NT110

Operation Manual (EN)

Second Edition

2D-53-0002690A

About This Manual

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1-2   Touch Panel

The touch panel displays the audio meter, channel settings, etc. It also allows you to make various setting of mixers with touch panel operation.

1-3   Preset Program

Perform various controls of the Preset Program (function to store and recall mixer settings to and from the internal memory).
The Preset Program memory has a capacity for storing 99 mixer settings.
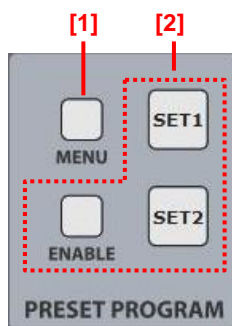
[1]   MENU

Displays the Preset Program menu on the touch panel.
After the menu appears, press this button again to return to the Meter screen.

[2]   SET1/SET2/ENABLE

Press and hold the Set1 button while pressing the Enable button to recall Preset Program No.1.
Press and hold the Set2 button while pressing the Enable button to recall Preset Program No.2.

1-4   DSP/On Air
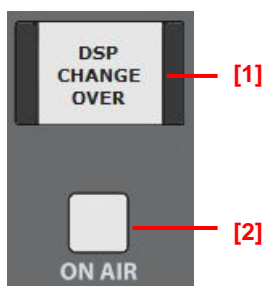
[1]   DSP CHANGE OVER

If DSP cards are in a redundant configuration, press this button to activate the DSP card mounted in the Secondary DSP Slot.
If DSP Auto Changeover is set to ENABLE in the Setup menu, the DSP card is automatically switched. In this case, this button is used to forcibly select the DSP card mounted in the Secondary DSP Slot.

[2]   ON AIR

Press this button to set the mixer to ON AIR.
In the ON AIR status, a function selected in the Config menu (prohibiting OSC or Talk Back transmission, etc.) starts working.

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1-5   Bus Master
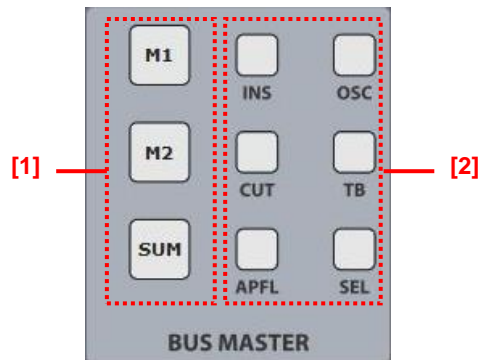
BUS MASTER

[1]   **M1/M2/SUM**
Recall Bus Master to Select Encoder.
Operate Select Encoder to adjust the Fader Level of Bus
Master.

[2]   **INS/CUT/APFL/OSC/TB/SEL**
Press one of these buttons to switch the button functions of
Select Encoder.

1-6   OSC
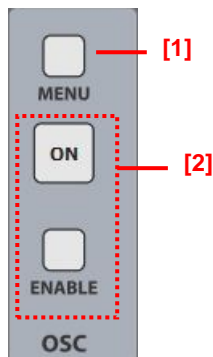
[1]   **MENU**
Displays the OSC menu on the touch panel.
After the menu appears, press this button again to return to the
Meter screen.

[2]   **ON/ENABLE**
Press the ON button while pressing the Enable button to have
OSC interrupt the output selected as OSC Set (Preset).
The ON button is lit while OSC interrupts any of the outputs.
Press the lit ON button to cancel all the OSC interruptions.

1-7   Monitor

Perform various controls of Monitors 1 to 4.
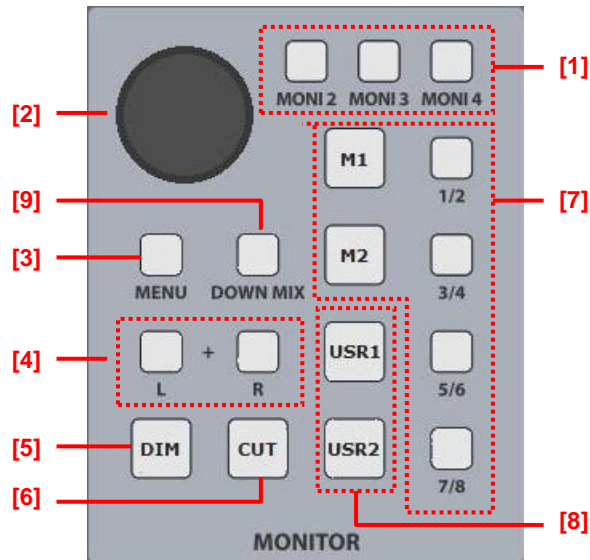
[1]   MONI2/MONI3/MONI4
Selects a monitor that you want to control. Only one of these buttons can be selected. When all the buttons are off, Moni1 is selected.

[2]   Monitor volume (Encoder)
Adjusts the monitor volume. The volume level is displayed as a numeric value on the upper right corner on the touch panel.
You can push and turn it to fine-tune the level.

[3]   MENU
Displays the Monitor menu on the touch panel.
After the menu appears, press this button again to return to the Meter screen.

[4]   L/R
Performs L and R branching. Turn on both the L and R buttons to perform L+R branching.

[5]   DIM
Turns on/off Dimmer. The volume is reduced. Set the Dimmer Level in the Monitor menu on the touch panel.

[6]   CUT
Turns on/off Cut. Audio is muted when Cut is on.

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[7] **M1/M2, 1/2, 3/4, 5/6, 7/8**

Selects M1/M2 monitor source. Selecting a combination of the M1/M2 button and the 1/2, 3/4, 5/6, or 7/8 button selects a source.

Example: If the M1 and 1/2 buttons are on, Master1-1/2 source is selected.

* You can select a monaural source by combining them with the L/R button.

Press multiple buttons (M1, M2, USR1, USR2 or 1/2, 3/4, 5/6, 7/8) on the panel of the main unit simultaneously (while holding down the first button, press other ones) to enable the Monitor Mix (Σ) function.

Selection of a monitor source using a combination of M1/M2 and 1/2, 3/4, 5/6, or 7/8 buttons

Button selection		Console Mode			
		Stereo		5.1 Surr	
M1/M2	1- 8	RESOURCE	FORMAT	RESOURCE	FORMAT
M1	OFF	M1 1/2	ST	M1 1 - 6	5.1
	1/2	M1 1/2	ST	M1 1/2	ST
	3/4	M1 3/4	ST	M1 3/4	ST
	5/6	M1 5/6	ST	M1 5/6	ST
	7/8	M1 7/8	ST	M1 7/8	ST
M2	OFF	M2 1/2	ST	M2 1 - 6	5.1
	1/2	M2 1/2	ST	M2 1/2	ST
	3/4	M2 3/4	ST	M2 3/4	ST
	5/6	M2 5/6	ST	M2 5/6	ST
	7/8	M2 7/8	ST	M2 7/8	ST

[8]   USR1/USR2

Selects a monitor source specified as User Source 1 or 2. Set the User Sources in the Monitor menu on the touch panel.

[9]   DOWN MIX

Turn on this button to downmix surround sources and monitor them.

1-8   Talk Back
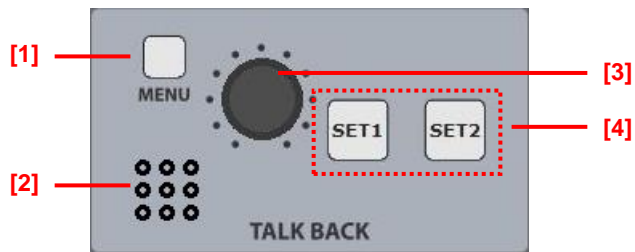
[1]   MENU
Displays the TB (Talk Back) menu on the touch panel.
After the menu appears, press this button again to return to the
Meter screen.

[2]   Built-in microphone
A built-in microphone for talkback is provided. The audio input
from this microphone is converted to talkback audio signals.

[3]   Talkback volume
Adjusts the talkback volume.

[4]   SET1/SET2
Press the Set1 button to have TB interrupt the output selected
as TB Set1 (Preset1).
Press the Set2 button to have TB interrupt the output selected
as TB Set2 (Preset2).

1-9   Mixer Control
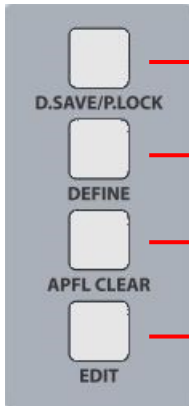
[1]   D.SAVE/P.LOCK
Press this button to enter the Display Save status in which the touch panel goes off. Press this button again to exit the status. Press and hold this button to lock the operations on the panel except using this button. Press this button again to exit the status.

[2]   DEFINE
Select Encoder can be assigned to any user-specified function. (Define)
Press this button to switch Select Encoder to the Define function for only the assigned channel.
When you press a desired Select Encoder while pressing this button in the Channel Setting screen, it is defined as the Define function of that channel.

[3]   APFL CLEAR
This button is lit when at least one of the APFL buttons is on.
Press this button while it is lit to deselect all the APFL buttons.

[4]   EDIT
Press this button to display the Edit menu on the touch panel.
The Edit menu allows you to copy and clear the channel parameters.
For details, refer to Editing Channel Parameters.

1-10   Bank/Layer
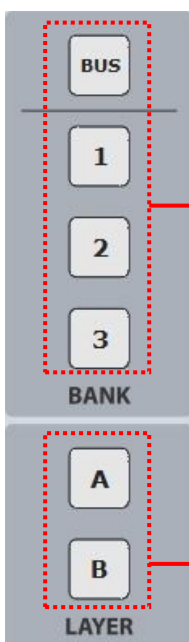
[1]   BANK 1/2/3/BUS
Switches the Fader 16 ch Banks.
There are three Banks for which the user can freely configure the layout: Bank1, Bank2, and Bank3. Each of the Banks has two layers (A/B).
Selecting the Bus switches the Fader 16 ch Banks to the Bus. The Bus Bank has two layers: Layer A fixed to M1 and M2 and Layer B fixed to Sum.

[2]   LAYER A/B
Switches the Fader 16 ch Layers.
Press this button to switch the all Fader 16 ch Layers simultaneously.
Press the Fader Sel button while pressing this button to switch Layers for each channel.

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1-11   Select Encoder

These are encoders and buttons with functions that switch for each application.
By default, they serve as the HA Gain/Trim encoders.
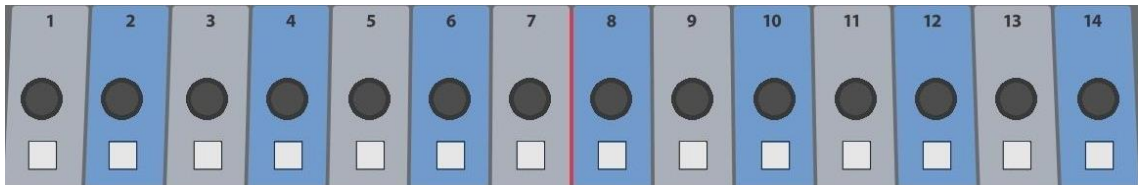
For some of the assigned functions, you can fine-tune them by rotating an encoder while pressing it.
For details of the function layout, refer to Appendix, Select Encoder Function Layout List.

1-12   Fader
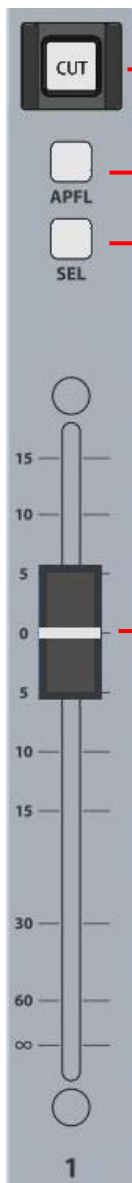
[1]   **CUT**
Turns on/off Cut. Signals of the channel are muted when Cut is on.

[2]   **APFL**
Turns on/off APFL. When it is on, channel signals are sent to the APFL Bus and interrupts the Monitor specified in the Config menu.
APFL is turned on and off every time this button is pressed. In this case, AFL signals are sent to the APFL Bus.
Press and hold this button to send PFL signals to the APFL Bus while it is pressed.

[3]   **SEL**
Normally, press this button to recall the Channel Setting screen on the touch panel and set Select Encoder to the Channel Setting function.
Channel Setting is a mode for adjusting all the parameters of a channel. When all the parameters are displayed on the touch panel, use Select Encoder to adjust the parameters.
* The Sel button serves as a function for specifying a channel in a special mode other than the above.

[4]   **Fader**
Motor fader with a 100 mm stroke. Adjusts the master volume of a channel.

1-13   Head Phone Panel
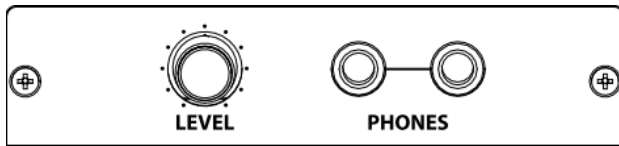
The headphone panel is located in the forefront lower part of the mixer faders.
There are two headphone jacks to each of which you can connect a headphone. (The two jacks output the same audio.)
Select output signals of a headphone in the Out Mtx menu on the touch panel.
If you set Monitor as output signals to a headphone using the Out Mtx function, the headphone audio can be linked to the Monitor source selection.

2.   Display Select

2-1   Screen Configuration

NT110 allows you to perform operations by switching between various screens on the touch panel display, thus displaying lots of information and enabling various setting operations despite a limited operation space.

The touch panel screen consists of two screen areas as shown below.

Mixer Status Area

Display Select Area
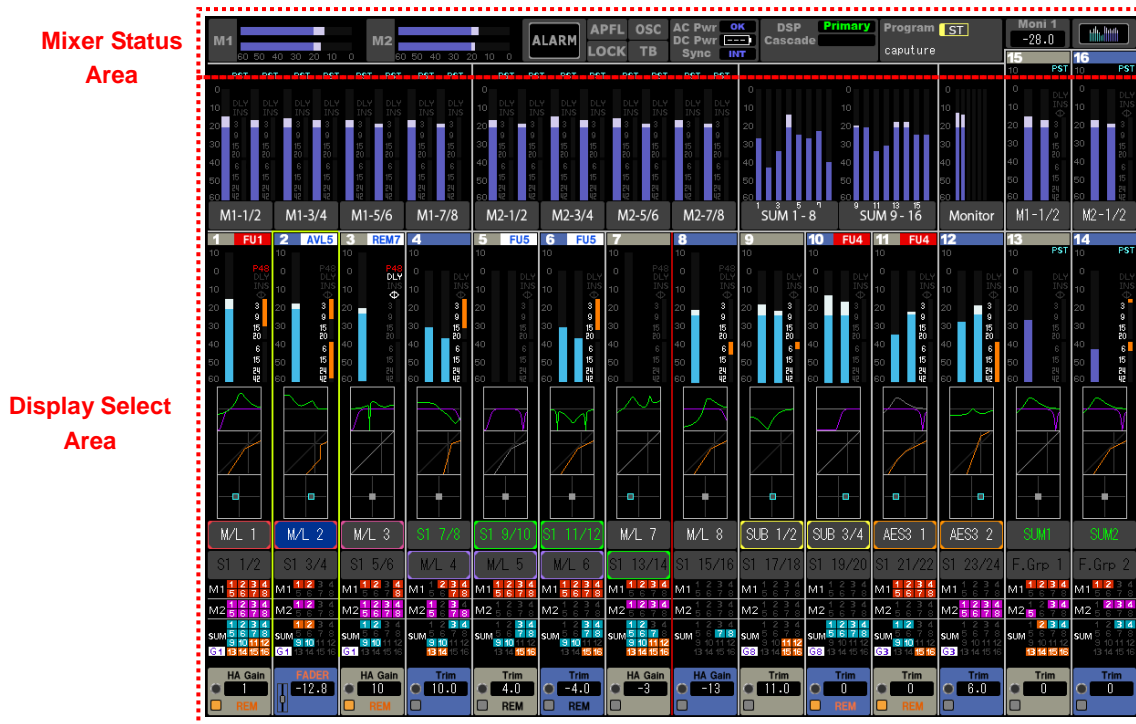
Mixer Status Area
The Mixer Status Area is constantly displayed regardless of screen switching on the touch panel. This area constantly displays the M1 and M2 meters, alarm occurrences, and various status information.

Display Select Area
This area displays the Meter, Menu, and Channel Setting screens in turn.

2-2   Switching of Touch Panel Screen Display

Meter screen

Pressing of Menu button

Menu Screen

Pressing of Sel button

Pressing of Sel button

Channel Setting Screen
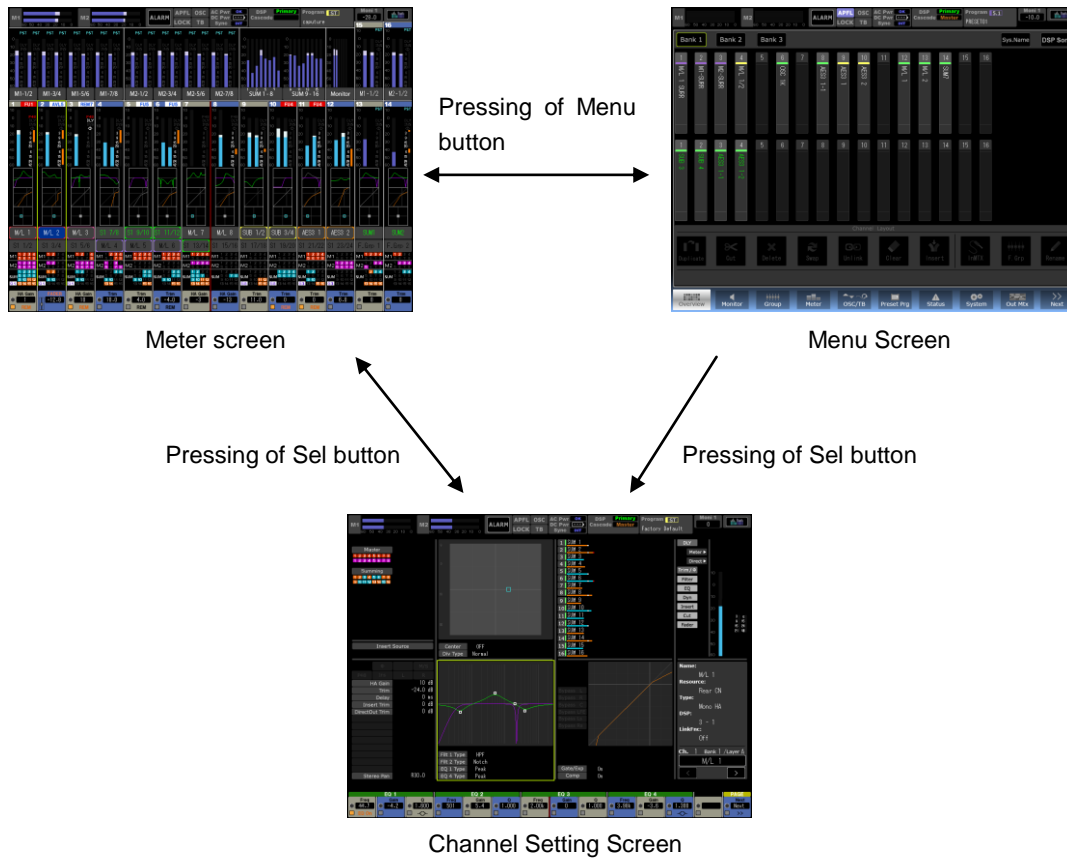
2-2-1   Overview of Screens

Meter screen
Displays bar meters and typical parameters of channels of the output Bus and a selected Bank.

Channel Setting screen
Displays all the parameters of a selected channel. Set and adjust parameters using the touch panel operation or the encoders and buttons.

Menu Screen
Allows you to make various settings of entire mixer such as the channel layout, recall the Preset Program, and display the maintenance information, etc.

2-2-2   Screen Switching

2-2-2-1   Switching to Menu Screen

1) While the Meter screen is displayed, press the Menu button in the upper part of this screen.

Meter screen   Menu Screen
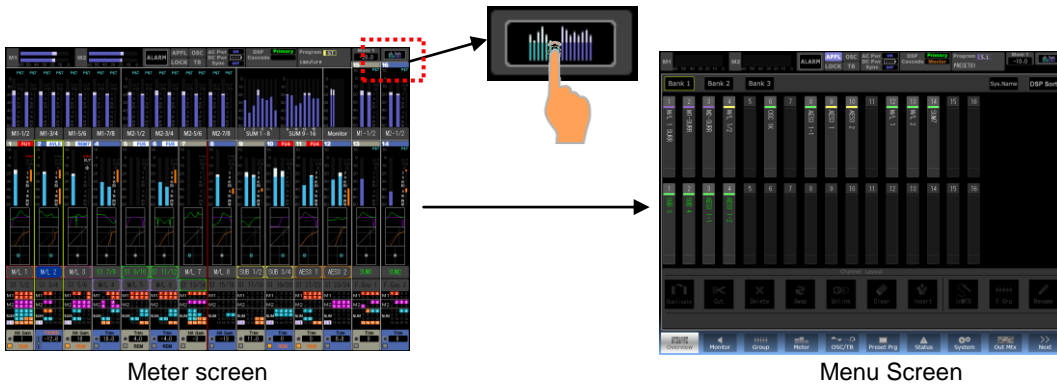
2) Press the Menu button of Talk Back//Monitor/OSC/Preset Program located at the right of the touch panel.
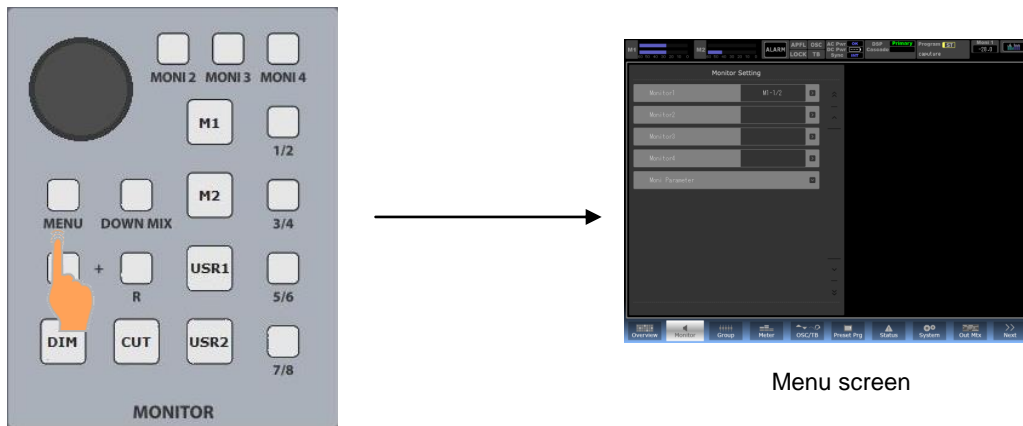
Menu screen

2-2-2-2   Switching to Meter Screen

While the Menu screen is displayed, press the Meter button in the upper part of this screen.

Menu Screen   Meter screen
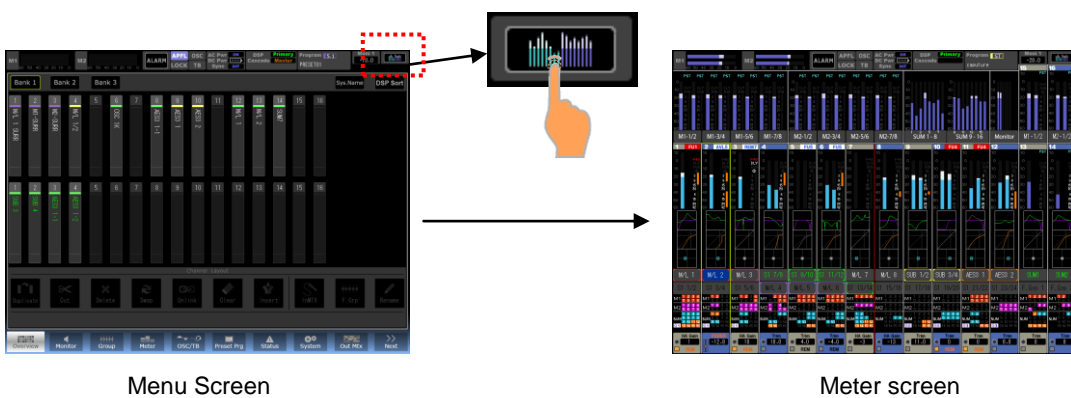
2-2-2-3   Switching to Channel Setting Screen

While the Meter or Menu screen is displayed, press the Sel button in the upper part of the Fader. The Sel button is lit and the Channel Setting screen is displayed.
While the Channel Setting screen is displayed, press the lit Sel button to display the Meter screen.

Meter/Menu screen
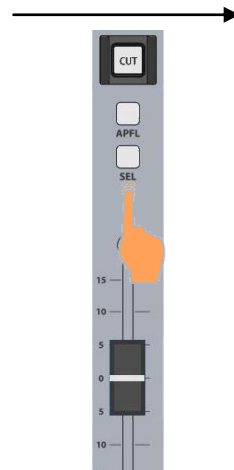
Channel Setting screen

Channel Setting screen
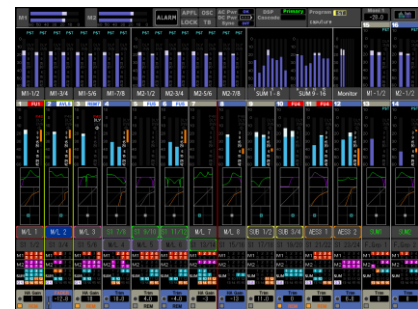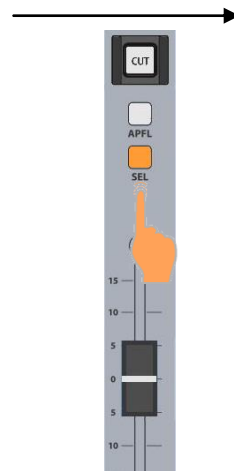
Meter screen

3.   Channel Control

3-1   Creating Channel

You can create a channel by assigning one of the target input audio, output Bus, and Fader Group master to a channel strip.
These items which can be assigned are referred to as Source in NT110. Among them, a Source used for an input audio is referred to as Input Source and is classified into categories. These Sources are shown in a list, where you select a Source to create a channel.
The channel format (Mono/Stereo/5.1) is preset for each Source. When a Source is assigned to create a channel, the channel format is automatically set according to the setting of the Source. Therefore, operators do not need to set the channel format for each channel strip.

To create a Mono channel, select a Mono Source (such as M/L 1). To create a Stereo channel, select a Stereo Source (such as M/L 1/2). To create a 5.1 Surround channel, select a 5.1 Surround Source (such as M/L 1 SURR).
You cannot create a Mono channel from a Stereo output Bus such as Sum by using the left Bus only. An output Bus channel is always created using a channel format according to that Bus format.

3-1-1   Operation Procedure

Enter the Menu screen on the touch panel. This operation is reflected on the mixer setting at once.

1   Select a channel on the Overview screen

This makes the Edit menu available.

Edit menu - InMTX

2   Select the InMTX button from the Edit menu

When you press the InMTX button from the Edit menu, the Input Matrix setting window appears.
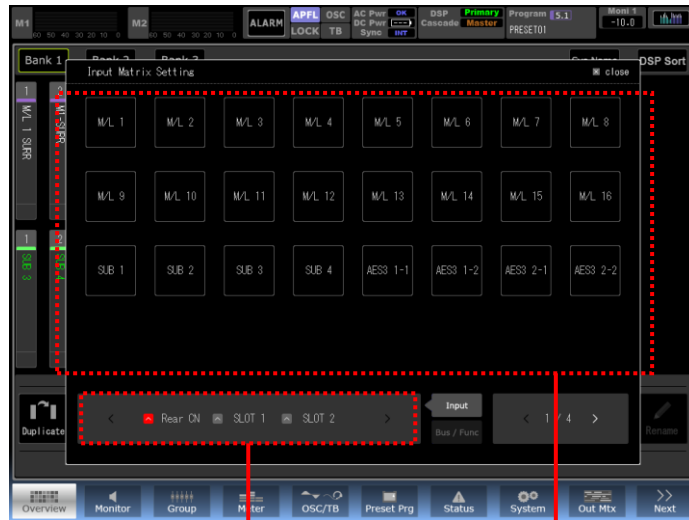
Category selection buttons   **Source selection buttons**

3   Use the category selection buttons to switch Sources, and press a Source selection button

Use the category selection buttons to switch Sources to be displayed.
When you press a Source selection button, the window is closed, and the channel is created.

To select multiple contiguous Sources to create multiple channels at a time, press and hold the first Source selection button and then press the last button.

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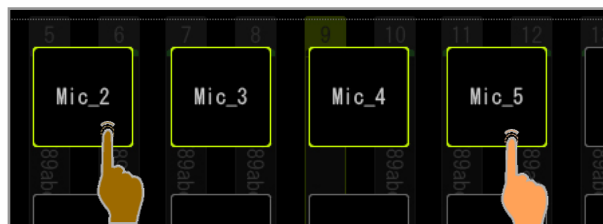
3-2   Channel Layout Function

The Overview screen on the touch panel provides various channel layout functions.
You can use these functions to freely edit the channel layout.

3-2-1   Clear
3-2-1-1   Action
Changes selected channel strips to Blank channels (Source is not assigned).

Selected channels

ch.01	ch.02	ch.03	ch.04	ch.05	ch.06	ch.07	ch.08	ch.09	ch.10
Mic1	Mic2	Mic3	Mic4	Mic5	Mic6	Mic7	Mic8	Mic9	Mic10

Before Clear

ch.01	ch.02	ch.03	ch.04	ch.05	ch.06	ch.07	ch.08	ch.09	ch.10
Mic1	Mic2	Mic3	Blank	Blank	Blank	Blank	Mic8	Mic9	Mic10

After Clear
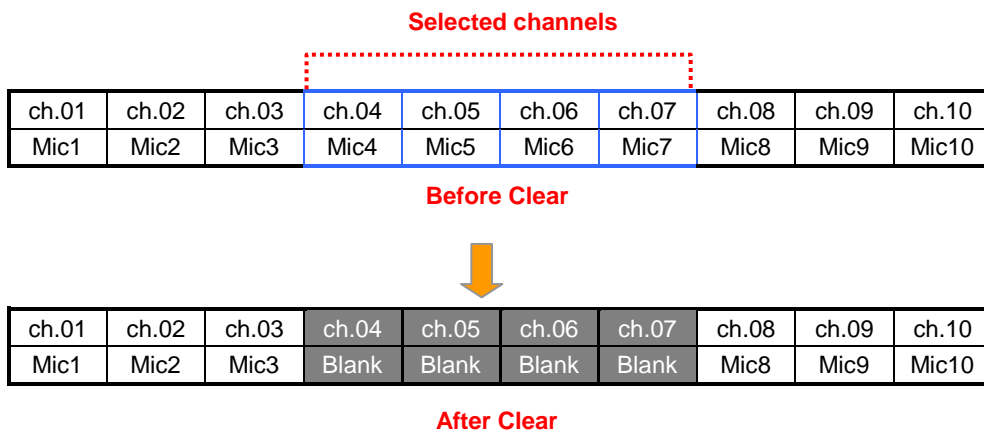
3-2-1-2   Operation Procedure
Select a channel on the Overview screen and select the CLEAR button from the Edit menu.

3-2-2   Delete
3-2-2-1   Action
Deletes selected channels, and moves the channels at the right of them to the left by the deleted channels.

Selected channels

ch.01	ch.02	ch.03	ch.04	ch.05	ch.06	ch.07	ch.08	ch.09	ch.10
Mic1	Mic2	Mic3	Mic4	Mic5	Mic6	Mic7	Mic8	Mic9	Mic10

Before Delete

ch.01	ch.02	ch.03	ch.04	ch.05	ch.06	ch.07	ch.08	ch.09	ch.10
Mic1	Mic2	Mic3	Mic8	Mic9	Mic10	Blank	Blank	Blank	Blank

After Delete
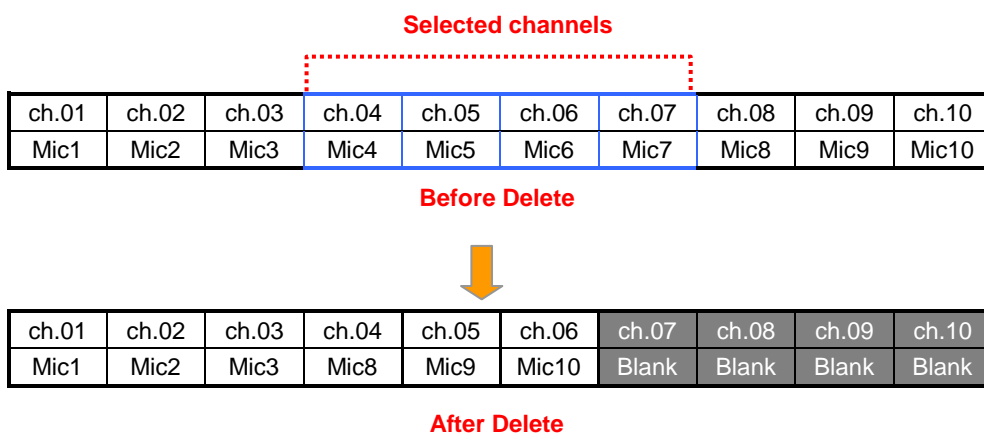
3-2-2-2   Operation Procedure
Select a channel on the Overview screen and select the DELETE button from the Edit menu.

3-2-3   Move
3-2-3-1   Action

Moves selected channels to specified channels, replacing the latters with the formers.

The moved channels become Blank channels.

Selected channels   **Move destination channels**

ch.01	ch.02	ch.03	ch.04	ch.05	ch.06	ch.07	ch.08	ch.09	ch.10
Mic1	Mic2	Mic3	Mic4	Mic5	Mic6	Mic7	Mic8	Mic9	Mic10

Before Move

ch.01	ch.02	ch.03	ch.04	ch.05	ch.06	ch.07	ch.08	ch.09	ch.10
Mic1	Mic2	Blank	Blank	Mic5	Mic6	Mic3	Mic4	Mic9	Mic10

After Move
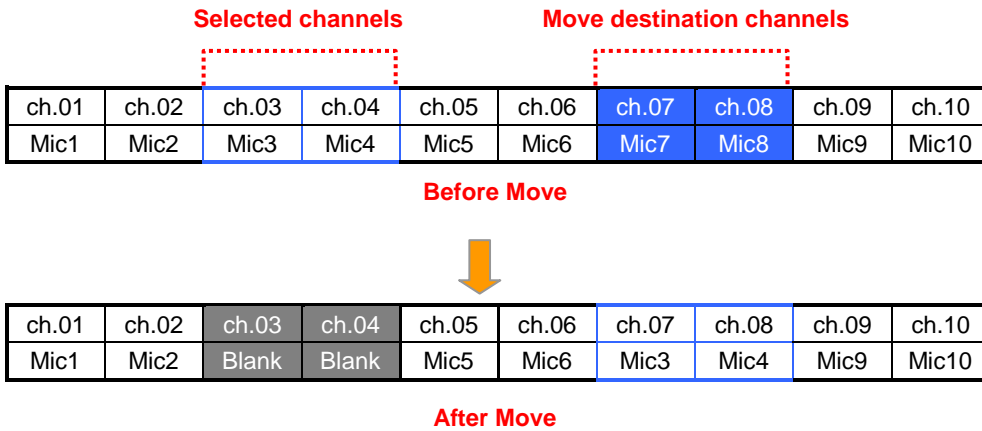
The result is the same as that of Cut+Paste though their procedures are different.

3-2-3-2   Operation Procedure

1   Select a channel on the Overview screen

2   Drag and drop the channel number display part of the selected channel on the name display part of a move destination channel

When you drag the selected channel to the name display part of the move destination channel, the move destination display is shown. When you drop it here, the move destination channel is replaced with the channel selected in [1].
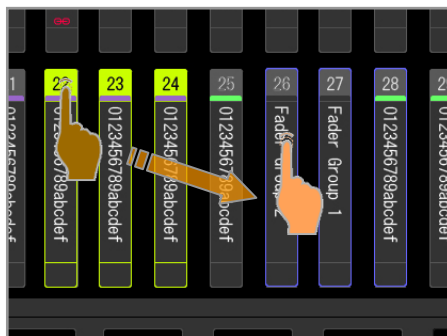
3-2-4   Cut

3-2-4-1   Action

Moves selected channels to specified channels.

The Cut operation is not completed until Paste or Insert is performed.

Paste replaces the move destination channels with the Cut source channels.

Insert inserts the Cut channels into the move destination channels.

The Cut source channels become Blank channels.

Selected channels

ch.01	ch.02	ch.03	ch.04	ch.05	ch.06	ch.07	ch.08	ch.09	ch.10
Mic1	Mic2	Mic3	Mic4	Mic5	Mic6	Mic7	Mic8	Mic9	Mic10

Before Cut

Paste destination channels

ch.01	ch.02	ch.03	ch.04	ch.05	ch.06	ch.07	ch.08	ch.09	ch.10
Mic1	Mic2	Blank	Blank	Mic5	Mic6	Mic3	Mic4	Mic9	Mic10

After Cut+Paste

Selected channels

ch.01	ch.02	ch.03	ch.04	ch.05	ch.06	ch.07	ch.08	ch.09	ch.10
Mic1	Mic2	Mic3	Mic4	Mic5	Mic6	Mic7	Mic8	Mic9	Mic10

Before Cut

Insert destination channels

ch.01	ch.02	ch.03	ch.04	ch.05	ch.06	ch.07	ch.08	ch.09	ch.10
Mic1	Mic2	Blank	Blank	Mic5	Mic6	Mic3	Mic4	Mic7	Mic8

After Cut+Insert

3-2-4-2   Operation Procedure

1   Select a channel on the Overview screen

2   Select the CUT button from the Edit menu

When you select the CUT button, the CUT button is lit, and any other Edit menu buttons are disabled.

3   Select a move destination channel

When you select a move destination channel, it is shown as the move destination display. Also, the INSERT and PASTE buttons in the Edit menu are made selectable.

4   Select PASTE/INSERT from the Edit menu

When you select PASTE, the destination is replaced with the Cut source channels. When you select INSERT, the Cut source channels are inserted into the destination.

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If you want to cancel the Cut operation after pressing the CUT button, select the CUT button again.

3-2-5   Swap
3-2-5-1   Action

Swaps selected channels with specified channels.

Selected channels   **Swap destination channels**

ch.01	ch.02	ch.03	ch.04	ch.05	ch.06	ch.07	ch.08	ch.09	ch.10
Mic1	Mic2	Mic3	Mic4	Mic5	Mic6	Mic7	Mic8	Mic9	Mic10

Before Swap

ch.01	ch.02	ch.03	ch.04	ch.05	ch.06	ch.07	ch.08	ch.09	ch.10
Mic1	Mic2	Mic7	Mic8	Mic5	Mic6	Mic3	Mic4	Mic9	Mic10

After Swap
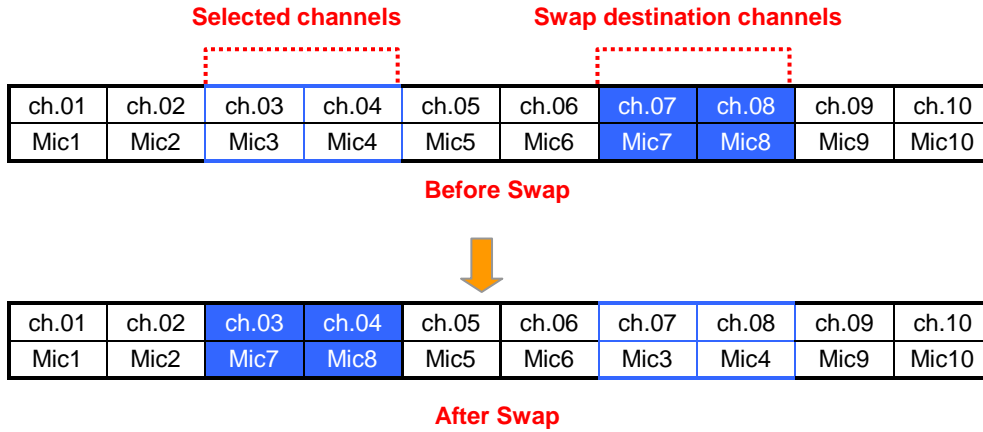
3-2-5-2   Operation Procedure

1   Select a channel on the Overview screen

2   Select the SWAP button from the Edit menu

When you select the SWAP button, the SWAP button is lit, and any other Edit menu buttons are disabled.

3   Select Swap destination channels

When you select a Swap destination channel, it is swapped with the channel selected in [1].

3-2-6   Duplicate

3-2-6-1   Action

Duplicates the selected channels.

The Duplicate operation is not completed until Paste or Insert is performed.

Paste replaces the Paste destination channels with the duplicated channels.

Insert inserts the duplicated channels into the Insert destination channels.

> A channel duplicated by the Duplicate operation and its source channel are referred to as Link
>
> channels.
>
> Any operations on these Link channels are interlocked between them because such operations are
>
> performed on the same DSP.

3-2-6-2   Operation Procedure

| **1   Select a channel on the Overview screen** |

| **2   Select the DUPLICATE button from the Edit menu** |

When you select the DUPLICATE button, the DUPLICATE button is lit, and any other Edit
menu buttons are disabled.

| **3   Select duplicate destination channels** |

When you select a duplicate destination channel, it is shown as the duplicate destination
display. Also, the INSERT and PASTE buttons in the Edit menu are made selectable.

| **4   Select PASTE/INSERT from the Edit menu** |

When you select PASTE, the destination is replaced with the Link channels. When you
select INSERT, the Link channels are inserted into the destination.

> If you want to cancel the Duplicate operation after pressing the DUPLICATE button, select the
>
> DUPLICATE button again.

3-2-7   Unlink

3-2-7-1   Action

Assigns a new DSP resource to selected Link channels to cancel their Links.

This operation is available only on Link channels.

3-2-7-2   Operation Procedure

Select Link channels on the Overview screen and select the UNLINK button from the Edit
menu.

3-2-8   Insert Blank

3-2-8-1   Action

Inserts Blank channels into selected strip channels.

Selected channels

ch.01	ch.02	ch.03	ch.04	ch.05	ch.06	ch.07	ch.08	ch.09	ch.10
Mic1	Mic2	Mic3	Mic4	Mic5	Mic6	Mic7	Mic8	Mic9	Mic10

Before Insert Blank

ch.01	ch.02	ch.03	ch.04	ch.05	ch.06	ch.07	ch.08	ch.09	ch.10
Mic1	Mic2	Blank	Blank	Mic3	Mic4	Mic5	Mic6	Mic7	Mic8

After Insert Blank
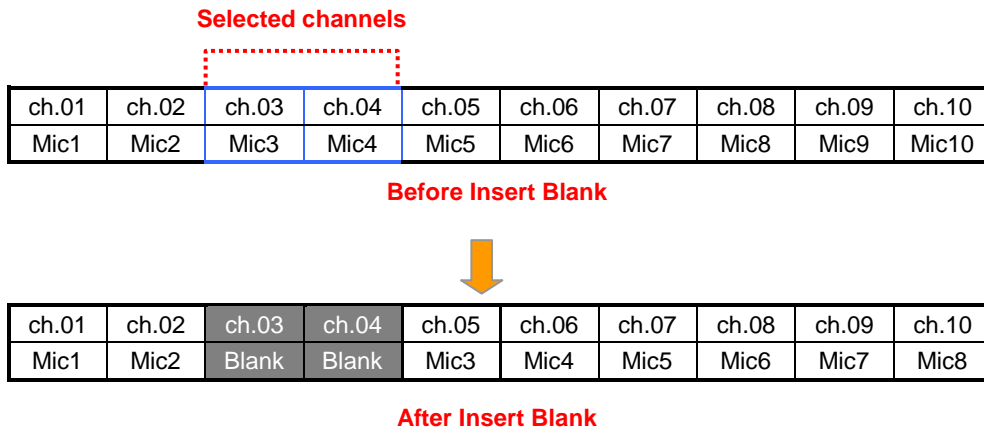
3-2-8-2   Operation Procedure

Select a channel on the Overview screen and select the INSERT button from the Edit menu.

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3-3　　　Setting Channel Name (Fader Name)

You can set a unique name for each channel.

This name specific to each channel is referred to as the Fader Name. You can include up to 16 one-byte characters in a Fader Name.

Since this name is set for each channel, channels with the same Source assigned can have different names.

The specified Fader Name is displayed on the Meter screen.

> If the Fader Name is not set, the Source name is displayed in the name display area on the Meter screen.
>
> Each Source has a default name, which is referred to as the System Name. The System Name cannot be changed. The System Name is used in all Program Files.

3-3-1　　　Operation Procedure

Set a Fader Name on the touch panel. You can enter only one-byte alpha-numeric characters.

3-3-1-1　　　On the Overview Screen

Select a channel on the Overview screen and press the RENAME button from the Edit menu. When you press the RENAME button, the keyboard window is displayed. Enter a string and press the Enter key to set this string as the Fader Name.

3-3-1-2　　　On the Channel Setting Screen

Press the SEL button of a channel to set the name for.

The Channel Setting screen for that channel is displayed on the touch panel. When you press the Fader Name setting button on this screen, the keyboard window is displayed. Enter a string and press the Enter key to set this string as the Fader Name.

3-4　　　Channel Parameter Operation

Operate the Fader/Cut/APFL parameters on their respective operation sections.
Operate the HA Gain/REM/Trim parameters using encoders and buttons in the Select Encoder
section of each channel.
If you want to operate other parameters, press the Sel button located for each channel to recall
the Channel Setting screen and use encoders and buttons in the Select Encoder section.

3-4-1　　Fader/Cut/APFL Operation
There is a special operation section for Fader/Cut/APF for each channel.

3-4-2　　HA Gain/Trim Operation
Operate HA Gain and Trim using encoders in Select Encoder.
If the source assigned to the channel is MIC/LINE input audio, you can operate both HA Gain
and Trim by using this encoder. Pressing the encoder switches its function between HA Gain
and Trim settings.
If the source assigned to the channel is other than MIC/LINE input audio (such as SUB
IN/AES3 IN), this encoder has only the Trim setting function.

HA/Trim encoder
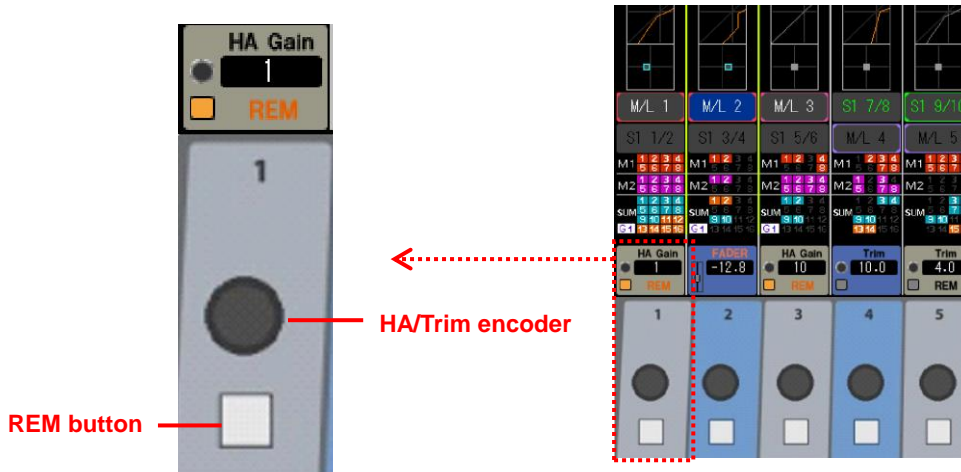
REM button

3-4-3　　REM Operation
The REM button appears when Link Func is set for the fader. Turn on or off the button in Select
Encoder.

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3-4-4　　Channel Setting Operation

3-4-4-1　Basic Operations

When you press the SEL button of a channel whose parameters you want to operate, the Top page of the Channel Setting screen is displayed on the touch panel.

When you touch a parameter setting area on the Channel Setting screen, the parameter operation function is called up on the Select Encoder or the setting window opens on the Channel Setting screen.
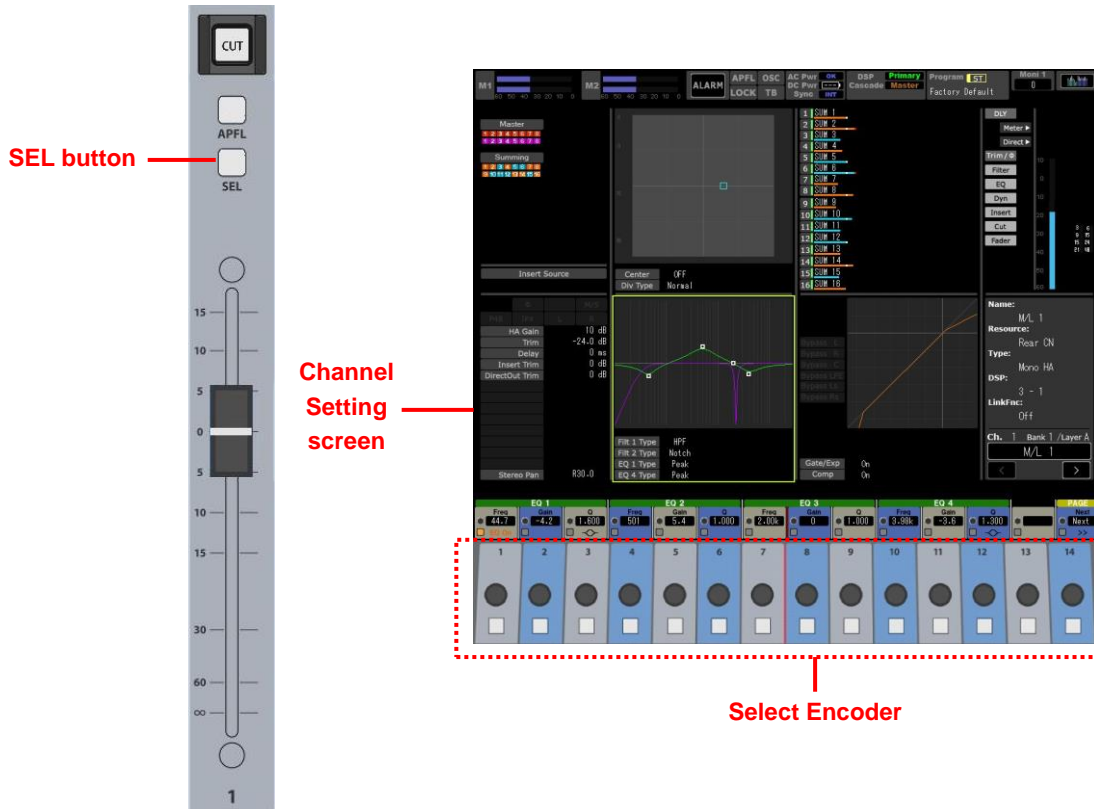
When you hold down one setting area for a certain period, this parameter is selected on the Top page of the Channel Setting screen. The Top page icon is displayed on the top left corner of the area.
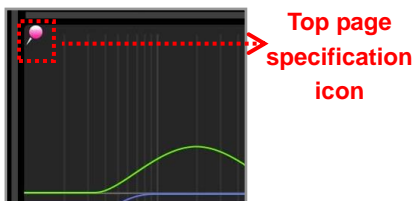
The Top page is the first page that is displayed on the touch panel when you press a SEL button. When you want to operate the same parameter for multiple channels sequentially, it is useful to specify that parameter screen as the Top page.

When you hold down the area that is specified as the Top page for a certain period, the Top page setting is cleared.

3-4-5   Parameters Set by Encoder Operation

For EQ, Dynamics, Sum, Surround Pan, or Input, the function is called up on the Select
Encoder when you touch the setting area, which you can use to set parameters.
For details on the parameters and their operations assigned to the encoder of each function,
refer to **[**Appendix**,** Select Encoder Function Layout List**]**.

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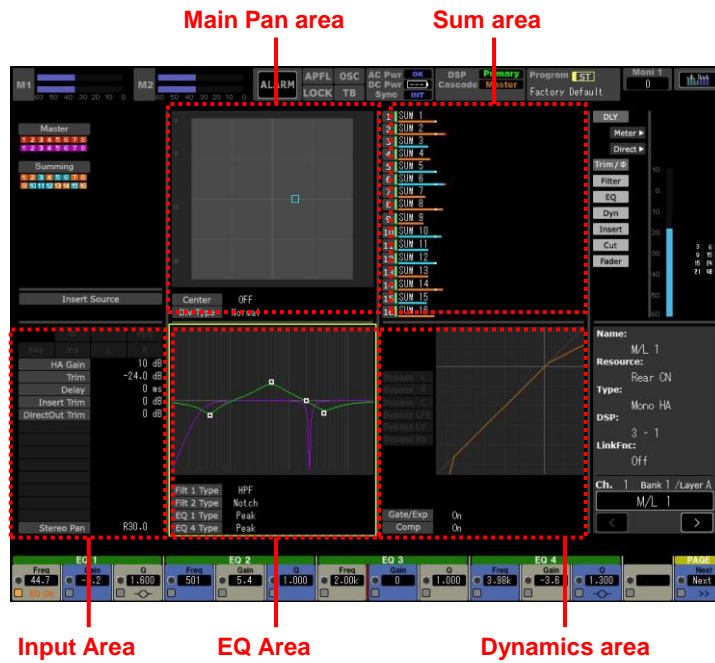
3-4-6   Parameters Operated in Setting Window

You can use a dedicated setting window to set the Bus Assign, the Audio Path setting, and the Insert Source selection.

Bus Assign area   **Audio Path area**

Insert Return matrix area
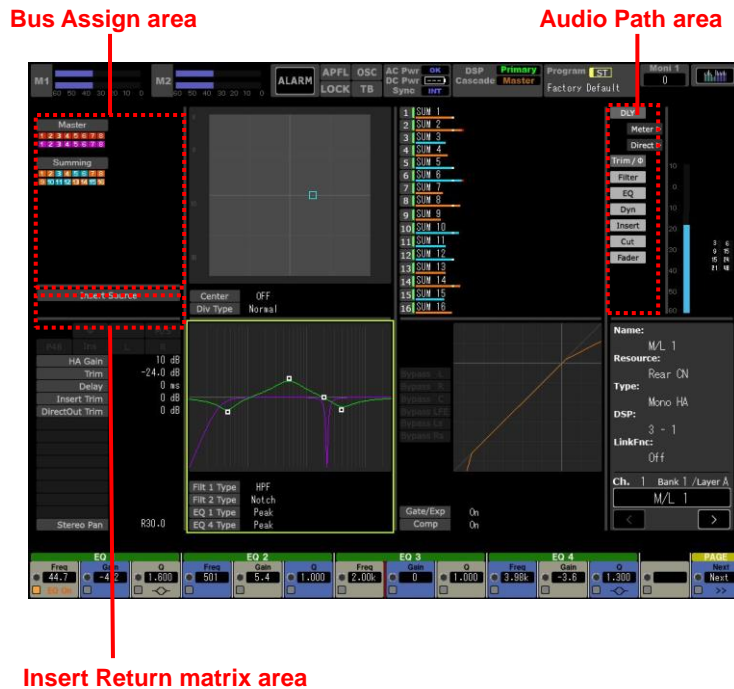
To change multiple contiguous Bus settings at a time in the Bus Assign setting window, press and hold the assign button of the first Bus to be changed and then press the button of the last Bus.
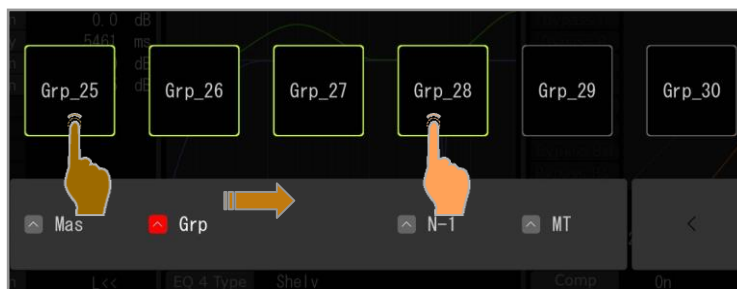
While you touch the   **Touch the last Bus**
first Bus

3-5   Audio Processing Sequence (Audio Path Setting)

3-5-1   Overview

In NT110, the flow of audio from the moment they are input into channels to the moment they are output to Buses is referred to as the Audio Path. In the Audio Path, there are audio processing functions (Effects) such as EQ and Dynamics, and they are executed according to the sequence.

To each meter, or Direct Out of a channel, an audio is sent from a specific point in this Audio Path.

You can change for each channel the sequence of these Effects or the audio acquisition point of a meter.

You can change the sequence of these Effects; EQ, Dynamics, Insert Send/Return, Cut+Fader, and OSC/TB.

You can select either of the following sequences:

Input channel
1. EQ, Dyna, Ins, Cut/Fdr * Default value
2. Dyna, EQ, Ins, Cut/Fdr
3. EQ, Ins, Cut/Fdr, Dyna
4. Ins, EQ, Dyna, Cut/Fdr

Sum and Master channels
1. EQ, Dyna, Ins, OSC/TB, Cut/Fdr * Default value
2. Dyna, EQ, Ins, OSC/TB, Cut/Fdr
3. EQ, Ins, OSC/TB, Cut/Fdr, Dyna
4. Ins, EQ, Dyna, OSC/TB, Cut/Fdr

The following table shows the audio acquisition points that you can set for meters and Direct Out.

Acquisition point	Description	Meter		Direct Out	
		Input ch	Bus ch	Input ch	Sum ch
Input	Acquires the audio just before the Trim.	* Default	*	* Default	
Pre Effect	Acquires the audio immediately after the Trim and just before Effects.	*	*	*	
Pre Cut	Acquires the audio just before the Effect, Cut+Fader. The acquisition point depends on the location of Cut+Fader.	*	*	*	
Post Effect	Acquires the audio immediately after all Effects. (Audio before the main Pan)	*	* Default	*	Default

* Available settings: Bus ch:Sum ch, Master ch

The Audio Path setting of a channel when it is created (Default Path setting) is the Default shown in the above table. The Bus ch is initialized to the Default when the Bus Format is changed.

3-5-2   Changing Audio Path Setting

3-5-2-1   Basic Operations

1   Press the SEL button of a channel to change its Audio Path setting

The Channel Setting screen for that channel is displayed on the touch panel.
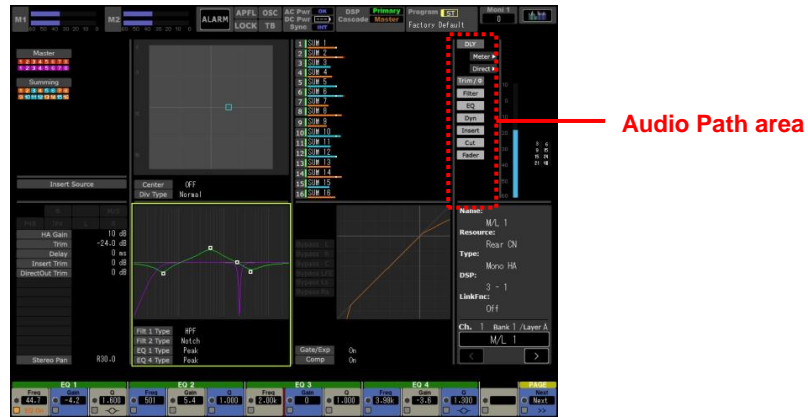
2   Touch the Audio Path area

The Audio Path setting window is displayed.
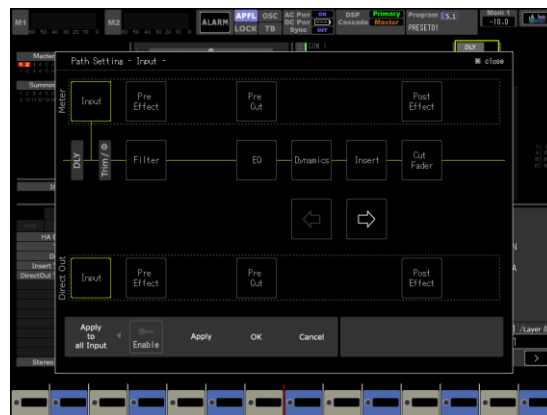
3   Change the Audio Path setting

Change the sequence of Effects.
Change the Audio Acquisition Point of Meter Out.
Change the Audio Acquisition Point of Direct Out.

4   Apply the setting

When you press the Apply button, the changes made on the screen are applied to the setting.
When you press the OK button, the changes are applied to the setting, and the window is closed.
When you press the Apply to All Input button while pressing the Enable button, the changes are applied to all the Input channels.

3-6   Editing Channel Parameters

3-6-1   Clearing Parameter Settings

You can initialize the parameter settings. Using this operation, you can initialize the Filter/EQ, Dynamics, and Bus Assign parameters.

| **1** | **While the Meter screen is displayed, press the Edit button of Mixer Control** |

The Edit button blinks and the Meter screen on the touch panel displays Edit Mode to indicate that the Edit Mode has been entered. Press the Edit button again to exit the Edit Mode.
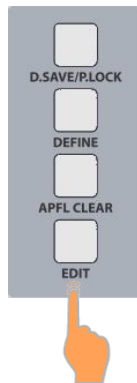
| **2** | **On the Meter screen, press and hold a target channel area that you want to initialize** |

The parameters of the target area are initialized.

Filter/EQ target area

Dynamics target area

Bus Assign target area
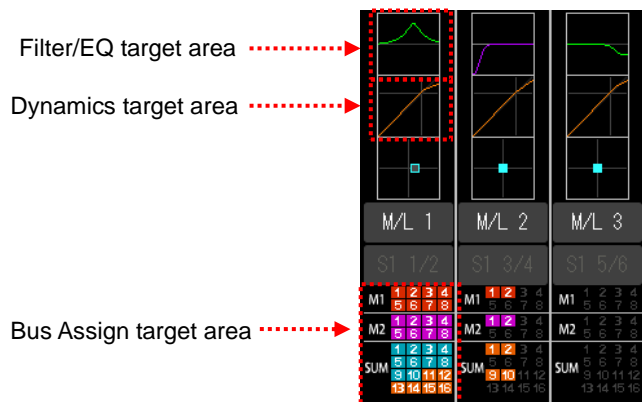
| **3** | **Press the Edit button of Mixer Control** |

The Edit Mode is exited.

The following table shows the settings to be initialized in a target area.

Target area	Settings to be initialized
FIL/EQ	EQ setting and Filter 1 and 2 settings
Dynamics	Comp and GE settings
BUS Assign	M1/M2/Sum Bus Assign settings, Sum Send (PrePost/Level/Pan) settings

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3-6-2   Copying Parameter Settings

You can copy parameter settings for one channel to another channel.

It is possible to select multiple copy destination channels.

Using this operation, you can copy the Filter/EQ, Dynamics, and Bus Assign parameters.

1   While the Meter screen is displayed, press the Edit button of Mixer Control

The Edit button blinks and the Meter screen on the touch panel displays Edit Mode to indicate that the Edit Mode has been entered. Press the Edit button again to exit the Edit Mode.

2   On the Meter screen, press a target channel area that you want to copy

The parameters of a target area are highlighted as the copy source.

Press the highlighted target area again to cancel the selection of it as the copy source.

Filter/EQ target area

Dynamics target area

Bus Assign target area
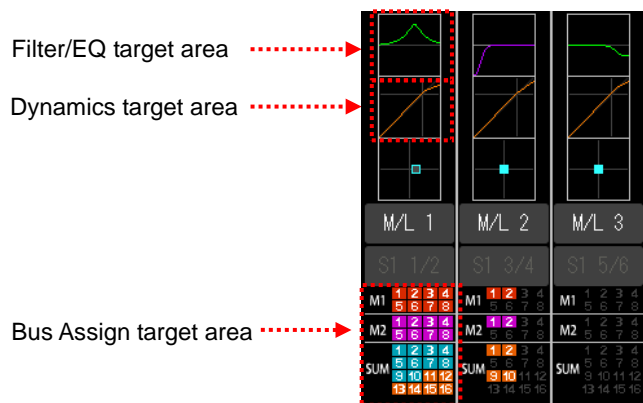
3   On the Meter screen, press a target channel area to which you want to copy the parameters

The parameters of the copy source channel are copied to the copy destination channel. You can continue to press a target area of other channel to copy the parameters to the other channel.

4   Press the Edit button of Mixer Control

The Edit Mode is exited.

The parameters and the settings to be copied are the same as those of the parameter Clear function.

3-6-3   Reference Level Setting of Fader Level

Set the Fader Level to 0 dB.

1   While the Meter screen is displayed, press the Edit button of Mixer Control

The Edit button blinks and the Meter screen on the touch panel displays Edit Mode to indicate that the Edit Mode has been entered. Press the Edit button again to exit the Edit Mode.

2   Press the Sel button in the upper part of the Fader.

When you press the SEL button of a channel, the Fader Level of that channel is set to 0 dB.

3-7   Bank and Layer

The channels of NT110 consists of physical Fader channels and logical Banks and Layers. Using a combination of three Banks and two Layers, six times as many channels as physical Faders can be handled.

Bank	Layer	Fader Channel					
1	A	1	2	3	4	...	16
	B	1	2	3	4	...	16
2	A	1	2	3	4	...	16
	B	1	2	3	4	...	16
3	A	1	2	3	4	...	16
	B	1	2	3	4	...	16

You can switch the Layer for each channel or for all the channels at once. You can switch the Bank for all the channels at once.

3-7-1   Operation Procedure

3-7-1-1   Switching Bank

On the Bank/Layer panel, press one of the Bank 1 to 3 buttons or Bus button. All the Faders are switched at once to the pressed Bank.
Pressing the Bus button switches to the special Bank for M1/M2/Sum Bus. The Bus Bank has two layers: Layer A fixed to M1 and M2 and Layer B fixed to Sum.

3-7-1-2   Switching Layer

On the Bank/Layer panel, press the Layer A or B button. All the Faders are switched at once to the pressed Fader.
Press the Fader Sel button while pressing the Layer A or B button to switch Layers for each channel.

Layer A selection display   Layer B selection display
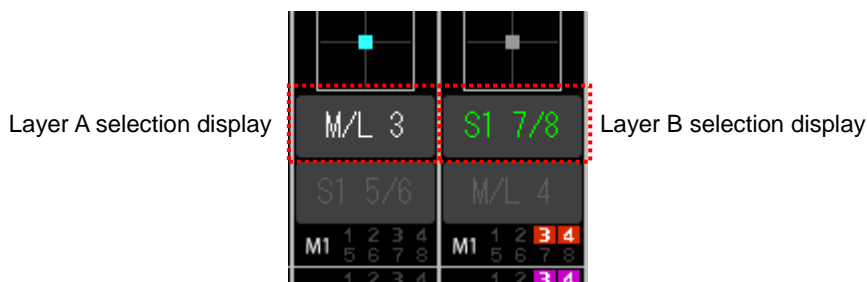
3-8   Grouping Channels

3-8-1   Setting Fader Group Type

You can interlock multiple Faders with one Fader operation.

You can use up to 16 Fader Groups and select the normal operation or Cut Group operation for each Fader Group.

If you select the Cut Group operation, the Cut buttons of all the channels in the Group work simultaneously when you press the Cut button of any one channel.

3-8-1-1   Switching to Cut Group

1   Press the GROUP button from the Menu selection buttons on the touch panel

The Group menu screen appears.

2   Press a Fader Group number selection button and select the Cut Group button

When the Cut Group button is selected, the channels with this Fader Group number follow the Cut Group operation.

Fader Group number
selection buttons

Cut Group button
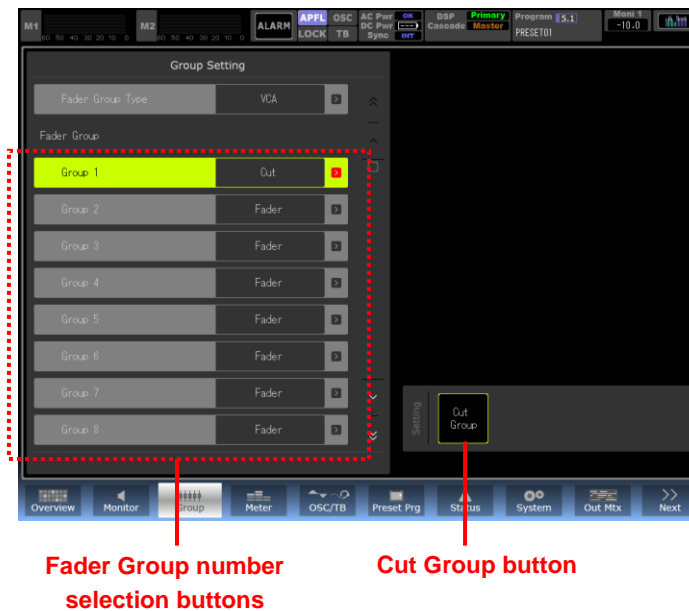
3-8-1-2   Selecting the Operation Type for Fader Group

Select either the Moving type where the Slave Faders follow the Master Fader operation or the VCA type where they do not follow it.

With the Moving type, you can grasp the Fader Level for each channel intuitively because the position of each Slave Fader corresponds to the actual Fader Level. However, when you fully turn down the Master Fader, the Slave Faders are also fully turned down, so you cannot change the level setting for each Slave Fader.

With the VCA type, the position of each Slave Fader represents the offset level from the Master Fader. When you fully turn down the Master Fader, the position of each Slave Fader does not move, so you can change the balance of it.

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1   Press the GROUP button from the Menu selection buttons on the touch panel

The Group menu screen appears.

2   Press the Fader Group Type button and select an operation type

The button for the selected type is lit.

3-8-2   Setting Fader Group Master Channel

Set the Fader Group Master channel.

1   Select a channel to create a Fader Group Master on the Overview screen of the touch panel

This makes the Edit menu available.
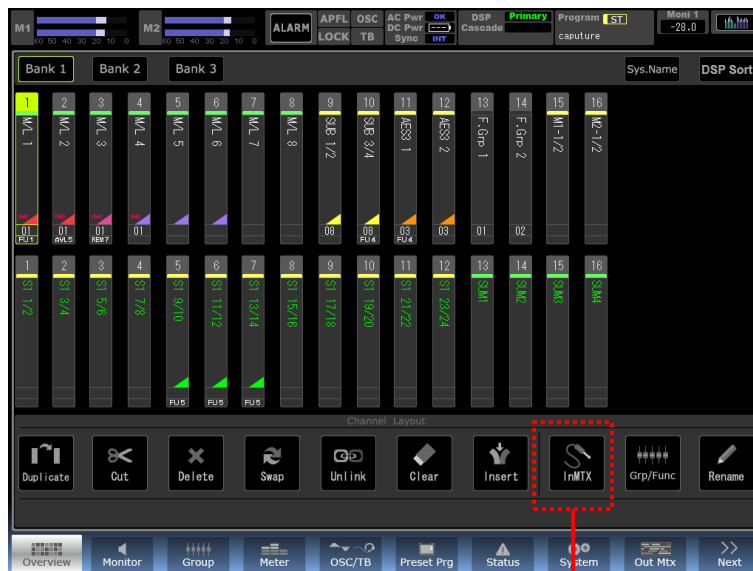
Edit menu - InMTX button

2   Select the InMTX button from the Edit menu

The Input Matrix setting window appears.

Source type switch button

3   Press the Source type switch button until Bus/Func appears

Fader Group Master or Bus Master are shown.
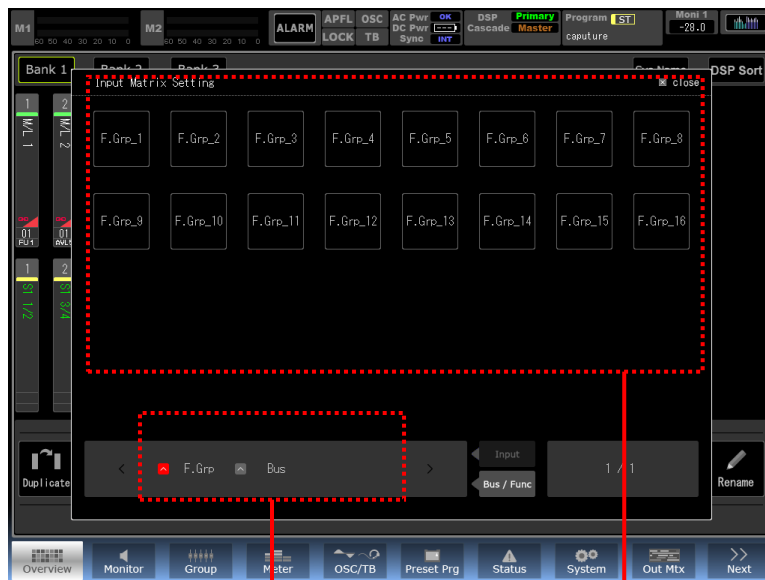
Category selection buttons   **Source selection buttons**

4   Press the F.Grp button of the category selection buttons and select F.Grp_1 button
**   from source selection buttons..**

Fader Group1 Master channel is created on the channel selected in the step [1].

3-8-3   Setting Fader Group Slave Channel
Set the Fader Group Slave channel. You need to create a Fader Group Master channel in advance.

3-8-3-1   Operation Procedure

1   Select a channel to be the Slave channel in the Overview screen

You can select multiple contiguous channels by touching and dragging.
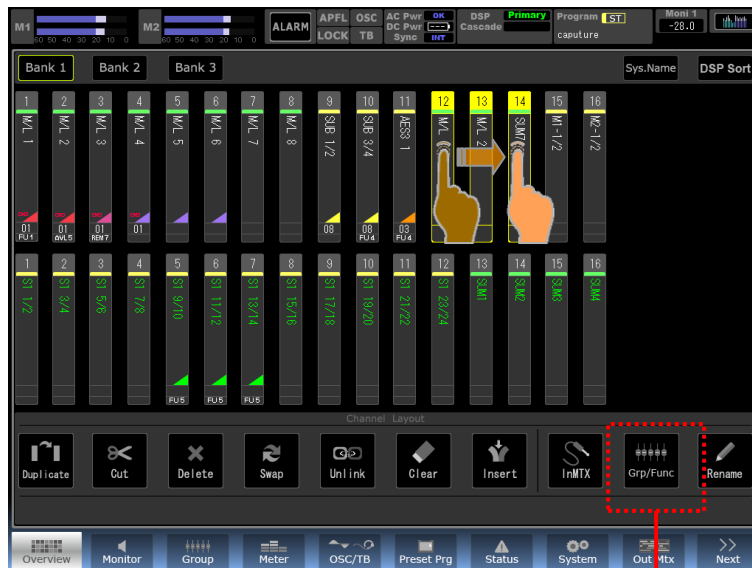
Grp/Func button

2   Select the Grp/Func button from the Edit menu

The Fader Group setting window is displayed.
Select the F.Grp01 button on the Fader Group setting window, then the selected channel is set as the Slave Fader of Fader Group 1.
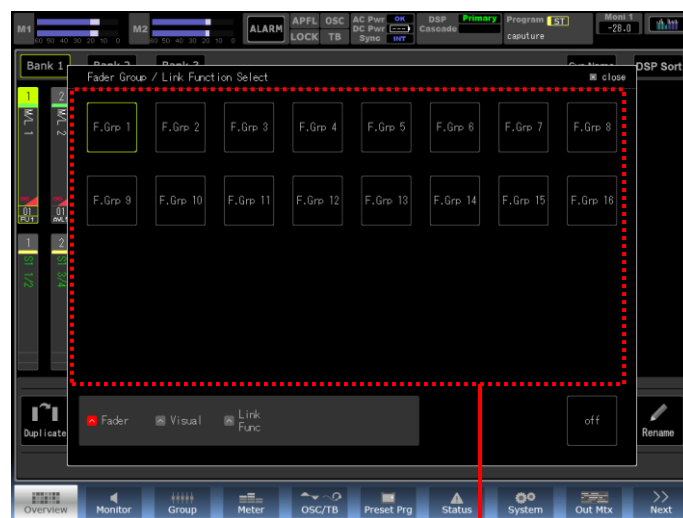
Fader Group selection buttons

3	Use the Fader Group selection buttons to select a Fader Group number

When you press a Fader Group selection button, the window is closed, and the channels selected in [1] are set as the Slave channel.

To clear a Fader Group setting, select a Slave channel to be cleared on the Overview screen and select Off in the Fader Group setting window.

3-8-4   Visual Group

You can turn on the Channel No. in specified colors to group channels visually on the Meter screen.

3-8-4-1   Operation Procedure

1	Select a channel to be the Slave channel in the Overview screen

You can select multiple channels.

Grp/Func button

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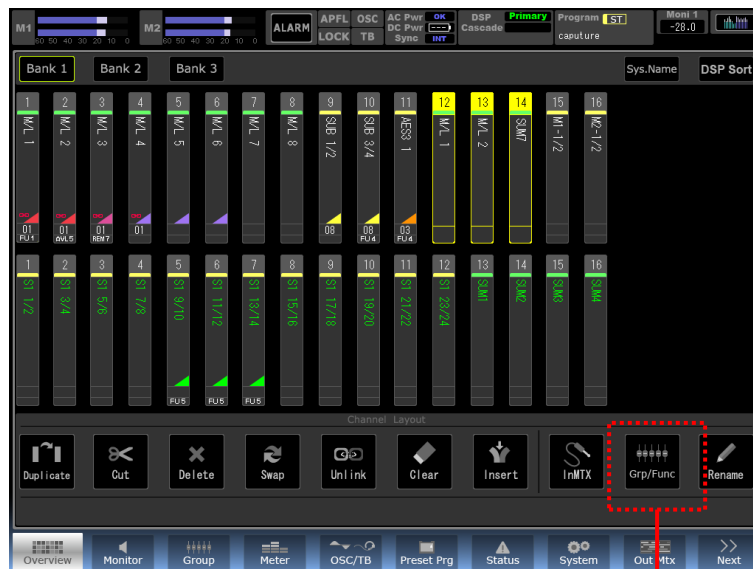
2   Select the Grp/Func button from the Edit menu

The Fader Group setting window is displayed.

Visual button

3   Press the Visual button

Visual Group selection buttons appear.
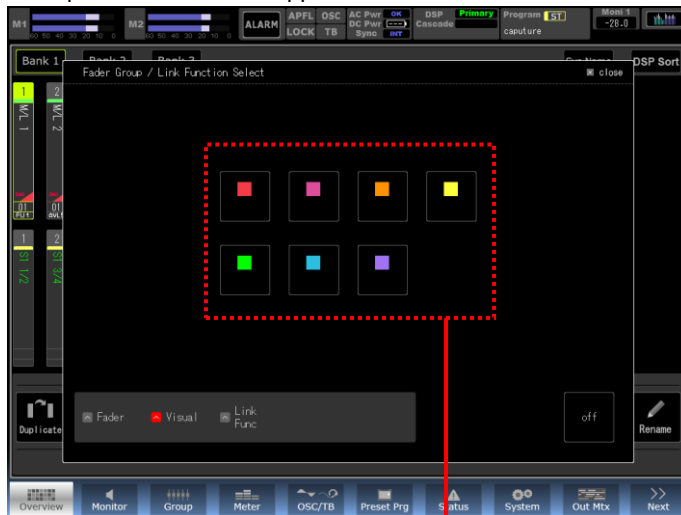
Visual Group selection buttons

4   Use the Visual Group selection buttons to select a light-up color for Channel No.

When you press a Visual Group selection button, the window is closed, and the Channel No. of the channels selected in [1] is lit in the selected light-up color on the Meter screen.

3-8-5　　Link Func

Assign Link Func to the Input channel.

3-8-5-1　　Operation Procedure

1　　Select a channel to be the Slave channel in the Overview screen

You can select multiple channels.

Grp/Func button

2　　Select the Grp/Func button from the Edit menu

The Fader Group setting window appears.

Link Func button

3   Press the Link Func button

The Link Func selection buttons appear.
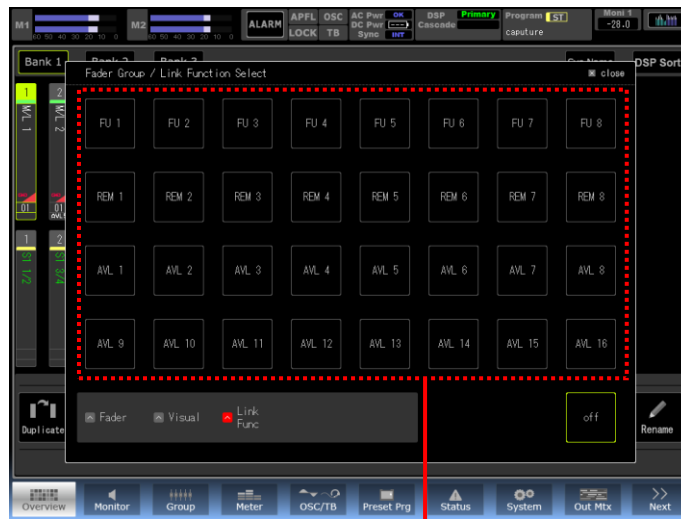
Link Func selection button

4   Use the Link Func selection button to select the function

Press the Link Func selection button to close the window. On the Meter screen, the name of the selected function appears in the upper portion of the channel selected in step 1. The REM button appears in Select Encoder.

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4. Mixer Status Screen

4-1   Overview

The Mixer Status Area is constantly displayed regardless of screen switching on the touch panel. This area constantly displays the M1 and M2 meters, alarm occurrences, and various status information.

M1/M2 Meter   **Status**   **Program**

Monitor Level

Display Select

4-2   M1/M2 Meter

[1]   [2]
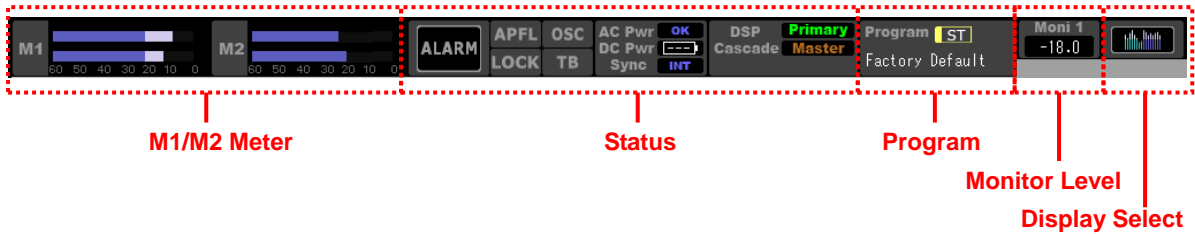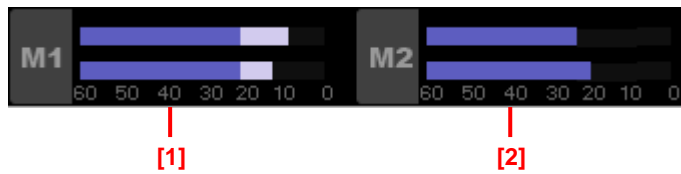
[1]   **M1 meter**
            Displays the M1 meter.
            If M1 1/2 is Stereo, M1 1/2 are displayed.
            If M1 1-6 is Surround, M1 1 to 6 are displayed.

[2]   **M2 meter**
            Displays the M2 meter. The meter is displayed in the same way
            as for M1.

4-3   Status

Displays various statuses and settings of the Mixer.
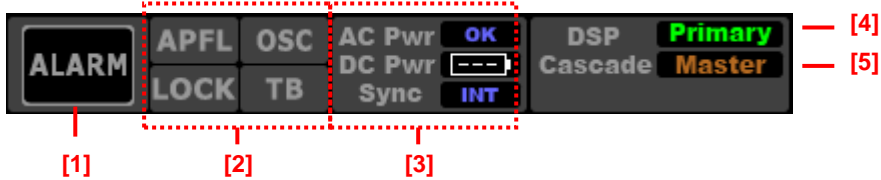
[1]   ALARM
Blinks when an alarm is issued in the mixer system and is notified to the mixer. It goes out when all alarms are cleared. Pressing this icon displays the Menu Status screen.

[2]   Function status indicators
The LOCK indicator blinks when the panel lock function is On.
The APFL indicator blinks when APFL is On. PFL ON blinks in purple, and AFL ON in light blue.
The OSC indicator is lit when OSC is On.
The TB indicator is lit when TB (Talk Back) is On.

[3]   Power/Sync indicator
The AC Pwr indicator displays OK when the AC power input is normal. Displays - - -   when there is no input.
The DC Pwr indicator displays an input voltage bar when the DC power input is normal. Displays - - -   when there is no input.

[4]   DSP
Displays an active DSP. (Primary or Secondary)

[5]   Cascade
Displays the Master/Slave setting status of the cascade function.

4-4   Program

Displays the Program title and Console Mode.
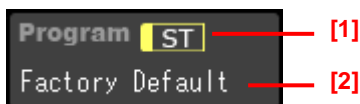
[1]   Console mode view
Displays the Console Mode setting (Stereo/Surround).

[2]   Program file title view
Displays the title of the working Program file.
When the sampling frequency is set to 96 kHz, "96 kHz" is displayed at the end.

4-5   Monitor Level

[1]   **Monitor number display**
Displays the Monitor number selected in the Monitor panel.

[2]   **Monitor Level display**
Displays the Monitor Level setting in dB.

4-6   Display Select

[1]   **Display Select button**
Press this button to switch the touch panel screen.
While the Meter screen is displayed, it is switched to the Menu screen.
While the Menu screen is displayed, it is switched to the Meter screen.
While the Channel Setting screen is displayed, it is switched to the Meter screen.

5.   Meter Screen

5-1   Overview

The Meter screen displays bar meters and channel settings.
The Meter screen consists of several areas as shown below.
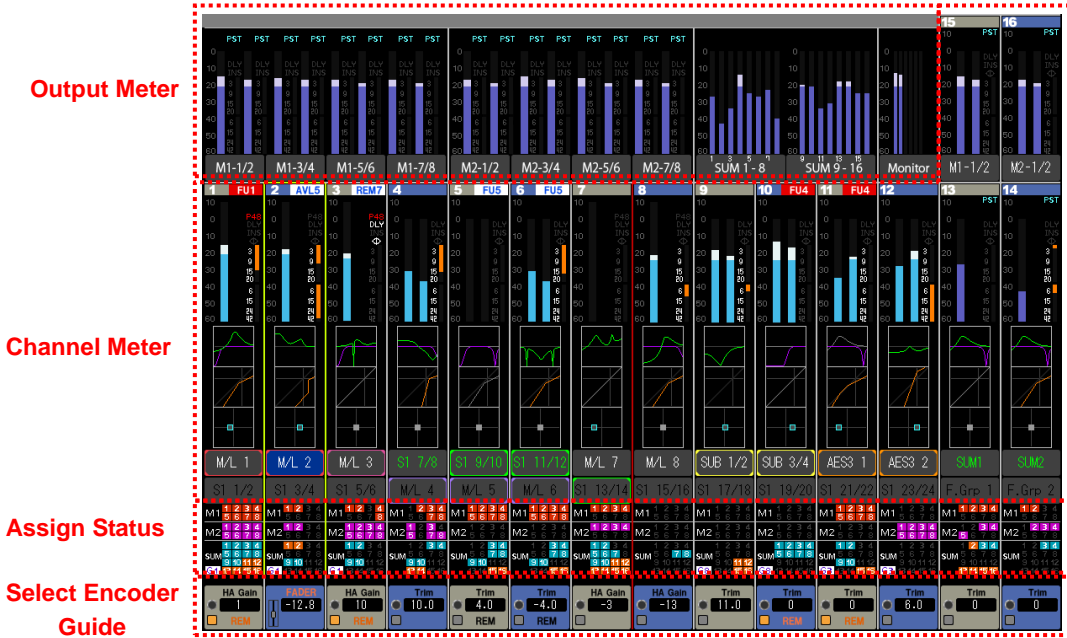
You can select one of the following two display modes to display the Channel Meter area on the Meter screen.
Select a display mode from the Meter menu.

The bar meters for the selected Layer (A or B)
are displayed in the upper area and the graphs in the lower area.
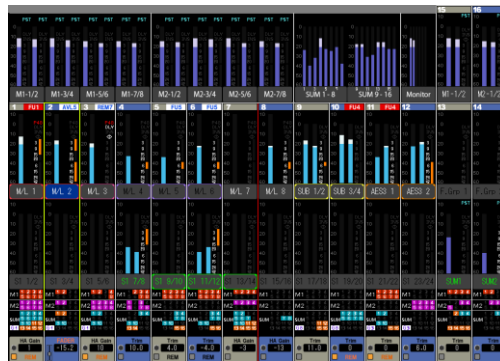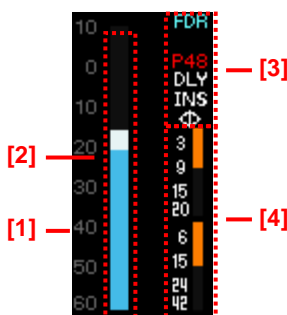
Single Meter display

The bar meters for Layers A and B are displayed in the upper and lower areas, respectively.

Dual Meter display

5-2   Meter Configuration

The lengths of the meters are different depending on the display types such as the Channel Meter and Output Meter. However, the elements composing the meters are the same.

[1]   Meter scale
The scale on the meter.
The scale changes depending on the displayed meter type.

[2]   Level meter
Displays the audio level of a channel or Bus.

[3]   Setting indicators
Indicators showing each setting.

[4]   Gain reduction meter
Displays the On/Off status of Comp and G/E and the amount of gain reduction.

5-2-1   Level Meter

The number of meters depends on the channel or Bus format.
The level meter for the Input channel is indicated in blue and the one for the Bus is indicated in purple.
Among Input channels, the level meter for the HA channel is longer than other level meters.

| Mono HA channel meter | Stereo HA channel meter | 5.1 HA channel meter | Mono Line channel meter | Stereo Line channel meter | 5.1 Line channel meter |

| Mono Bus meter | Stereo Bus meter | 5.1 Bus meter |
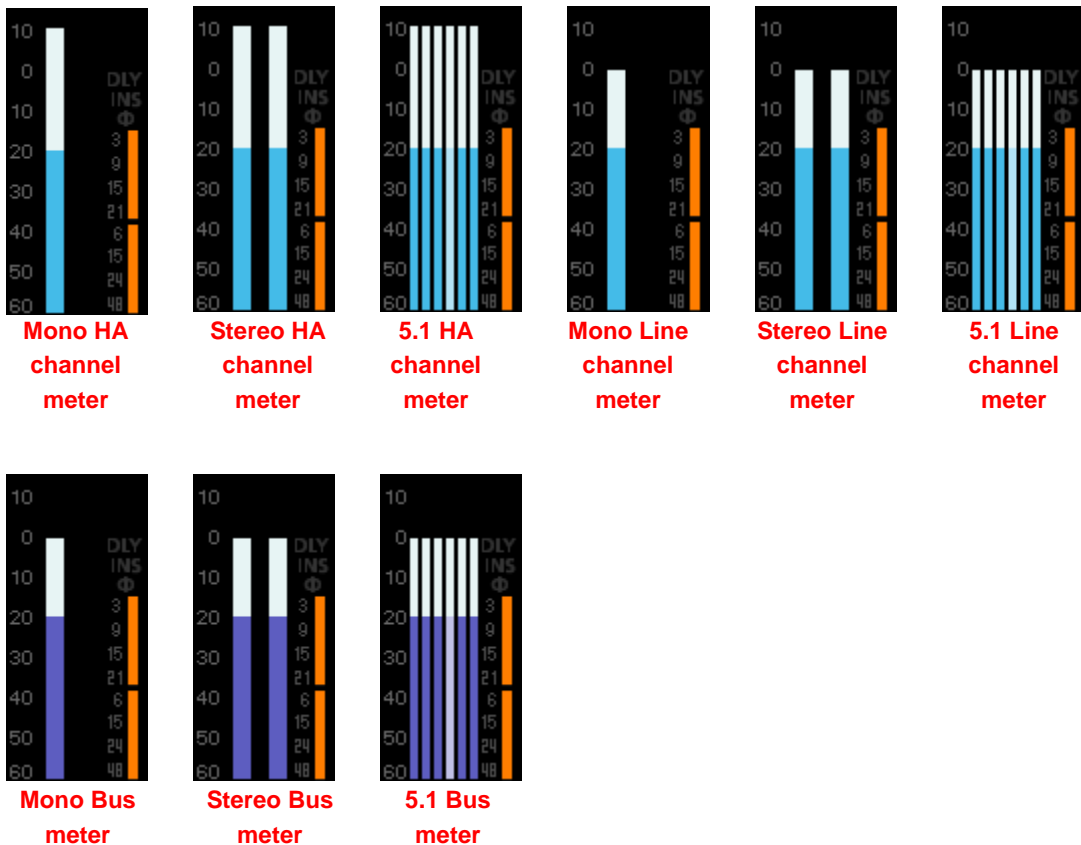
5-2-2   Setting Indicators
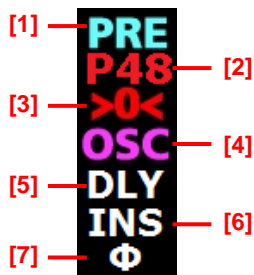
[1]   Meter position indicator
Displays the Meter position setting.
If nothing is displayed, it indicates that the Meter position is set to Input. Otherwise, the following indicators are displayed.

Pre Effect :   **PRE**

Pre Cut :   **FDR**

Post Effect :   **PST**

[2]   P48 indicator
Displays the On/Off status of P48. It is lit when the parameter is set to On, and goes out when set to Off.

[3]   not 0 dB indicator
This indicator is lit if the Fader level is set to a value other than 0 dB in M1, M2, or Sum Bus.
It is not displayed in the Input channel meter.

[4]   Interruption indicator
This indicator is lit if the audio interruption occurs in Bus.
The following indicator is displayed depending on the interrupt audio type.

TB :   **TB**

OSC :   **OSC**

If more than one interruptions occur, the indicator with the highest priority is displayed in the order of TB and OSC. This indicator corresponds to the audio output from Bus.

[5]   Delay On/Off indicator
Displays the On/Off status of Delay.It is lit when the parameter is set to On, and goes out when set to Off.

[6]   Insert Return On/Off indicator
Displays the On/Off status of Insert Return.It is lit when the parameter is set to On, and goes out when set to Off.

[7]   Φ/ΦR On/Off indicator
Displays the On/Off status of Φ and ΦR.
It is lit when the parameter is set to On, and goes out when set to Off.
It is not displayed in the channel or Bus without Φ and ΦR function.

5-2-3   Gain Reduction Meter

This meter displays the amount of gain reduction in Comp and G/E.

The gain reduction meters for the Input channel and for the Bus are displayed in amber.

[1]   Comp On/Off indicator

Displays the operation status of Comp.

It is lit when Comp is enabled and goes out when disabled.

[2]   GE On/Off indicator

Displays the operation status of Gate/Expander.

It is lit when Gate/Expander is enabled and goes out when disabled.

[3]   Comp Gain reduction meter

Displays the amount of gain reduction in Comp.

[4]   GE Gain reduction meter

Displays the amount of gain reduction in Gate/Expander.

5-3   Output Meter

The M1/M2/Sum/Monitor meters are displayed.

[1]   Master meter

Displays meters for Master 1 (M1) and Master 2 (M2).

Displays the Bus No. in the lower area.

The displayed Bus No. is different depending on the Bus format setting in Master 1 and Master 2.

[2]   Sum meter

Displays the Sum1 to 16 meters.

[3]   Monitor meter

Displays the Monitor1 meter.

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5-4   Channel Meter

This meter displays the information and meters of channels assigned to Fader ch1 to 16.
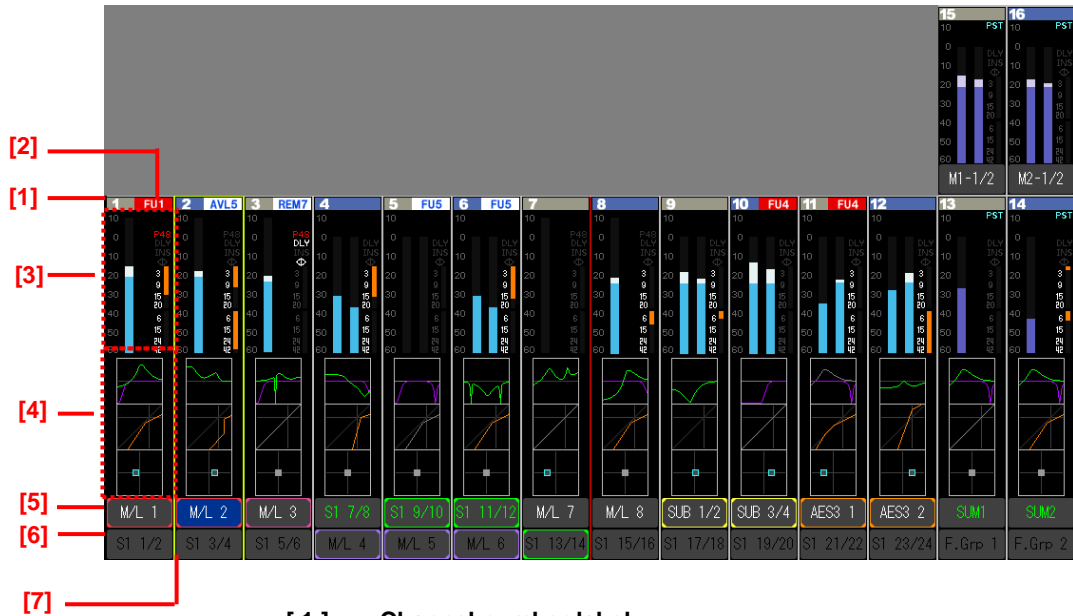
[1]   Channel number label

Displays the channel number and the Visual Group setting. When the Visual Group is set, this label is displayed in the color of this setting.

[2]   Link Func

Displays FU, AVL, and REM with numbers when they are set using Link Func. The On/Off status of FU and AVL is displayed as follow:

FU Off   FU On   AVL Off   AVL On
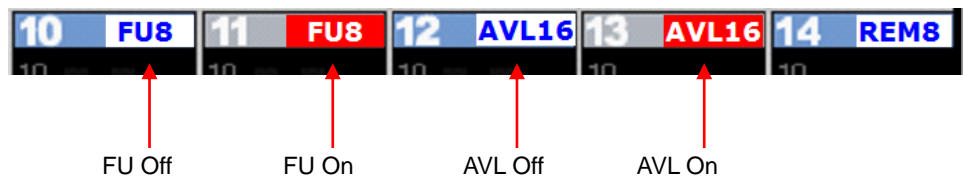
[3]   Channel meter

Displays the meters and setting icons for channels. Displays the information of selected Banks/Layers.

* This area invariably displays the Layer A channel meters in the Dual Meter setting.

[4]   **Parameter setting graph**

Displays the EQ graph, Dynamics graph, or Main Pan graph.
Touch the graph to display Select Encoder Guide. You can
change parameters on the Meter screen.
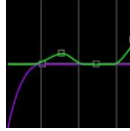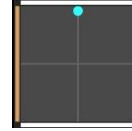
EQ graph   **Dynamics**   **Main Pan**
                    Graph   **Graph**

* This area displays the Layer B channel meters in the Dual
Meter setting.

[5]   **Fader Name display**

Displays the Fader Name.
If Fader Name is not set, the System Name is displayed.
If displayed channel exists in Layer A, characters are displayed
in white, and if it exists in Layer B, characters are displayed in
green.
The frame of Fader Name is displayed in the color set in Visual
Group.

[6]   **Behind Layer Fader Name display**

Displays Fader Name for channels in Behind Layer.
If Fader Name is not set, the System Name is displayed.

* This display is not available for Ch15 and Ch16 (upper right
corner of the screen).

[7]   **Channel Highlight display**

Highlights the appropriate channel while the fader level is
operated.

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5-5   Assign Status

This meter displays the Bus Assign settings of channels assigned to Fader ch1 to 16.

The assign settings to M1, M2, and SUM are displayed.
The Bus number is lit when its assign is ON. The light-up color changes depending on the Pre and Post settings for SUM. Touch M1/M2/Sum to display Select Encoder Guide, where you can change assign settings.

SUM (Pre)
SUM (Post)

The Fader Group number appears next to SUM assign settings.

Fader Group No

5-6   Select Encoder Guide

Displays the functions and setting parameters of the encoders and buttons located at the lower part of the touch panel.
You can touch and operate encoders having button functions.

For details of the function layout, refer to Appendix, Select Encoder Function Layout List.

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6.   Channel Setting Screen

6-1   Overview

The information and parameter setting of the channel selected by using Channel Select button are displayed.

For the item which can be operated, when that display area is touched, the function is called up on the Select Encoder or the setting window is displayed, so you can operate them. Also when you press and hold that area, that selected area is set on Top screen of Channel Setting screen. This is useful if you want to operate the same parameter in the different channels consecutively. In the upper left of the area set on Top screen, Top screen setting icon (●) is displayed.
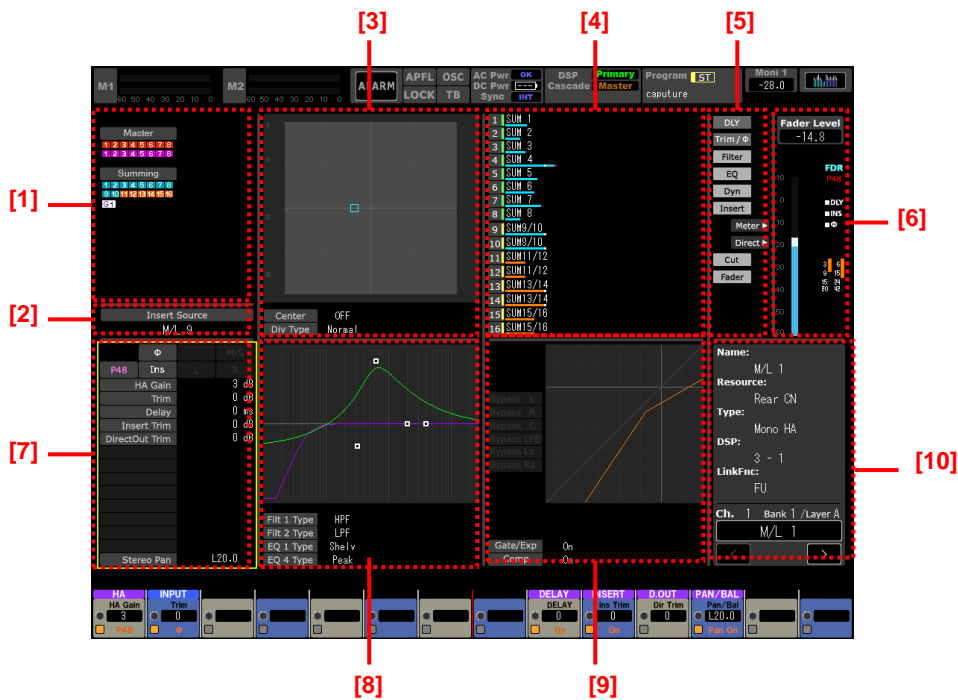
[1]   Bus Assign area
Bus Assign setting status is displayed.
When this area is touched, the Bus Assign setting window is displayed.

[2]   Insert Source Area
Insert Return Source set for the channel is displayed.
When this area is touched, the Insert Return Matrix setting window is displayed.

[3]   Main Pan area
Main Pan setting status is displayed.
When Main Pan is Surround Pan, the Surround function is called up on the Select Encoder if this area is touched.

[4]   SUM area
SUM setting status is displayed.
When this area is touched, the SUM function is called up on the Select Encoder.

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[5]   **Audio Path area**
Audio Path setting status is displayed.
When this area is touched, the Audio Path setting window is displayed.

[6]   **Channel Meter area**
Channel Meter is displayed.
The display items are the same as those displayed in Meter screen.

[7]   **Input area**
Input parameter setting status is displayed.
When this area is touched, the Input function is called up on the Select Encoder.

[8]   **EQ/Filter area**
EQ and Filter setting statuses are displayed.
When this area is touched, the EQ and Filter functions are called up on the Select Encoder.

[9]   **Dynamics area**
Dynamics setting statuses are displayed.
When this area is touched, the Dynamics function is called up on the Select Encoder.

[10]   **Channel Information area**
Channel information is displayed.
When Fader Name display is touched, the Fader Name input window is displayed.

6-2   Bus Assign Area
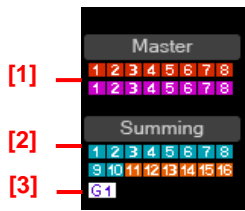
[1]   Master Assign display

The statuses of Assign setting to M1 and M2 are displayed.
The indicators are made up of two lines, eight per line, where
each line corresponds to M1 or M2 top to bottom.

[2]   Sum Assign display

The statuses of Assign setting to Sum are displayed.

[3]   Fader Group Number display

Assigned Fader Group numbers are displayed.

When Bus Assign area is touched, the Bus Assign setting window is displayed.
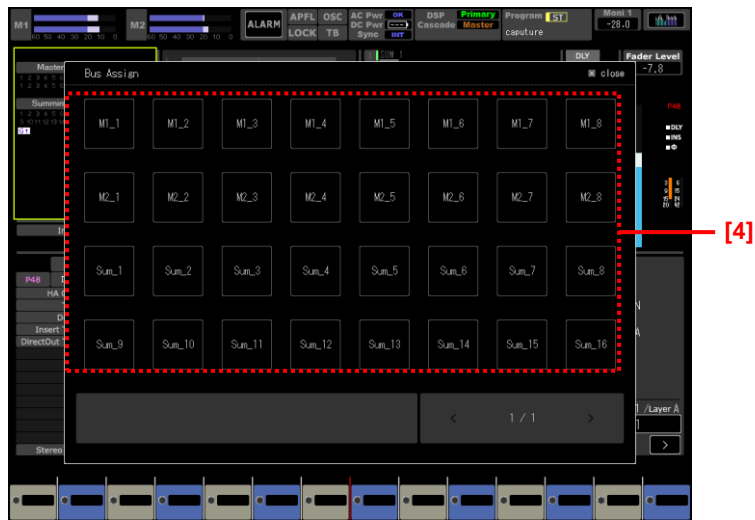
[4]   Assign On/Off button

Turns the Assign to bus written on the button On/Off. If On, the
button is lit.
If you press and hold one button and press the other button,
On/Off statuses of these two buttons and all the buttons
between them will be the same status of the button that you
pressed first.

6-3   Insert Source area

Insert Return Source set for the channel is displayed.
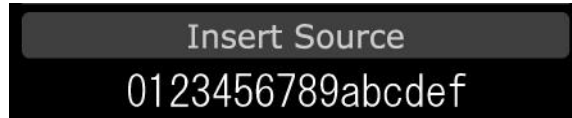
When Insert Source is touched, the Insert Matrix setting window is displayed.
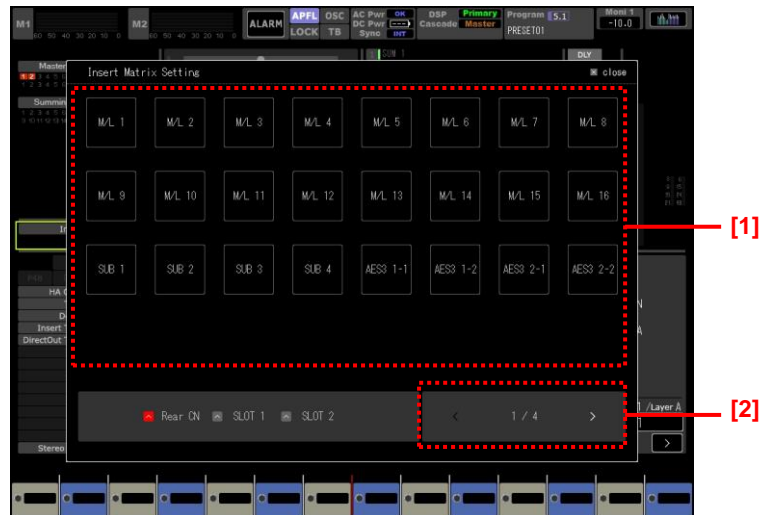
[1]   Insert Return Source selection button
Selects an Insert Return Source.
Selecting this button closes the window and sets the Insert
Return Source corresponding to the selected button to the
channel.
If the channel format is Stereo or Surround, contiguous Insert
Return Sources are automatically set for as many channels as
there are subchannels (including the selected button).

An audio source to be input to the Insert point of a channel (Insert Return Source) is set. Set the
destination of audio to be sent from the Insert point of a channel (Insert Send Destination) in the Out
Mtx menu on the Menu screen.

[2]   Page Ejection button and page display
The page information is displayed. It appears in the format
"current page number/total page count".
Also the Page Ejection button is displayed. Pressing the button
on the left side displays the previous page, and pressing the
button on the right side displays the next page.

6-4   Main Pan Area

When Main Pan is Surround Pan, the Surround function is called up on the Select Encoder if the Main Pan area is touched.
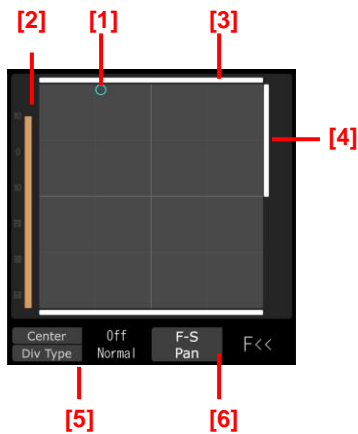
[1]   **Pan pointer**
Displays the Pan setting.
When Console Mode is Surround, Pan pointer turns to a circle (◯), when Console Mode is Stereo, it turns to a square (■).

[2]   **LFE Send Level bar graph**
Displays LFE Send Level setting.

[3]   **Front Divergence/Front Width bar graph**
For Mono channel or Surround channel, Front Divergence setting is displayed, for Stereo channel, Front Width setting is displayed.

For Front Divergence display, when the setting value is minimum, the bar is not displayed, when the setting value is maximum, the bar width is maximum.

For Front Width display, when the setting value is minimum, the bar color is gray and the bar width is maximum, and when the setting value is in the middle, the bar is not displayed. When the setting value is larger than a middle value, the bar color turns yellow and its width is larger, when the setting value is maximum, the bar width is maximum.

[4]   **F-S Divergence bar graph**
Displays the F-S Divergence setting.
When Front audio is added to Surround audio, the bar extends downward from the top of the area and reaches up to the middle point of the area.
When Surround audio is added to Front audio, the bar extends upward from the bottom of the area and reaches up to the middle point of the area.

[5]   **Center On/Off display and Divergence Type display**
Displays the Center On/Off and Divergence Type settings.
Not displayed for a channel without corresponding parameters.

[6]   **Operation parameter display**
Displays the name and the setting value of the operated parameter which is found by Select Encoder.
If the operation is found by the multiple encoders, the last one is displayed.

6-5   SUM Area

When this area is touched, the SUM function is called up on the Select Encoder.
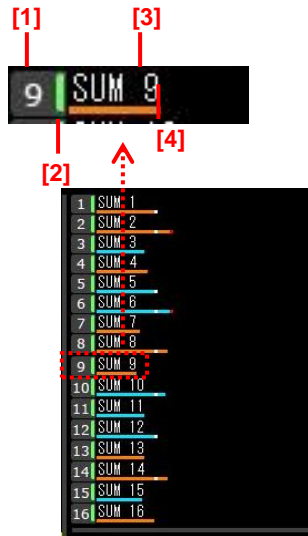
[1]   SUM number label
Displays the SUM number. For Send Off, this number appears grayed-out.

16 : Send On / 16 : Send Off

[2]   Format indicator
Displays the SUM Bus format.

16 : Mono / 16 : Stereo / 16 : Surround

[3]   Bus name display
Displays Bus Name which contains up to 10 one-byte characters or 5 two-byte characters.
For Stereo 5.1 SUM the first Bus's Bus Name is displayed and all other bus names are not displayed.

[4]   Send Level bar graph
Displays Send Level setting and Pre/Post setting.
Also for Send Off the bar graph appears grayed-out.

When Send Level is 0 dB, the end of bar is illuminated white.
When Send Level is maximum, the end of bar is illuminated red.

1 SUM 1 : Send Off

1 SUM 1 : Send On (Post)

1 SUM 1 : Send On (Pre)

6-6   Audio Path Area
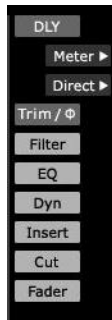
The applied setting of Audio Path is previewed.

When Audio Path area is touched, the Audio Path setting window is displayed.
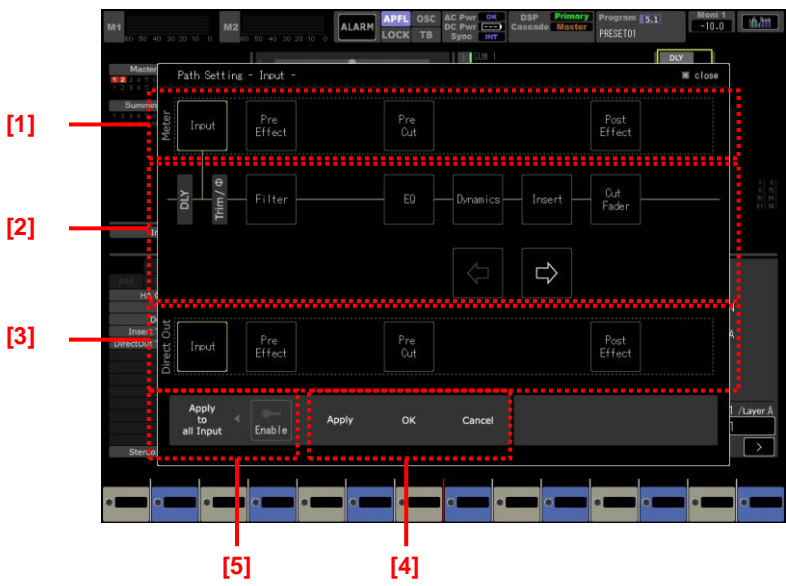
[1]   Meter position selection button
Selects a level data acquisition point for meter.
You select one from Input, Pre Effect, Pre Cut, Post Effect.
When PreCut is selected, the acquisition point depends on the
Effect order setting as the level data is acquired from right before
Effect Cut Fader.

[2]   Effect order setting button
Changes the sequence of Effects. Several sequences are
available for selection.
Each time the cursor button is pressed, the sequence of Effects
is changed.

[3]   Direct Out position selection button
Selects the acquisition point of Direct Out audio.
You select one from Input, Pre Effect, Pre Cut, Post Effect.

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[4] **Apply button/OK button/Cancel button**
Selects whether you want to apply or discard the setting changes.
Selecting Apply applies the changes with the window opened.
Selecting the OK button applies the changes and closes the window.
Selecting Cancel discards the changes and closes the window.

[5] **Apply to all button/Enable button**
When pressing Enable button with Apply to all button with held down, changes are applied to same type channels.

6-7   Channel Meter Area

This area contains the same channel meter as one displayed on the Meter screen. The Channel Setting screen provides the fader level in addition to the channel meter.
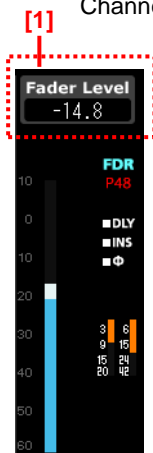
[1] **Fader Level display**
The Channel Setting screen provides the fader level in addition to the channel meter.

6-8   Input Area

When the Input area is touched, the Input function is called up on the Select Encoder.

[2] **Φ/P48/Ins/MS/L mono/R mono On/Off indicators**
Displays their On/Off settings respectively.
For Off it appears grayed-out. If there are not the functions in the display channel, it appears invalid.

[3] **Encoder function display**
The names and the setting values of the function which the encoder operates are displayed among the functions assigned to the Select Encoder.

6-9   EQ/FIL Area

When the EQ/FIL area is touched, the EQ/FIL function is called up on the Select Encoder.
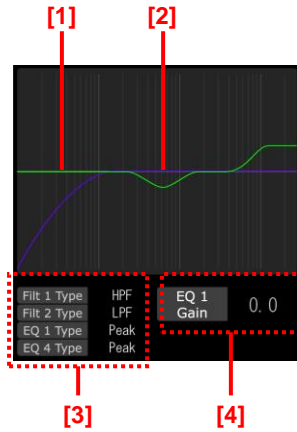
[1]   **EQ graph**

Displays a graph composed of EQ1 to 4 settings.

When EQ is Off, the graph appears grayed-out, and when On, it is illuminated green.

[2]   **Filter graph**

Displays a graph composed of Filter 1 and 2 settings.

The Filter 1 and Filter2 settings which are On form a graph shape. When both are Off, a graph appears grayed-out.

[3]   **Filter1/Filter2/EQ1/EQ4 Type display**

Displays the Filter1, Filter2, EQ1, and EQ4 Types.

[4]   **Operation parameter display**

The name and the setting value of the operated parameter which is found by Select Encoder are displayed.

If the operation is found by the multiple encoders, the last one is displayed.

6-10   Dynamics Area

When the Dynamics area is touched, the Dynamics function is called up on the Select Encoder.
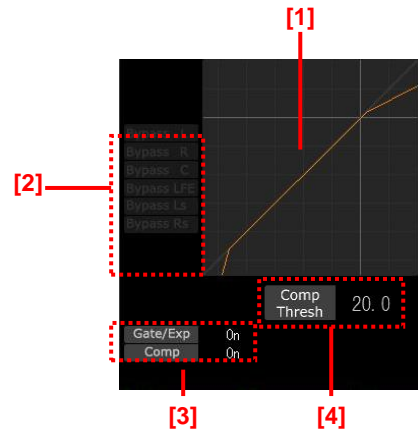
[1]   Dynamics graph

Displays a graph composed of Comp and Gate/Expander settings.

The Comp and Gate/Expander settings which are On form a graph shape. When Dynamics is Off, the graph appears grayed-out, and when On, it is illuminated in amber.

[2]   Dynamics Bypass indicator

Displays Bypass setting of Dynamics.

When there are subchannels set to Bypass, the corresponding indicators are illuminated.

[3]   Gate/Expander and Comp On/Off display

Displays the Gate/Expander and Comp On/Off settings.

[4]   Dynamics operation parameter display

The name and the setting value of the operated parameter which is found by Select Encoder are displayed.

If the operation is found by the multiple encoders, the last one is displayed.

6-11   Channel Information Area
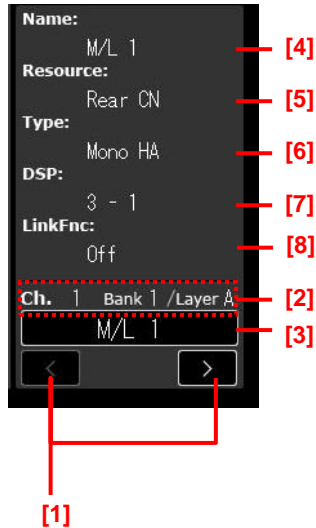
[1]   Previous/Next channel button

Moves a channel displayed on the Channel Setting screen to a channel previous or next to the currently visible channel. Pressing the button on the left side displays the previous channel, and pressing the button on the right side displays the next channel.

[2]   Channel number/Bank number/Layer display

Displays the channel number, bank number, Layer of the currently visible channel.

[3]   Fader Name display, setting button

Displays the Fader Name. Pressing the button displays Fader Name input keyboard window.

[4]   System Name display

Displays the System Name of the assigned Source.

[5]   Resource type display

Displays the type of the assigned Source.
For Bus "BUS" is displayed, for Fader Group Master "FUNCTION", for OSC "INTERNAL".

[6]   Channel type display

Displays the channel format and the HA/Line type.
For HA channel, it is followed by "HA".

[7]   DSP Resource display

Displays the used DSP Resource information.

[8]   Link Function display

Displays Link Function of the assigned Source.

7.   Menu Screen

7-1   Overview

The Setting Menu of the whole mixer can be operated on the Menu screen.
Menu screen is consisted of the following menus: Overview, Monitor, Group, Meter, OSC/TB, Preset Prg, Status, System, OutMtx, Config, and Setup. Menu selection buttons call up each menu.
The Menu screen consists of several areas as shown below.

Menu Screen
(Overview Screen)

For some menu types, the setting item buttons are displayed at the left of the screen.
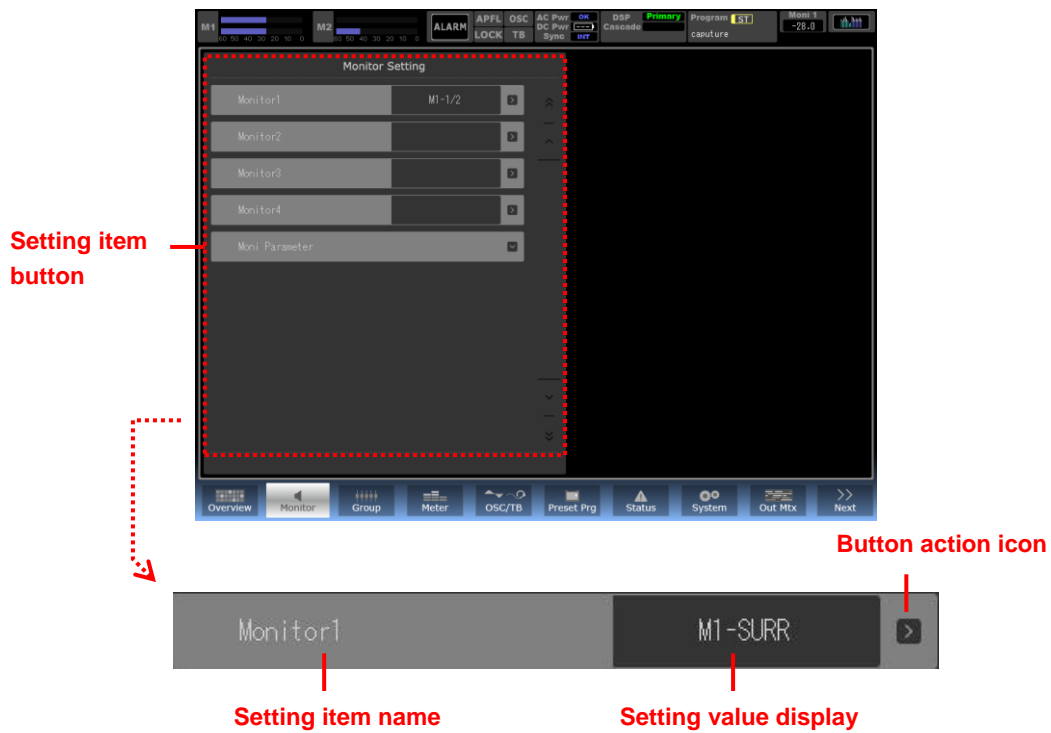
The behavior when pressing the setting item button is indicated with an icon.

> : Displays options to the right of the screen.

> : Displays the setting window.

> : Calls up the setting function on the Select Encoder.

No button action icon : When pressing, the function is executed at once.

7-2   Overview Menu

The Overview menu displays the setting statuses of Channel Layout, Fader Group, Fader Name, etc. for all the channels and changes their settings.

7-2-1   Normal Screen
Displays information of all the channels of Layer A/B per screen at a time.
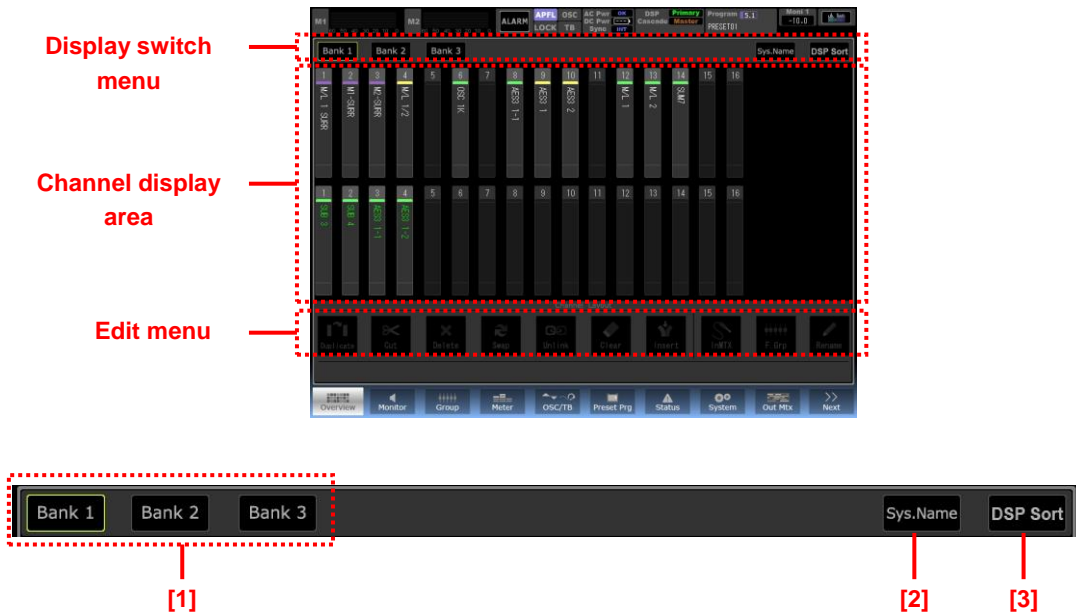
[1]   **Display Bank switch button**
Switches Banks displayed on the channel display area.

[2]   **System Name display switch**
Displays System Name on each channel.

[3]   **DSP Sort button**
Optimizes the DSP assignment to the channel.
When you create a channel, the system searches for a DSP resource automatically so that the DSP usage state is optimized at that point and assigns that resource to the channel. However, creating and deleting channels several times may cause the fragmentation of the DSP resource and there may be rare occasions when you cannot create a multiformat channel such as 5.1Input channel even if a DSP resource remains. In this case, use the DSP sort function to consolidate the fragmentation, which enables you to create a multiformat channel.

This operation interrupts the audio operation temporarily and may impact the output audio. Please be careful when you use this function.

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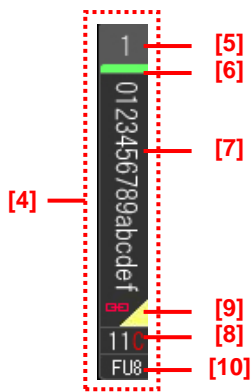
[4]   **Channel selection button**
Selects the channel which is operated on the Edit Menu.
If the button is pressed, it is Highlighted, and the Edit Menu
buttons which can be operated are enabled.

[5]   **Channel number display**
Displays the channel number.

[6]   **Format indicator**
Displays the channel format.

| 1 | : Mono |

| 1 | : Stereo |

| 1 | : Surround |

| 1 | : No format information |

[7]   **Fader Name/System Name display**
When System Name Display Switching button is Off, Fader
Name is displayed. When System Name Display Switching
button is On, System Name is displayed.
Layer A channel's character color is white, and Layer B
channel's character color is green.

[8]   **Fader Group setting display**
When Fader Group is set, Group number is displayed.
Also Fader Group is set to Cut Group, its number is followed by
"C".

| 01 | : Fader Group number display |

| 01C | : When Cut Group is set |

[9]   **Visual Group setting display**
Displays the color set in Visual Group.

[10]   **Link Func setting display**
Displays the Link Func setting (only INPUT ch).

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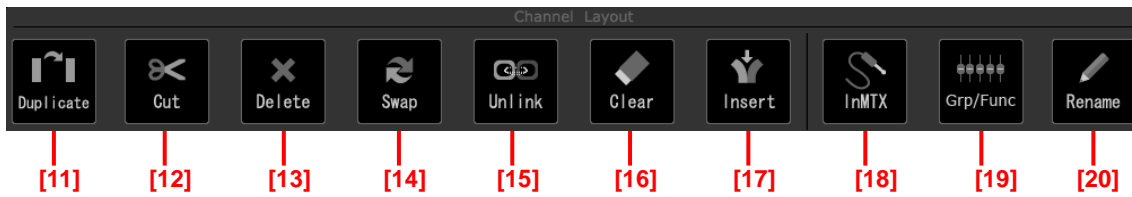
[11]   Duplicate button
Duplicates a channel selected by using the channel selection button, and creates Link channel.
Pressing the button allows the Paste and Insert buttons to be selected. When Paste is selected, the selected channel is overwritten with the Link channel. When Insert is selected, the Link channel is inserted into the selected channel. The channels which lie to the right of the selected channel shift to the right automatically.
The Link channels use the same DSP resources, and when a parameter for one of them is operated, all Link channels work with the operation.

[12]   Cut button
Cuts the channel selected by using the channel selection button. Pressing the button allows the Paste and Insert buttons to be selected.
When Paste is selected, the selected channel is overwritten with the cut channel. When Insert is selected, the cut channel is inserted into the selected channel. The channels which lie to the right of the selected channel shift to the right automatically.

[13]   Delete button
Deletes the channels selected by using the channel selection button, and moves all channels which lie to the right of the selected channel to the left according to the deleted channels.

[14]   Swap button
Swaps the position of the channel selected by using the channel selection button with the position of the other channel.
Pressing the button allows the destination position to be selected, and when specifying the destination position, the first selected channel' position is swapped with the second selected channel's position.

[15]   Unlink button
When the channel selected by using the channel selection button is a Link channel, it is unlinked and the new DSP resources are assigned to it.
The new assigned DSP resources inherit the parameter setting for the time when the Unlink operation was performed.

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[16]   **Clear button/Paste button**

If the Duplicate or Cut button is selected, the Paste button is displayed. Otherwise, the Clear button is displayed.

For Clear button, the channel selected by using the channel selection button is cleared. The cleared channel strip is changed to the blank strip.

For Paste button, the Link channel or the cut channel is overwritten with the channel selected by using the channel selection button.

[17]   **Insert button**

When the Duplicate or Cut button is selected, the Link channel or the cut channel is inserted.

Otherwise, the Blank channel is inserted.

[18]   **Input Matrix button**

Assigns Input Source, Bus channel, or Fader Group Master channel to the channel selected by using the channel selection button.

Pressing the button displays the Input Matrix setting window.

[19]   **Fader Group / Link Function Select button**

Sets Fader Group, Visual Group and Link Function Select of the channel selected by using the channel selection button.

Pressing the button displays the Fader Group / Link Function Selected setting window.

[20]   **Rename button**

Sets Fader Name of the channel selected by using the channel selection button. Pressing the button Displays the Fader Name input window.

7-2-2   Input Matrix setting window
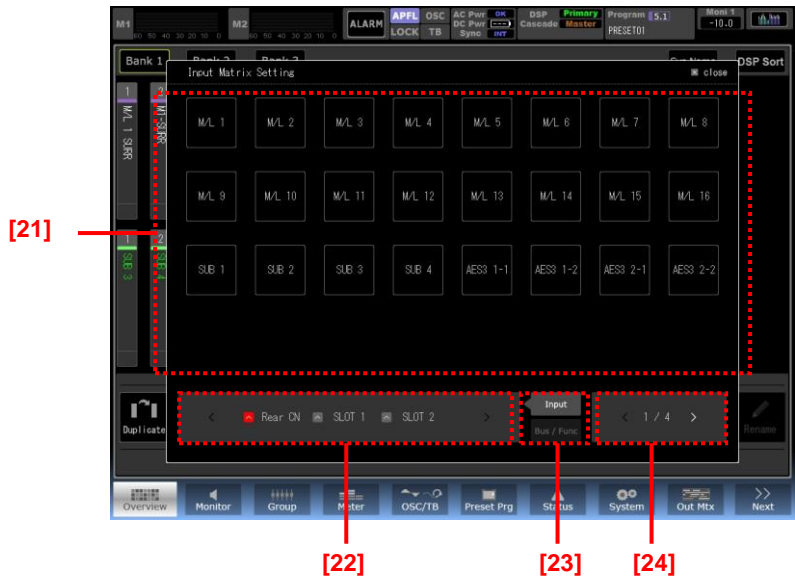
[21]   Source selection button

Selects a Source to assign to the channel selected by using the channel selection button.

If you press and hold one button and press the other button, Sources corresponding to these two buttons and all the buttons between them are sequentially set for the multiple contiguous channels from the selected channel by using the channel selection button.

[22]   Category selection buttons

Switches the categories of Source to be displayed.

[23]   Source type switch button

Switches the Source type displayed in the window.
Each time the button is pressed, the displayed Source is switched between Input Source and Bus/Function (Fader Group Master).

[24]   Page Ejection button and page display

The page information is displayed. It appears in the format "current page number/total page count".
Also the Page Ejection button is displayed. Pressing the button on the left side displays the previous page, and pressing the button on the right side displays the next page.

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7-2-3   Fader Group / Link Function Select Setting Window
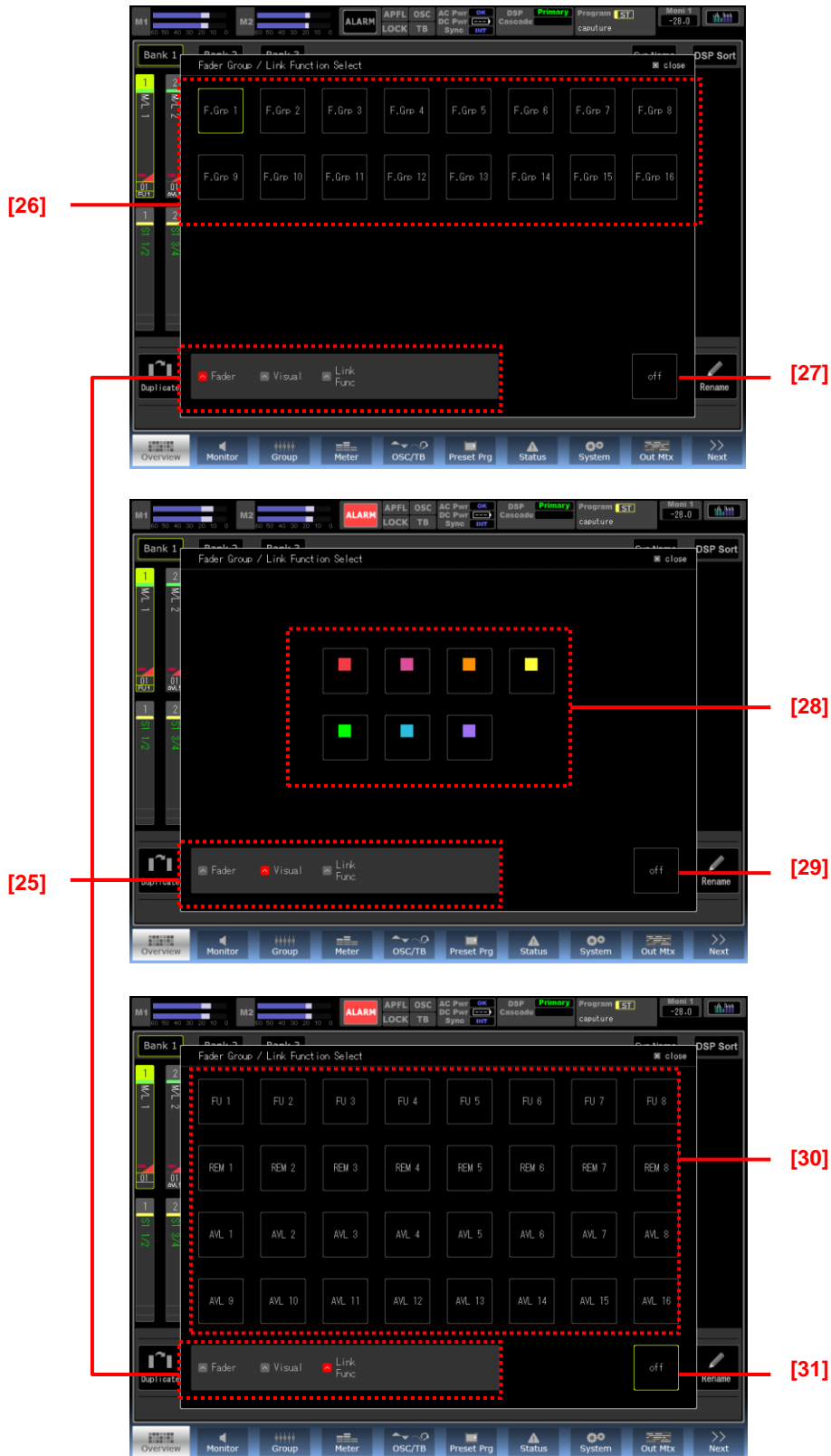
[25]　**Fader / Visual / Link Func switch button**
Switches among the Fader Group, Visual Group, and Link Func settings.

[26]　**Fader Group selection buttons**
Selects a Fader Group number to set for the channel selected by using the channel selection button.
When multiple channel selection buttons are selected, the selected Fader Group number is set for all of them.

[27]　**Fader Group setting clear button**
Clears Fader Group setting of the channel selected by using the channel selection button.
When multiple channel selection buttons are selected, all the settings are cleared.

[28]　**Visual Group selection buttons**
Selects a Visual Group color to set for the channel selected by using the channel selection button.
When multiple channel selection buttons are selected, the selected Visual Group color is set for all of them.

[29]　**Visual Group setting clear button**
Clears Visual Group setting of the channel selected by using the channel selection button.
When multiple channel selection buttons are selected, all the settings are cleared.

[30]　**Link Func selection buttons**
Selects Link Func to set for the channel selected by using the channel selection button.
When multiple channel selection buttons are selected, the selected Link Func is set for all of them.

[31]　**Link Func off button**
Clears Link Func set for the channel selected by using the channel selection button.
When multiple channel selection buttons are selected, all of the settings are cleared.

7-3   Monitor Menu

7-3-1   Menu Top

Make various settings about Monitor.

7-3-2   Monitor 1/2/3/4
Makes the settings of Monitors 1, 2, 3, and 4.
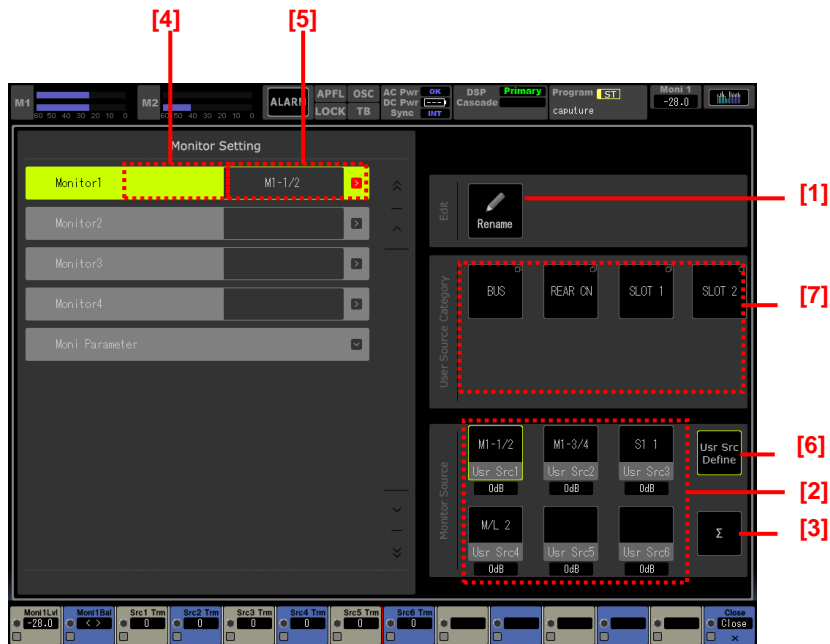
[1]   Monitor Name setting button
Sets the Monitor Name of a Monitor.
Pressing the button displays the Monitor Name input window.

[2]   Monitor Source selection buttons
Selects the Source of a Monitor.
When the Monitor Mix (Σ) button is not selected, only one of
these buttons can be selected.

[3]   Monitor Mix (Σ) button
This button enables the Monitor Mix function.
When this button is selected, the maximum number of Monitor
Source switch buttons that can be selected at a time is six in
Mono or Stereo format and two in 5.1 Surround format.
The audio of selected Monitor Sources are all output being
mixed.

[4]   Monitor Name display
Displays Monitor Name of Monitors 1, 2, 3, and 4.

[5]　　　**Monitor Source display**
Displays the Sources selected for Monitors 1, 2, 3, and 4.

[6]　　　**User Source Define button**
Select this button to assign a monitor source to the User button.
Press the button and then the Monitor Source selection button to
display the User Source category selection buttons.

[7]　　　**User Source category selection button**
Selects the category of Monitor Source assigned to User button.
Pressing the button displays the Monitor Source selection
window.

7-3-3　　Monitor Parameter

While this menu is selected, use the Select Encoder to adjust various Monitor Parameters such
as the Dimmer Level.
For details of the Monitor Parameters, refer to Appendix, Select Encoder.

7-4   Group Menu

7-4-1   Menu Top

Make various settings about Fader Group.

7-4-2   Fader Group Type

Select the operation type of Fader Group.

When Moving Type is selected, Slave Fader moves relative to Master Fader according to Master Fader's movement. Since Fader Level in Slave Fader is the actual Fader position, you can grasp Fader Level intuitively, but when you fully turn down Master Fader, Slave Fader is also fully turned down, you cannot control a balance between Slave Faders.

When VCA Type is selected, Slave Fader does not work with Master Fader movement and stands still at a constant position, the Slave Fader position is the offset value from Master Fader. It is difficult to grasp the actual Fader Level in Slave Fader, but if you fully turn down Master Fader, Slave Fader position does not change, so you can control a balance between Slave Faders.

7-4-3   Group1 - 16

Make settings about each Fader Group.

[1]

82
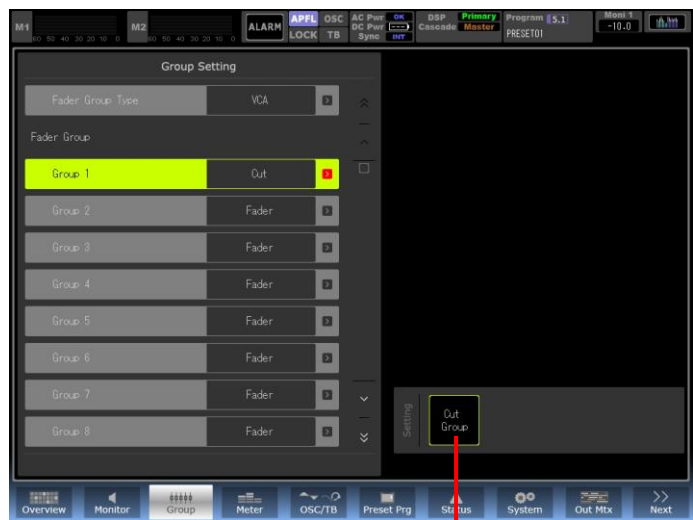
[1]　　**Cut Group button**

Switches the behavior of Fader Group to Cut Group.

For Fader Group set to Cut Group, only the operations to turn Cut On/Off link. In this case, if any Cut button for Slave channel is operated, all the Slave channels link.

7-5　Meter Menu

7-5-1　Menu Top

Make various settings about Meter.

7-5-2　Peak Hold Time

Selects the Peak Hold Time of Meter.

This setting is applied to all the level meters displayed on the Mixer.

7-5-3　Hold Reset

Updates Peak Hold display for meter.

Each time the button is pressed, the function is executed.

7-5-4　Release Time

Selects the Release Time of Meter.

This setting is applied to all the level meters displayed on this Mixer.

7-5-5　Dual Ch Meter

Switches between Single display (single Layer display) and Dual display (A/B Layer simultaneous display) for Channel Meter.

When the setting is On, Dual display is enabled.

Each time the button is pressed, On/Off is switched.

7-5-6　Caution Bar Color

Selects the display color of the caution area of the meter (WHITE/AMBER).

This setting applies to all level meters displayed on the Mixer.

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7-6   OSC/TB Menu

7-6-1   Menu Top

Make various settings about OSC and TB (Talk Back).

7-6-2   OSC/TB Parameter

While this menu is selected, use Select Encoder to adjust various OSC/TB Parameters such as the OSC Level.

For details of OSC/TB Parameters, refer to Appendix, Select Encoder.

7-6-3   OSC Dest Select

You can set the OSC output.

When the menu is selected, the OSC Destination selection window is displayed.
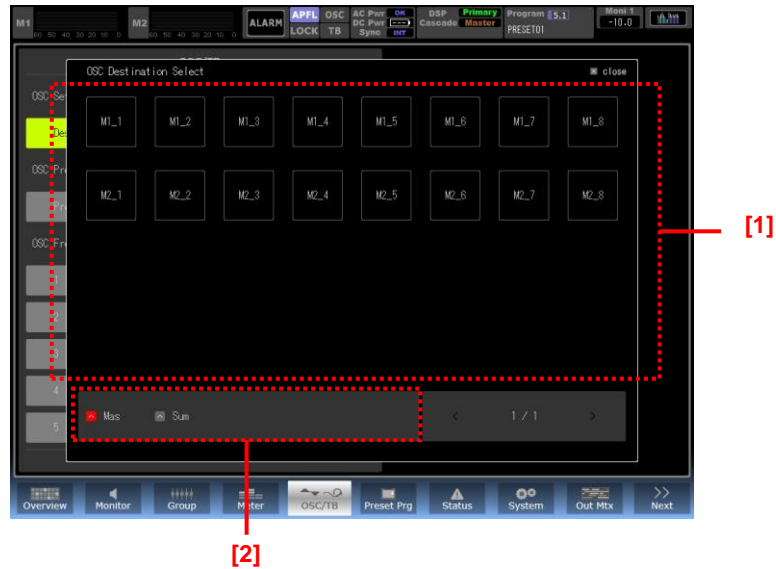
[1]   **Output destination Bus selection button**

Selects an OSC output destination.

Pressing the button outputs OSC audio to the Bus corresponding to the button. Pressing the button again clears the output.

If you press and hold one button and press the other button, On/Off statuses of these two buttons and all the buttons between them will be the same status of the button that you pressed first.

[2]   **Display Bus switch button**

Switches the output destination Bus selection buttons.

7-6-4   OSC Preset

Sets the OSC output destination when using the On buttons on the OSC panel.

When the menu is selected, the OSC Preset setting window is displayed.

7-6-5   Frequency 1 ─ 6

You can select the OSC audio.

The Frequency 1 signal is used for Mono Bus or Stereo Bus/Surround Bus L channel.

The Frequency 2 signal is used for Stereo Bus/Surround Bus R channel.

The Frequency 3 to 6 signals are used for Surround Bus C, LFE, Ls, or Rs channel respectively.

7-6-6   TB Preset1

Sets the TB output destination when using the Set1 button on the TB panel.

When the menu is selected, the TB Preset setting window is displayed.

7-6-7   TB Preset2

Sets the TB output destination when using the Set2 button on the TB panel.

When the menu is selected, the TB Preset setting window is displayed.

7-7　　Preset Prg Menu

7-7-1　Menu Top

Register, recall, and manage Preset Programs stored in the internal memory of NT110.
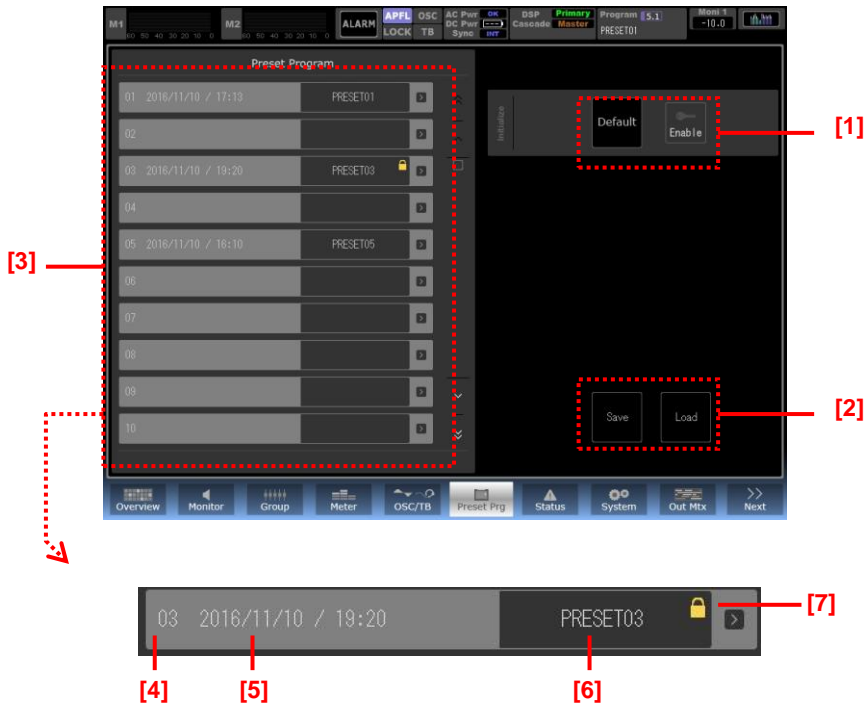
[1]　Factory Default recall button

Press the Factory Default button while pressing Enable to recall the factory default Mixer settings. This operation does not change the Preset Program registration status and the Setup menu settings.

[2]　Save/Load button

Switches to the saving or loading Preset Program screen. When the button is pressed, the Edit selection button at the left of the screen is changed to the Save selection button or the Load selection button.

[3]　Edit selection buttons

Selects a Preset Program to edit.

[4]　Preset Program number

Displays the Preset Program numbers from 1 to 99. They are always displayed whether or not data exists.

[5]　Time stamp display

Displays the time stamp when creating and updating Preset Program.

[6]   Preset Program title display
Displays the title of Preset Program.
The title is entered on the Edit menu.

[7]   Lock setting display
Displays the Lock setting status.
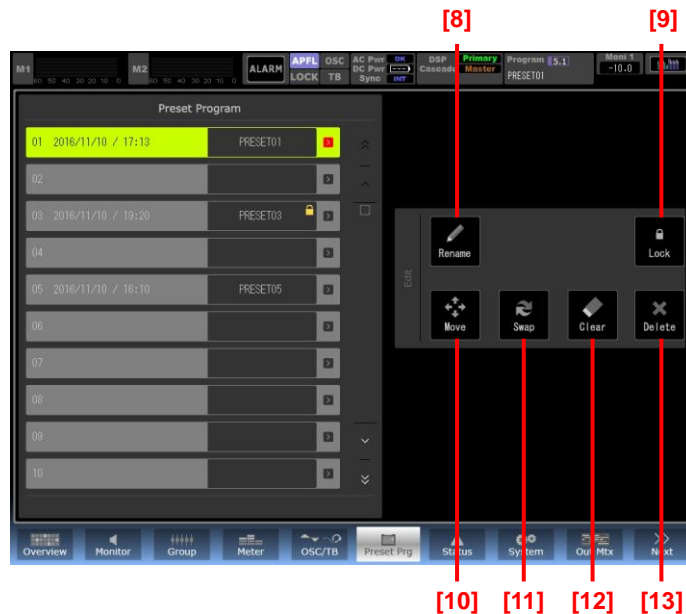
[8]   Rename button
Enters the title of Preset program.
Pressing the button Displays the title input window.

[9]   Lock button
Locks and unlocks the Preset Program.
When the Present Program is locked, it cannot be overwritten or deleted. To lock and unlock it, you need to enter a password.
The factory default password is "NT110."

[10]   Move button
Moves a Preset Program to other number.
Pressing the button allows the destination to be selected using the Edit selection button. The Edit selection button is selected, it is moved there.

[11]   Swap button
Swaps Preset Program with other number.
Pressing the button allows the destination to be selected using the Edit selection button. When the Edit selection button is selected, the numbers are swapped.

[12]   Clear button
Clears the Preset Program.
The cleared Preset Program is changed to the Preset Program with which data is not registered. When you press the button, the confirmation message appears.
When OK is selected, the selected Preset Program is cleared.

[13] **Delete button**
Deletes Preset Program.
When deleting, the subsequent Preset Program numbers are
shifted to the front.
When you press the button, the confirmation message appears.
When OK is selected, the selected Preset Program is cleared.

7-8   Status Menu

7-8-1   Menu Top

[1] **Status Clear button**
Stops blinking of the Alarm lamp on the Mixer Status screen.
When you press this button, the Alarm lamp changes to gray
and stay lit.
This button is used when you continue operation against any
Alarm that has already occurred. The button can differentiate the
known Alarm from others.

[2] **Alarm/Status Log**
Displays the details of Alarm information detected by the Mixer
and the recorded log information.

[3] **Firmware Version**
Displays the details of the firmware version of the Mixer.
The major version information of the firmware is displayed also
in the lower right corner of the screen when the power is turned
on.

[4]   **Date**

Adjusts the date and time of the calendar clock of the Mixer.
Periodically adjust the date and time of the calendar clock which
may have errors although it is factory-adjusted.

7-8-2   Alarm/Status Log

Displays Alarm found on NT110. Also allows you to view the recorded log information.
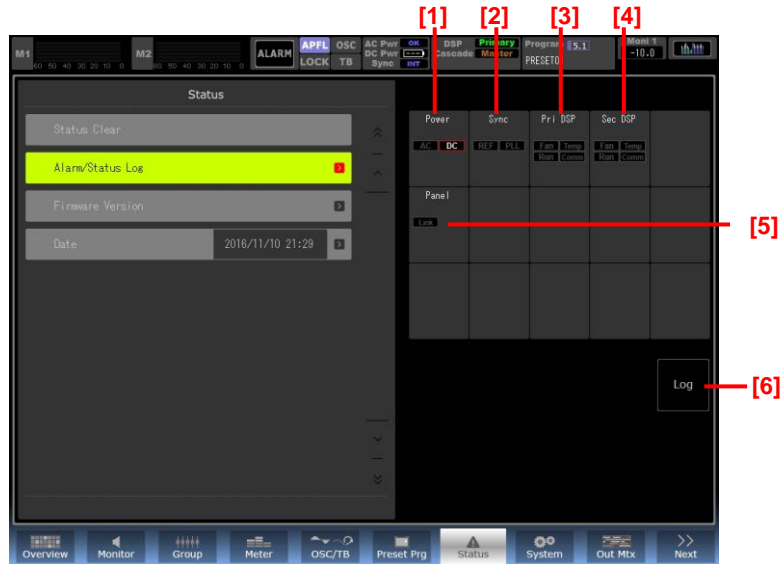
[1]   **Power status display**

Displays Alarm about the AC or DC power input.
You can mask Alarm of either of the power input by the System
Menu setting.
AC: Lit when the AC power input is abnormal.
DC: Lit when the DC power input is abnormal.

[2]   **Sync status display**

Displays Alarm about the synchronization signal selected as the
Sync Source in the System Menu.
REF: Lit when synchronization signal input is not detected
PLL: Lit when the internal circuit is not locked to the
           synchronization signal.

[3]   **Primary DSP display**

Displays Alarm about DSP CARD mounted in the Primary DSP
Slot.
Fan: Lit when the internal fan stops.
Temp: Lit when the internal temperature sensor detects a
           high temperature error.
Run: Lit when the audio signal processing part stops.
Comm: Lit in when an error occurs in the communication
           between Primary DSP CARD and Secondary DSP
           CARD.

[4]   **Secondary DSP display**
Displays Alarm about DSP CARD mounted in the Secondary DSP Slot. This display is the same as the Primary DSP display.

[5]   **Panel display**
Displays Alarm about Operation Panel.
Link: Lit in when an error occurs in the communication between Operation Panel and DSP CARD.

[6]   **Status Log button**
Displays the log record data including information on occurrence of and recovery from Alarms in the past. The oldest records are overwritten with new data.

7-9   System

7-9-1   Console Mode

This button switches the Console Mode.
The Console Mode switch buttons are displayed at the right of the screen.
When the button for the Mode other than the current Console Mode is selected, the confirmation message is displayed.
Selecting OK changes the Console Mode.

When Console Mode is Stereo

7-9-2   Bus Format M1/M2/Sum

Sets the Bus format of M1, M2, and Sum.

When this menu is selected, the Bus format setting window is displayed.

[1]   Bus Format selection button

Selects the Bus format.

When the upper format is selected, the buttons for all the Buses which that format contains are deselected.

When the lower format is selected, the format for all the Buses which is included in the pre-selection format is set to the same format.

* "Downmix" is effective only for M1 and M2.

[2]   Bus number label

Displays Bus numbers.

[3]   Apply button/OK button/Cancel button

Selects whether you want to apply or discard the setting changes.

Selecting Apply applies the changes with the window opened.

Selecting the OK button applies the changes and closes the window.

Selecting Cancel discards the changes and closes the window.

[4]   Page Ejection button and page display

Displays the next page of Bus numbers. Sum consists of two pages.

7-9-3   Sync Source
Selects the audio synchronization signal.
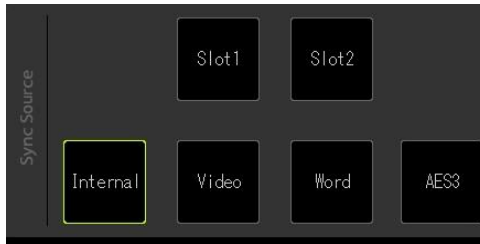
Internal: Selects the synchronization signal stored in the NT110 main unit.
Video: Selects the synchronization signal entered in Rear Panel - Video in.
Word: Selects the synchronization signal entered in Rear Panel - Word clock in.
AES3:   Selects the synchronization signal entered in Rear Panel - AES3 in1.
Slot1/2: Selects the synchronization signal of a Card mounted in the Rear Panel - IO CARD
            Slot.There are both Cards that output and do not output synchronization signals.

7-9-4   SUB IN 1/2/3/4 Reference Level
Selects an audio reference level of Rear Panel - SUB IN. This setting can be selected for each
of the inputs.

7-9-5   LINE OUT Reference Level
Selects an audio reference level of Rear Panel - LINE OUT. LINE OUT 1 through 16 are set at
a time.
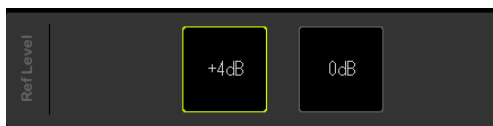
7-9-6   AES3 IN 1/2 Sample Rate Converter
Selects On/Off of Sample Rate Converter in Rear Panel - AES3 IN. This setting can be
selected for each of the inputs.

7-9-7   Downmix Level

Selects a downmix level from 5.1 Surround to Stereo.
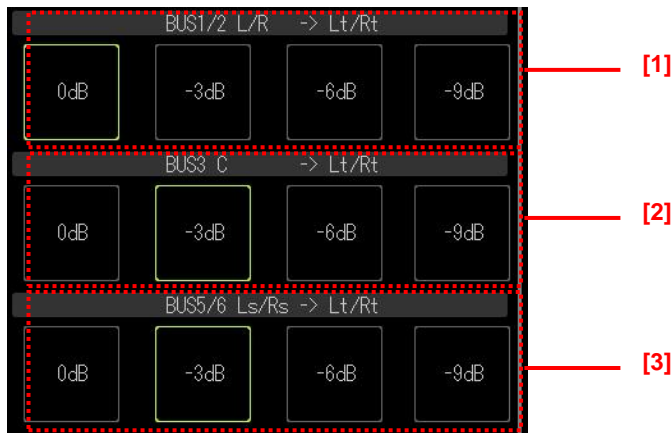
[1]   **BUS 1/2 L/R -> Lt/Rt**

Selects a mix level from 5.1 Lch to Stereo Lch and from 5.1 Rch to Stereo Rch.

[2]   **BUS 3 C -> Lt/Rt**

Selects a mix level from 5.1 C ch to Stereo Lch and Rch.

[3]   **BUS 5/6 Ls/Rs -> Lt/Rt**

Selects a mix level from 5.1 Ls ch to Stereo Lch and from 5.1 Rs ch to Stereo Rch.

7-9-8   Delay

Selects the setting unit for Delay.

7-9-9   Luminance

Adjusts the intensity of the touch panel and LED.

When the menu is selected, the Luminance setting window is displayed.

Each intensity is adjusted by the left or right arrow button: when the cursor is at the left edge, the intensity is minimum, when the cursor is at the right edge, the intensity is maximum.

7-9-10   DC Input Voltage

Selects a DC power voltage to be input to Rear Panel - DC IN.

This setting selects the reference voltage for the DC Pwr indicator on the Mixer Status screen.

7-9-11   AC Power Alarm

Selects permission or prohibition of Alarm that occurs when the AC power is abnormal.

7-9-12   DC Power Alarm

Selects permission or prohibition of Alarm that occurs when the DC power is abnormal.

7-10   Output Mtx

The Output Mtx menu allows you to select output signals to NT110 Rear Panel, IO CARD Slot, or a headphone.
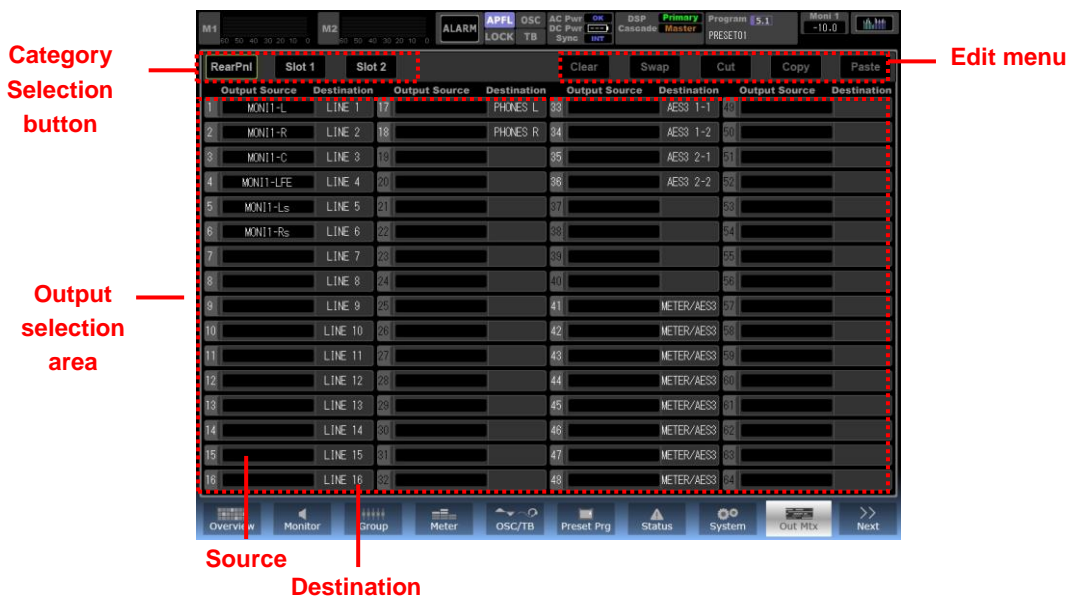
The output selection area displays all the output channels (Destinations) and the audio sources output to these channels (Sources) of NT110. This area is switched when a category selection button is pressed.

When you select a Source display part, the Output Matrix setting window appears. Select a source that you want to output from the list of audio sources displayed in the window.

When you select a Destination display part, the Edit menu becomes available.

You can select multiple contiguous Destinations by touching and dragging the Destination display part.
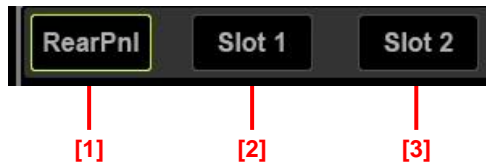
[1]   Rear Pnl

Switches the output selection area to the channel display for audio output connectors assigned to the Rear Panel and the headphone output in the lower part of the Front.

[2]   Slot 1

Switches the output selection area to Rear Panel - IO CARD Slot 1 audio output channel display.

[3]   Slot 2

Switches the output selection area to Rear Panel - IO CARD Slot 2 audio output channel display.
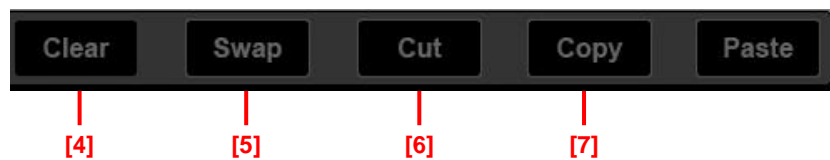
[4]   Clear button

Clears the Source of a selected Destination. Audio is muted for the Destination of which you cleared the Source.

[5]   Swap button

Swaps the Source of a selected Destination with the Source of other Destination.
To perform Swap, select one Destination, press the Swap button, and select the other Destination.

[6]   Cut button

Moves the Source of a selected Destination to the Source of other Destination.
To perform Cut, select a Source to be cut, press the Cut button, and select a Source on which to paste it.

[7]   Copy button

Copies the Source of a selected Destination to the Source of other Destination.
To perform Copy, select a Source to be copied, press the Copy button, and select a Source on which to paste it.

7-10-1   Output Matrix Setting Window
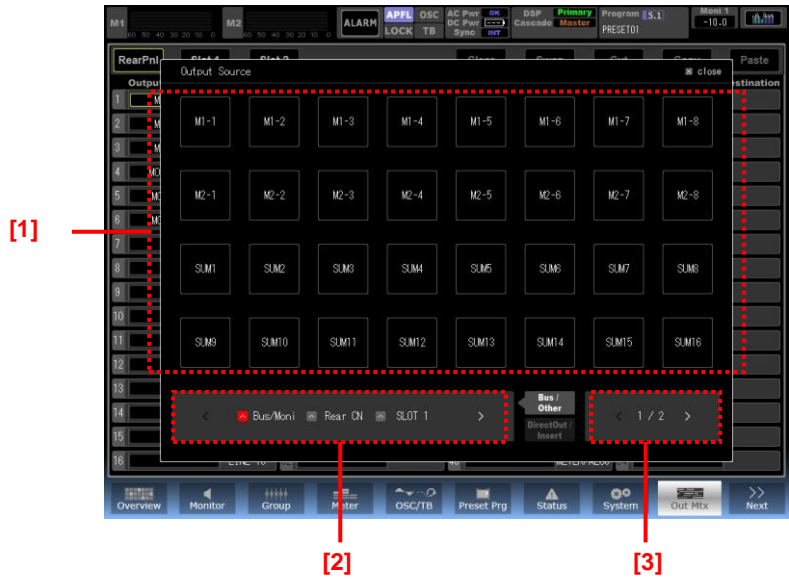
[1]   Source selection button

Selects a Source to be assigned.

If you press and hold one button and press another button, the Sources corresponding to these two buttons and all the buttons between them are set as the multiple contiguous Destinations.

[2]   Category selection buttons

Switches the categories of Source to be displayed.

[3]   Page Ejection button and page display

The page information is displayed. It appears in the format "current page number/total page count".

Pressing the button on the left side displays the previous page, and pressing the button on the right side displays the next page.

7-11   GPIO Slot1/GPIO Slot2

7-11-1   Menu Top

Makes various settings about the GPIO CARD.

For its functions, refer to GPIO - Control Functions.

7-11-2   How to Set GPIO CARD (Example: FU ON)

This section describes how to assign FU ON to GPIO Input 1.

7-11-2-1   Operation Procedure

1   Select Input GPIO CARD GPI 1 on the GPIO Slot1 screen

The GPI Function selection buttons appear.

GPI Function
Selection buttons
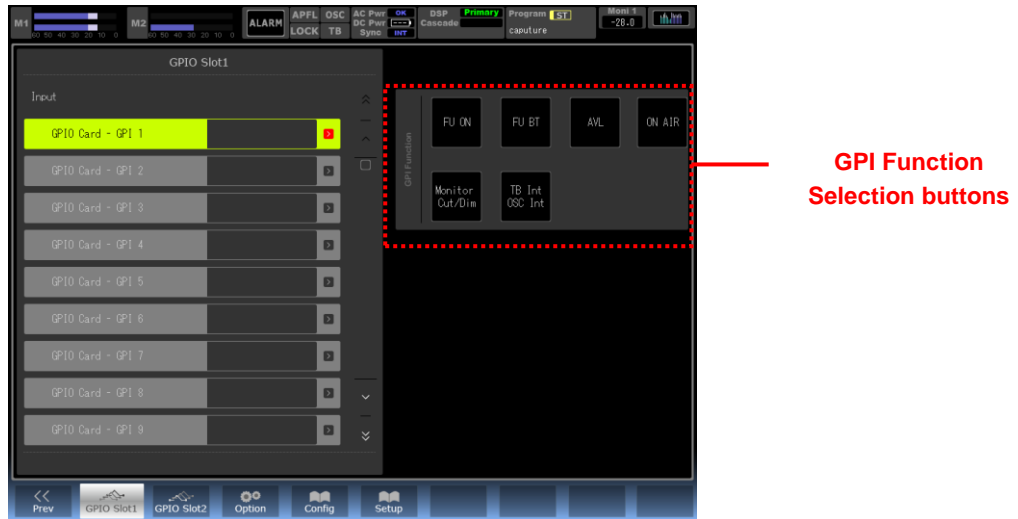
2   Select FU ON among the GPI Function selection buttons

The FU No. button and Moni Cut selection buttons appear.

FU No. button

Moni Cut selection
buttons
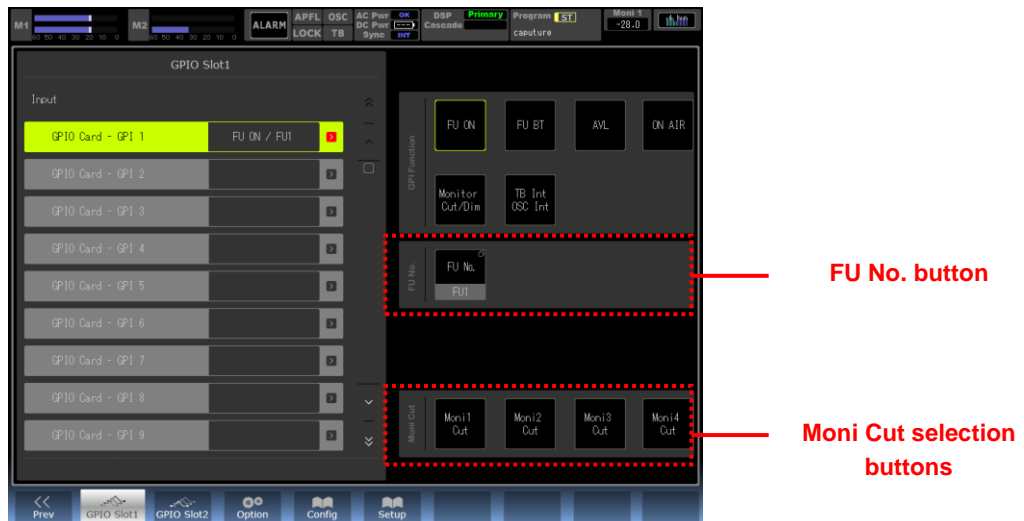
3   Select the FU No. Select button

The FU No. Select window appears.

FU No. Select buttons
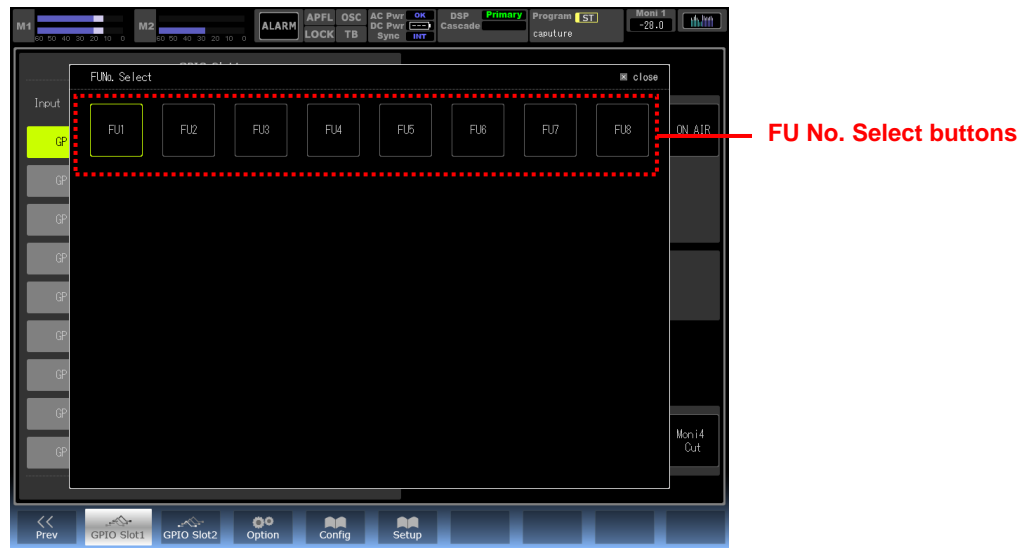
4   Select FU1

The FU No. Select window closes.

Moni Cut selection buttons
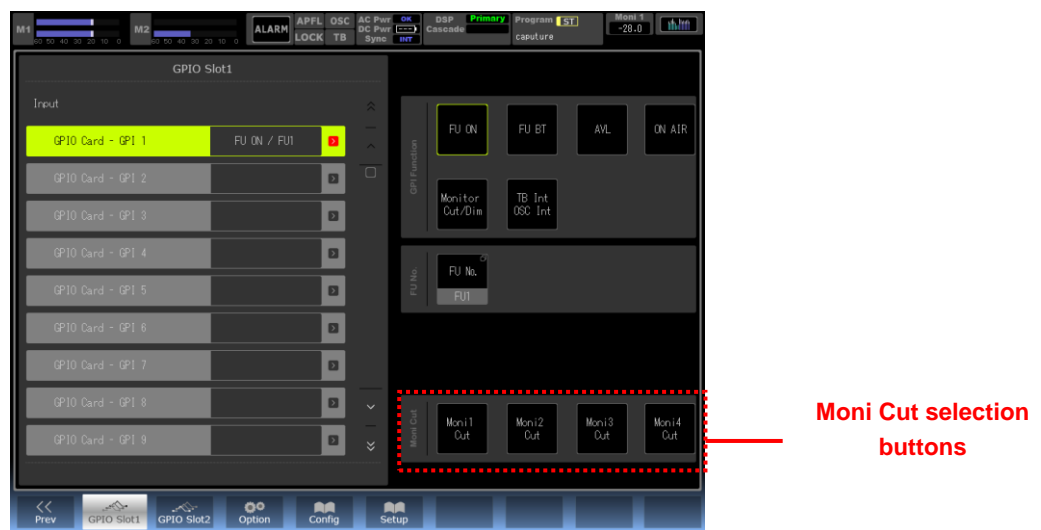
5   Select the monitor to be cut when FU is ON

You can select multiple monitors to be cut.

7-12   Option

7-12-1   Menu Top

Makes cascading connection and optional card settings.

You can set optional cards separately for Slot1/2.

7-12-2   Cascade

To add input channels, connect two NT110 mounting the MADI CARD with a coaxial or optical cable to establish cascading connection.

7-12-2-1   Cascade

Selects Off/Slave/Master of the Cascade function. When Slave is selected, the audio in the Bus (M1/M2/Sum/APFL/BT) is sent to the Master. When Master is selected, audio is received from the Slave.

OFF   :Turns off the cascading connection.

Slave   : Sets the function to the Slave side of the cascading connection.

Master   : Sets the function to the Master side of the cascading connection.

7-12-2-2   Cascade Port

Selects the Slot mounting the MADI CARD that uses the cascade function.

7-12-3   Slot1/Slot2

Automatically recognizes and displays the card mounted in the IO CARD Slot.
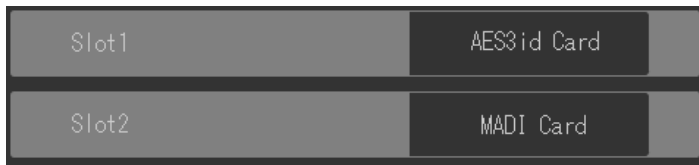
7-12-4   Setting Optional Cards for Slot1/Slot2

Sets optional cards separately for Slot1/Slot2.

7-12-4-1   AES3id CARD

Selects On/Off of Sample Rate Converter in AES3id CARD input.
Tap each button to turn on or off Sample Rate Converter. You can select On/Off separately
for each input.

7-12-4-2   MADI CARD

Makes settings of the MADI CARD.
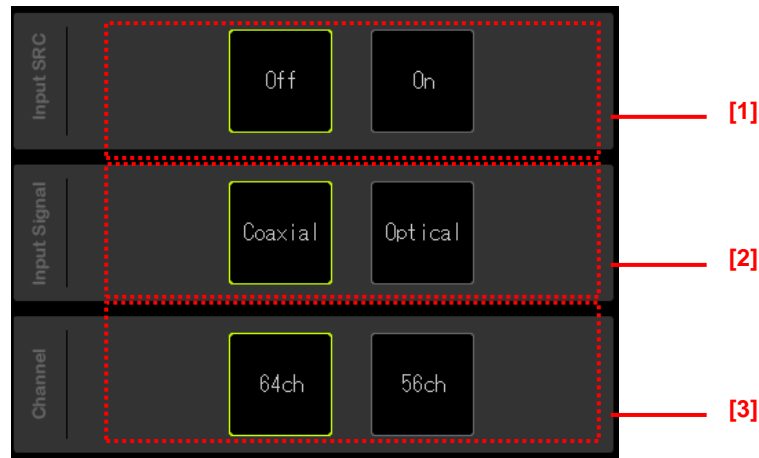
[4]   Input SRC

Selects On/Off of Sample Rate Converter of MADI CARD input.

[5]   Input Signal

Selects the MADI input connector.
Signals are always output from both Coaxial and Optical.

[6]   Channel Format

Selects the number of MADI channels.

7-12-4-3   GPIO CARD

Switches to the GPIO Slot1/GPIO Slot2 menu.

7-13   Config

7-13-1   CUT Switch Operation

Selects the CUT button operation for each channel.

Normal: Turns on and off the CUT button operation each time this button is pressed.
OFF Fixed: Turns off the CUT button operation. Use it to turn off the CUT button permanently.

7-13-2   Moni1/2/3/4 Int/Mix Source

Selects Sources with which to interrupt or mix to Monitor1/2/3/4.
This setting can be selected for each of the Monitors.

Monitor1

Monitor2/3/4
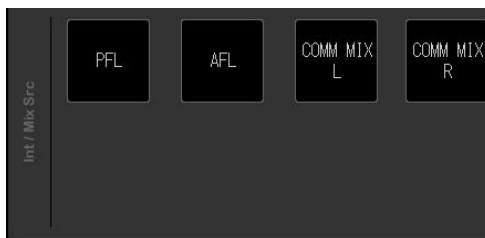
7-13-3   Moni1/2/3/4 Auto Cut Source

Selects conditions under which to automatically cut Monitor1/2/3/4.
This setting can be selected for each of the Monitors.

7-13-4   Moni1/2/3/4 Auto Dim Source

Selects conditions under which to automatically dim Monitor1/2/3/4.
This setting can be selected for each of the Monitors.
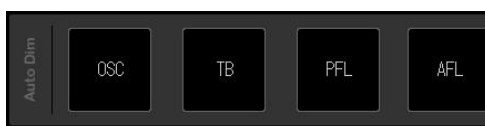
7-13-5   ON AIR - OSC Inhibit

Selects an OSC output destination to be prohibited when ON AIR is On.

7-13-6   ON AIR - TB Inhibit

Selects an TB (Talk Back) output destination to be prohibited when ON AIR is On.

7-13-7   Sum Send – Pan Link

Links the Sum Pan/Bal parameters to the Stereo Pan/Bal parameters of Input and Sum channels.

For the Sum Bus No. set to On, the Sum Pan/Bal parameters are linked to the Stereo Pan/Bal parameters of the same channel.
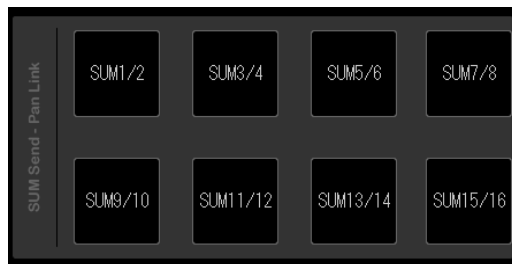
7-14   SETUP

You can make the basic settings of NT110 on the SETUP screen. You need to type the password to enter this screen so that you will not change the settings by mistake. The factory default password is "NT110."
The settings made on this screen do not apply to a Preset Program. Loading a Preset Program does not change the settings made on this screen.

7-14-1   Digital Reference Level
Selects a reference level of digital audio input/output.
This setting is followed by the meter warning display area (points at which the color changes), the reference level of the built-in digital OSC transmitter, and the reference level of the A/D and D/A conversions.

7-14-2   FS - Sampling Rate
Selects a sampling frequency of internal audio signal processing and the digital audio input/output.
When FS 96 kHz is selected, there is restriction on the numbers of signal processing channels and input/output channels.
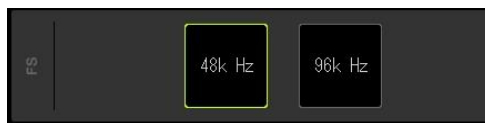
7-14-3   DSP Auto Changeover
Automatically switches the DSP CARD.
When DSP Auto Changeover is set to Enable for DSP Cards in a redundant configuration, the appropriate DSP CARD is automatically switched in the event of an alarm indicating the possibility of a stop or uncontrolled operation.

7-14-4   Password

Sets the password required to enter the SETUP screen or make lock settings.

The factory default password is "NT110."

After changing the password, be sure to record and store the new password string.

Special operation is required to change the password setting back to the factory default value.

7-14-5   TB Always On

Selects the behavior of Rear Panel - TB OUT terminal.

When Disable is selected, TB MIC audio is sent from the TB OUT terminal while the SET button is On where TB OUT is On in TB PRESET. When Enable is selected, TB MIC audio is always sent from the TB OUT terminal.

7-14-6   Mono Mix Dimmer Level

Selects an automatic downmix level used to mix Lch and Rch of Stereo signals.

7-14-7   PFL Source

Selects an acquisition point of RFL signals.

7-14-8   Sum Pre Source

Selects acquisition points of Sum signals.

7-14-9   HA Headroom

Selects a headroom for the microphone input head amplifier.

7-14-10   BT Cut

Selects whether to enable or disable the channel output CUT function when GPIO Input controls FU BT (Back Talk).
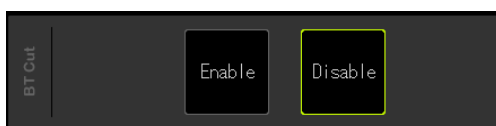
7-15   Other Screens

7-15-1   Keyboard Window

The keyboard window is displayed on the menu for Fader Name and Preset Program titles entry or password entry.
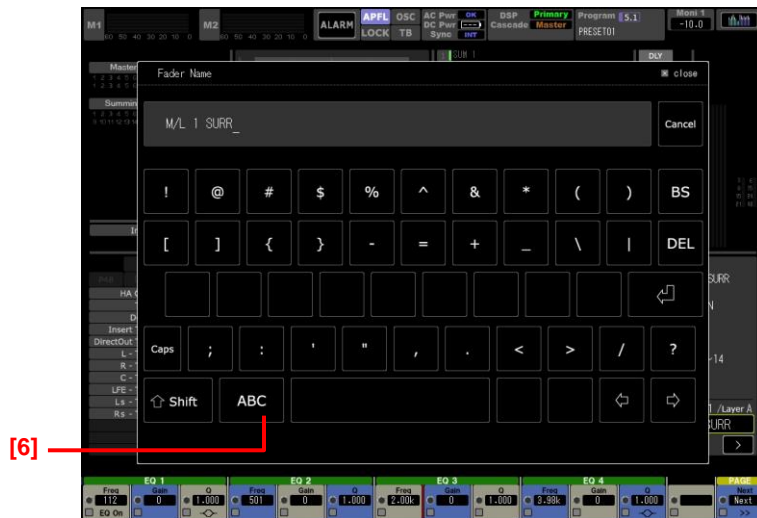
[1]   Input string display

Displays the input string.

When opening the window, if any string is entered, that string is displayed.

[2]   Cancel button

Discards the input.

When opening the window, if any string is entered, the content is discarded and it is returned to the string when opening the window.

[3]   **Caps Lock button**
Switches On/Off of Caps Lock.
If you press this button while pressing the Shift button, On/Off is switched.

[4]   **Shift button**
When pressing the button on which characters form two rows with this button held down, the upper characters are entered.

[5]   **Enter button**
Commits the entered content and closes the window.

[6]   **Character switch button**
This button switches the input characters.
When the [{: button is pressed, symbols can be entered, and when the ABC button is pressed, plain characters can be entered.

8.   GPIO

8-1   Control Functions

8-1-1   List of Functions
8-1-1-1   GPI

Function	Description	Setting item
Link Function FU/BT	If ON, the specified FU function or BT is turned ON	Specify the FU number When set to ON, specify the Monitor to control
Link Function Remote	If ON, the specified Remote function is turned ON	Specify the Remote number
Link Function AVL	If ON, the AVL function is turned ON	Specify the AVL number Set the operation parameter
Monitor Cut	If ON, Cut the specified monitor	Specify the Monitor system
Monitor Dim	If ON, Dim the specified monitor	Specify the Monitor system
TB interruption	If ON, the TB audio interrupts the specified Bus or Monitor	Specify Bus and Monitor
OSC interruption	If ON, the OSC interrupts Master Bus	Specify a Master Bus as the interruption destination

> ⚠ Different GPI ports should not have the same function. If one function is used on multiple ports, it may not work properly.

8-1-1-2   GPO

Function	Description	Setting item
Link Function Remote	Outputs ON in the specified status of the Link Function Remote function	Specify the Start/Stop status
Mic On	Outputs the Mic On status of the specified FU number	Specify the FU number

You can set the same function on different GPO ports redundantly.

8-1-2   Details of Functions

8-1-2-1   Link Function FU/BT (GPI)

When the GPI is set with one of Link Function FU 1 to 8 and it receives OFF, the Fader Level of the channel with the same FU function becomes -∞, regardless of the Fader position (FU Off state).

If that GPI receives ON, the Fader Level corresponds to the Fader position (FU On state) Also, the Link Function status indicator of the channel meter is lit.

If the REM button of the channel is turned On, the Fader Level corresponds to the Fader position, and the status indicator is lit, whether that GPI receives ON or OFF (FU Through state).

In addition, when that GPI receives ON, or when the REM button of the channel is turned ON, the specified Monitor audio output among Monitor 1 to 4 is cut.

The relationship among the states of GPI, the REM button, Fader Level setting value, and the status indicator is as follows:

GPI	[REM]	Fader Level	FU LAMP	Monitor
On	On	Fader position	On	Cut
	Off	Fader position	On	Cut
Off	On	Fader position	On	Cut
	Off	-∞	Off	Normal

If the GPI is set with the BT function of one of Link Function FU 1 to 8 and it receives ON, the BT function of the channel with the same FU function is turned ON.

Also, the audio output of the specified Monitor is cut or dimmed.

> The BT function outputs the audio input to a channel to the BT Bus, not to a Bus (Master Bus, etc.), and outputs that audio from the specified monitor. This allows you to temporarily use the microphone for recording narration as one for communication. Audio may be output to Direct Out depending on the Audio Path setting of the channel, even when the BT function is ON.

8-1-2-2   Link Function Remote (GPO)

When the channel is set with one of Link Function Remote 1 to 8, and the REM button of it is ON, and the Fader position is now not fully turned down by the Fader operation, a Pulse is output from the GPO with the Start function of the same Remote. If the REM button is OFF and the Fader position is not fully turned down, a Pulse is also output from the applicable GPO when the REM button is pressed to be turned ON.

When the channel is set with one of Link Function Remote 1 to 8, and the REM button of it is ON, and the Fader position is now fully turned down by the Fader operation, a Pulse is output from the GPO with the Stop function of the same Remote.

The relationship between the Fader position, the REM button, and the Pulse output is as follows:

Fader position	REM button	Pulse output
When presently, not fully turned down	On	Output from the GPO with Start setting
	Off	None
When presently, fully turned down	On	Output from the GPO with Stop setting
	Off	None

Fader position	REM button	Pulse output
When not fully turned down	Off -> On	Output from the GPO with Start setting
	On -> Off	None
When fully turned down	Off -> On	None
	On -> Off	None

8-1-2-3   Link Function AVL (GPI)

When the channel is set with one of Link Function AVL 1 to 16, the REM button of it is ON, and the GPI with the same AVL function receives ON or OFF, the Fader Level of the Fader is changed as set in advance. However, if a touch is detected on the Fader of this channel, the change of the Fader Level will be canceled.

The Fader Level change operation is specified by FADE IN TIME and ON LEVEL when the GPI receives ON. It is specified by FADE OUT TIME and OFF LEVEL when the GPI receives OFF.

The relationship between the change of Fader Level and these parameters is shown in the figure below.
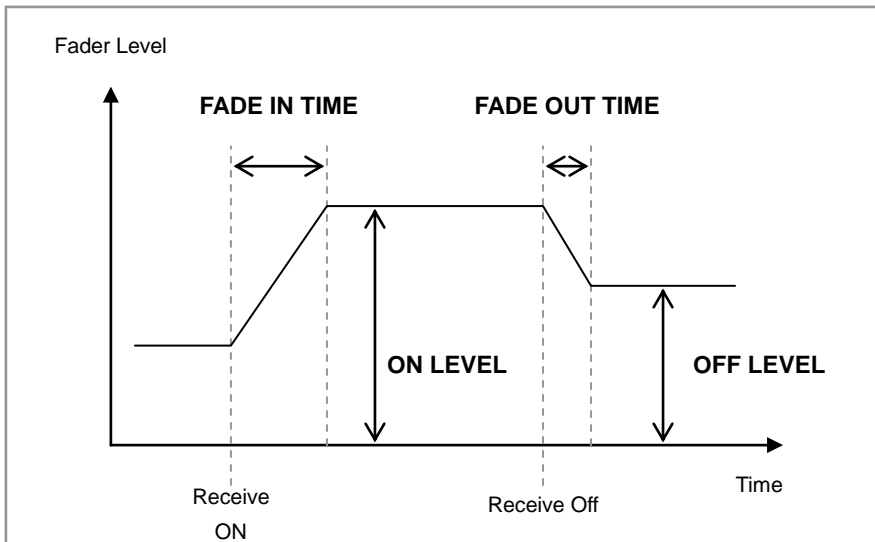
When the GPI with the AVL function receives ON, the Link Function status indicator of the channel meter is lit.

8-1-2-4   Monitor Cut (GPI)

When the GPI with the Monitor Cut function receives ON, the audio output of the specified Monitor is cut.

The Cut state of the cut Monitor cannot be released by the Cut button operation on the console.

8-1-2-5   Monitor Dim (GPI)

When the GPI with the Monitor Dim function receives ON, the audio output of the specified Monitor is dimmed.

The Dim state of the dimmed Monitor cannot be released by the Dim button operation on the console.

8-1-2-6   TB Interruption (GPI)

When the GPI with the TB interruption function receives ON, the TB audio interrupts the specified Bus and Monitor.

8-1-2-7   OSC Interruption (GPI)

When the GPI with the OSC interruption function receives ON, the OSC output audio interrupts the specified Master Bus.

8-1-2-8   Mic On Notification (GPO)

When the FU number is in FU ON state or in FU Through state and the Fader of the channel with the specified FU number is now not fully turned down, the ON tally is output from the GPO with the Mic On function.

9.   Appendix

9-1   Channel Parameter List

Parameter name	Setting value type			Description
	On/Off	table	Operation settings	
EQ 1-4 Freq		*		Sets the center frequency of EQ1-4.
EQ 1-4 Gain		*		Sets the amount of amplification/damping of EQ1-4.
EQ 1-4 Q		*		Sets the Q factor of EQ1-4.
Notch Q		*		Sets the Q factor of notch filter.
Notch Freq		*		Sets the frequency of notch filter.
LPF Freq		*		Sets the cutoff frequency of low pass filter.
HPF Freq		*		Sets the cutoff frequency of high pass filter.
LFE Freq		*		Sets the cutoff frequency of LFE filter.
EQ On/Off	*			Turn on/off EQ1-4.
Filt1 On/Off	*			Turn on/off Filter1.
Filt2 On/Off	*			Turn on/off Filter2.
Comp Rto		*		Sets the Ratio of Comp.
Comp Thre		*		Sets the Threshold of Comp.
Comp Atck		*		Sets the Attack Time of Comp.
Comp Rel		*		Sets the Release Time of Comp.
Comp kne		*		Sets the Knee of Comp.
GE Rto		*		Sets the Ratio of Gate/Expander.
GE Thre		*		Sets the Threshold of Gate/Expander.
GE Atk		*		Sets the Attack Time of Gate/Expander.
GE Rel		*		Sets the Release Time of Gate/Expander.
GE Hld		*		Sets the Hold Time of Gate/Expander.
GE Rng		*		Sets the Range of Gate/Expander.
GE Hys		*		Sets the Hysteresis of Gate/Expander.
MakeUpG		*		Sets the output gain of Comp+GE.
Comp On	*			Enables the Comp.
GE On	*			Enables the Gate/Expander.
Dynamics On	*			Turns on/off the Comp and Gate/Expander.

Parameter name	Setting value type			Description
	On/Off	table	Operation settings	
Peak/RMS		*		Sets the audio level type to be used for determining the start of dynamics operations. If set to the minimum, Comp+GE operates at Peak level and if set to the maximum, it operates at RMS level.
Dyn Byp			*	Selects the sub channel for bypassing the Comp+GE.
Sum On/Off	*			Turns on/off the assignment to Sum.
Sum Pan		*		Sets the Pan when outputting from Mono channel to Stereo Sum.
Sum Bal		*		Sets the Stereo Balance when outputting from Stereo channel to Stereo Sum.
Sum Send Level		*		Sets the output level to Sum.
Stereo Pan		*		Sets the Pan when outputting from Mono channel to Stereo Bus.
Stereo Bal		*		Sets the Stereo Balance when outputting from Stereo channel to Stereo Bus.
Stereo Pan On/Off	*			Turn on/off Stereo Pan.
Stereo Bal On/Off	*			Turn on/off Stereo Bal.
φ On/Off	*			Turns on/off the reverse phase function for Mono channel.
φR On/Off	*			Turns on/off the R channel reverse phase function for Stereo channel.
P48 On/Off	*			This button turns On/Off P48 (Phantom power).
L mono	*			Sends the L audio input to the Stereo channel to both sub channels of L and R.
R mono	*			Sends the R audio input to the Stereo channel to both sub channels of L and R.
L+R mono	*			Mixes and sends the LR audio input to the Stereo channel to both sub channels of L and R.
M/S On/Off	*			Turns on/off the M/S decode.
Delay		*		Sets the amount of delay.
Delay On/Off	*			Turns on/off Delay.
HA Gain		*		Sets the analog gain for the microphone input.
Trim		*		Adjusts the input level for the digital area. For Stereo and Surround channels, all sub channels operate concurrently.
L Trim		*		Adjusts the input level for the sub channel L.
R Tim		*		Adjusts the input level for the sub channel R.
C Trim		*		Adjusts the input level for the sub channel C.

Parameter name	Setting value type			Description
	On/Off	table	Operation settings	
LFE Trim		*		Adjusts the input level for the sub channel LFE.
Ls Trim		*		Adjusts the input level for the sub channel Ls.
Rs Trim		*		Adjusts the input level for the sub channel Rs.
L/R Trim		*		Operates L Trim and R Trim concurrently to adjust them. Operates together, while maintaining the relative relationship.
Ls/Rs Trim		*		Operates Ls Trim and Rs Trim concurrently to adjust them. Operates together, while maintaining the relative relationship.
Insert Trim		*		Adjusts the output level for the Insert output.
Direct Out Trim		*		Adjusts the output level for the Direct Out output.
LCR Pan		*		Sets the LCR Pan for the Surround Pan (horizontal direction).
F-S Pan		*		Sets the F-S Pan for the Surround Pan (front-rear direction).
Front Div (C Stable)		*		Among the output audio of LCR PAN, mixes the audio of C output to L and R output without changing the C output level.
Front Div (Normal)		*		Among the output audio of LCR PAN, mixes the audio of C output to L and R output adjusting the C output level so that the entire level of the L, C, and R output is even. (The C output decreases with the increase of the mix level to L and R)
Front Width		*		Sets the Width between each output of LCR Pan output.
F-S Div		*		Mixes the audio of L and R outputs of LCR Pan output to Ls1 and Rs1 outputs of F-S Pan output without changing their output levels. Or configures the opposite settings.
Rear Width		*		Sets the Width for Ls1 and Rs1 outputs of F-S Pan output.
LFE Send		*		Adjusts the level for the LFE output.
C On/Off	*			Turns on/off the Center.
Surround Pan On/Off	*			Turn on/off Surround Pan.

9-2   Select Encoder (Channel Setting) Function Layout List

■ EQ

Page.1	Button	Encoder	Remarks
Ch1	EQ On	EQ1 Freq	
Ch2		EQ1 Gain	
Ch3	Type Sel	EQ1 Q	Type Sel: Peak/Shelv/Notch switching
Ch4		EQ2 Freq	
Ch5		EQ2 Gain	
Ch6		EQ2 Q	
Ch7		EQ3 Freq	
Ch8		EQ3 Gain	
Ch9		EQ3 Q	
Ch10		EQ4 Freq	
Ch11		EQ4 Gain	
Ch12	Type Sel	EQ4 Q	Type Sel: Peak/Shelv/Notch switching
Ch13			
Ch14	Page		

Page.2	Button	Encoder	Remarks
Ch1	Filt1 On	Filt1 Freq	
Ch2	Type Sel	Filt1 Notch Q	Type Sel: HPF/Notch switching 5.1ch: Type Sel: HPF/Notch/LFE switching
Ch3	Filt2 On	Filt2 Freq	
Ch4	Type Sel	Filt2 Notch Q	Type Sel: LPF/Notch switching 5.1ch: Filt2 disabled when Filt1 is LFE
Ch5			
:			
Ch13			
Ch14	Page		

■ Dynamics

	Button	Encoder	Remarks
Ch1	Dynamics On	Dyn Byp	Mono/Stereo ch: Dyn Byp disabled
Ch2	Comp On	Comp Thre	
Ch3		Comp Rto	
Ch4		Comp Atk	
Ch5		Comp Rel	
Ch6		Comp Kne	
Ch7		MakeUpG	
Ch8	GE On	GE Thre	
Ch9	Func Switch	GE Rto/Hys	Func Switch: Rto/Hys function switching
Ch10		GE Rng	
Ch11		GE Atk	
Ch12		GE Rel	
Ch13		GE Hld	
Ch14		Peak/RMS	

■ SUM Send
- **Mono Sum Send**

Page.1	Button	Encoder	Remarks
Ch1	SUM 1 On	SUM 1 Send Level	
Ch2	SUM 2 On	SUM 2 Send Level	
:			
Ch8	SUM 8 On	SUM 8 Send Level	
Ch9			
:			
Ch13			
Ch14	Page		

Page.2	Button	Encoder	Remarks
Ch1	SUM 9 On	SUM 9 Send Level	
Ch2	SUM 10 On	SUM 10 Send Level	
:			
Ch8	SUM 16 On	SUM 16 Send Level	
Ch9			
:			
Ch13			
Ch14	Page		

- **Stereo Sum Send**

Page.1	Button	Encoder	Remarks
Ch1	SUM 1 On	SUM 1/2 Send Level	
Ch2	SUM 2 On	SUM 1/2 Pan/Bal	
:	:	:	
Ch7	SUM 7 On	SUM 7/8 Send Level	
Ch8	SUM 8 On	SUM 7/8 Pan/Bal	
Ch9			
:			
Ch13			
Ch14	Page		

Page.2	Button	Encoder	Remarks
Ch1	SUM 9 On	SUM 9/10 Send Level	
Ch2	SUM 10 On	SUM 9/10 Pan/Bal	
:	:	:	

Ch7	SUM 15 On	SUM 15/16 Send Level	
Ch8	SUM 16 On	SUM 15/16 Pan/Bal	
Ch9			
:			
Ch13			
Ch14	Page		

- **5.1 Surround Sum Send**

Page.1	Button	Encoder	Remarks
Ch1	SUM 1 On	SUM 1-6 Send Level	
Ch2	SUM 2 On	SUM 1-6 Send Level	
:	:	:	
Ch6	SUM 6 On	SUM 1-6 Send Level	
Ch7	Same As		
Ch8	Mono or Stereo SUM7,8		
Ch9			
:			
Ch13			
Ch14	Page		

Page.2	Button	Encoder	Remarks
Ch1	SUM 9 On	SUM 9-14 Send Level	
Ch2	SUM 10 On	SUM 9-14 Send Level	
:	:	:	
Ch6	SUM 14 On	SUM 9-14 Send Level	
Ch7	Same As		
Ch8	Mono or Stereo SUM15,16		
Ch9			
:			
Ch13			
Ch14	Page		

■ Input
- **Mono Channel**

	Button	Encoder	Remarks
Ch1	P48 On	HA Gain	Disabled when Line or Digital is selected
Ch2	φ On	Trim	
Ch3			
Ch4			
Ch5			
Ch6			
Ch7			

	Button	Encoder	Remarks
Ch8			
Ch9	Delay On	Delay	
Ch10	Insert On	Insert Trim	
Ch11		DirectOut Trim	
Ch12	Stereo Pan/Bal On	Stereo Pan/Bal	
Ch13			
Ch14			

- **Stereo Channel**

	Button	Encoder	Remarks
Ch1	P48 On	HA Gain	Disabled when Line or Digital is selected
Ch2	φR On	Trim	
Ch3	L Mono	L Trim	L + R Mono when both L mono and R mono buttons are selected
Ch4	R Mono	R Trim	L + R Mono when both L mono and R mono buttons are selected
Ch5	M/S On		
Ch6			
Ch7			
Ch8			
Ch9	Delay On	Delay	
Ch10	Insert On	Insert Trim	
Ch11		DirectOut Trim	
Ch12	Stereo Pan/Bal On	Stereo Pan/Bal	
Ch13			
Ch14			

- **5.1 Surround Channel**

	Button	Encoder	Remarks
Ch1	P48 On	HA Gain	Disabled when Line or Digital is selected
Ch2		Trim	
Ch3		L Trim	
Ch4		R Trim	
Ch5		C Trim	
Ch6		LFE Trim	
Ch7		Ls Trim	
Ch8		Rs Trim	
Ch9	Delay On	Delay	
Ch10	Insert On	Insert Trim	
Ch11		DirectOut Trim	
Ch12			
Ch13			
Ch14			

■ Pan

• Console Mode = Stereo

	Button	Encoder	Remarks
Ch1	Stereo Pan/Bal On	Stereo Pan/Bal	5.1ch: Stereo Pan/Bal disabled
Ch2			
:			
Ch14			

• Console Mode = 5.1 Surround/Mono or Stereo channel

	Button	Encoder	Remarks
Ch1	SurPan On	LCR Pan	SurPan: Surround Pan
Ch2	C On/Off	F-S Pan	
Ch3	Type Sel	Front Div	Type Sel: Normal/C Stable switching Stereo ch: Type Sel disabled
Ch4		F-S Div	
Ch5		Rear Width	Mono ch: Rear Width disabled
Ch6		LFE Send	
Ch7			
:			
Ch14			

• Console Mode = 5.1 Surround/5.1 Surround channel

	Button	Encoder	Remarks
Ch1	SurPan On		SurPan: Surround Pan
Ch2			
Ch3	Type Sel	Front Div	Type Sel: Normal/C Stable switching
Ch4		F-S Div	
Ch5		Rear Width	Mono ch: Rear Width disabled
Ch6			
Ch7			
:			
Ch14			

9-3   Select Encoder (Menu) Function Layout List

■ Monitor Menu
• Monitor Parameter

	Button	Encoder	Remarks
Ch1		Dim Level	
Ch2		APFL Trim	
Ch3		Comm Level	
Ch4			
:			
Ch13			
Ch14	Close		

• Monitor1/2/3/4

	Button	Encoder	Remarks
Ch1		Moni* Level	*: 1 to 4
Ch2		Moni* Bal	
Ch3		Src1 Trim	
Ch4		Src2 Trim	
Ch5		Src3 Trim	
Ch6		Src4 Trim	
Ch7		Src5 Trim	
Ch8		Src6 Trim	
Ch9			
:			
Ch13			
Ch14	Close		

■ OSC/TB Menu
• Monitor Parameter

	Button	Encoder	Remarks
Ch1		OSC Trim	
Ch2		TB Level	
Ch3			
:			
Ch13			
Ch14	Close		

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9-4   Select Encoder (Bus Master) Function Layout List

■ M1/M2

	Mono	Stereo	5.1 Surround	Remarks
	Encoder	Encoder	Encoder	
Ch1	M1-1 Fader	M1-1/2 Fader	M1-1-6 Fader	
Ch2	M1-2 Fader	M1-1/2 L Fader	M1-1-6 L Fader	
Ch3		M1-1/2 R Fader	M1-1-6 R Fader	
Ch4	M1-3 Fader	M1-3/4 Fader	M1-1-6 C Fader	
Ch5	M1-4 Fader	M1-3/4 L Fader	M1-1-6 LFE Fader	
Ch6		M1-3/4 R Fader	M1-1-6 Ls Fader	
Ch7	M1-5 Fader	M1-5/6 Fader	M1-1-6 Rs Fader	
Ch8	M1-6 Fader	M1-5/6 L Fader		
Ch9		M1-5/6 R Fader		
Ch10	M1-7 Fader	M1-7/8 Fader		
Ch11	M1-8 Fader	M1-7/8 L Fader		
Ch12		M1-7/8 R Fader		
Ch13				
Ch14				

The buttons will be one of Sel/APFL/CUT/Ins/TB/OSC depending on which of the function selection buttons is selected.

The list for M2 is the same as the above table.

■ Sum

Page1	Mono	Stereo	5.1 Surround	Remarks
	Encoder	Encoder	Encoder	
Ch1	SUM1 Fader	SUM1/2 Fader	SUM1-6 Fader	
Ch2	SUM2 Fader	SUM1/2 L Fader	SUM1-6 L Fader	
Ch3		SUM1/2 R Fader	SUM1-6 R Fader	
Ch4	SUM3 Fader	SUM3/4 Fader	SUM1-6 C Fader	
Ch5	SUM4 Fader	SUM3/4 L Fader	SUM1-6 LFE Fader	
Ch6		SUM3/4 R Fader	SUM1-6 Ls Fader	
Ch7	SUM5 Fader	SUM5/6 Fader	SUM1-6 Rs Fader	
Ch8	SUM6 Fader	SUM5/6 L Fader		
Ch9		SUM5/6 R Fader		
Ch10	SUM7 Fader	SUM7/8 Fader		
Ch11	SUM8 Fader	SUM7/8 L Fader		
Ch12		SUM7/8 R Fader		
Ch13				
Ch14				

The buttons will be one of Sel/APFL/CUT/Ins/TB/OSC depending on which of the function selection buttons is selected.

Page2	Mono	Stereo	5.1 Surround	Remarks
	Encoder	Encoder	Encoder	
Ch1	SUM9 Fader	SUM9/10 Fader	SUM9-14 Fader	
Ch2	SUM10 Fader	SUM9/10 L Fader	SUM9-14 L Fader	
Ch3		SUM9/10 R Fader	SUM9-14 R Fader	

Ch4	SUM11 Fader	SUM11/12 Fader	SUM9-14 C Fader	
Ch5	SUM12 Fader	SUM11/12 L Fader	SUM9-14 LFE Fader	
Ch6		SUM11/12 R Fader	SUM9-14 Ls Fader	
Ch7	SUM13 Fader	SUM13/14 Fader	SUM9-14 Rs Fader	
Ch8	SUM14 Fader	SUM13/14 L Fader		
Ch9		SUM13/14 R Fader		
Ch10	SUM15 Fader	SUM15/16 Fader		
Ch11	SUM16 Fader	SUM15/16 L Fader		
Ch12		SUM15/16 R Fader		
Ch13				
Ch14				

The buttons will be one of Sel/APFL/CUT/Ins/TB/OSC depending on which of the function selection buttons is selected.

Customer Service

If you experience any problems with our products and require any servicing, or have any questions about TAMURA product line, please contact your TAMURA sales representative or TAMURA at the following locations.

To help speed up servicing and readjustment, please be ready to describe the problem accurately, what operations you were performing before and after it happened, or the history of usage.

<table>
<tr><td>

NT110
Digital Audio Mixer
Operation Manual (EN)

</td></tr>
<tr><td>June, 2017   Second Edition</td></tr>
<tr><td>Part No. 2D-53-0002690A</td></tr>
</table>

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