The MATTE DENSITY FINE TUNING menu allows you detailed adjustments of density for generating matte signals in chromakeying.



- ① Adjust the density of matte signal for the backing color which includes white component. For example, if the selected backing color is blue, you can adjust the density of matte signal for whiteish blue backing color.

Indication: Shows the set value. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Press the numeric value box on the touch screen.	Opens the numeric input panel, so you can input numeric value.
Press the top left knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the top left knob.	Changes tuning mode between "FINE" and "COARSE".
Turn the top left knob.	Increase or decrease the value for MD FINE WHITE. FINE adjustment: ± 0.5 COARSE adjustment: ± 5 Setting range: -100 - 100

- ② Adjust the density of matte signal for the backing color which includes red component. For example, if the selected backing color is blue, you can adjust the density of matte signal for redish blue backing color.

Indication: Shows the set value. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Press the numeric value box on the touch screen.	Opens the numeric input panel, so you can input numeric value.
Press the middle left knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the middle left knob.	Changes tuning mode between "FINE" and "COARSE".
Turn the middle left knob.	Increase or decrease the value for MD FINE RED. FINE adjustment: ± 0.5 COARSE adjustment: ± 5 Setting range: -100~100

- ③ Adjust the density of matte signal for the backing color which includes blue component. For example, if the selected backing color is green, you can adjust the density of matte signal for blueish green backing color.

Indication: Shows the set value. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Press the numeric value box on the touch screen.	Opens the numeric input panel, so you can input numeric value.
Press the bottom left knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the bottom left knob.	Changes tuning mode between "FINE" and "COARSE".
Turn the bottom left knob.	Increase or decrease the value for MD FINE BLUE. FINE adjustment: ± 0.5 COARSE adjustment: ± 5 Setting range: -100~100

- ④ Adjust the density of matte signal for the backing color which includes black component. For example, if the selected backing color is blue, you can adjust the density of matte signal for blackish blue backing color.

Indication: Shows the set value. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Press the numeric value box on the touch screen.	Opens the numeric input panel, so you can input numeric value.
Press the top right knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the top right knob.	Changes tuning mode between "FINE" and "COARSE".
Turn the top right knob.	Increase or decrease the value for MD FINE BLACK. FINE adjustment: ± 0.5 COARSE adjustment: ± 5 Setting range: -100~100

- ⑤ Adjust the density of matte signal for the backing color which includes green component. For example, if the selected backing color is blue, you can adjust the density of matte signal for greenish blue backing color.

Indication: Shows the set value. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Press the numeric value box on the touch screen.	Opens the numeric input panel, so you can input numeric value.
Press the middle right knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the middle right knob.	Changes tuning mode between "FINE" and "COARSE".
Turn the middle right knob.	Increase or decrease the value for MD FINE GREEN. FINE adjustment: ± 0.5 COARSE adjustment: ± 5 Setting range: -100~100

⑥ Adjust the phase angle for the MATTE density (adjust the solidness of edges).
 Indication: Shows the set value. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Press the numeric value box on the touch screen.	Opens the numeric input panel, so you can input numeric value.
Press the bottom right knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the bottom right knob.	Changes tuning mode between "FINE" and "COARSE".
Turn the bottom right knob.	Increase or decrease the value for MD FINE SOLIDNESS. FINE adjustment: ± 0.5 COARSE adjustment: ± 5 Setting range: -100~100

⑦ Menu access button

Action	Operation
Press the button on touch screen	Opens MANUAL CK menu.

⑧ Return to the Top menu

Action	Operation
Press the button on touch screen	Returns to Top menu.

⑨ Menu access button

Action	Operation
Press the button on touch screen	Opens COLOR SUPPRESSION FINE TUNING menu.

⑩ Menu access buttons

Action	Operation
Press the button on touch screen	Opens the menu corresponding to the button pressed.

5-5-5. COLOR SUPPRESSION FINE TUNING

This menu allows you to adjust the backing color contamination of foreground images.



- ① Adjust the suppression of backing color on the foreground images where white component is included.

Indication: Shows the set value. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Press the numeric value box on the touch screen.	Opens the numeric input panel, so you can input numeric value.
Press the top left knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the top left knob.	Changes tuning mode between "FINE" and "COARSE".
Turn the top left knob.	Increase or decrease the value for CS FINE WHITE. FINE adjustment: ± 0.5 COARSE adjustment: ± 5 Setting range: -100~100

- ② Adjust the suppression of backing color on the foreground images where red component is included.

Indication: Shows the set value. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Press the numeric value box on the touch screen.	Opens the numeric input panel, so you can input numeric value.
Press the middle left knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the middle left knob.	Changes tuning mode between "FINE" and "COARSE".
Turn the middle left knob.	Increase or decrease the value for CS FINE RED. FINE adjustment: ± 0.5 COARSE adjustment: ± 5 Setting range: -100 - 100

- ③ Adjust the suppression of backing color on the foreground images where blue component is included.

Indication: Shows the set value. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Press the numeric value box on the touch screen.	Opens the numeric input panel, so you can input numeric value.
Press the bottom left knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the bottom left knob.	Changes tuning mode between "FINE" and "COARSE".
Turn the bottom left knob.	Increase or decrease the value for CS FINE BLUE. FINE adjustment: ± 0.5 COARSE adjustment: ± 5 Setting range: -100~100

- ④ Adjust the suppression of backing color on the foreground images where black component is included.

Indication: Shows the set value. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Press the numeric value box on the touch screen.	Opens the numeric input panel, so you can input numeric value.
Press the top right knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the top right knob.	Changes tuning mode between "FINE" and "COARSE".
Turn the top right knob.	Increase or decrease the value for CS FINE BLACK. FINE adjustment: ± 0.5 COARSE adjustment: ± 5 Setting range: -100~100

- ⑤ Adjust the suppression of backing color on the foreground images where green component is included.

Indication: Shows the set value. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Press the numeric value box on the touch screen.	Opens the numeric input panel, so you can input numeric value.
Press the middle right knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the middle right knob.	Changes tuning mode between "FINE" and "COARSE".
Turn the middle right knob.	Increase or decrease the value for CS FINE GREEN. FINE adjustment: ± 0.5 COARSE adjustment: ± 5 Setting range: -100~100

⑥ Adjust the suppression of foreground signal (adjust the solidness of edges).
 Indication: Shows the set value. If the input box is **green**, the tuning mode is set to **FINE**. If the box is **blue**, the mode is set to **COARSE**.

Action	Operation
Press the numeric value box on the touch screen.	Opens the numeric input panel, so you can input numeric value.
Press the bottom right knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the bottom right knob.	Changes tuning mode between "FINE" and "COARSE".
Turn the bottom right knob.	Increase or decrease the value for CS FINE SOLIDNESS. FINE adjustment: ± 0.5 COARSE adjustment: ± 5 Setting range: -100~100

⑦ Menu access button

Action	Operation
Press the button on touch screen	Opens MATTE DENSITY FINE TUNING menu.

⑧ Return to Top menu

Action	Operation
Press the button on touch screen	Returns to Top menu.

⑨ Menu access button

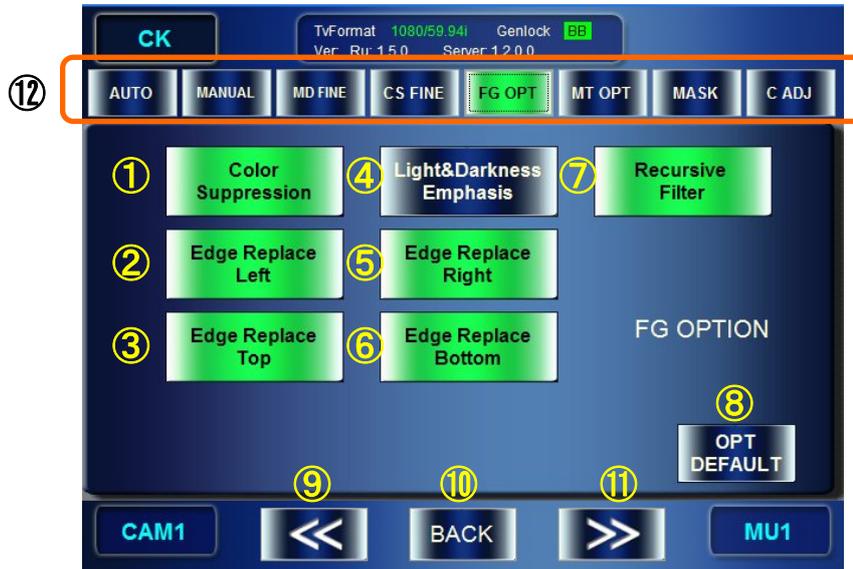
Action	Operation
Press the button on touch screen	Opens FG OPTION menu.

⑩ Menu access buttons

Action	Operation
Press the button on touch screen	Opens the menu corresponding to the button pressed.

5-5-6. FG OPTION Menu

The FG OPTION menu allows you to set optional chromakey effects on the foreground signals for mixing images.



- ① Turn ON/OFF the backing color suppression. The adjustments for COLOR SUPRESSION are invalidated, if it is OFF.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. The button is green , when set to ON . DEFAULT: ON

- ② Replace the color of the left edge of an object of chromakey with its inner adjacent color. Replacing the color of the edge brightened (whitened) by lighting, or the edge darkened (blackened) by the lens aberration of the camera can improve the result more natural.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. The button is green , when set to ON . DEFAULT: ON

- ③ Replace the color of the top edge of an object of chromakey with its inner adjacent color. Replacing the color of the edge brightened (whitened) by lighting, or the edge darkened (blackened) by the lens aberration of the camera can improve the result more natural.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. The button is green , when set to ON . DEFAULT: ON

- ④ Enhance the brightness and darkness
You can darkens the black mustache brightened by lighting, or brightens the white smoke darkened by the reflection of the backing color.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. The button is green, when set to ON. DEFAULT: OFF

- ⑤ Replace the color of the right edge of an object of chromakey with its inner adjacent color. Replacing the color of the edge brightened (whitened) by lighting, or the edge darkened (blackened) by the lens aberration of the camera can improve the result more natural.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. The button is green , when set to ON . DEFAULT: ON

- ⑥ Replace the color of the bottom edge of an object of chromakey with its inner adjacent color. Replacing the color of the edge brightened (whitened) by lighting, or the edge darkened (blackened) by the lens aberration of the camera can improve the result more natural.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. The button is green , when set to ON . DEFAULT: ON

- ⑦ Set the noise filter effective for reducing flicker noise.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. The button is green , when set to ON . DEFAULT: ON

- ⑧ Reset all parameters in the FG OPTION menu to the default value.

Action	Operation
Press the button on touch screen	Resets all settings of ① through ⑦ optional effects to the default value.

- ⑨ Menu access button

Action	Operation
Press the button on touch screen	Opens COLOR SUPPRESSION FINE TUNING menu.

- ⑩ Return to the Top menu

Action	Operation
Press the button on touch screen	Returns to Top menu.

- ⑪ Menu access button

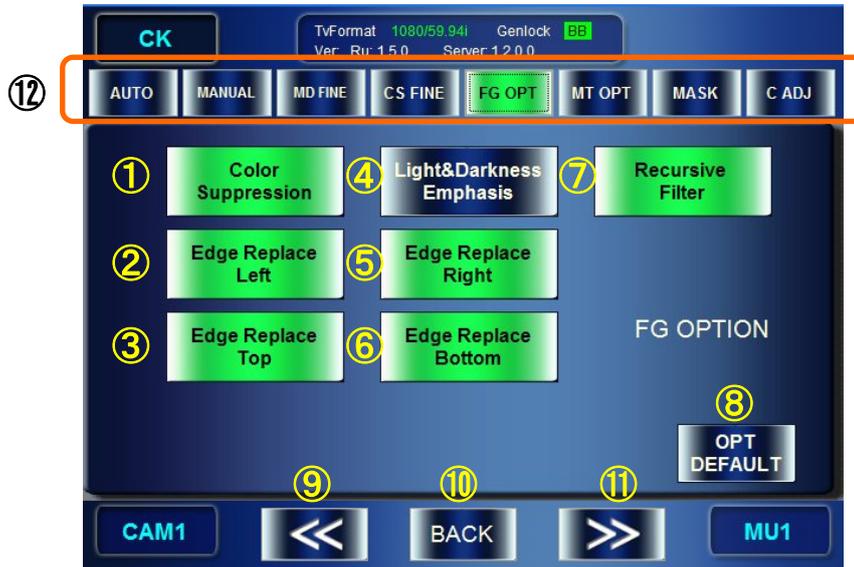
Action	Operation
Press the button on touch screen	Opens MATTE OPTION menu.

- ⑫ Menu access buttons

Action	Operation
Press the button on touch screen	Opens the menu corresponding to the button pressed.

5-5-7. MATTE OPTION Menu

The FG OPTION menu allows you to set optional chromakey effects on the background signals for mixing images.



- ① Turn ON/OFF the filter for vertical direction implemented when generating mattes. Setting ON will smooth the vertical edges of mattes.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. The button is green , when set to ON . DEFAULT: ON

- ② Turn ON/OFF the noise filter effective for correcting the unevenness of the luminance component.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. The button is green , when set to ON . DEFAULT: OFF

- ③ Turn ON/OFF the noise filter effective for correcting the unevenness of green component.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. The button is green , when set to ON . DEFAULT: OFF

- ④ Turn ON/OFF the shrink effect on the left side of matte signal. Setting ON can make the result more natural.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. The button is green , when set to ON . DEFAULT: OFF

- ⑤ Turn ON/OFF the shrink effect on the upper side of matte signal. Setting ON can make the result more natural.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. The button is green , when set to ON . DEFAULT: OFF

- ⑥ Turn ON/OFF the filter for horizontal direction implemented when generating mattes. Setting ON will smooth the vertical edges of mattes.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. The button is green , when set to ON . DEFAULT: ON

- ⑦ Turn ON/OFF the noise filter effective for correcting the unevenness of red component.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. The button is green , when set to ON . DEFAULT: OFF

- ⑧ Turn ON/OFF the noise filter effective for correcting the unevenness of blue component.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. The button is green , when set to ON . DEFAULT: OFF

- ⑨ Turn ON/OFF the shrink effect on the right side of matte signal. Setting ON can make the result more natural.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. The button is green , when set to ON . DEFAULT: OFF

- ⑩ Turn ON/OFF the shrink effect on the lower side of matte signal. Setting ON can make the result more natural.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. The button is green , when set to ON . DEFAULT: OFF

- ⑪ Set the noise filter effective for reducing flicker noise.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. The button is green , when set to ON . DEFAULT: ON

- ⑫ Set to ON when your backing color is white, black or such color.

Action	Operation
Press the button on touch screen	Turns ON/OFF the function. DEFAULT: OFF

- ⑬ Reset all parameters in the MATTE OPTION menu to the default value.

Action	Operation
Press the button on touch screen	Resets all setting of the optional effect ① through ⑫ to the default value.

- ⑭ Menu access button

Action	Operation
Press the button on touch screen	Opens FG OPTION menu.

⑮ Return to the Top menu

Action	Operation
Press the button on touch screen	Returns to Top menu.

⑯ Menu access button

Action	Operation
Press the button on touch screen	Opens WINDOW MASK menu.

⑰ Menu access buttons

Action	Operation
Press the button on touch screen	Opens the menu corresponding to the button pressed.

5-5-8. WINDOW MASK Menu

The WINDOW MASK menu allows you to add a rectangular mask (an area not to apply chromakey) within an area where chromakey is applied. The setting data of each created Window Mask can be saved to each camera parameters(CAM), and recalled as you select the CAM.



The Window Mask add a mask to chromakeyed image as shown below.

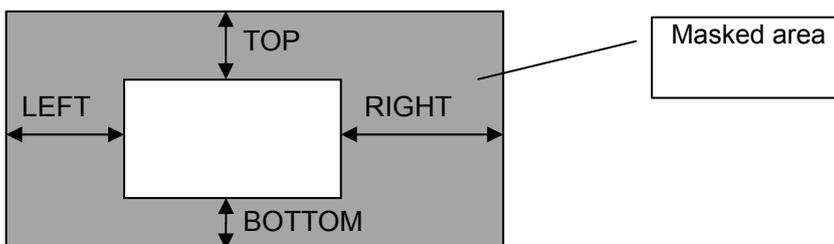


Fig. 5-1 Window Mask and parameters

① Set the size of the top part of the Window Mask

Action	Operation
Turn the top left knob.	Changes the depth (TOP) of the Window Mask from the top edge of the screen. FINE: ± 1 COARSE: ± 10 Setting range: 0 - (Screen size of TV standard – BOTTOM)
Press the top left knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the top left knob.	Changes tuning mode between "FINE" and "COARSE".

② Set the size of the left part of the Window Mask

Action	Operation
Turn the middle left knob.	Changes the width (LEFT) of the Window Mask from the left edge of the screen. FINE: ± 1 COARSE: ± 10 Setting range: 0 - (Screen size of TV standard – RIGHT)
Press the middle left knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the middle left knob.	Changes tuning mode between "FINE" and "COARSE".

③ Adjust Gain for Window Mask

Action	Operation
Turn the bottom left knob.	Changes the value of the Gain for Window Mask. FINE: ± 1 COARSE: ± 5 Setting range: 100 - 0
Press the bottom left knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the bottom left knob.	Changes tuning mode between "FINE" and "COARSE".

④ Turn ON/OFF the Window Mask.

Action	Operation
Press the button on touch screen	Turns ON/OFF the Window Mask function. The button is green when set to ON. DEFAULT: OFF

⑤ Invert the Window Mask

Setting ON will invert the mask set by the parameters shown in the Fig. 5-1 Window Mask and parameters.

Action	Operation
Press the button on touch screen	Turns ON/OFF the invert function. Window Mask area will be inverted, when set to ON. The button is green when set to ON . DEFAULT: OFF

⑥ Set the size of the bottom part of the Window Mask

Action	Operation
Turn the top right knob.	Changes the height (BOTTOM) of the Window Mask from the bottom edge of the screen. FINE: ± 1 COARSE: ± 10 Setting range: 0 - (Screen size of TV standard – TOP)
Press the top right knob.	U Changes the value between UNITY (0) and VARIABLE.
Hold down the top right knob.	Changes tuning mode between "FINE" and "COARSE".

⑦ Set the size of the right part of the Window Mask

Action	Operation
Turn the middle right knob.	Changes the width (RIGHT) of the Window Mask from the right edge of the screen. FINE: ± 1 COARSE: ± 10 Setting range: 0 - (Screen size of TV standard – LEFT)
Press the middle right knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the middle right knob.	Changes tuning mode between "FINE" and "COARSE".

⑧ Blur the edge of Window Mask. The edge of the specified pixel size will be blurred.

Action	Operation
Turn the bottom right knob.	Selects a size of the mask edge to be blurred. Setting range: "OFF", "4PIX", "8PIX", "16PIX"
Press the bottom right knob.	Confirms the value selected for the mask edge. The confirmed value is indicated with orange background.

⑨ Menu access button

Action	Operation
Press the button on touch screen	Opens MATTE OPTION menu.

⑩ Return to the Top menu

Action	Operation
Press the button on touch screen	Returns to Top menu.

⑪ Menu access button

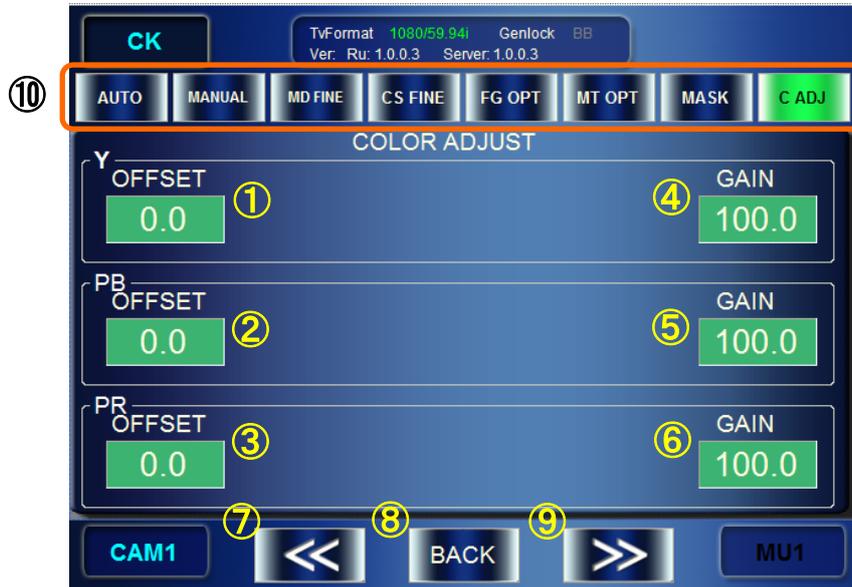
Action	Operation
Press the button on touch screen	Opens COLOR ADJUST menu.

⑫ Menu access button

Action	Operation
Press the button on touch screen	Opens the menu corresponding to the button pressed.

5-5-9. COLOR ADJUST Menu

The COLOR ADJUST menu allows you to adjust levels of the chromakeyed output signal by setting Offset and Gain for each Y, Pb, Pr signals of chromakeyed foreground signal. The Color Adjust setting data can be stored to each camera parameters(CAM) and can be used as you select the CAM.



- ① Set the offset to the Y signal of chromakeyed foreground signal.

Action	Operation
Turn the top left knob.	Changes the Offset value of foreground Y signal. FINE: ± 0.1 COARSE: ± 1 Setting range: -50.0 - 50.0(%)
Press the top left knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the top left knob.	Changes tuning mode between "FINE" and "COARSE".

- ② Set the offset to the Pb signal of chromakeyed foreground signal.

Action	Operation
Turn the middle left knob.	Changes the Offset value of foreground Pb signal. FINE: ± 0.1 COARSE: ± 1 Setting range: -50.0 - 50.0(%)
Press the middle left knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the middle left knob.	Changes tuning mode between "FINE" and "COARSE".

- ③ Set the offset to the Pr signal of chromakeyed foreground signal.

Action	Operation
Turn the bottom left knob.	Changes the Offset value of foreground Pr signal. FINE: ± 0.1 COARSE: ± 1 Setting range: -50.0 - 50.0(%)
Press the bottom left knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the bottom left knob.	Changes tuning mode between "FINE" and "COARSE".

④ Set the gain to the Y signal of chromakeyed foreground signal.

Action	Operation
Turn the top right knob.	Changes the Gain value of foreground Y signal. FINE: ± 0.1 COARSE: ± 1 Setting range: 50.0 - 150.0(%)
Press the top right knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the top right knob.	Changes tuning mode between "FINE" and "COARSE".

⑤ Set the gain to the Pb signal of chromakeyed foreground signal.

Action	Operation
Turn the middle right knob.	Changes the Gain value of foreground Pb signal. FINE: ± 0.1 COARSE: ± 1 Setting range: 50.0 - 150.0(%)
Press the middle right knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the middle right knob.	Changes tuning mode between "FINE" and "COARSE".

⑥ Set the gain to the Pr signal of chromakeyed foreground signal.

Action	Operation
Turn the bottom right knob.	Changes the Gain value of foreground Pr signal. FINE: ± 0.1 COARSE: ± 1 Setting range: 50.0 - 150.0(%)
Press the bottom right knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the bottom right knob.	Changes tuning mode between "FINE" and "COARSE".

⑦ Menu access button

Action	Operation
Press the button on touch screen	Opens WINDOW MASK menu.

⑧ Return to the TOP menu

Action	Operation
Press the button on touch screen	Returns to Top menu.

⑨ Menu access button

Action	Operation
Press the button on touch screen	Opens AUTO CK menu.

⑩ Menu access button

Action	Operation
Press the button on touch screen	Opens the menu corresponding to the button pressed.

5-6. MIX & OUT Menu

The MIX menus allow you to make settings for two video mixers (mixing circuits) MBP-1244 has. The video processed in the MIXER1 can be sent to VIDEO OUT1 and VIDEO OUT2. The video processed in the MIXER2 can be sent to VIDEO OUT3 and VIDEO OUT4.

5-6-1. MIXER1 SETTING Menu

MIXER1 SETTING menu allows you to make setting for MIXER1. In the MBP video mixing, L1 is the uppermost layer and L4 is the lowermost layer.



① Select a layer to set Mix Mode, Key Clip, and Key Gain for.
Indication: Shows the currently selected layer.

Action	Operation
Turn the top left knob.	Selects a layer. (The lowermost layer, L3 is not selectable.)

② Layer source selection box
Allows you to select a source signal for each layer. (The value cannot be changed, if the Layer mode is set to VIRTUAL or RCG at the following ③.)

Indication: Shows the source signal of the layer selected at ①.

Action	Operation
Turn the middle left knob.	Selects a type of source signals. Options: "CAM (INT/EXT)", "CK (INT/EXT)", "CG (INT/EXT)", "CG2", "STILL", "V1 IN", "V2 IN", "NO ASSIGN"
Press the middle left knob.	Confirms the selection shown in the box. The confirmed value is indicated with orange background.

- Layer source signal option details

Signals that can be selected as source signals for layers are as shown below.

Source	Description
NO ASSIGN	Not assigning any signal. (BLACK image)
CAM (INT/EXT)	Camera input signal In the system with MBP-1244, it is an input signal in CAM connector (EXT). In the system with MBP-100CK, it can be switched between an input signal in CAM connector (EXT) and an internally generated still image signal (INT) by selecting a source material for chromakeying described in section 4-6-2.
CK (INT/EXT)	Chromakeyed signal In the system with MBP-1244, it is a chromakeyed signal input to CAM connector (EXT). In the system with MBP-100CK, it can be switched between an input chromakeyed signal in CAM connector (EXT) and an internally generated chromakeyed signal using still image (INT) by selecting a source material for chromakeying described in section 4-6-2. This signal is selectable only if MBP-12CK Chromakey option is installed.
CG (INT/EXT)	CG signal In the system with MBP-1244, it is an internally generated CG signal (INT) using Brainstorm. In the system with MBP-100CK, it is an input signal in CG(V/K)INPUT connector (EXT).
STILL	Internally generated CG still image signal Available only if MBP-100CK is connected.
CG2	The secondary CG signal. Not selectable in the system with MBP-100CK.
V1 IN	The input signal in the V1 IN or V2 IN connector. Not selectable in the system with MBP-100CK.
V2 IN	The input signal in the AUX2 connector. (processed without an associated key signal.) Not selectable in the system with MBP-100CK.

③ Layer structure mode selection box

Allows you to select a mode of layer structures.

Indication: Shows the selected layer structure mode.

Action	Operation
Turn the bottom left knob.	Selects a layer structure mode. Options: "VIRTUAL", "RCG", "USER1", "USER2", "USER3"
Press the bottom left knob.	Confirms the selection of the layer structure mode. The confirmed value is indicated with orange background.

- Layer structure mode option details

You can select a mode from a total of 5 modes. Two are preset, VIRTUAL and RCG modes, and other three are customizable user modes.

The structures of respective modes are as shown below.

Layer	VIRTUAL	RCG	USER1	USER2	USER3
L1 (Top)	NO ASSIGN	CG	Freely assignable (All layers are set to NO ASSIGN as default.)		
L2	CG	CK			
L3	CK	CG			
L4 (Bottom)	CG	CAM			

② Layer1 ON/OFF button

Indication: Shows whether Layer1 to be output. The name of video assigned to the layer is displayed on the button. The setting selection and values for Mix Mode(MODE), Key Clip(CLIP) and Key Gain(GAIN) are also displayed next to the button.

Action	Operation
Press the button on touch screen	Sets whether to output Layer1. When button is green : Layer1 is output. blue : Layer1 is not output.

③ Layer2 ON/OFF button

Indication: Shows whether Layer2 to be output. The name of video assigned to the layer is displayed on the button. The setting selection and values for Mix Mode(MODE), Key Clip(CLIP) and Key Gain(GAIN) are also displayed next to the button.

Action	Operation
Press the button on touch screen	Sets whether to output Layer2. When button is green : Layer2 is output. blue : Layer2 is not output.

④ Layer3 ON/OFF button

Indication: Shows whether Layer3 to be output. The name of video assigned to the layer is displayed on the button. The setting selection and values for Mix Mode(MODE), Key Clip(CLIP) and Key Gain(GAIN) are also displayed next to the button.

Action	Operation
Press the button on touch screen	Sets whether to output Layer3. When button is green : Layer3 is output. blue : Layer3 is not output.

⑤ Select Mix Mode between Add (full additive mix) and Normal (normal mix).

Action	Operation
Turn the top right knob.	Selects how to mix the layer with the one beneath from Add and Normal.

⑥ Set Key Clip for mixing.

Action	Operation
Turn the bottom left knob.	Adjusts the key clip level for the selected layer. FINE: ± 1 COARSE: ± 10 Setting range: 0 - 100
Press the bottom right knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the bottom left knob.	Changes tuning mode between "FINE" and "COARSE".

⑦ Set Key Gain for mixing.

Action	Operation
Turn the bottom left knob.	Adjusts the key gain for the selected layer. FINE: ± 1 COARSE: ± 50 Setting range: 0 - 3199
Press the bottom right knob.	Changes the value between UNITY (100) and VARIABLE.
Hold down the bottom left knob.	Changes tuning mode between "FINE" and "COARSE".

⑧ Menu access button

Action	Operation
Press the button on touch screen	Opens OUTPUT SELECT menu.

⑨ Return to the Top menu

Action	Operation
Press the button on touch screen	Returns to Top menu.

⑩ Menu access button

Action	Operation
Press the button on touch screen	Opens MIXER2 SETTING menu.

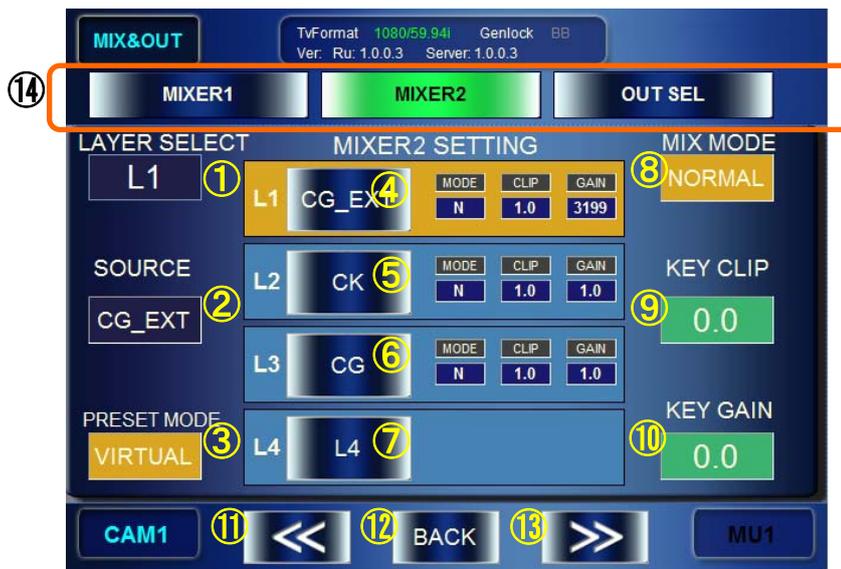
⑪ Menu access buttons

Action	Operation
Press the button on touch screen	Opens the menu corresponding to the button pressed.

5-6-2. MIXER2 SETTING Menu

The MIXER2 SETTING menu allows you to make setting for MIXER2.

In the MBP video mixing, L1 is the uppermost layer and L3 is the lowermost layer.



① Select a layer to set Mix Mode, Key Clip, and Key Gain for.

Indication: Shows the currently selected layer.

Action	Operation
Turn the top left knob.	Selects a layer. (The lowermost layer, L3 is not selectable.)

② Layer source selection box

Allows you to select a source signal for layers. (If the Layer mode is set to VIRTUAL or RCG at the following ③, the value cannot be changed.)

Indication: Shows the source signal of the layer selected at ①.

Action	Operation
Turn the middle left knob.	Selects a type of source signals. Options: "CAM (INT/EXT)", "CK (INT/EXT)", "CG (INT/EXT)", "STILL", "CG2", "V1 IN", "V2 IN", "NO ASSIGN"
Press the middle left knob.	Confirms the selection shown in the box. The confirmed value is indicated with orange background..

③ Layer structure mode selection box

Allows you to select a mode of layer structures.

Indication: Shows the selected layer structure mode.

Action	Operation
Turn the bottom left knob.	Selects a layer structure mode. Options: "VIRTUAL", "RCG", "USER1", "USER2", "USER3"
Press the bottom left knob.	Confirms the selection of the layer structure mode. The confirmed value is indicated with orange background..

④ Layer1 ON/OFF button

Indication: Shows whether Layer1 to be output. The name of video assigned to the layer is displayed on the button. The setting selection and values for Mix Mode(MODE), Key Clip(CLIP) and Key Gain(GAIN) are also displayed next to the button.

Action	Operation
Press the button on touch screen	Sets whether to output Layer1. When button is green : Layer1 is output. blue : Layer1 is not output.

⑤ Layer2 ON/OFF button

Indication: Shows whether Layer1 to be output. The name of video assigned to the layer is displayed on the button. The setting selection and values for Mix Mode(MODE), Key Clip(CLIP) and Key Gain(GAIN) are also displayed next to the button.

Action	Operation
Press the button on touch screen	Sets whether to output Layer2. When button is green : Layer2 is output. blue : Layer2 is not output.

⑥ Layer3 ON/OFF button

Indication: Shows whether Layer1 to be output. The name of video assigned to the layer is displayed on the button. The setting selection and values for Mix Mode(MODE), Key Clip(CLIP) and Key Gain(GAIN) are also displayed next to the button.

Action	Operation
Press the button on touch screen	Sets whether to output Layer3. When button is green : Layer3 is output. blue : Layer3 is not output.

⑦ Layer4 ON/OFF button

Indication: Shows whether Layer1 to be output. The name of video assigned to the layer is displayed on the button. The setting selection and values for Mix Mode(MODE), Key Clip(CLIP) and Key Gain(GAIN) are also displayed next to the button.

Action	Operation
Press the button on touch screen	Sets whether to output Layer4. When button is green : Layer4 is output. blue : Layer4 is not output.

⑧ Select Mix Mode between Add (full additive mix) and Normal (normal mix).

Action	Operation
Turn the top right knob.	Selects how to mix the layer with the one beneath from Add and Normal.

⑨ Set Key Clip for mixing.

Action	Operation
Turn the bottom left knob.	Adjusts the key clip level for the selected layer. FINE: ± 1 COARSE: ± 10 Setting range: 0 - 100
Press the bottom right knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the bottom left knob.	Changes tuning mode between "FINE" and "COARSE".

⑩ Set Key Gain for mixing.

Action	Operation
Turn the bottom left knob.	Adjusts the key gain for the selected layer. FINE: ± 1 COARSE: ± 50 Setting range: 0 - 3199
Press the bottom right knob.	Changes the value between UNITY (0) and VARIABLE.
Hold down the bottom left knob.	Changes tuning mode between "FINE" and "COARSE".

⑪ Menu access button

Action	Operation
Press the button on touch screen	Opens MIXER1 SETTING menu.

⑫ Return to the Top menu

Action	Operation
Press the button on touch screen	Returns to Top menu.

⑬ Menu access button

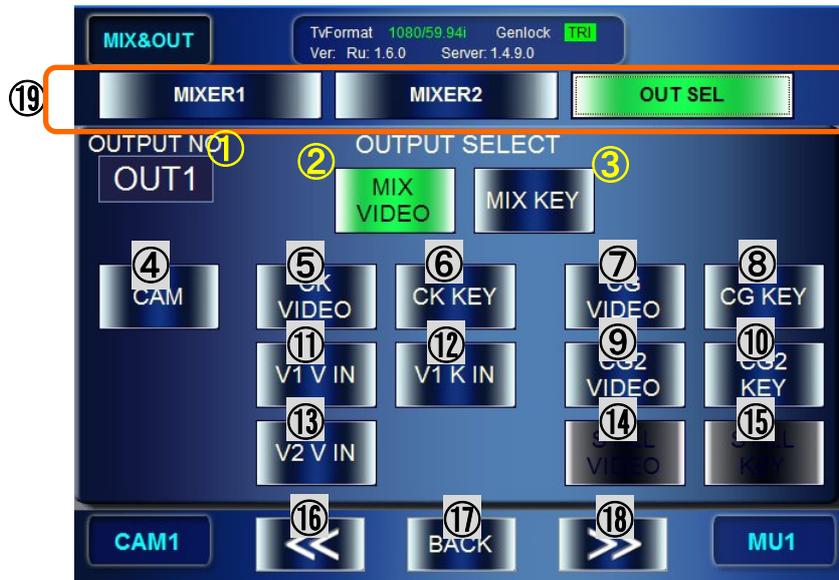
Action	Operation
Press the button on touch screen	Opens OUTPUT SELECT menu.

⑭ Menu access buttons

Action	Operation
Press the button on touch screen	Opens the menu corresponding to the button pressed.

5-6-3. OUTPUT SELECT Menu

The OUTPUT SELECT menu allows you to control output signals for each output channel.



① Select OUTPUT

Action	Operation
Turn the top left knob.	Selects a output channel to make settings for from OUT1 through OUT4.

② Output the MIX VIDEO(video signal of mixed video) from the output selected at ①.

Action	Operation
Press the button on touch screen	Outputs the MIX VIDEO from the output selected at ①. When button is green : Being output blue : Other source is selected

③ Output the MIX KEY(key signal of mixed video) from the output selected at ①.

Action	Operation
Press the button on touch screen	Outputs the MIX KEY from the output selected at ①. When button is green : Being output blue : Other source is selected

④ Output the CAM(camera image signal) from the output selected at ①.

Action	Operation
Press the button on touch screen	Outputs the CAM from the output selected at ①. When button is green : Being output blue : Other source is selected

⑤ Output the CG VIDEO from the output selected at ①.

Action	Operation
Press the button on touch screen	Outputs the CG VIDEO from the output selected at ①. When button is green : Being output blue : Other source is selected

- ⑥ Output the CG KEY(computer graphics key signal) from the output selected at ①.

Action	Operation
Press the button on touch screen	Outputs the CG KEY from the output selected at ①. When button is green : Being output blue : Other source is selected

- ⑦ Output the CK VIDEO(video signal of chromakeyd video) from the output selected at ①.

Action	Operation
Press the button on touch screen	Outputs the CK VIDEO from the output selected at ①. When button is green : Being output blue : Other source is selected

- ⑧ Output the CK KEY(key signal of chromakeyed video) from the output selected at ①.

Action	Operation
Press the button on touch screen	Output the CK KEY from the output selected at ①. When button is green : Being output blue : Other source is selected

- ⑨ Output the CG2 VIDEO (CG2 video signal) from the output selected at ①.

Action	Operation
Press the button on touch screen	Output the CG 2 VIDEO from the output selected at ①. When button is green : Being output blue : Other source is selected Disabled in the system with MBP-100CK.

- ⑩ Output the CG2 KEY (CG2 key signal) from the output selected at ①.

Action	Operation
Press the button on touch screen	Output the CG 2 KEY from the output selected at ①. When button is green : Being output blue : Other source is selected Disabled in the system with MBP-100CK.

- ⑪ Output the V1 IN VIDEO (V1 input video signal) from the output selected at ①.

Action	Operation
Press the button on touch screen	Output the V1 IN VIDEO from the output selected at ①. When button is green : Being output blue : Other source is selected Disabled in the system with MBP-100CK.

- ⑫ Output the V1 IN KEY (V1 input key signal) from the output selected at ①.

Action	Operation
Press the button on touch screen	Output the V1 IN KEY from the output selected at ①. When button is green : Being output blue : Other source is selected Disabled in the system with MBP-100CK.

- ⑬ Output the V2 IN VIDEO (V1 input video signal) from the output selected at ①.

Action	Operation
Press the button on touch screen	Output the V2 IN VIDEO from the output selected at ①. When button is green : Being output blue : Other source is selected Disabled in the system with MBP-100CK.

- ⑭ Output the STILL VIDEO(video signal of internally generated still image) from the output selected at ①.

Action	Operation
Press the button on touch screen	Output the STILL VIDEO from the output selected at ①. This button is active only if MBP-100CK is connected. When button is green : Being output blue : Other source is selected

- ⑮ Output the STILL KEY(key signal of internally generated still image) from the output selected at ①.

Action	Operation
Press the button on touch screen	Output the STILL KEY from the output selected at ①. This button is active only if MBP-100CK is connected. When button is green : Being output blue : Other source is selected

- ⑯ Menu access button

Action	Operation
Press the button on touch screen	Opens MIXER 2 SETTING menu.

- ⑰ Return to the MIX & OUT menu

Action	Operation
Press the button on touch screen	Opens Top menu.

- ⑱ Menu access button

Action	Operation
Press the button on touch screen	Opens MIXER1 SETTING menu.

- ⑲ Menu access buttons

Action	Operation
Press the button on touch screen	Opens the menu corresponding to the button pressed.

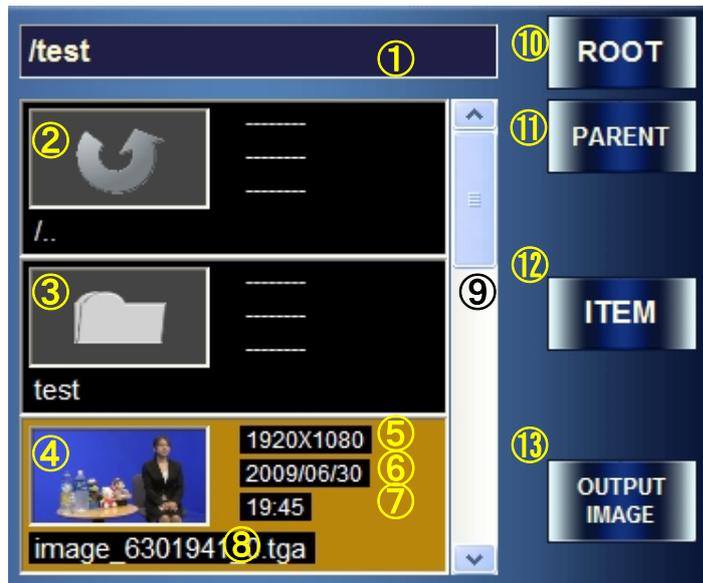
5-7. STILL & CAPTURE Menu (MBP-100CK)

MBP-100CK enables you to capture images from input in CAM connector, save the captured images as still image files, use those saved data in place of camera input, and output the still images saved in the MBP-100CK.

This menu consists of STILL menu and CAPTURE menu.

◆ Directory display

In both the STILL menu and the CAPTURE menu, the dedicated directories in MBP-100CK are displayed. This section describes the directory display in the menu pages.



- ① Shows the currently selected directory.
- ② Parent directory icon. Press the icon, and then it goes to the directory one above the current directory. (If the current directory is a root directory, this icon is not visible.)
- ③ Subdirectory icon. Press the icon, and then it goes to a subdirectory.
- ④ Displays the image file in the current directory with their thumbnails.
- ⑤ Displays the file size.
- ⑥ Displays the saved date of the file.
- ⑦ Displays the saved time of the file.
- ⑧ Displays the file name.
- ⑨ A scroll bar. This is used when there are multiple still files in the directory to display other files in the directory that are not currently visible in the box. (This scroll bar also responds to the middle right knob.)
- ⑩ Returns to the root directory. (that is in MBP-100CK and specified by MBP-12Server.)
- ⑪ Returns to the directory one above the current directory. (The root directory is the highest.)
- ⑫ Selects scroll size for the scroll bar from one file (ITEM) or three files (PAGE). If PAGE is selected, the button lights up green and the text on the button changes to PAGE.
- ⑬ Output image button. Press the button to output the image in the selected file. (If it is pressed in the STILL menu, the image will be output to STILL OUT connector. If it is pressed in the CAPTURE menu, the image will be output to CAM output and also will be output as a source material for chromakeying.)

5-7-1. STILL Menu

The STILL menu allows you to select a still image to output.



- ① Return to the root directory

Action	Operation
Press the button on touch screen	Returns to the root directory of the Still file directory specified by MBP-12SERVER. (If the currently displayed directory is the root directory, the action is ineffective.)

- ② Return to the parent directory of the current directory

Action	Operation
Press the button on touch screen	Returns to the parent directory one above the current directory. (If the currently displayed directory is the root directory, the action is ineffective.)

- ③ Display the selected directory

Action	Operation
Turn the middle right knob.	Changes the display of items and the item selection. The background of the selected item is orange.
Press the middle right knob	If the selected item is; <ul style="list-style-type: none"> ✧ Parent directory icon Returns to the parent directory of the current directory. ✧ Subdirectory Goes to the selected subdirectory.

- ④ Scroll size switch button

Action	Operation
Press the button on touch screen	Changes the scroll size between ITEM ↔ PAGE.
Hold down the middle right knob.	Operates the same as above.

- ⑤ Output image button

Action	Operation
Press the button on touch screen	Outputs the selected file as a still image. Before outputting the image, the confirmation message dialog appears. Select OK to confirm the output.
Press the bottom right button.	Operates the same as above.

⑥ Menu access button

Action	Operation
Press the button on touch screen	Opens CAPTURE menu.

⑦ Return to the Top menu

Action	Operation
Press the button on touch screen	Returns to TOP menu.

⑧ Menu access button

Action	Operation
Press the button on touch screen	Opens CAPTURE menu.

⑨ Menu access buttons

Action	Operation
Press the button on touch screen	Opens the menu corresponding to the button pressed.

5-7-2. CAPTURE Menu

The CAPTURE menu allows you to output the stored still images of the captured CAM input as source materials for chromakeying.



① Thumbnail of captured image is displayed.

Action	Operation
Touch the thumbnail.	Captures the current input image in CAM and displays the thumbnail of the captured image.
Press the top left knob.	Operates the same as above.
Touch the thumbnail for at least 2 seconds and release.	Stores the captured image in the current directory with the name indicated in ②. If there is a file or a folder of the same name, a warning message appears. Change the name and save the image.
Hold down the top left knob.	Operates the same as above.

② Display the name of a file to be stored.

Action	Operation
Press the middle left knob.	Automatically renames the file according to the MBP-12RU naming rule. (Updates the time part)
Touch the box.	Operates the same as above.
Hold down the middle left knob.	Opens the text input panel to enable you to change the file name.
Touch the box for at least 2 seconds and release.	Operates the same as above.

* MBP-12RU naming rule

Name string = IMAGE_#\$\$%

#: Current month

\$\$: Current date

%%: Time (time/minute/second) (The time when the first time STILL&CAPTURE menu is opened after the startup of the MBP-12RU.)

③ Change chromakey source materials

Switches source materials to be used for chromakeying between an input image in CAM connector and a still image file.

Action	Operation
Press the bottom left knob.	Switches the selection of the source material. <ul style="list-style-type: none"> ◇ INT (button is green) Still image files will be used for the chromakeying. ◇ EXT (button is blue) Input images in CAM connector will be used for the chromakeying.

④ Return to the root directory.

Action	Operation
Press the button on touch screen	Changes the directory display to display the root directory of stored captured image files which is specified by the MBP-12SERVER. (If the currently displayed directory is the root directory, the action is ineffective.)

⑤ Return to the parent directory of the current directory

Action	Operation
Press the button on touch screen	Returns to the parent directory one above the current directory. (If the currently displayed directory is the root directory, the action is ineffective.)

⑥ Display the selected directory

Action	Operation
Turn the middle right knob.	Changes the display of items and the item selection. The background of the selected item is orange.
Press the middle right knob.	If the selected item is; <ul style="list-style-type: none"> ◇ Parent directory icon Returns to the parent directory of the current directory. ◇ Subdirectory Goes to the selected subdirectory.

⑦ Scroll size switch button

Action	Operation
Press the button on touch screen	Changes the scroll size between ITEM ↔ PAGE.
Hold down the middle right knob.	Operates the same as above.

⑧ Output the selected file

Action	Operation
Press the button on touch screen	Outputs the selected file as a source material for chromakeying, if ③ is set to INT.
Press the bottom right knob.	Operates the same as above.

⑨ Menu access button

Action	Operation
Press the button on touch screen	Opens STILL menu.

⑩ Return to the Top menu

Action	Operation
Press the button on touch screen	Returns to Top menu.

⑪ Menu access button

Action	Operation
Press the button on touch screen	Opens STILL menu.

⑫ Menu access buttons

Action	Operation
Press the button on touch screen	Opens the menu corresponding to the button pressed.

5-8. EVENT Menu

The EVENT menu allows you to browse, load, save, delete, or rename the data(event) of MBP-1244 settings. The saving does not store the events to MBP-12RU. They are stored to the PC in which MBP-1244 is installed.



- ① Listed display of events. Shows the event selected at ③ and each three events which preceded and followed.

Action	Operation
Turn the top left knob.	Shows the selected event and each three events which preceded and followed. The events in which data is stored are shown with the white letters on the blue background . The events without any stored data are shown with the gray letters on the black background .

- ② Change the name of the selected event.

Action	Operation
Press the button on touch screen	Opens the event name input panel to enable you to enter a name for the event. The event name will be changed when it is confirmed on the panel.
Press the top left knob.	Operates the same as above.

- ③ Select an event to be the subject of SAVE, LOAD, DELET, or RENAME.

Action	Operation
Turn the top left knob.	Selects event number (1 - 100)
Press the top left knob.	Resets the number to 1 to select the event number 1.
Press the numeric value box on the touch screen.	Opens the numeric input panel so that you can input numeric value.

- ④ Shows the TV FORMAT(standard) specified in the data which is stored in the selected event.

Action	Operation
Not for change	Show the TV standard of the selected event. " NOT SET " is indicating no event is stored in the event.

- ⑤ Save the current setting in the selected event.

Action	Operation
Press the button on touch screen.	Saves the current setting data in the selected event. The message asking "Do you want to save EVENT No*?" appears. Press OK . Then the operation will be processed.
Press the top right knob.	Ditto

- ⑥ Delete the data saved in the selected event, so the event will be empty. (Effective only for the events that have saved data.)

Action	Operation
Press the button on touch screen.	Deletes the data in the selected event. The message asking "Do you want to delete EVENT No*?" appears. Press OK . Then the operation will be processed.
Press the middle right knob.	Ditto

- ⑦ Apply the setting data saved in the selected event to the current settings. (Effective only with the events that have saved data.)

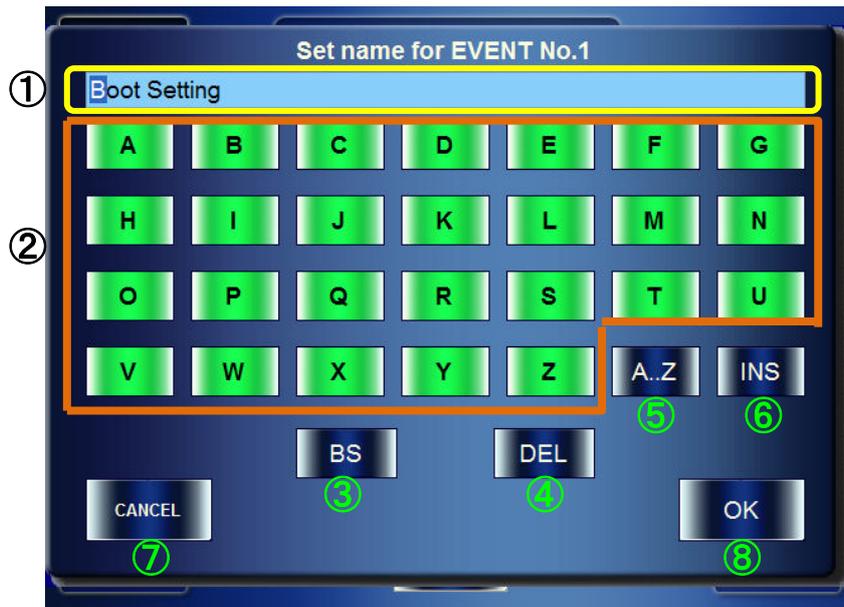
Action	Operation
Press the button on touch screen.	Update the current setting with the setting data of the selected event. The message asking "Do you want to load EVENT No*?" appears. Press OK . Then the operation will be processed.
Press the bottom right knob.	Ditto

- ⑧ Return to the Top menu

Action	Operation
Press the button on touch screen.	Returns to Top menu.

5-8-1. Event Name Input Panel

The event name input panel appears for renaming events to enter the names.



- ① Shows the currently typed characters. The cursor position is shown with the blue background.

Action	Operation
Turn the top left knob.	Moves the cursor.
Press the top left knob.	Delete a character at the cursor position.
Hold down the top left knob.	Delete the string.
Turn the top right knob.	Changes the displayed character at the cursor position. The characters are ordered from A - Z, a - z, 0 - 9, -, _, to the blank character.
Press the top right knob.	Changes the character display in ② to A-Z → a-z→0-9.

- ② Character selection buttons

Use the buttons to enter the name. The character indicated on the button is entered at the cursor position in ①.

Action	Operation
Press the button.	The character indicated on the button is entered at the cursor position.

- ③ Delete the character before the cursor position.

Action	Operation
Press the button.	Deletes the character before the cursor position.

- ④ Delete a character at the cursor position.

Action	Operation
Press the button.	Deletes a character at the cursor position.

- ⑤ Change the character display in ②.

Action	Operation
Press the button.	Changes the character display in ② to A-Z → a-z→0-9.

- ⑥ Change the mode how to enter the character input between Insert mode and Overwrite mode.

Action	Operation
Press the button.	Changes the character input entering mode. When the button is green: Insert mode blue: Overwrite mode

- ⑦ Cancel the change of the event name.

Action	Operation
Press the button.	Cancels the name inputs and closes the event name input panel. (The event name is not changed.)

- ⑧ Apply the change on the event name.

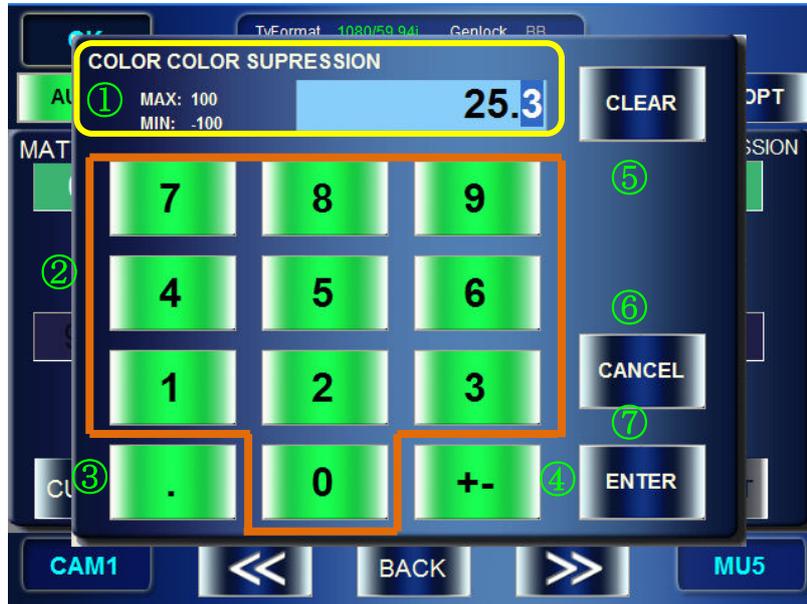
Action	Operation
Press the button.	Determines the renaming and closes the event name input panel. (The event name is changed to the name entered here.)

IMPORTANT

The buttons and knobs on the front panel are inactive while the event name input panel is open.

5-9. Numeric Input Panel

Numeric data in MBP-12RU can be changed using either knobs on the front panel or the numeric input panel which is opened by touching the value boxes in menus. This section explains how to use the numeric input panel.



- ① Shows information for numeric inputs.
- Name of the parameter being adjusted is shown at the top left of the panel.
 - Possible maximum value and minimum value are shown at the top left of the panel.
 - If a value which exceeds the range of possible maximum and minimum values is entered, the MAX or MIN indication turns to red and the value in the value box is changed to the possible maximum or minimum value.

② Number buttons

Action	Operation
Press the button.	A push on a number button enters the number in the first digit (or the first decimal digit). Next push on a number button carries the first entered number to the next digit and enters the newly entered number in the first digit, and so on.

③ Decimal switch button

This button is enabled only if the selected parameter may have decimal values.

Action	Operation
Press the button.	Changes which to enter the number as between the actual number or the fractional number.

④ Sign button

This button is enabled only if the selected parameter may have negative values.

Action	Operation
Press the button.	Every press on the button switches between positive value and negative value.

⑤ Clear button

Action	Operation
Press the button.	Clears the value in the numeric box (resets to 0).

⑥ Cancel button

Action	Operation
Press the button.	Closes the numeric panel. The value in the numeric box is not changed.

⑦ Enter button

Action	Operation
Press the button.	Closes the numeric panel. The value in the numeric box is changed.

6. Specifications and Dimensions

6-1. Specifications

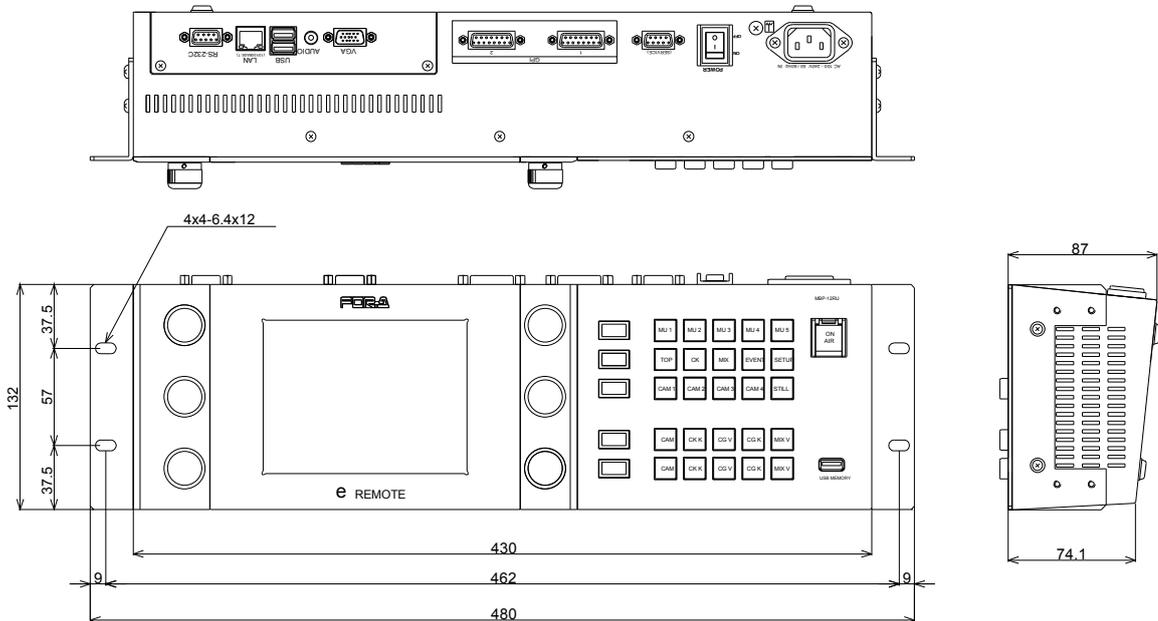
Interface

LAN	100BASE-TX, RJ-45 connector, 1 port
USB	USB2.0, Type A connector, 3 ports
Other connectors are not in use.	

Temperature	10°C - 40°C
Humidity	30% - 90% (No condensation)
Power	100VAC - 240VAC ±10%, 50/60Hz
Consumption	Approx. 25VA (100V), 31VA (200V)
Dimensions	430 (W) x 87 (H) x 132 (D) mm, EIA 3RU
Weight	Approx. 4 kg
Consumables	Battery: CR2032 (Replace approx. every 5 years, at the use in 25°C)

6-2. External Dimensions

(All dimensions in mm)



Appendix

MBP-12RU Switch Assign Builder

About MBP-12RU Switch Assign Builder

- Enables creating assignment files for MBP-12RU front panel buttons
- Allows you to rename the bank indicators installed on the MBP-12RU front panel (The settings are embedded in the assignment file.)
- Preinstalled on MBP-12RU (a mouse and a keyboard required)
- It can be installed on the computer on which WINDOWS XP ServicePack2 or later is installed

Installing MBP-12RU Switch Assign Builder

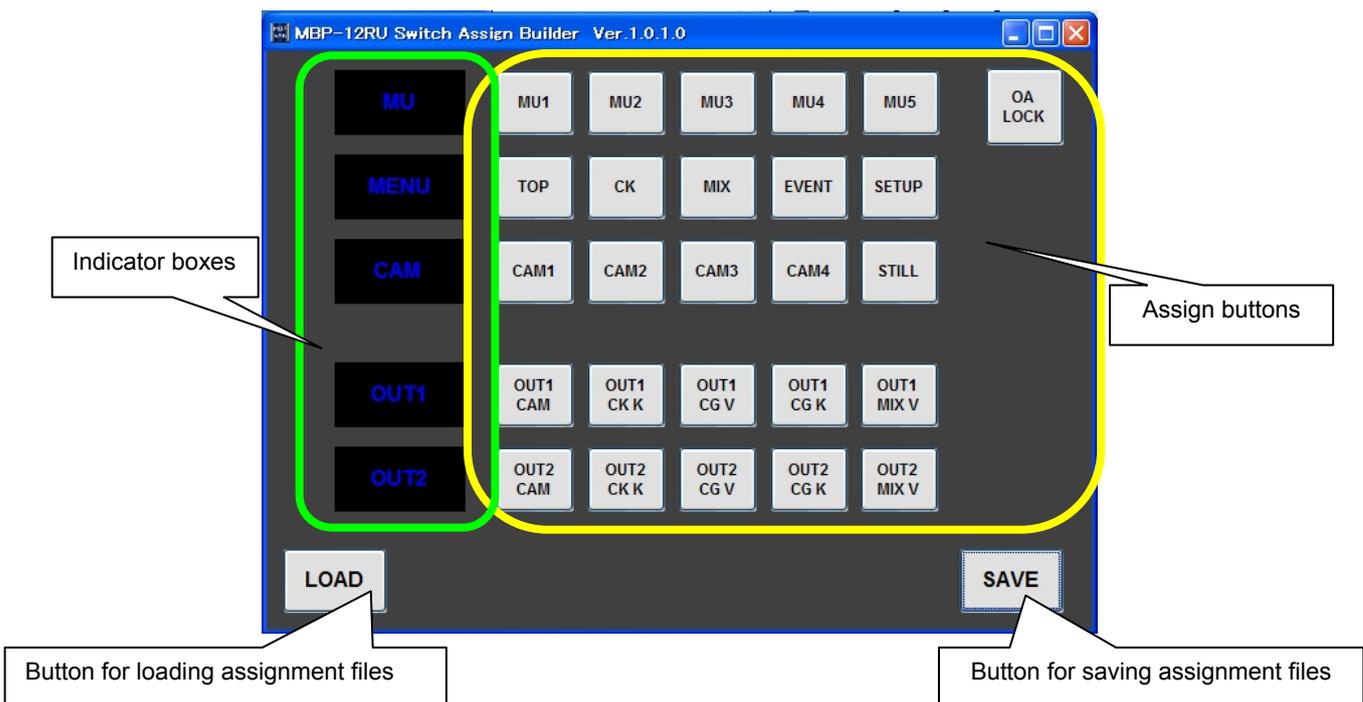
You will need to use the **MBP-12RU_SAB Installation CD** supplied with MBP-12RU.

- 1) Insert the CD into the CD-ROM drive of your computer.
- 2) Run **Setup_English \setup.exe**.
- 3) Follow the instructions in the wizard to install the application.

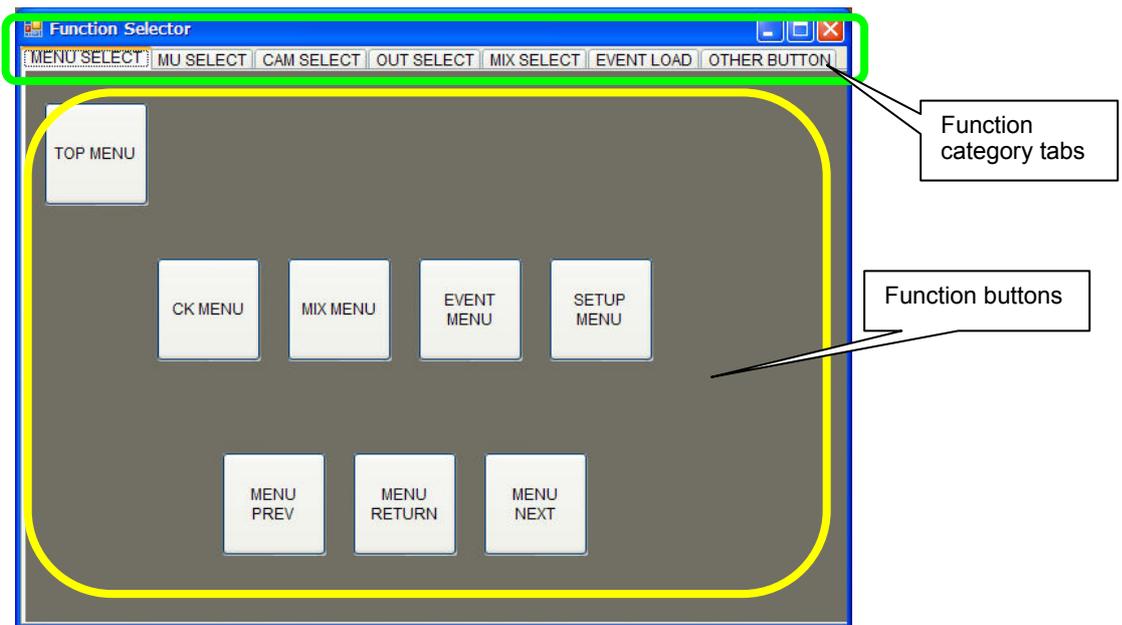
Changing Assignments

This section explains how to change the assignments using **MBP-12RU Switch Assign Builder (MBP-12RU SAB)**.

- 1) Start **MBP-12RU SAB**. If you are running MBP-12RU SAB on MBP-12RU, close the main application and double-click the **MBP-12RU SAB** icon under the **MBP-12RU** folder on the desktop. If you are running MBP-12RU SAB on a computer instead of MBP-12RU, choose **Start > All Programs > FOR-A > MBP-12RU_SAB > * * * *** and click **MBP-12RU_SAB** (* * * * is the version number). For running MBP-12RU SAB on MBP-12RU, it is recommended that a USB mouse and a keyboard be connected to MBP-12RU.
- 2) After the application is started, the screen as shown below is displayed. The layout of buttons on the screen corresponds to the layout of actual buttons on MBP-12RU. The **LOAD** button and the **SAVE** button are used for loading and saving the assignment files respectively. When the application is started, the default assignment is applied.



- 3) To change an assignment, click a button you wish to change the assignment. The **Function Selector** window is displayed.



- 4) Click to select a function category tab that contains the function button you wish to select, and click the function button. The **Function Selector** window is automatically closed. The change is applied to the button on the main screen.
- 5) To rename an indicator box, click an indicator box you wish to rename. Enter the name using a keyboard (up to 4 characters). Characters that can be used are: a to z, A to Z, 0 to 9, underbar (_), dash (-), space ()
- 6) To change the color of an indicator box, click an indicator box you wish to change the color of. The pop-up menu appears. Select a color in the pop-up menu.
- 7) Repeat the steps 3) to 6) to all assign buttons and indicator boxes you wish to change the assignment or rename.
- 8) After changing settings, click the **SAVE** button to save an assignment file. If you are running MBP-12RU SAB on a computer, save the file to the desired location, and copy the file under **C:\MBP-12RU\DATA** on MBP-12RU (by using a USB memory). If you are running MBP-12RU SAB on MBP-12RU, save the file under **C:\MBP-12RU\DATA**.

Applying Assignments to MBP-12RU

This section explains how to change the button assignments on the MBP-RU using the assignment file created in the previous section.

- 1) On MBP-12RU, specify the file that you created in **SW CONFIG** in the **RU SETUP** menu under the **SETUP** menu.
- 2) Close the application and restart MBP-12RU to apply the assignment (see 5-4-6 for details).

Be sure to turn off the power of MBP-12RU for replacing the button films.

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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