

Digital Audio Mixer

Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.

DMX-R100

Owner's Record

The model and serial numbers are located on the rear. Record the serial numbers in the spaces provided below. Refer to them whenever you call upon your Sony dealer regarding the product.

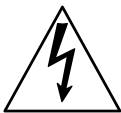
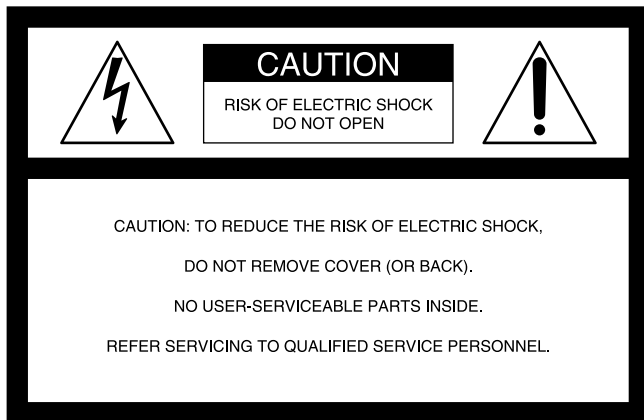
Model No. DMX-R100 Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

THIS APPARATUS MUST BE EARTHED.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For the customers in the U.S.A.

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

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules

For the customers in Europe

This product with the CE marking complies with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European standards:

- EN60065: Product Safety
- EN55103-1: Electromagnetic Interference (Emission)
- EN55103-2: Electromagnetic Susceptibility (Immunity)

This product is intended for use in the following Electromagnetic Environment(s):

E1 (residential), E2 (commercial and light industrial), E3 (urban outdoors) and E4 (controlled EMC environment, ex. TV studio).

Pour les clients européens

Ce produit portant la marque CE est conforme à la fois à la Directive sur la compatibilité électromagnétique (EMC) (89/336/CEE) et à la Directive sur les basses tensions (73/23/CEE) émises par la Commission de la Communauté européenne.

La conformité à ces directives implique la conformité aux normes européennes suivantes:

- EN60065: Sécurité des produits
- EN55103-1: Interférences électromagnétiques (émission)
- EN55103-2: Sensibilité électromagnétique (immunité)

Ce produit est prévu pour être utilisé dans les environnements électromagnétiques suivants:

E1 (résidentiel), E2 (commercial et industrie légère), E3 (urbain extérieur) et E4 (environnement EMC contrôlé ex. studio de télévision).

Für Kunden in Europa

Dieses Produkt besitzt die CE-Kennzeichnung und erfüllt sowohl die EMV-Direktive (89/336/EEC) als auch die Direktive Niederspannung (73/23/EEC) der EG-Kommission. Die Erfüllung dieser Direktiven bedeutet Konformität für die folgenden Europäischen Normen:

- EN60065: Produktsicherheit
- EN55103-1: Elektromagnetische Interferenz (Emission)
- EN55103-2: Elektromagnetische Empfindlichkeit (Immunität)

Dieses Produkt ist für den Einsatz unter folgenden elektromagnetischen Bedingungen ausgelegt:

E1 (Wohnbereich), E2 (kommerzieller und in beschränktem Maße industrieller Bereich), E3 (Stadtbereich im Freien) und E4 (kontrollierter EMV-Bereich, z.B. Fernsehstudio)

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Overview

The DMX-R100 is a compact digital audio mixer for a post production house that creates digital media or digital broadcasting.

High quality audio signal processing

The unit allows you to select the sampling frequency to 44.1 kHz, 48 kHz, 88.2 kHz or 96 kHz.

When you select either 88.2 kHz or 96 kHz, the frequency response range expands to 40 kHz.

The analog signal is converted to a 24-bit digital signal in the mixer. The unit enables AES/EBU format input/output with at least 24-bit precision. The high precision floating point used for internal calculation results in high quality signal processing.

When either 88.2 kHz or 96 kHz is selected as a sampling frequency, the number of channels and optional boards is limited.

For details, see page 76.

Easy operation using the high resolution color LCD and touch panels

The parameters of each channel are displayed in color and as patterns on one screen. This improves the operation for equalization or dynamics setting and allows you to perform operations precisely and quickly.

Snapshot/Automation functions for professional use

• Snapshot

The unit can memorize up to 99 control settings (snapshots) such as settings of faders and controls on the channel strips, settings of the equalizer or dynamics for source signals, signal path, etc., as snapshot data. You can easily recall the snapshot data, allowing you to preset programs instantaneously.

• Automation

You can select either SMPTE or MTC (MIDI timecode) as the timecode for reference.

The unit can memorize and recall parameters such as faders, pan controls, equalizer, dynamics and AUX signal setting. Also the fader is touch sensitive to improve operation. A scene stored as a snapshot data can be linked with a cue point with a defined timecode value. These functions provide you with the same function as those of a large console-type mixer.

• You can store snapshot automation data and dynamic automation data on a 3.5-inch floppy disk.

The channel strips

The LEDs of the pan controls and faders on the channel strip allow you to see the analog data at a glance. You can define the desired parameters to pan pots and faders, directly confirming analog data on the channel strips.

Flexible built-in matrix switchers

- The built-in input matrix switcher allows you to assign standard analog input, digital input or input from option boards to any desired channel. You can change the switcher operation easily using the touch panel on the screen.
- The built-in output matrix switcher allows you to assign the outputs of PGM buses, AUX buses and MTR buses to the output of the desired optional boards. Also, the unit can output one signal to different output connectors at the same time.

Large number of channels

- The unit is equipped with 24 analog channels which can input a wide variety of analog sources. Also, the unit is equipped with XLR connectors and standard TRS jacks.
- In addition to 48 fully featured input channels, the unit has 8 AUX returns. This allows you to mix up to 56 channels at the same time. Also, the PGM bus, AUX bus and MTR bus are equipped with equalizer and dynamics control.
- The unit has four optional slots. The optional board handles 8 inputs and/or outputs. Thus, maximum 32 channels of inputs/outputs are available from the four slots.

Surround mode

- 5.1 surround mode can be set using the MTR bus.
- The unit has 6 channels for surround monitors, so it is not necessary to use other outputs for monitoring.
- You can control the surround pan with touch panel operation. Stored sound images can be recalled using dynamic automation.

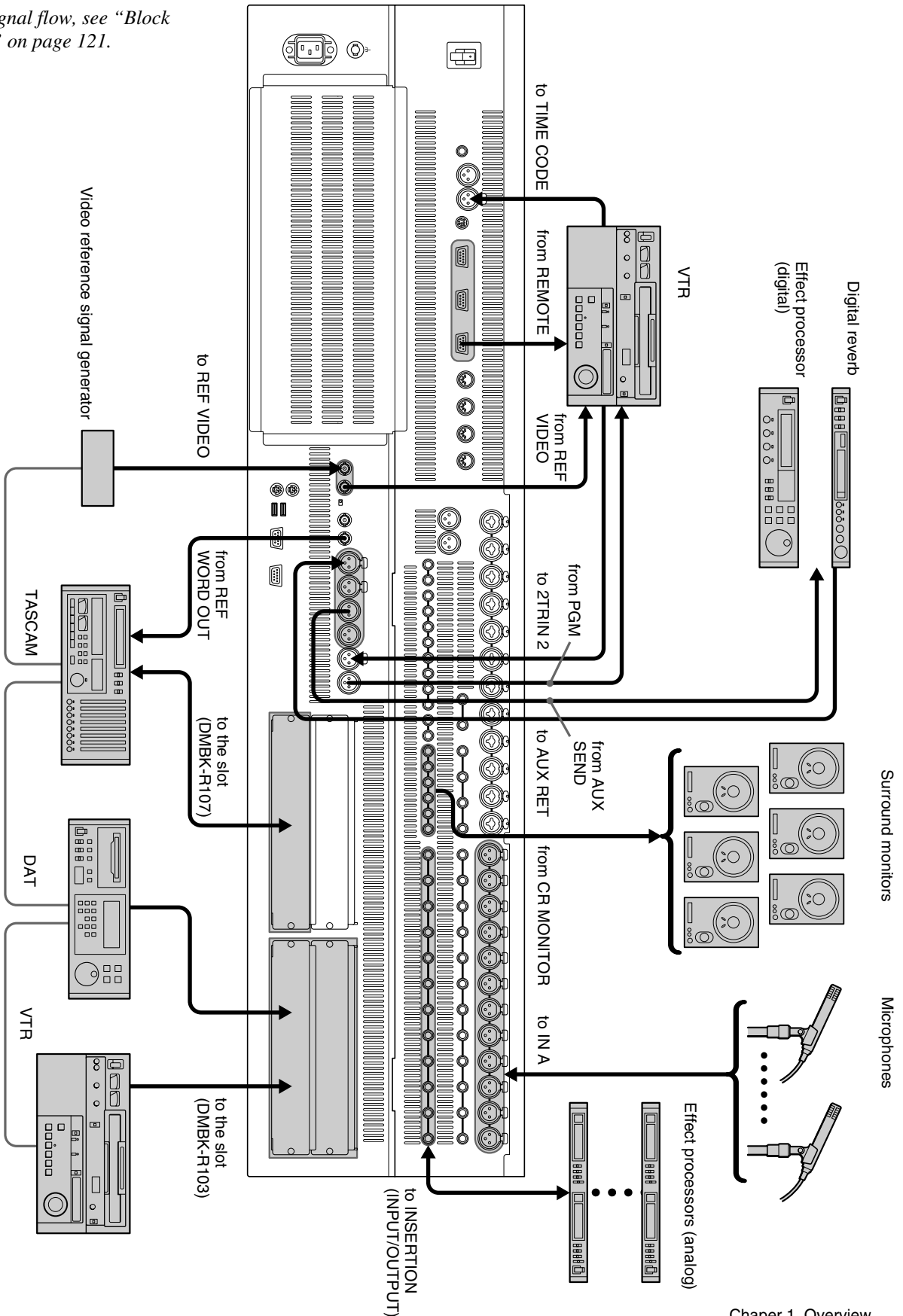
Connection to video equipment

- The unit can synchronize with video equipment such as a digital VTR, by supplying reference video signals. Since the unit is equipped with video input connectors, it is not necessary to use an external connector.
- The unit can control external devices conforming to the Sony 9-pin remote serial interface, by connecting external devices such as a VTR to the remote connector on the rear panel.

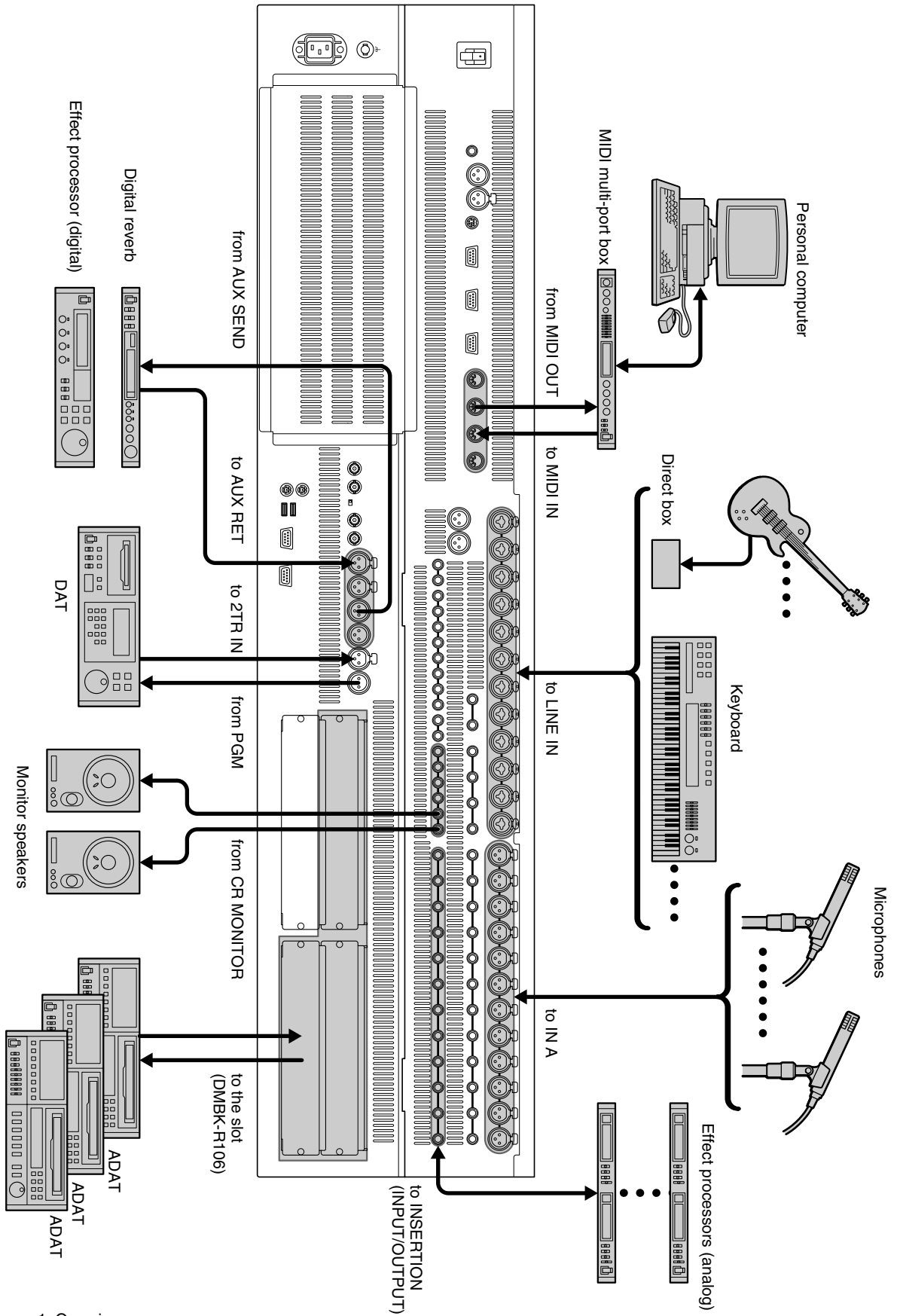
Connection Examples

Video Post Production

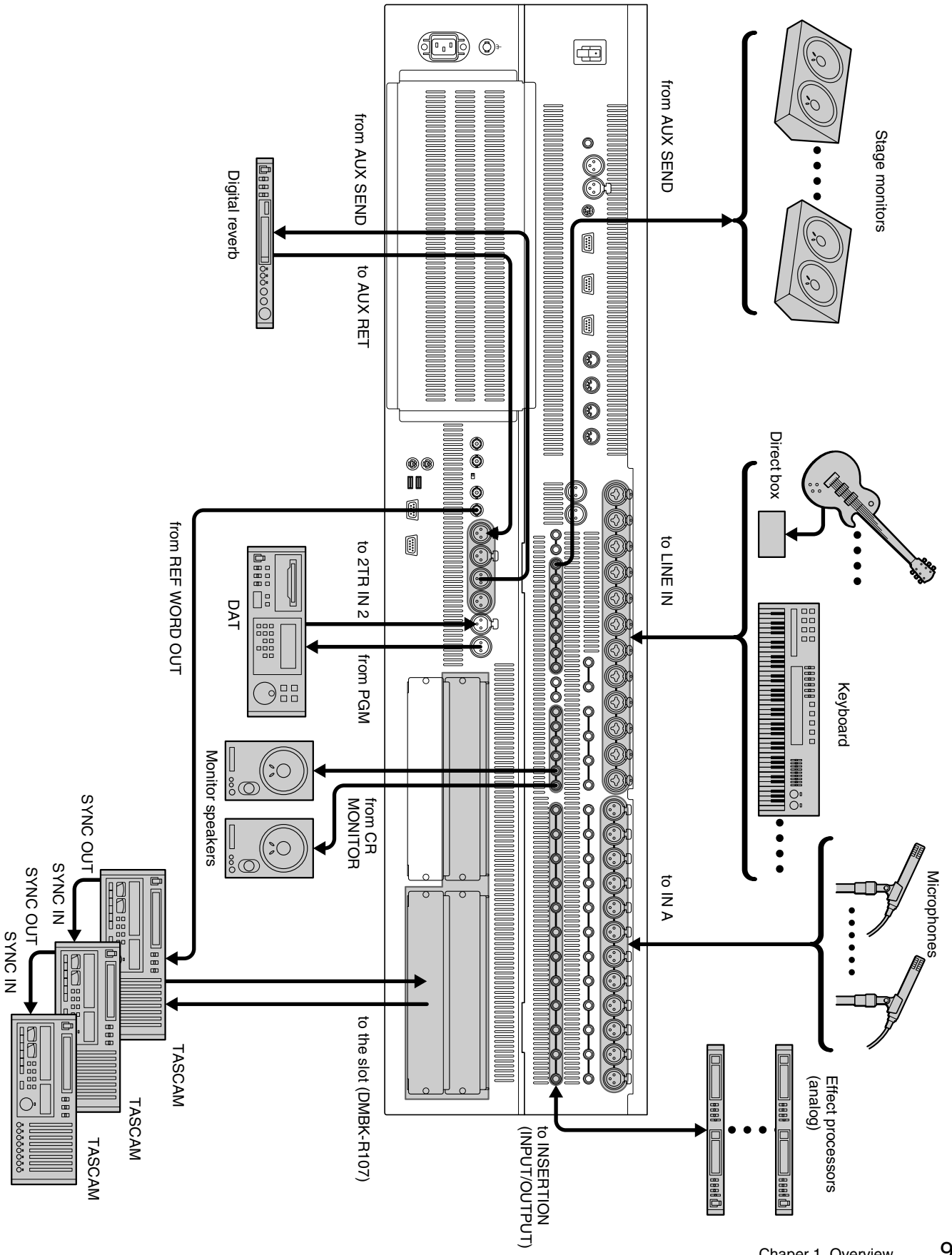
For the signal flow, see "Block Diagram" on page 121.



Music Production



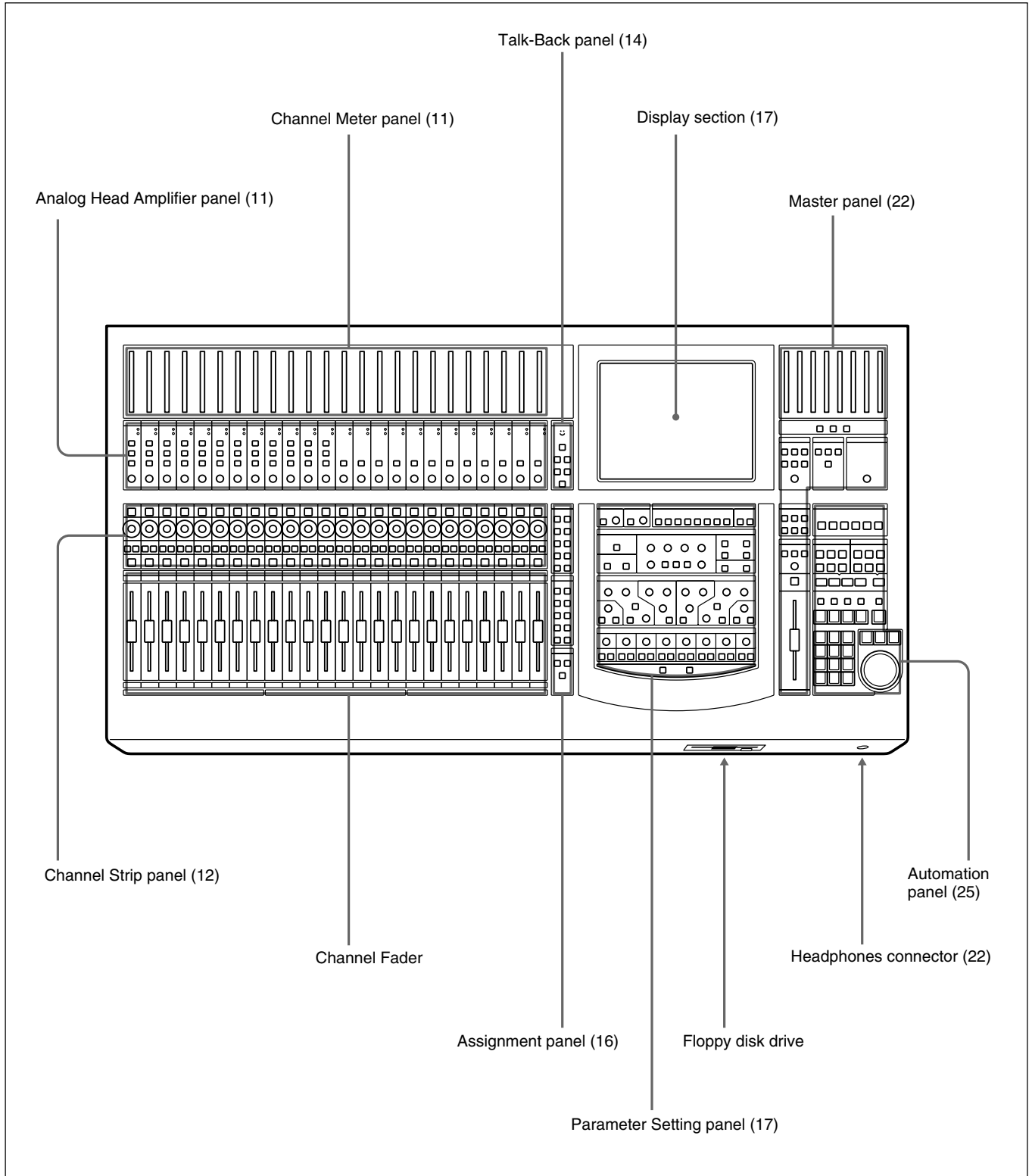
Live Recording



Locations and Functions of Parts and Controls

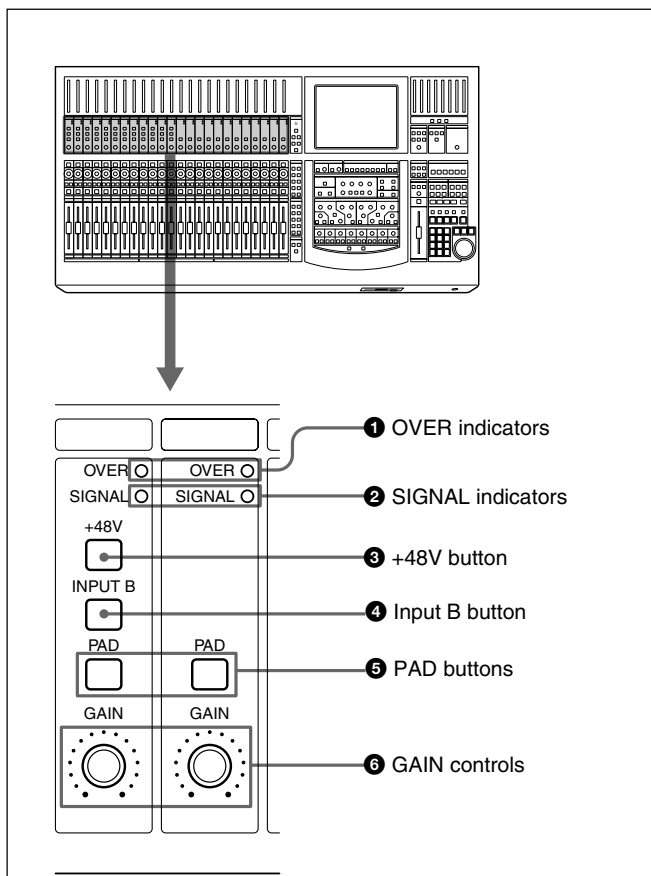
Composition of the Front Panel

For details, refer to pages indicated in parentheses.



Analog Head Amplifier Panel

This panel allows you to select the input circuit of the analog input signal and their level adjustment. Buttons and controls on this panel are not automatable.



1 OVER (analog head amplifier peak) indicators
Lights when the input level reaches the level where the analog head amplifier starts to clip. The clip level is about -6 dBFS.

2 SIGNAL (analog head amplifier signal) indicators

Lights when the signal is input to the analog head amplifier. The level at which the SIGNAL indicator lights is about -40 dBFS.

Note

The OVER indicator and SIGNAL indicator are active only when the input signal is routed to any channel using the input router.

3 +48V button

Press this button to send + 48 V power to the microphone connected to the IN A connector (XLR connector) on the rear panel.

4 Input B (input selector) button

Selects the input signal connected to the analog head amplifier. When pressed, the IN-B connector (1/4" TRS jack) on the rear panel becomes active. When this button goes off, the IN A connector (XLR connector) becomes active.

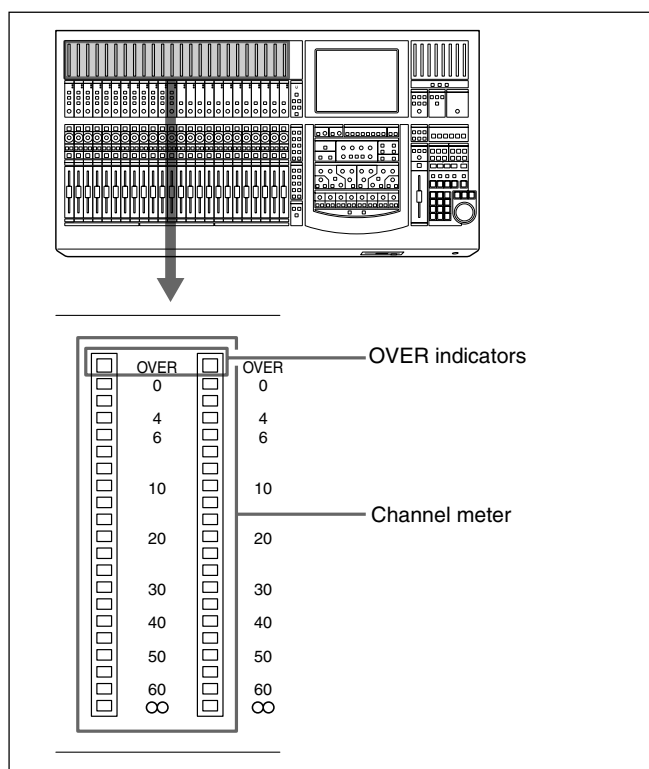
5 PAD buttons

When pressed, an attenuation pad of about 30 dB is inserted into the input circuit of the analog head amplifier.

6 GAIN controls

Adjusts the gain of the input circuit of the analog head amplifier.

Channel Meter Panel



The channel meters indicate the input signal level of the channel strips.

On the MISC SETUP window, you can select input, pre-fader signal or post-fader signal to be metered. When the input signal is the analog signal, these meters indicate the level of the signal converted after the A/D converter.

The OVER indicator lights when the level of the input signal reaches the clip level.

Locations and Functions of Parts and Controls

Channel Strip Panel

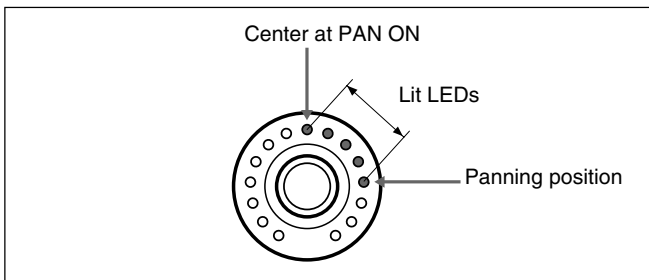


For example, the AUX 1 button is lit in the PANS section, this control operates as control for the send volume of AUX 1.

For detailed information on the Assignment panel, see page 16.

Indication of the PAN control

When the PAN controls are operating, the operation status is displayed on the control using the LEDs. When PAN is ON: LEDs from the center LED to the one corresponding to the panning position are lit.



When PAN is OFF: Only the LED corresponding to the panning position is lit. When the panning position corresponds to the center LED, all LEDs are off. When functions other than panning (AUX, TRIM and MTR) are selected, the LED corresponding to the volume level is lit.

Also, if you set the Pan control to ready mode beforehand, the result of the pan control operation can be saved as automation data.

For detailed information on how to set the pan control to ready status, see page 38.

For detailed information on how to save it as automation data, see page 98.

Notes

- When the signal path which has not the pan function is selected in the FADERS section and buttons in the PANS section are not lit, the pan control becomes deactivated and you cannot operate this control.
 - When the AUX 1 set in MONO mode is selected in the FADERS section
 - The TRIM button is lit in the fader section
- Since trimming is not subject to an automation operation, even if TRIM is selected in either PANS section or FADERS section, the operation cannot be stored as automation data.

3 CUT button

This button is used to cut various signals depending on the signal path selected in the FADERS section in the Assignment panel. When the CUT button is lit, the signal is cut to the signal path.

If you set the CUT button to ready mode beforehand, the button's operation is stored as automation data.

For detailed information on how to set the CUT button to ready status, see page 38.

For detailed information on how to save it as automation data, see page 98.

4 SOLO button

Press this button so that it lights, to listen to the signal of the corresponding channel in PFL, AFL or SOLO mode.

The SOLO mode is controlled from the master panel. For details of the SOLO MODE section, see page 22.

5 ACCESS button

Press this button so that it lights, to assign the corresponding channel to the Assignment panel and Parameter setting panel.

This button is not used for automation function. The display automatically switches to show the channels settings.

You can copy the settings of the channel to another channel by operating the ACCESS button.

Copying the setting of the channel

- 1 Hold the ACCESS button of the source channel down for 2 seconds or more.

The ACCESS button blinks.

- 2 While the ACCESS button selected in step 1 is blinking, press the ACCESS button corresponding to the destination channel.

The settings of the channel subject to the snapshot are copied.

The input assignments set in the AUDIO INPUT ROUTING window are not copied.

The settings to be copied are as follows:

- | | | |
|----------------|--------------|------------|
| • TRIM | • DELAY | • Phase |
| • EQ | • DYNAMICS | • AUX SEND |
| • MTR SEND | • Assignment | • PAN |
| • Surround PAN | • CUT | • Fader |

- 3 Press the ACCESS button of the source channel.

The blinking ACCESS button turns on and the copying operation is cancelled.

Locations and Functions of Parts and Controls

To copy the settings to a channel on a different page

You can copy the settings of channels 1 to 24 to channels 25 to 48 and vice versa.

- 1 Hold the ACCESS button of the source channel down for 2 seconds or more.
The ACCESS button blinks.
- 2 Press the other page selectable button in the Assignment panel.
The pages are switched. The source channel disappears from the Channel strip panel. However, the settings of the source channel remain effective.
- 3 Press the ACCESS button of the destination channel.
The settings of the source channel are copied.
- 4 Press the original Page selectable button.
The channels of the original page appear again.
- 5 Press the ACCESS button of the source channel.
The blinking ACCESS button turns to on and the copying operation is cancelled.

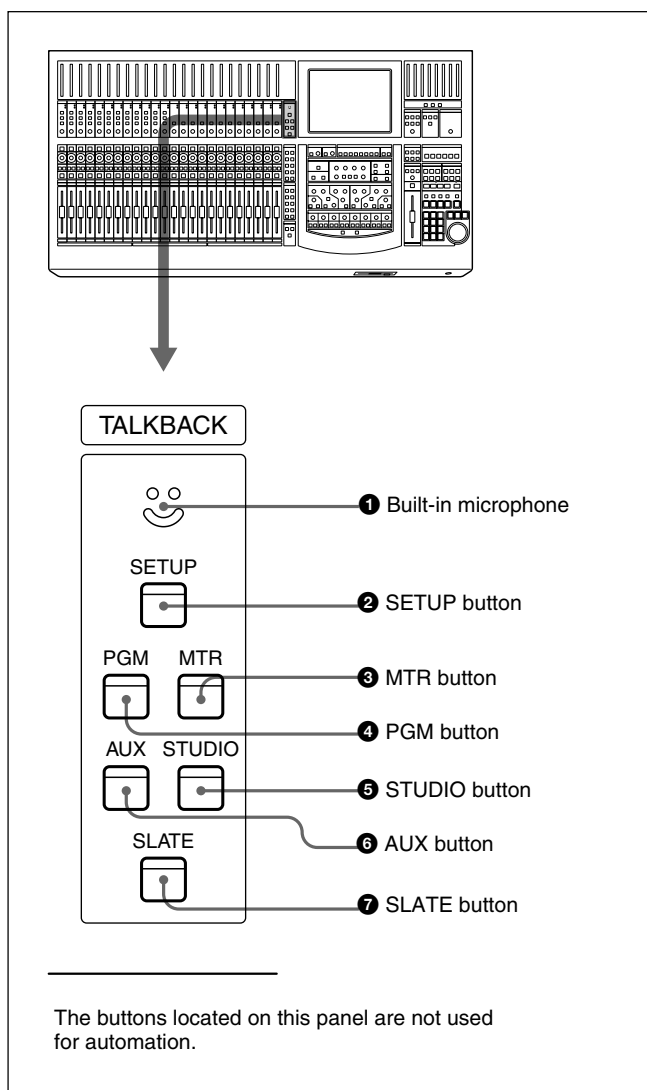
Notes

- When the source channel is on a different page, if you press the ACCESS button without knowing it, the settings of the source channel are copied to that channel. Make sure to clear the copying function of the source channel.
- While using the automation, you cannot perform a copying operation. Also, switching on the automation will cancel active copying.

6 Channel fader

This control is used for various purposes: trim, AUX 1 to AUX 8 bus, the MTR bus and program bus. The function is determined by the FADERS section on the Assignment panel.

Talk-Back Panel



1 Built-in microphone

Built-in microphone for talkback.

2 SETUP button

Press this button so that it lights, to display the OSC/TALK BACK screen on the display.

For detailed information on the OSC/TALKBACK window, see page 62.

3 MTR button

Press this button so that it lights, to route the talkback signal memorized on the OSC/TALK BACK screen to the MTR bus.

4 PGM button

Press this button so that it lights, to route the talkback signal memorized on the OSC/TALK BACK window to the PGM output.

5 STUDIO button

Press this button so that it lights, to route the talkback signal to the studio monitor output.

6 AUX button

Press this button so that it lights, to route the talkback signal to the AUX bus memorized on the OSC/TALK BACK window.

7 SLATE button

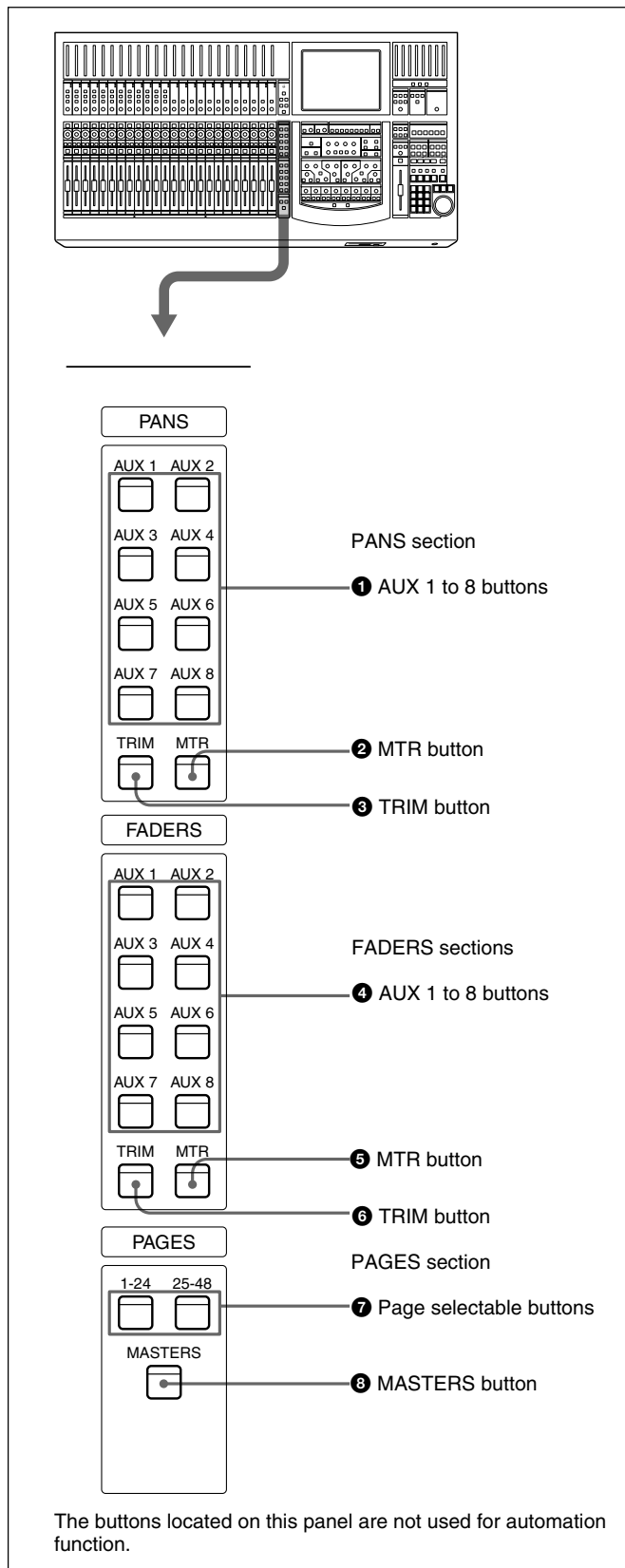
Press this button so that it lights, to route the talk-back signal to all PGM, MTR AUX outputs.

Note

Be sure to set the MEMORY button to memorize the talkback outputs selected on the OSC/TALKBACK window before using the MTR button **3**, PGM button **4**, STUDIO button **5** and AUX button **6**.

For detailed information on the OSC/TALKBACK window, see page 62.

Assignment Panel



PANS section

The PANS section allows you to select the functions of the pan controls on the Channel strip panel. When all buttons in this section are turned off, the Pan control operates as the pan control of the signal path selected in the FADERS section.

Note

When TRIM is assigned or the AUX set in monaural mode is assigned in the FADERS section, the PAN control is deactivated.

1 AUX 1 to 8 buttons

Press the button corresponding to the desired auxiliary send bus so that it lights. When it is lit, the PAN controls on the Channel strip panel function as the send-volume controls for AUX 1 to AUX 8. When a pair of AUX buses are selected, the AUX buttons turn on individually. However, the pan controls adjust the stereo send level.

2 MTR button

Press this button so that it lights. The Pan controls on the channel strip panel function as the send-volume control for the MTR bus.

3 TRIM button

Press this button so that it lights. The Pan controls on the channel strip panel function as the digital input volume controls.

FADERS section

The FADERS section allows you to select the functions of the Pan control, the CUT button, the SOLO button and the fader on the Channel strip panel.

4 AUX 1 to 8 buttons

Press the button corresponding to the desired auxiliary send bus so that it lights. When it is lit, the channel faders on the Channel strip panel function as the send-volume controls for AUX 1 to AUX 8. When the AUX bus set in stereo mode is selected, the AUX buttons turn on individually. However, the fader controls adjust the stereo send level.

5 MTR button

Press this button so that it lights. The channel faders on the Channel strip panel function as the send-volume controls for the MTR bus.

6 TRIM button

Press this button so that it lights. The channel faders on the Channel strip panel function as the trimming volume controls.

PAGES section

The PAGES section allows you to select the pages of 24 channels assigned to the Channel strip panel. Although the inactive pages are hidden the correct display positions are recalled when paged.

7 Page selectable buttons

Press button (1 - 24) so that it lights, to load settings (for the meter, WRITE button, pan control, SOLO button, CUT button, ACCESS button and the channel fader) for channels (1 to 24).

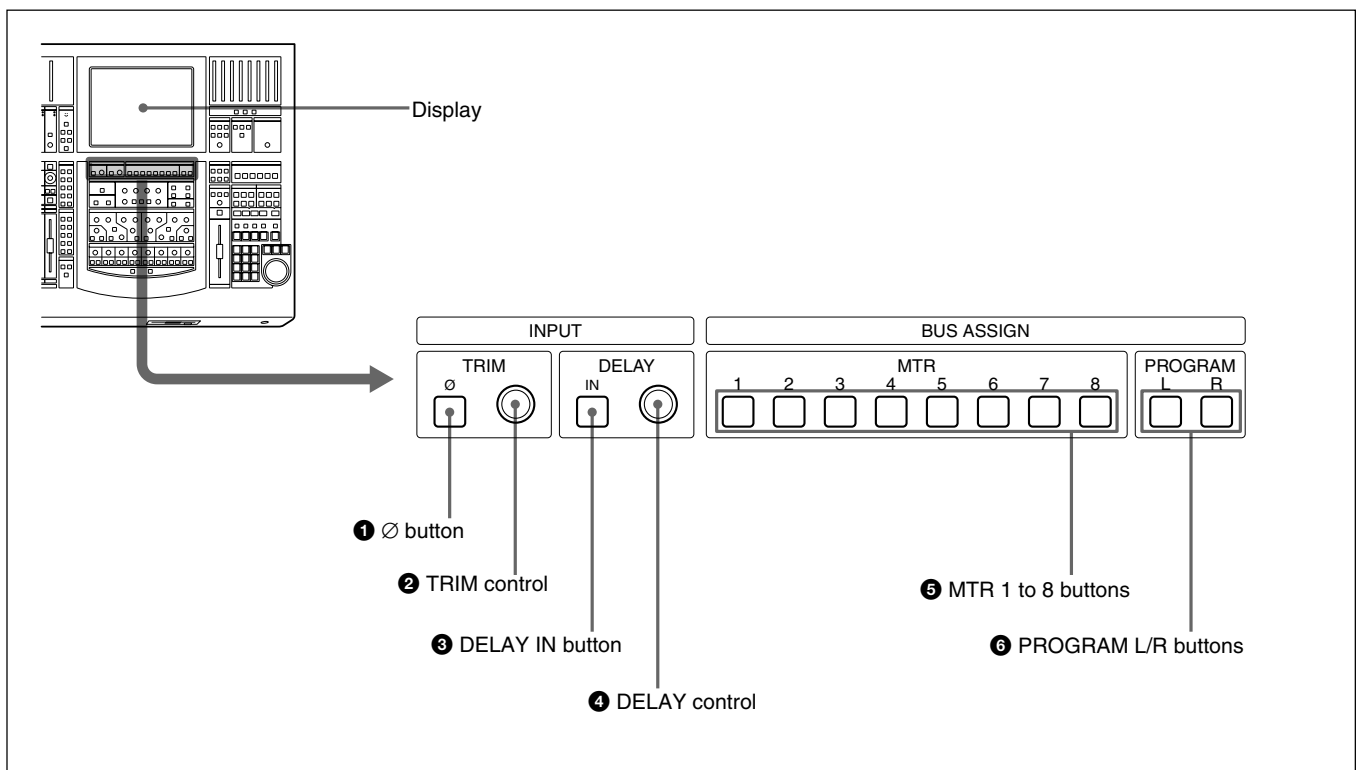
Press a button (25 - 48) so that it lights, to load settings for channels (25 to 48).

8 MASTERS button

Press this button so that it lights. When this button is lit, controls on the channel strip panel (meter, WRITE button, PAN control, SOLO button, CUT button, ACCESS button and the channel fader) are assigned to 24 channel strips for MTR buses (channel 1 to channel 8), AUX SEND buses (channel 1 to channel 8) and AUX RETURN buses (channel 1 to channel 8).

Parameter Setting Panel

This panel allows you to set the parameters of channels. The ACCESS button is used to assign channels.



Locations and Functions of Parts and Controls

INPUT Section and BUS ASSIGN section

INPUT section

This section allows you to adjust the digital input signal. When the signal input is analog, you can adjust the converted digital signal.

Buttons and controls in the INPUT section are only available for snapshot automation and not dynamic automation.

1 Ø button

Inverts the phase of the input signal.

2 TRIM control

Trim level control for -15 dB to +15 dB adjustment.

3 DELAY IN button

Press this button to enable the delay function.

4 DELAY control

Adjusts the delay between 0 and 999 milli seconds (at the sampling frequency of 48 kHz).

BUS ASSIGN section

Buttons in the BUS ASSIGN section are used for the snapshot automation function and dynamic automation function.

5 MTR 1 to 8 buttons

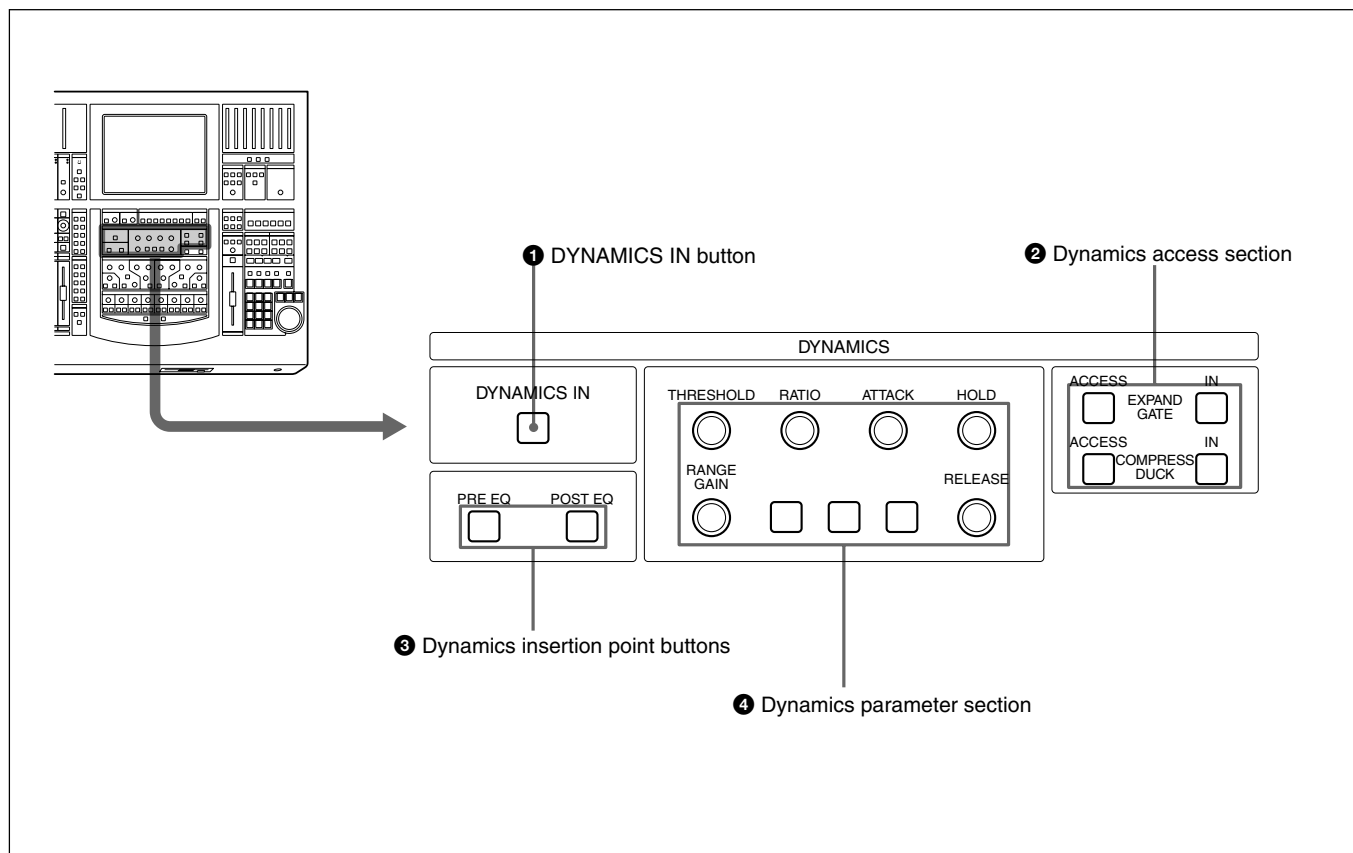
Press the button to route the accessed channel to the selected MTR bus.

6 PROGRAM L/R buttons

Press the PROGRAM L button to route the accessed channel to the left PGM bus.

Press the PROGRAM R button to route the accessed channel to the right PGM bus.

DYNAMICS section



❶ DYNAMICS IN button

Press this button to make the dynamics section active. The settings on the DYNAMICS section are displayed on the DYNAMICS window (page 47).

❷ Dynamics access section

Selects the functions of dynamics parameter section ❹.

ACCESS button for EXPAND/GATE: Press this button so that the corresponding DYNAMICS window opens. Parameters of the expander and gate can be set using the THRESHOLD, RATIO, ATTACK, HOLD, RANGE/GAIN and RELEASE controls in the Dynamics Parameter section.

IN button for EXPAND/GATE: Press this button to activate the expander and gate.

ACCESS button for COMPRESS/DUCK: Press this button so that the corresponding DYNAMICS window opens. Parameters of the compressor and ducking can be set using the THRESHOLD, RATIO, ATTACK, HOLD, RANGE/GAIN and RELEASE controls in the dynamics parameter section.

IN button for COMPRESS/DUCK: Press this button to activate the compressor ducking function.

Buttons in this section are not used for automation function.

❸ Dynamics insertion point buttons

Select the point where the dynamics is inserted.

PRE EQ button: Inserts the dynamics settings before the equalizer.

POST EQ button: Inserts the dynamics settings after the equalizer.

PRE EQ and POST EQ buttons are controlled by snapshot automation but not dynamic automation.

❹ Dynamics parameter section

The function of these buttons in this section depends on the setting of the ACCESS button in the dynamics access section ❷.

When the ACCESS button of EXPAND/GATE in the dynamics access section ❷ is pressed: the following parameters for the expander and gate can be set.

THRESHOLD control: Threshold

RATIO control: Ratio

ATTACK control: Attack time

HOLD control: Hold time

RANGE/GAIN control: Range

RELEASE control: Release time

When the ACCESS button for COMPRESS/DUCK in the dynamics access section ❷ is pressed: The following parameters for the compressor and ducking can be set.

THRESHOLD control: Threshold

RATIO control: Ratio (effective only in the COMPRESS mode)

ATTACK control: Attack time

HOLD control: Hold time

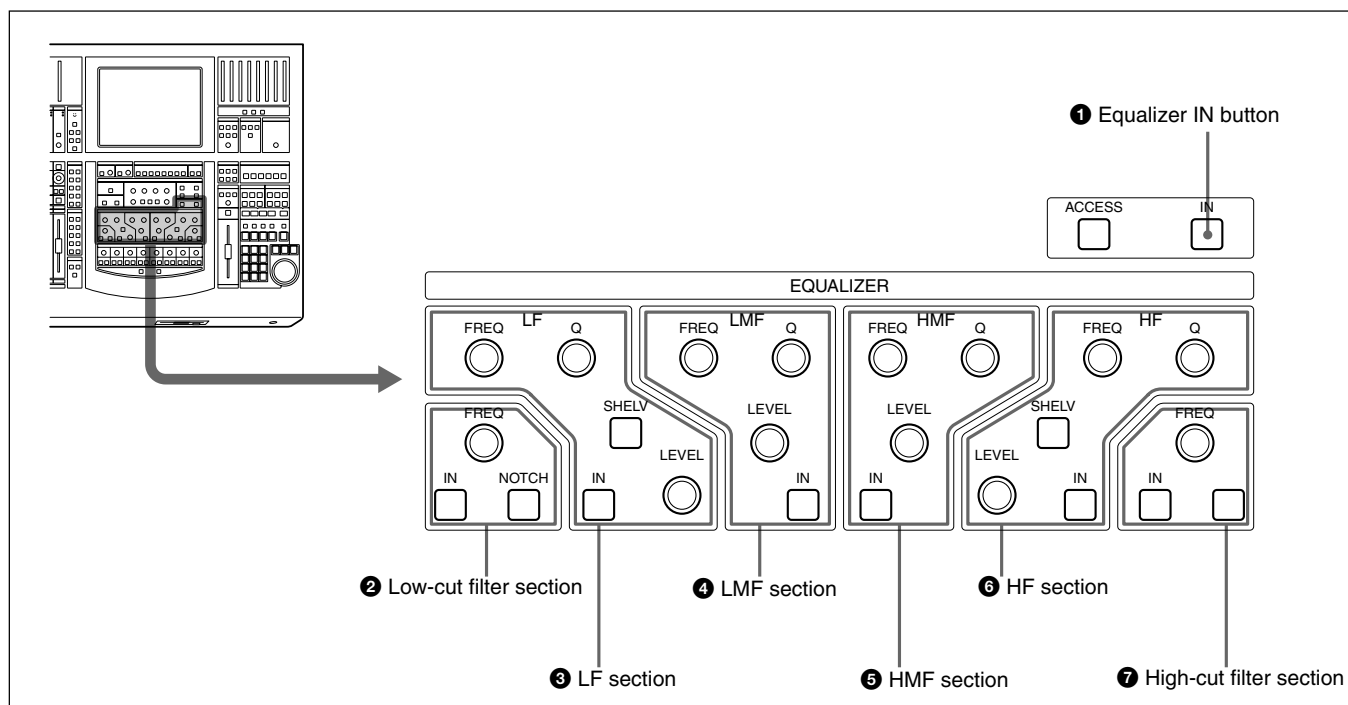
RANGE/GAIN control: Range in the DUCK mode and gain in COMPRESS mode.

The fully clockwise position is “AUTO” and results in automatic gain control (when the input signal is -20 dBfs, the gain is automatically adjusted so that the output signal is -20 dBfs).

RELEASE control: Release time

Controls and buttons in this section are used for the snapshot and dynamic automation.

EQUALIZER section



Controls and buttons in this section are used for the snapshot and dynamic automation.

1 Equalizer IN button

Press this button to switch in the equalizer.
The setting status of this button is displayed on the EQUALIZER/FILTER window. (page 46).

2 Low-cut filter section

FREQ control: Sets the cut-off frequency of the low-cut filter.

IN button: Press this button to activate the low-cut filter.

NOTCH button: Press this button so that the low-cut filter acts as a notch filter.

3 LF (Low frequency range equalizer) section

FREQ control: Sets the frequency.

Q control: Sets Q.

SHELV button: Selects the characteristics of the low frequency range equalizer to either peaking or shelving type.

LEVEL control: Sets the level.

IN button: Press this button to activate the low frequency range equalizer.

4 LMF (Low-mid frequency range equalizer) section

FREQ control: Sets the frequency.

Q control: Sets Q.

LEVEL control: Sets the level.

IN button: Press this button to activate the low-mid frequency range equalizer.

5 HMF (High-mid frequency range equalizer) section

FREQ control: Sets the frequency.

Q control: Sets Q.

LEVEL control: Sets the level.

IN button: Press this button to activate the high-mid frequency range equalizer.

6 HF (High frequency range equalizer) section

FREQ control: Sets the frequency.

Q control: Sets Q.

SHELV button: Selects the characteristics of the high frequency range equalizer to either shelving or peaking type.

LEVEL control: Sets the level.

IN button: Press this button to activate the high frequency equalizer.

7 High-cut filter section

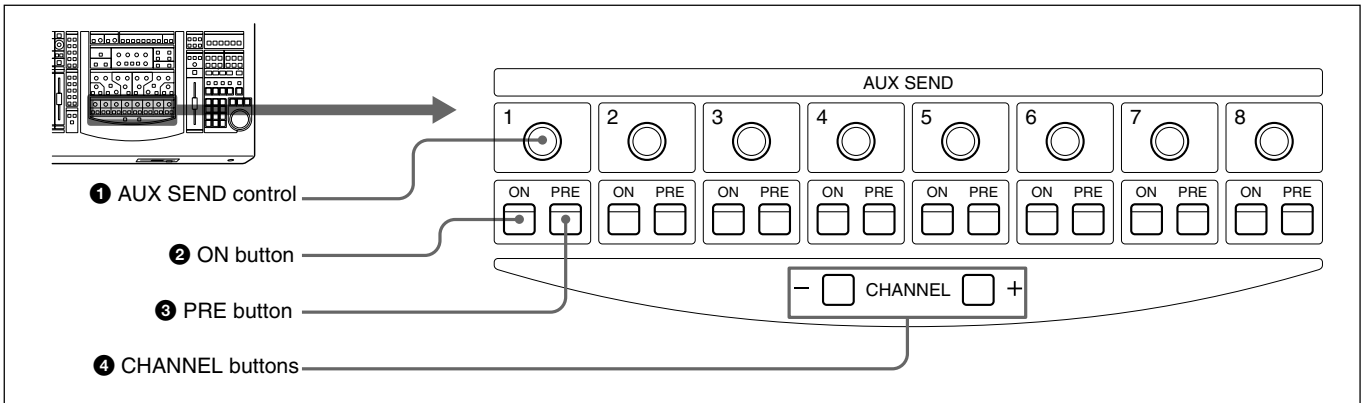
FREQ control: Sets the cut-off frequency of the high-cut filter.

IN button: Press this button to activate the high-cut filter.

Note

The high-cut filter and low-cut filter operate regardless of the setting of the IN button.

AUX SEND section and CHANNEL button



1 AUX SEND control 2 ON button 3 PRE button

Press the ON button so that it lights. The channel signal is sent to the corresponding AUX bus. AUX SEND controls 1 to 8 allow you to adjust the level of the corresponding AUX send bus.

If the AUX SEND bus is set to stereo, the even number controls function as the pan control.

When the PRE button is lit, the pre-fader signal is sent to the corresponding AUX bus. When the PRE button is not lit, the post-fader signal is sent.

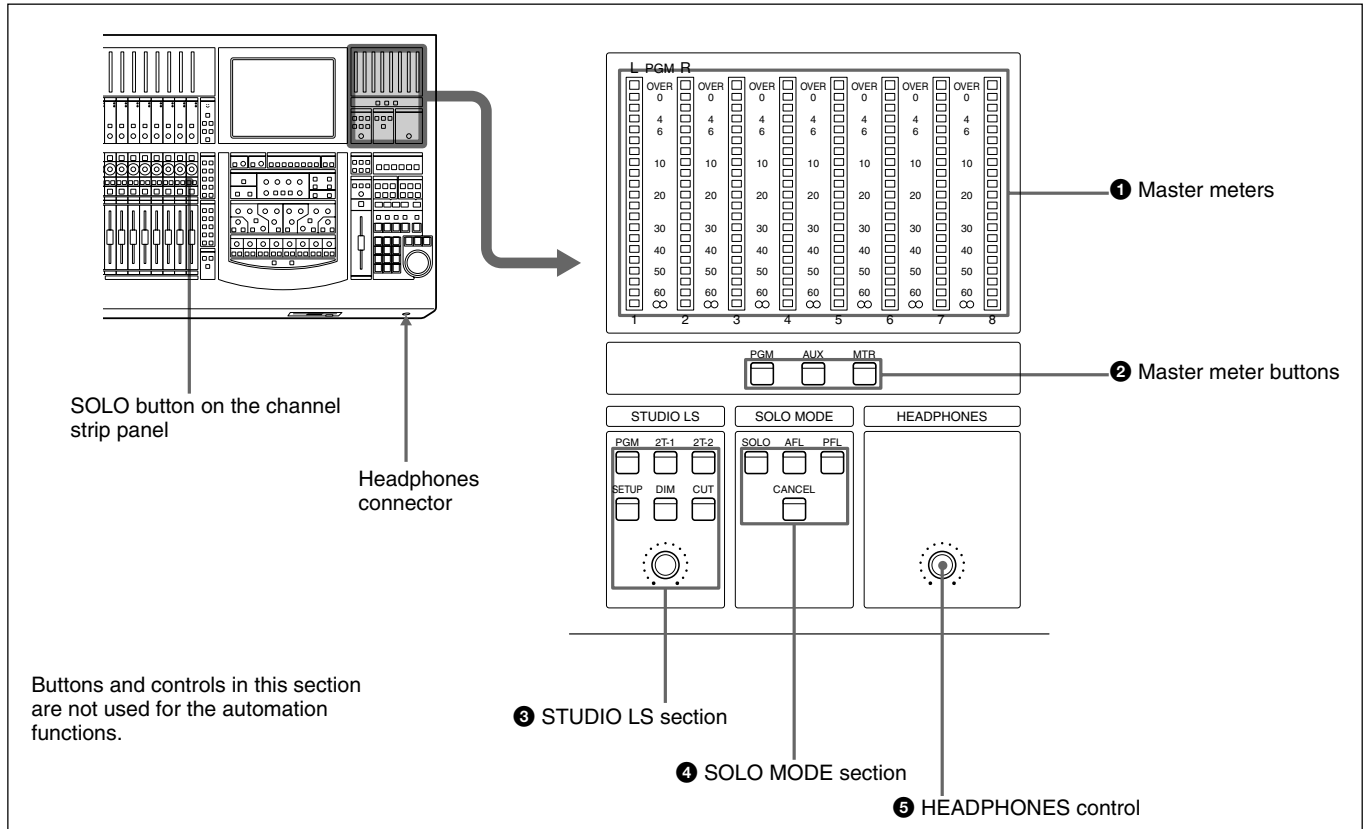
The AUX SEND control, ON and PRE buttons are available for both snapshot and dynamic automation.

4 CHANNEL buttons

Allow the access channel number to be incremented or decremented - allowing fast use of the Assignment panel.

Master Panel

Master meter/studio monitor/solo mode sections



1 Master meters

Indicate the level of the signal selected by master meter button 2.

2 Master meter buttons

Select the signals to be displayed on the master meters.

PGM button: When this button is lit, the levels of the PGM output signal are displayed on master meters 1 and 2.

AUX button: When this button is lit, the levels of the output signals from AUX buses 1 to 8 are displayed on master meters 1 to 8.

MTR button: When this button is lit, the levels of the output signals from MTR buses 1 to 8 are displayed on master meters 1 to 8.

3 STUDIO LS (studio speaker) section

Selects the studio monitor signal (which is output from the STD MONITOR connector on the rear panel).

PGM button: When this button is lit, PGM signal is monitored.

2T-1 button: When this button is lit, the signal input to the 2TR IN 1 connector is monitored.

2T-2 button: When this button is lit, the signal input to the 2TR IN 2 connector is monitored.

SET UP button: When this button is lit, the MONITOR window (page 59) is displayed, showing the STUDIO LS page. You can monitor the source signal (EXT, AUX, or MTR) selected on the STUDIO LS page of the MONITOR window.

DIM button: When this button is lit, the volume of the studio monitor signal is reduced.

CUT button: When this button is lit, the studio monitor signal is cut.

Volume control: Controls the level of the signal to the studio monitor output.

4 SOLO MODE section

Changes the function of the channel SOLO buttons.

SOLO button: When this button is lit, the SOLO buttons on the channel strip panel function as ‘destructive solo’ buttons and cause all other channels to cut.

For detailed information on how to set SOLO disabled, see “SOLO buttons” on the MONITOR window on page 61.

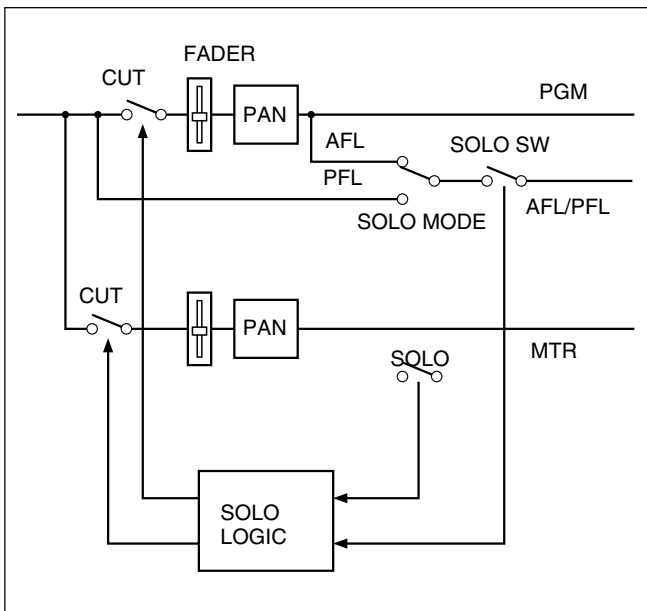
Note

The solo mode affects both monitoring and the mix output. The solo mode can be used for stereo pan and surround sound MTR bus monitoring.

AFL (after-fader listening) button: When this button is lit, the SOLO buttons on the channel strip panel function as the AFL buttons. The AFL signal is sent to the monitor, regardless the settings in the FADERS section.

PFL (pre-fader listening) button: When this button is lit, the SOLO buttons on the channel strip panel function as the PFL buttons. The PFL signal is sent to the monitor, regardless the settings in the FADERS section.

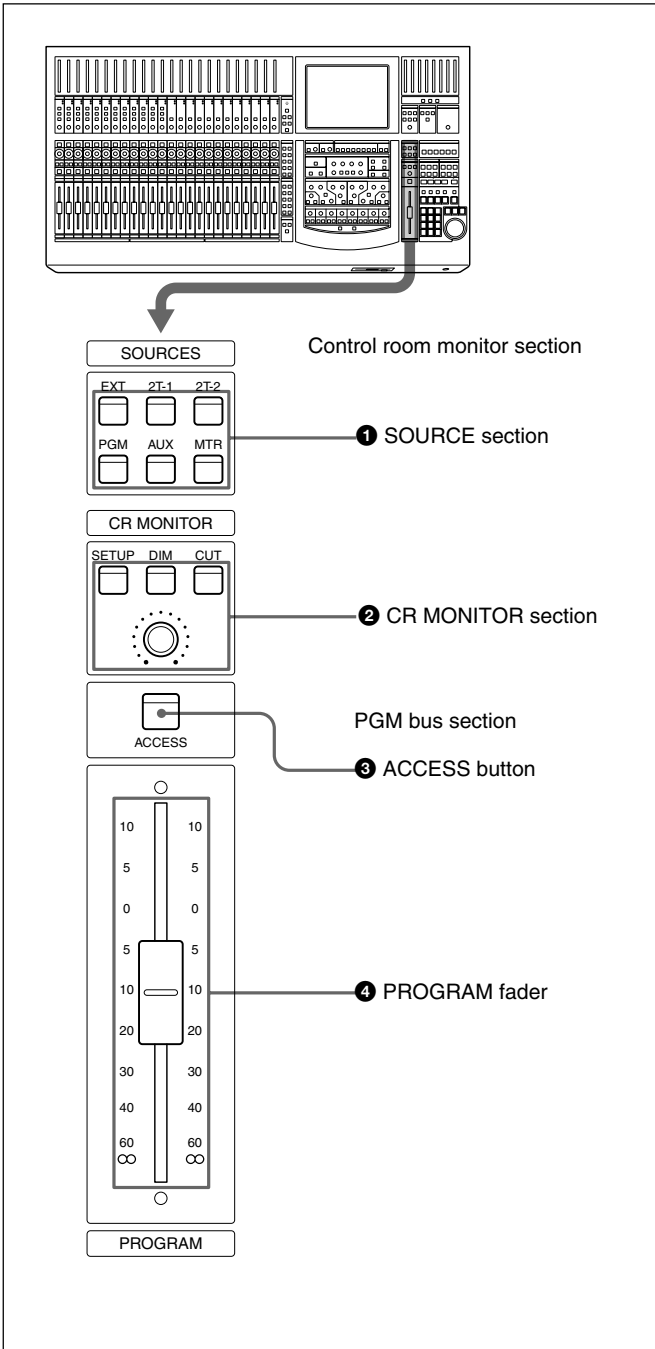
CANCEL button: Provides an automatic method of cancelling all SOLO’d channels (set in SOLO mode).



5 HEADPHONES control

Adjusts the volume of the headphones.

Control room monitor section and PGM bus section



1 SOURCE section

Selects the signal for the control room monitor (which is output to the CR MONITOR connector on the rear panel).

EXT button: When this button is lit, the EXT MONITOR signal selected on the MONITOR window (page 59) is monitored.

2T-1 button: When this button is lit, the signal input to the 2TR IN 1 connector is monitored.

2T-2 button: When this button is lit, the signal input to the 2TR IN 2 connector is monitored.

PGM button: When this button is lit, the signal of the PGM bus is monitored.

AUX button: When this button is lit, the AUX bus selected on the MONITOR window is monitored.

MTR button: When this button is pressed, the MTR bus selected on the MONITOR window is monitored.

2 CR (control room) MONITOR section

Controls the control monitor output.

SETUP button: When this button is lit, the MONITOR window is displayed, showing the CR MONITOR page.

DIM button: When this button is lit, the monitor level is reduced. You can set the dim level on the MISC SETUP window (page 84).

CUT button: Cuts the signal to the room monitor speakers when the CUT ENABLE button is set to ON on the MONITOR window.

VOLUME control: Controls the level of the signal to the monitor speaker.

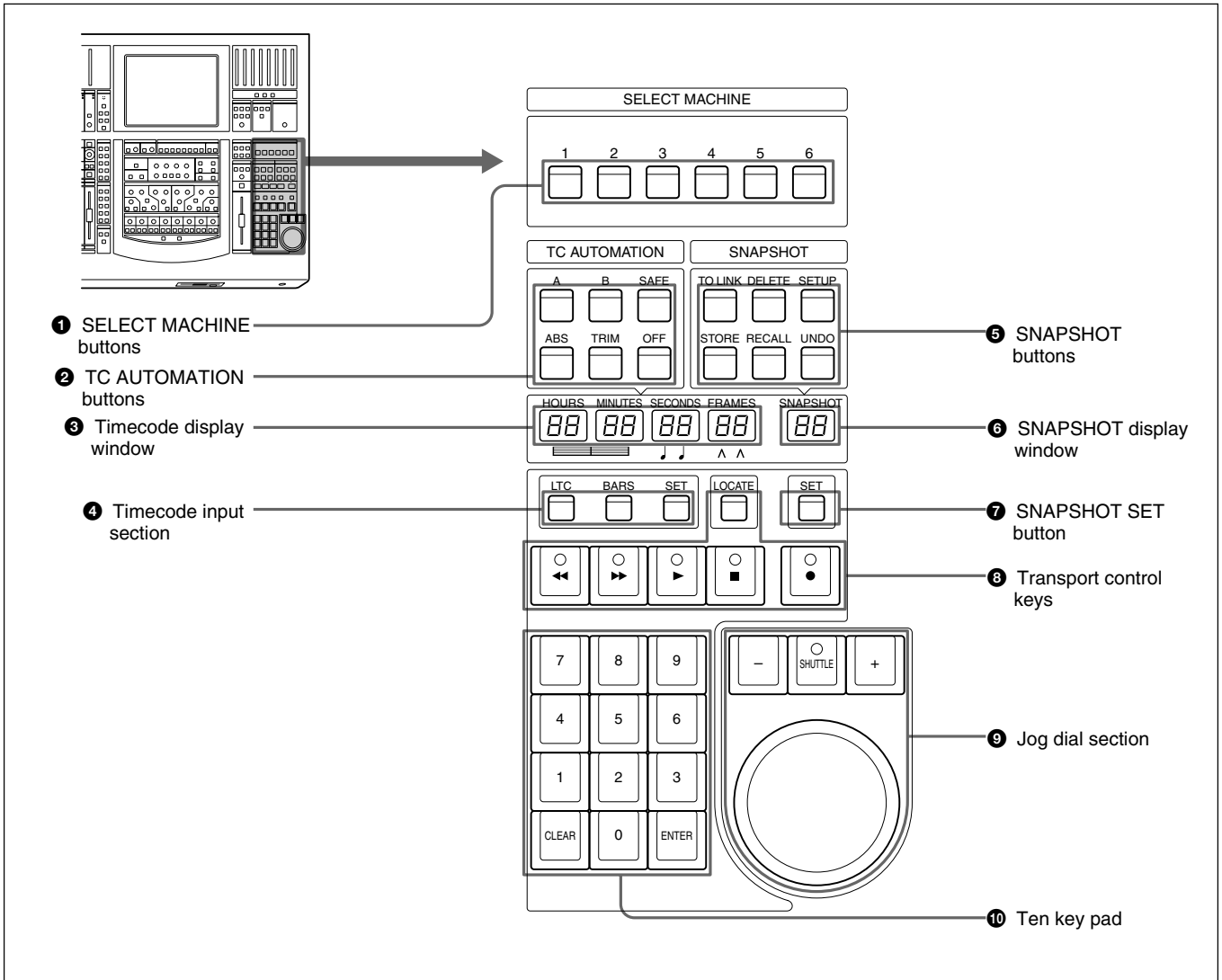
3 ACCESS button

Press this button so that it lights, to set the parameters (equalizer, etc.) for the PGM bus on the parameter setting panel.

4 PROGRAM fader

Fader for the PGM bus. This fader provides manual, snapshot automation and dynamic automation of the PGM output.

Automation Panel



1 SELECT MACHINE buttons

Selects the device to be controlled using the transport control keys. You can assign the device to a controller port on the MACHINE CONTROL window (page 70) on the display.

2 TC (timecode) AUTOMATION buttons

The master dynamic automation functions are controlled by this section.

SAFE button: When this button is lit, update of the timecode automation data is prohibited.

ABS (absolute value) button: When this button is lit, automation is on and the timecode automation is executed in ABS mode.

TRIM button: When this button is lit, automation is on and the timecode automation data is recalled in the trimming mode.

OFF button: When this button is lit, the timecode automation data is neither stored nor recalled.

For detailed information on the timecode automation mode, see page 98.

Locations and Functions of Parts and Controls

A button: Recalls automation data stored in the A buffer.

B button: Recalls automation data stored in the B buffer.

By using the A and B buttons, you can copy stored data between the A/B buffers as explained below.

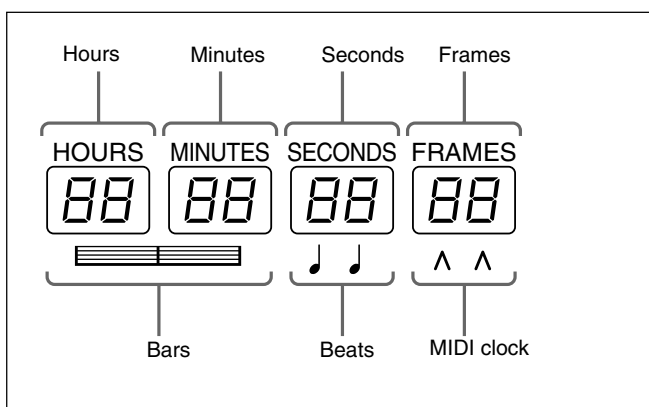
To copy the data stored in the A buffer to the B buffer

- 1 Press and hold the A button for more than 2 seconds, then press the B button. The confirmation dialog box appears.
- 2 Select [YES] on the dialog box. Data in the A buffer is copied into the B buffer.

To copy the data stored in the B buffer to the A buffer, press and hold the B button for more than 2 seconds, then press the A button. Select [YES] on the dialog box.

③ Timecode display window

When the LTC button is lit on the timecode input section ④, the timecode is displayed in the window. When the BARS button is lit, the timecode is converted to bars, beats and the MIDI clock and displayed.



④ Timecode input section

Selects the contents to be displayed in the timecode display window ③.

LTC button: When this button is lit, the timecode read by the built-in timecode reader is displayed in the window.

BARS button: When this button is lit, the timecode is converted to the bars, beats and the MIDI clock and displayed.

When both the BARS button and SET button are lit, you can enter the desired value using the ten key pad. The entered value is converted to the timecode and used.

SET button: When this button is lit, you can input the desired timecode using the ten key pad. Also, you can increase or decrease the timecode using the +/- buttons and the jog dial.

When a device is selected on the SELECT MACHINE button ①, you can input the locate time.

When this button is not lit, the timecode display window shows the values read by the built-in timecode reader or the tape time of the device selected by the SELECT MACHINE button ①.

⑤ SNAPSHOT buttons

TC LINK button: When this button is lit, the mixer will automatically link snapshots and mixer cues. In this case, the value displayed on the SNAPSHOT window is treated as the cue number.

Also, when this button is lit, you can manually recall a snapshot which has been linked with a cue.

When the button is lit, the STORE button allows a new cue point and snapshot to be saved and linked. When this button is not lit, you can recall snapshot data manually. The snapshot data is stored without the timecode.

DELETE button: By pressing this button, the snapshot data or the cue currently displayed on the SNAPSHOT display window is deleted depending on the set condition of the TC LINK button.

SETUP button: Press this button so that it lights, to display the SNAPSHOT window or CUE window. (When the TC LINK button is not lit, the SNAPSHOT window opens. When the TC LINK button is lit, the CUE window opens.)

For detailed information on the SNAPSHOT window, see page 64, and for the CUE window, see page 66.

STORE button: Press this button so that it lights, to store the current settings on the SNAPSHOT window as the snapshot data. If the TC LINK button is lit, the snapshot data is stored with the cue.

RECALL button: Press this button so that it lights, to recall the snapshot data or the cue currently displayed on the SNAPSHOT display window depending on the set condition of the TC LINK button.

UNDO button: Press this button so that it lights, to clear the last snapshot operation.

⑥ SNAPSHOT display window ⑦ SNAPSHOT SET button

Press the SNAPSHOT SET button ⑦ so that it lights, to enter the snapshot number in the SNAPSHOT display window ⑥ using the ten key pad.

Also, you can increase or decrease the timecode using the +/- buttons and the jog dial.

To execute the snapshot number, press the ENTER key.

The number displayed on the window is treated as a cue number when the TC LINK button is lit.

If you press the STORE button when any number is not set on the display window, the lowest unused number is used for the new snapshot (or cue) number.

⑧ Transport control keys

Controls the tape movement of the recorder selected by the SELECT MACHINE buttons ①.

◀◀ (Rewind)/▶▶ (Fast forward)/▶ (Play)/■ (Stop)/

● (Record)

LOCATE button: Cues up the tape of the recorder selected by the machine controller to the locate time previously set.

⑨ Jog dial section

The jog dial can be used for both machine control and data entry.

Press the SHUTTLE +/- button so that it lights, to control the device selected by the SELECT MACHINE buttons ① in shuttle mode.

There may be devices that can not be controlled in shuttle mode.

The jog dial can also be used to change data values, for example, by pressing the SET button under the SNAPSHOT display window, the dial adjust the SNAPSHOT number.

⑩ Ten key pad

When the SET button is lit in the Timecode input section ④, you can enter a value in the timecode display window, using the ten key pad.

When the SNAPSHOT SET button ⑦ is lit, you can enter a snapshot number in the SNAPSHOT display window, using ten key pad.

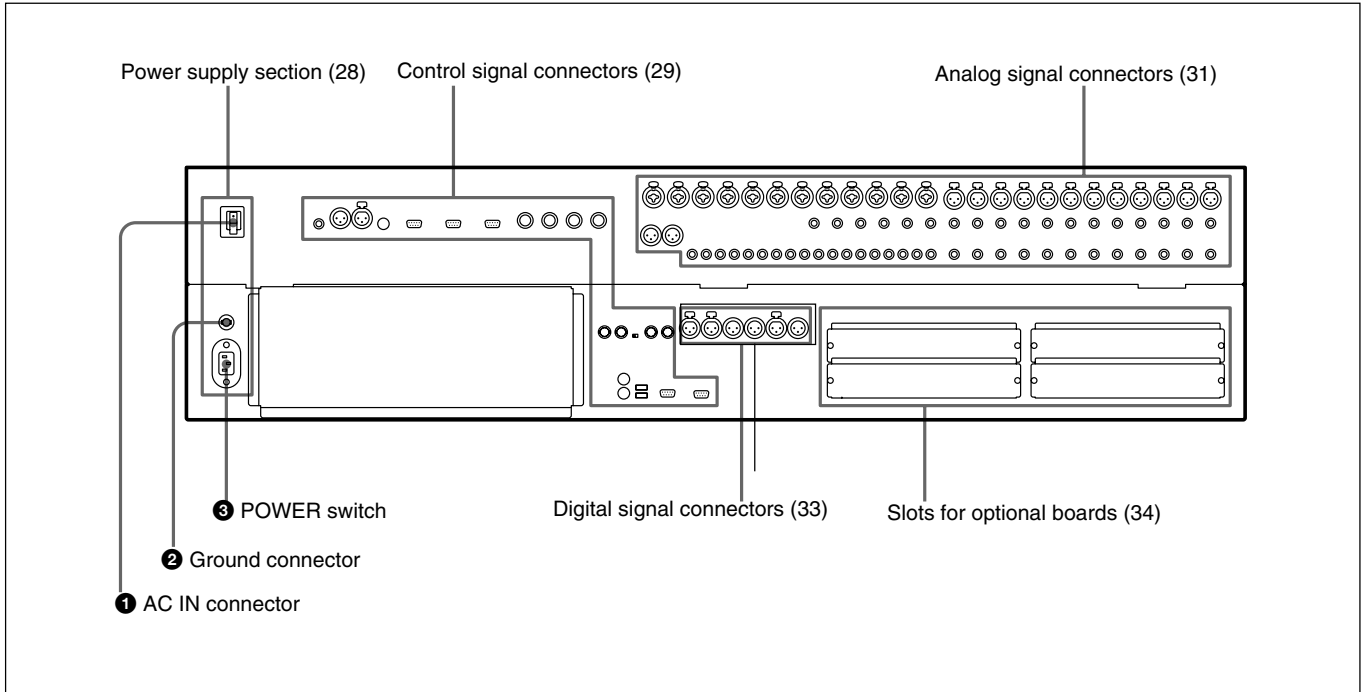
Pressing the ENTER key accepts the entered value that is displayed on the window.

Locations and Functions of Parts and Controls

Elements of the Rear Panel

For detailed information on connectors, refer to pages indicated parentheses.

For connection examples, see page 7, for detailed information on connectors, see “Specifications” on page 110, and for signal flow, see “Block Diagram” on page 121.



Power Supply Section

① ~ AC IN connector

Connects to an AC outlet using the supplied AC power cord.

② Ground connector

Connects to the grounding terminal.

③ POWER switch

Press the I (IN) side of the button to power the unit. At this time, the unit boots and the system starts, recalling the conditions registered using the KEEP operation. As required, load the title.

Notes

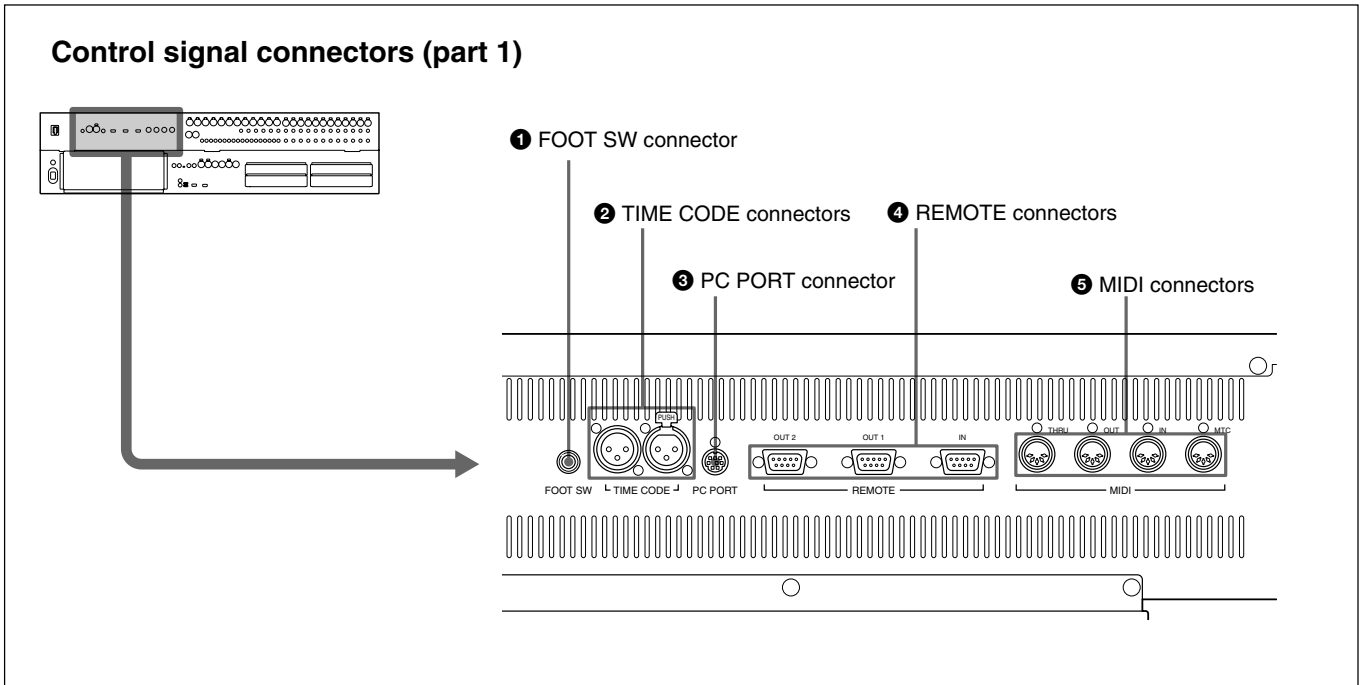
- Press [OUT] to turn off the power. Edited snapshot data which has not been registered using the KEEP operation and the A/B buffer data which has not been stored are cleared.
- Make sure you turn off the power of the unit and all

other devices before attempting to make any connections.

- Do not turn off the power of the unit when the LED of the floppy disk drive is lit, or the clock mark is displayed after a KEEP or SAVE operation. If you turn off the power, the data or the software may be damaged.
- Do not turn on the power of the unit with a floppy disk inserted in the disk drive. If a floppy disk remains in the disk drive, the unit will not power on and the following message appears on the window. “Booting from Removable Media.” In such a case, remove the floppy disk from the disk drive, then turn on the power again.
- When you turn on the power again after you have turned it off once, wait for more than 10 seconds. If you turn on the power again within 10 seconds, this may cause a malfunction to occur.

Control Signal Connectors

For connection examples, see page 7, for detailed information on connectors, see “Specifications” on page 110, and for signal flow, see “Block Diagram” on page 121.



1 FOOT SW connector (Phone jack)

Connect the foot switch (not supplied) to control the remote automation functions.

2 TIME CODE connectors (XLR 3-pin)

IN connector: Inputs the timecode signal from an external device.

OUT connector: Outputs the timecode to an external device.

3 PC PORT connector (Mini DIN 8-pin)

Connect the host computer.

4 REMOTE connectors (D-sub 9-pin)

IN connector: For expansion use in future.

OUT 1/2 connectors: Used for connecting to an external device such as VTR. You can control the 9-pin devices using the transport control keys on the automation panel.

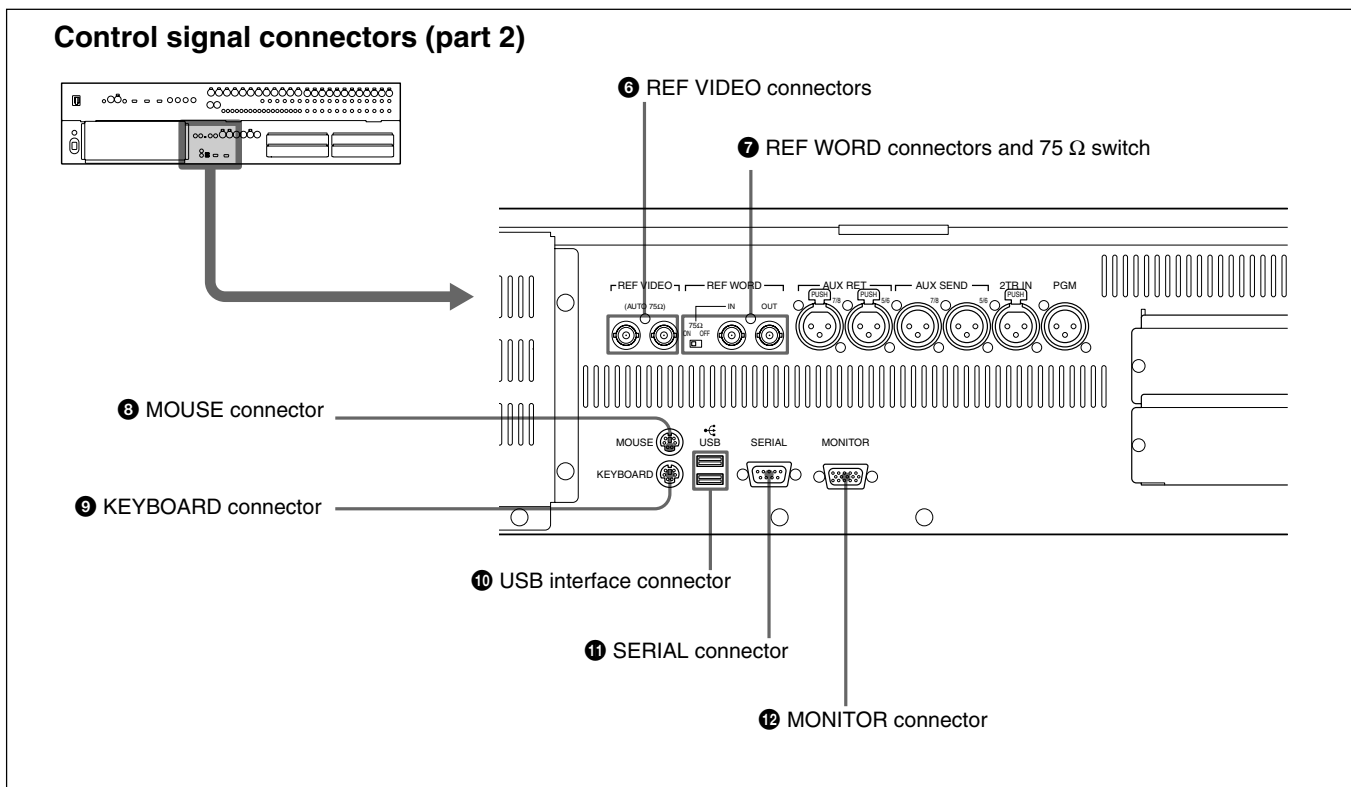
5 MIDI connectors (DIN 5-pin)

MTC connector: Inputs the MTC (MIDI timecode) used in automation operation.

MIDI IN connector: Used for connecting incoming MIDI data, including remote control of faders, pan, cuts and snapshots, functions depend on the settings of the MIDI window.

MIDI OUT connector: Used for outgoing MIDI messages, including MIDI machine control and front panel tallies (faders, cuts and pan).

MIDI THRU connector: Outputs the signal input from the MIDI IN connector via a buffer.



6 REF VIDEO (reference video signal) connectors (BNC type)

Input/output connectors for NTSC or PAL reference video signals for synchronizing with an external device. These connectors are loop-through. When the loop-through output is not used, the input connector is automatically terminated at 75 ohms.

7 REF WORD (reference word sync signal input/output) connectors (BNC type) and 75 Ohm switch

Input/output connectors for synchronizing with an external device.

REF WORD IN connector: Inputs the word sync signal.

75 Ohm switch: Must be switched correctly.

Normally set this switch to ON. When you send the work sync signal to other machines via the type T BNC relay connector, set this switch to OFF.

REF WORD OUT connector: Outputs the word sync signal.

8 MOUSE connector (Mini DIN 6-pin)

Used for connecting an external mouse (PS/2 type).

9 KEYBOARD connector (Mini DIN 6-pin)

Used for connecting a standard computer keyboard (PS/2 type).

10 USB interface connector

For expansion use in future.

11 SERIAL connector (D-sub 9-pin)

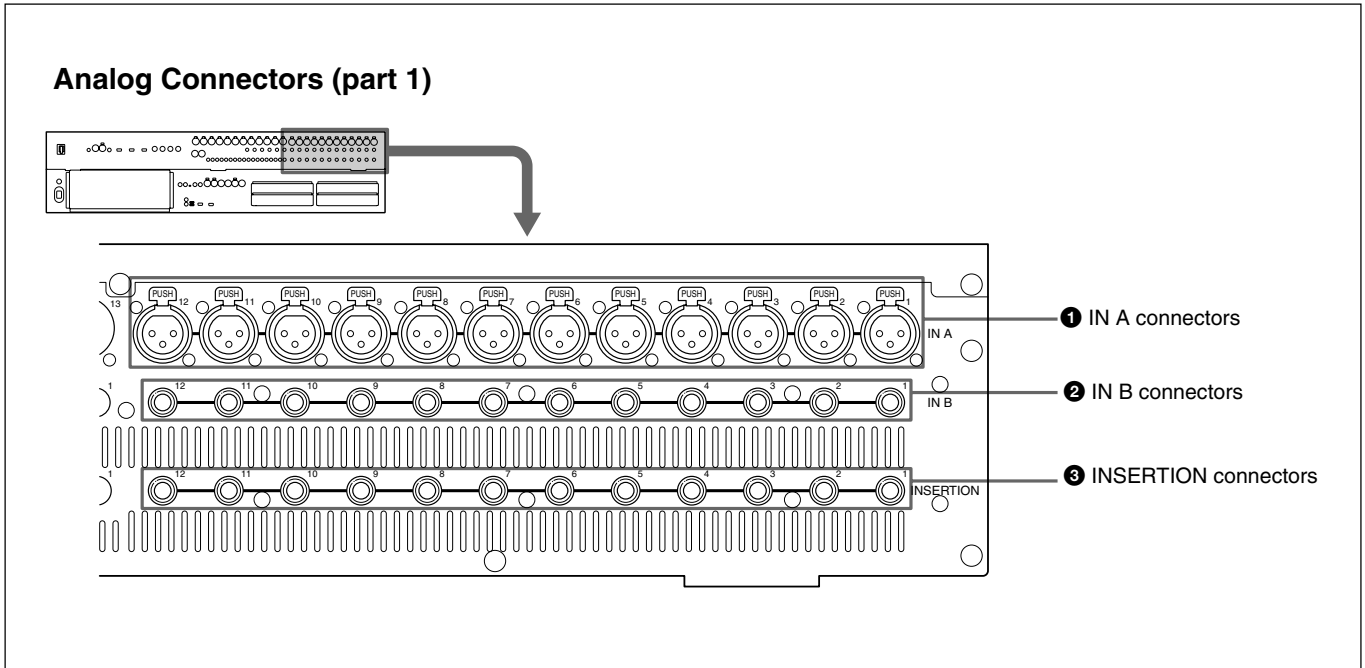
For expansion use in future.

12 MONITOR connector (D-sub high density 15-pin)

Used for connecting a standard computer's monitor to repeat the DMX-R100 on board display.

Analog Signal Connectors

For connection examples, see page 7, for detailed information on connectors, see “Specifications” on page 110, and for signal flow, see “Block Diagram” on page 121.



1 IN A (analog input A) connectors 1 to 12 (XLR 3-pin)

These connectors are enabled when the INPUT B button on the analog head amplifier panel is not pressed.

The IN A 1 to 12 connectors are equipped with 48 V power for condenser microphones, each channel feature a front panel 48 V switch

2 IN B (analog input B) connectors 1 to 12 (1/4" TRS jack)

These connectors are enabled when the INPUT B button is pressed.

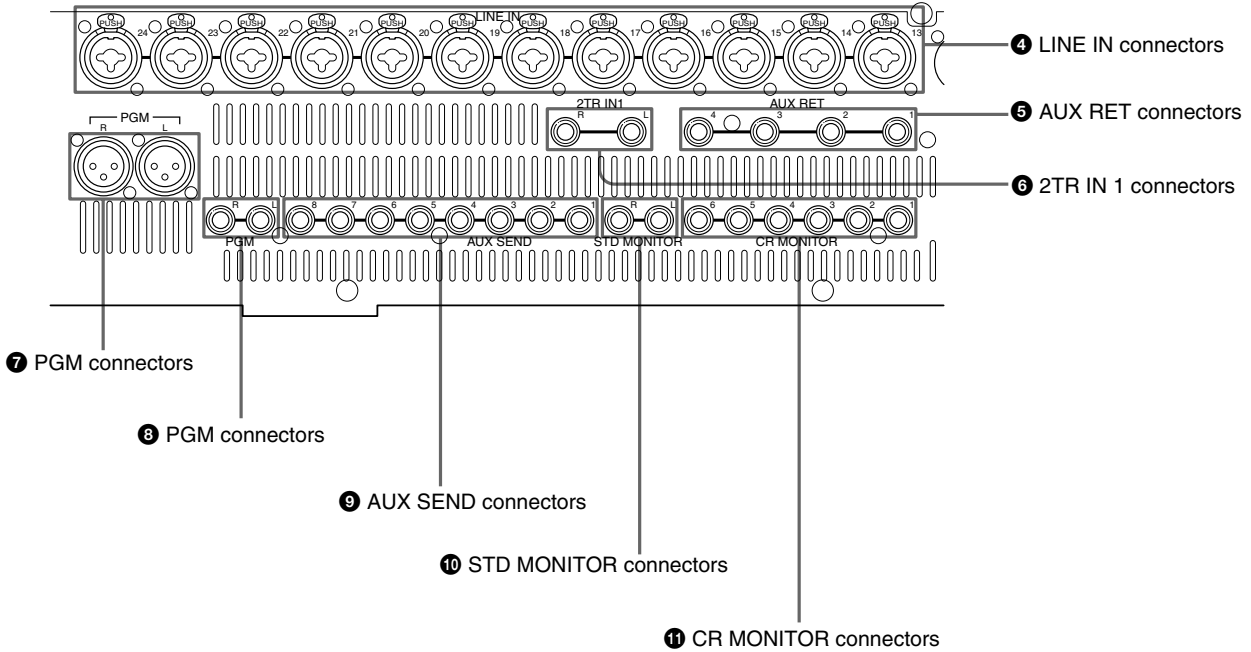
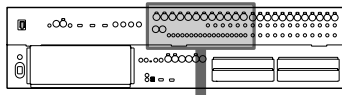
3 INSERTION (insertion input/output) connectors 1 to 12 (1/4" TRS jack)

Used for connecting external effectors the inserts are analog and positioned before the analog to digital converters.

For the pin assignment of the INSERTION connectors, see page 111.

Locations and Functions of Parts and Controls

Analog Connectors (part 2)



4 LINE IN (line input) connectors 13 to 24 (Combo coax)

These additional analog inputs can accept both XLR and 1/4" TRS jacks.

5 AUX RET (auxiliary return) connectors (1/4" TRS jack)

For additional analog input signals which are processed using the external effectors.

6 2TR IN 1 (2-track signal input) connectors (1/4" TRS jack)

For inputting the monitor signals from a 2-channel analog recorder.

7 PGM (program) connectors (XLR 3-pin)/8 PGM connectors (1/4" TRS jack)

For outputting the analog PGM signal.

9 AUX SEND connectors (1/4" TRS jack)

For outputting the analog signal assigned to the AUX SEND bus. Normally used for interfacing to external processing devices.

10 STD MONITOR (studio monitor output) connectors L/R (1/4" TRS jack)

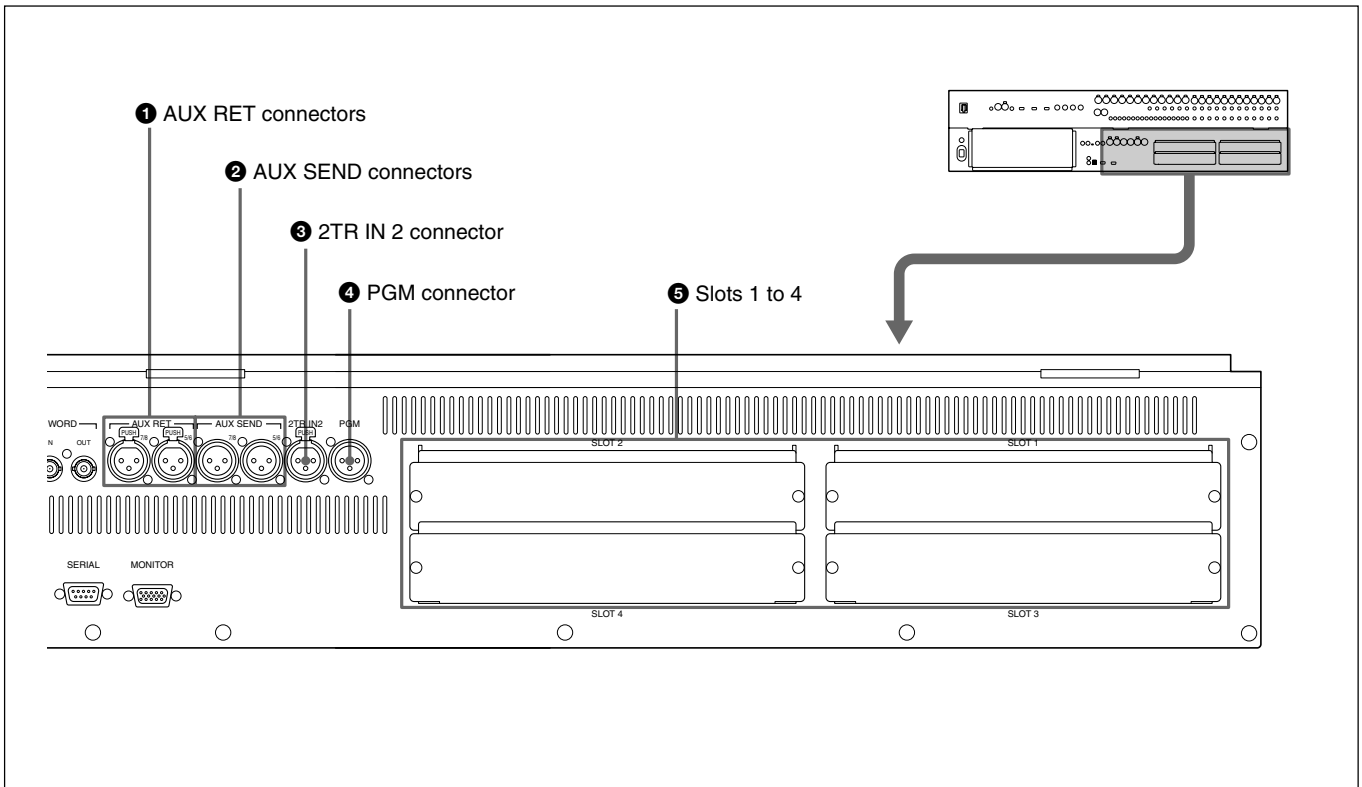
For outputting the signals for studio monitoring via a power amplifier.

11 CR MONITOR (control room monitor output) connectors 1 to 6 (1/4" TRS jack)

When CR monitoring in MONO or STEREO, the L/R control room monitor signal is outputted to connectors 1 and 2, or 5 and 6 when MINI MONITOR is selected. For surround sound monitoring, all 6 connectors are used (1 = L, 2 = R, 3 = C, 4 = Sub, 5 = SL and 6 = SR).

Digital Signal Connectors

For connection examples, see page 7, for detailed information on connectors, see “Specifications” on page 110, and for signal flow, see “Block Diagram” on page 121.



❶ AUX RET (auxiliary return) connectors (XLR 3-pin)

Inputs the digital signals processed by the external digital effectors.

Connectors 5 and 6 are for AUX-return channel 5 and channel 6.

Connectors 7 and 8 are for AUX-return channel 7 and channel 8.

❷ AUX SEND (auxiliary send) connectors (XLR 3-pin)

Outputs the digital signals assigned to AUX sends 5 and 6 (or 7 and 8).

❸ 2TR IN 2 (two-track signal input) connector (XLR 3-pin)

Inputs the digital audio signals from a 2-channel digital recorder for monitoring.

❹ PGM (program signal output) connector (XLR 3-pin)

Outputs the 2-channel digital PGM signal.

❺ Slots 1 to 4 (slots for optional boards)

Insert the optional boards here.

For details of how to insert these boards, contact your Sony dealer.

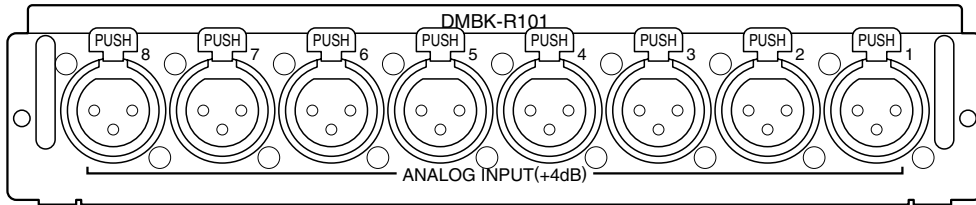
For detailed information on optional boards, see the next page.

Locations and Functions of Parts and Controls

Optional Boards

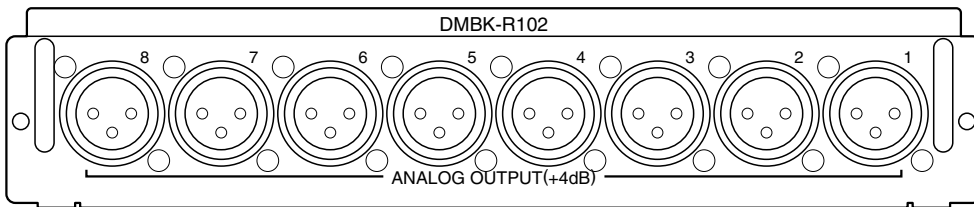
DMBK-R101 8CH Analog Line In Board

Inputs balanced analog signals (+4 dB standard). The input channels are selected on the AUDIO INPUT ROUTING screen.



DMBK-R102 8CH Analog Line Out Board

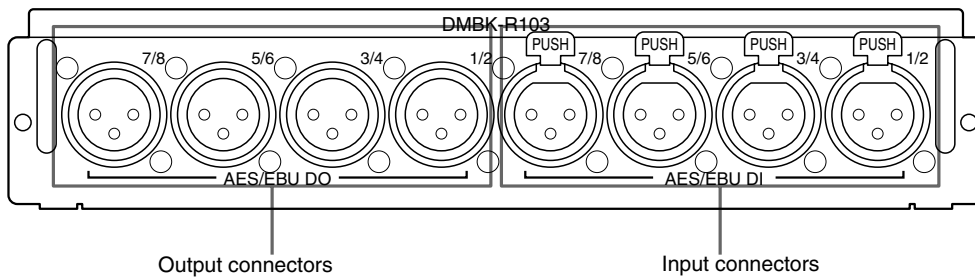
Outputs balanced analog signals (+4 dB standard). The output signals are selected on the AUDIO OUTPUT ROUTING screen.



DMBK-R103 8CH AES/EBU DIO Board

Inputs/outputs AES/EBU signals at both standard (44.1, 48 kHz) and double samples rates (88.2, 96

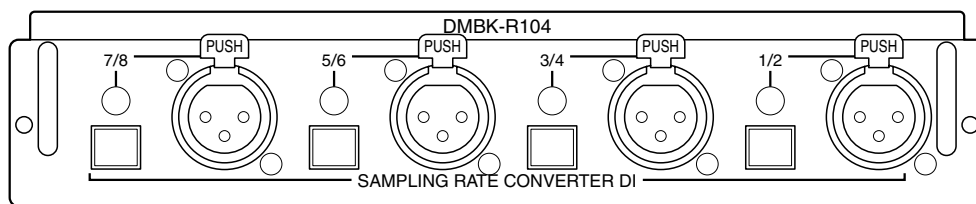
kHz). At double sample rates, the data transfer rate is double the rate for standard.



DMBK-R104 8CH Sampling Rate Converter DI Board

Inputs AES/EBU signals or optical signals such as from a consumer CD players.

The upper sample rate of DMBK-R104 is 56 kHz and it can not convert double sample rate signals (88.2, 96 kHz) to standard sample rates.

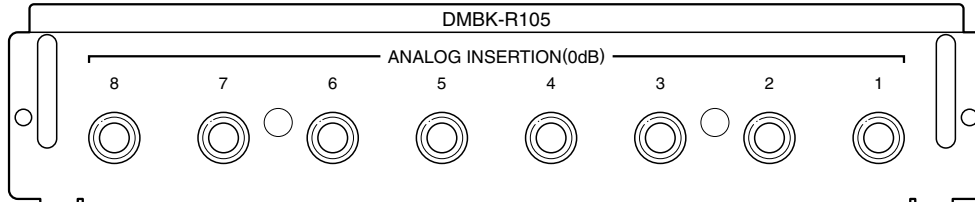


DMBK-R105 8CH Insertion board

Inputs/outputs unbalanced analog signals (0 dB standard). The insertion point is set on the AUDIO OUTPUT ROUTING screen.

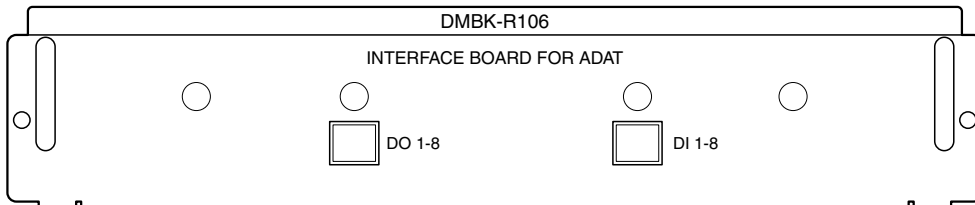
Note

You can use only one DMBK-R105 8CH Insertion Board in the DMX-R100.

**DMBK-R106 Interface Board for ADAT**

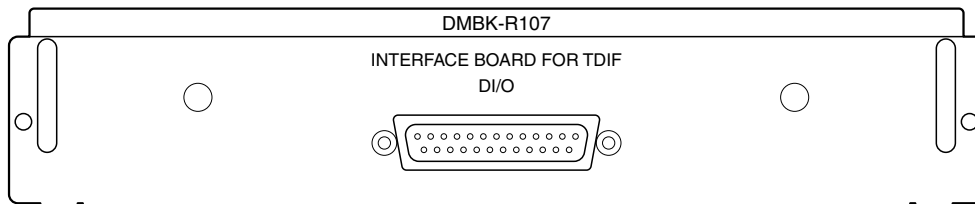
Connects external devices such as ADAT ¹⁾ interface boards, or external devices such as tape recorders that have an ADAT interface.

Note that this board does not function when the unit is running at 88.2 kHz or 96 kHz.

**DMBK-R107 Interface Board for TDIF**

Connects external devices such as tape recorders that have a TDIF ²⁾ interface.

Note that this board does not function when the unit is running at 88.2 kHz or 96 kHz.



-
- 1) ADAT is the registered trademark of the interface of ALESIS STUDIO ELECTRONICS, INC.
 - 2) TDIF is the trademark of the interface of TEAC Corporation.

Menu Structure

The window based operating menus of the DMX-R100 are organized in the following structure.

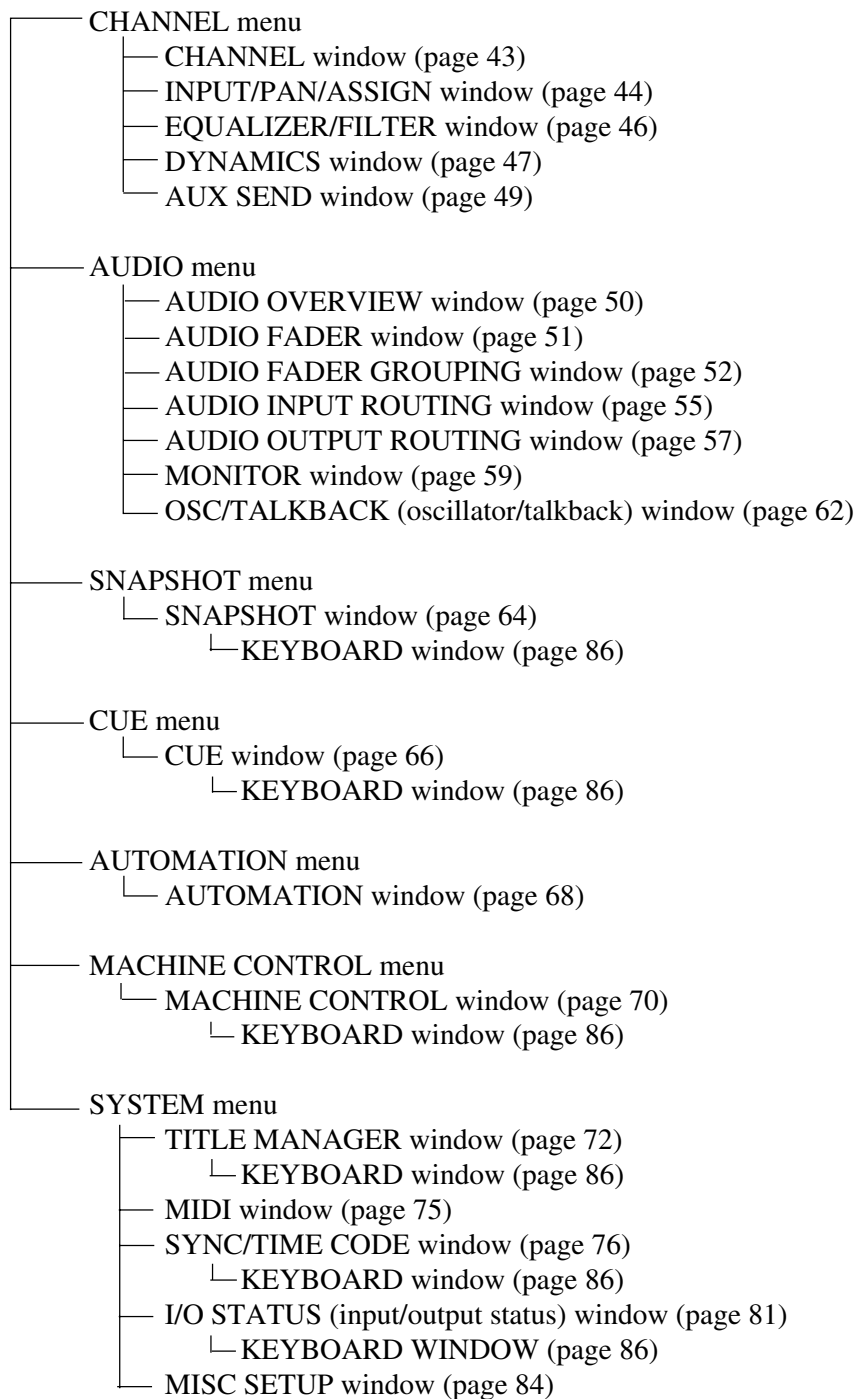
For detailed information on each menu, refer to the pages indicated in parentheses.

Menus related to automation (placed on the top bar on the display)

- TITLE menu (page 37)
- Snapshot display (page 38)
- Automation mode display (page 38)

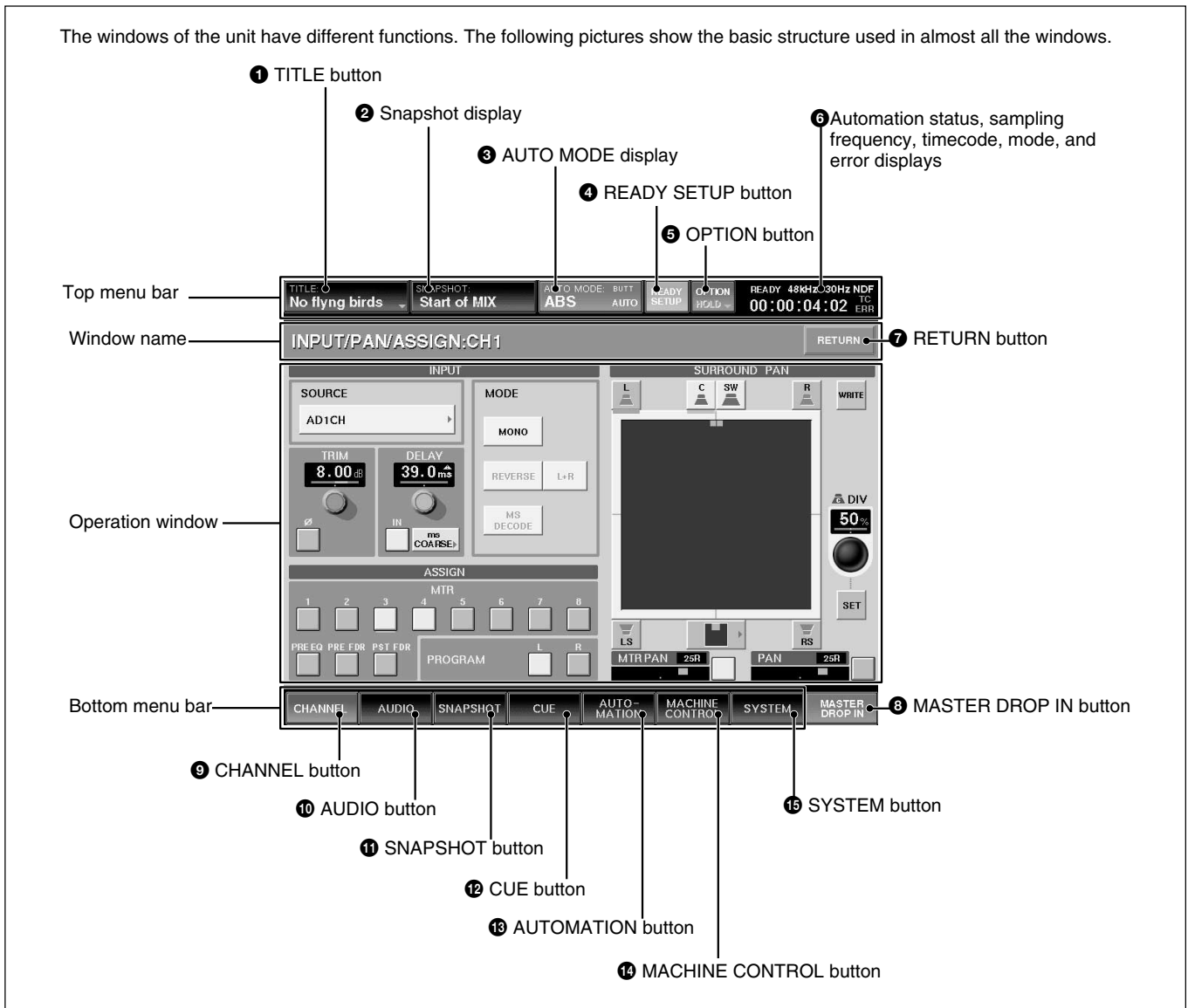
Menus for controlling and monitoring the mixer

These menus open by touching the bottom menu button on the display.



Basic Components of the Windows

The windows of the unit have different functions. The following pictures show the basic structure used in almost all the windows.



Top bar

1 TITLE button

“TITLE” is the term used in DMX-R100 for storing and recalling all the mixer’s automation and housekeeping functions for a project. The current title’s name is displayed in the TITLE button.

For detailed information on the function of the TITLE MANAGER window and how to enter the title name, see page 72.

Touching the TITLE button opens the TITLE menu.

TITLE menu

KEEP

By selecting KEEP, the data in the work area, volatile memory, is saved in the Current Title’s non-volatile memory.

Notes

- When restarting or turning off the unit, the unit will lose data that has not been SAVED (this SAVE button is located on the TITLE MANAGER window) or KEEP’ed.

Basic Components and Functions of the Windows

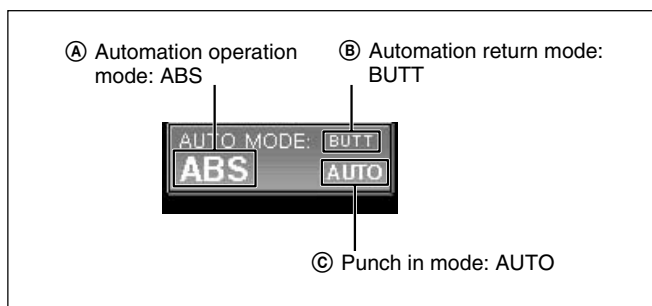
- After executing KEEP, do not turn off the power while the cursor indication changes to an arrow showing that the data has been processed or while the LED on the floppy disk drive is on. In such a case, the unit is writing the data in the flash memory or is storing in the floppy disk. If you turn off the unit during this process, the Current Title may be lost.

2 Snapshot display

The name of the snapshot last recalled is displayed on the SNAPSHOT button.

3 AUTO (automation) MODE display

Displays the Automation mode and return time mode settings.



A Automation operation mode

- **ABS:** Automation is in the ABSOLUTE (absolute value) mode. In ABS mode, the display lights red. (When the SAFE button is lit on the console, the display is dark red.)
- **TRIM:** Automation is in the TRIM (fine adjustment) mode. In TRIM mode, the whole display is green. (When the SAFE button is lit on the console, the display is dark green)
- **OFF:** Shows the automation is off. In OFF mode, the whole display is black.

For information on the fader operation and its results in ABS mode and trim mode, see page 100.

B Automation return mode

Sets the automation return mode when the Drop Out function is performed.

BUTT: When the automation is dropped out (i.e. changes from WRITE mode to READY status), the faders and other controls immediately jump back to the position stored in the previous data.

RAMP: Faders and other controls ramp back to the position stored in the previous data in a number of frames.

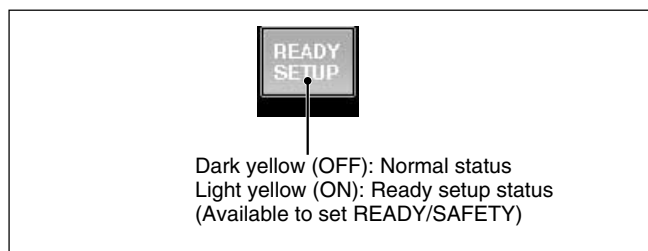
NEXT: Holds the position to the next event (recorded in the dynamic automation).

TO END: Holds the position to the end and renews the automation data. (HOLD TO END)

C Punch in mode

- **NORMAL:** The punch in/punch out functions are not set.
- **FOOT:** Punching in/punching out using the foot switch is set.
- **AUTO:** An auto punch is performed according to a specified time entered on the Automation window.

4 READY SETUP button



Normally, this button is dark yellow (READY SETUP is off). In this case, the buttons, controls and switches directly control the audio processing.

When you touch the button shown, it turns light yellow. This allows you to select controls to the READY status.

Now, when you operate the controls, they switch between READY active and READY off, and the controls do not control the audio processing. Press READY SETUP again to revert the controls to audio processing.

With READY SETUP on, controls switch as follows:

Buttons: Whenever you operate the buttons on the panel and window, the READY status is switched.

Controls: Turning them clockwise results in setting them to READY. Turning them counterclockwise results in setting them to SAFETY. Also touching the numerical value on the display window results in switching READY/SAFE.

Faders: Whenever you touch the fader, READY/SAFE is switched. Also pressing the numerical value on the display window results in switching READY/SAFE.

WRITE buttons on the channel strips: Whenever you press the WRITE button, all of the controls that can be dynamically automated in the channel are READY'ed (i.e. are in READY status).

Notes

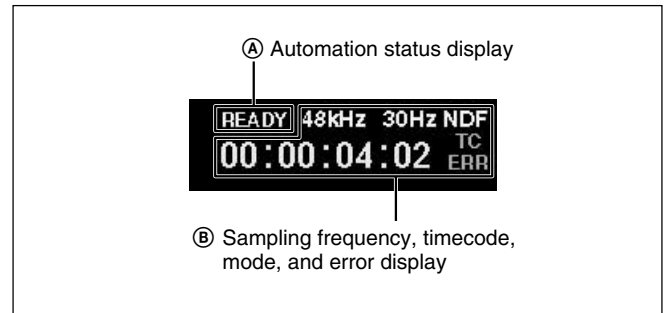
- The READY SETUP is automatically switched off when the timecode is run at PLAY speed.
- When the READY SETUP button is set to ON, the faders, controls and buttons, do not control the sound.

5 OPTION button

This button is effective when the READY SETUP button is light yellow. If you touch this button, the pull down menu opens and you can select the items to be READY'ed. When you select WRITE HOLD on the pull down menu, HOLD is displayed on the button.

- ALL EQ: Sets the faders/equalizers of all channels to READY.
- ALL DYNA: Sets dynamics of all channels to READY.
- ALL AUX KNOB: Sets the AUX SEND controls of all channels to READY.
- ALL AUX BUTTON: Sets the AUX SEND buttons of all channels to READY.
- ALL CUT: Sets the cut setting of all channels to READY.
- ALL ASSIGN: Sets the ASSIGN buttons of all channels to READY.
- ALL PAN: Sets the pan setting of all channels to READY.
- ALL FADER: Sets the faders of all channels to READY.
- ALL CANCEL: Sets all READY to SAFE modes.
- WRITE HOLD: Whenever you select this item, WRITE HOLD mode is switched on and off. When WRITE HOLD is selected, HOLD is displayed on the OPTION button. In this mode, items subject to automation in WRITE mode will not automatically be set to READY status when the timecode stops.

6 Automation status, sampling frequency, timecode, mode and error displays



A Automation status display

Displays the automation status mode.

- READY: Execution of automation is always possible if the timecode advances at the PLAY speed.
- RUN: Storing/recalling of automation is possible.
- STBY: Automation data cannot be stored due to the presence of timecode before cue, before the punch in or after the punch out. However, you can recall automation.
- OFF: Automation is set to OFF mode. You can operate all of the buttons and controls manually, but cannot store/recall automation data.

B Sampling frequency, timecode, mode, and error display

Displays the sampling frequency and any error indication. The timecode display is from the internal timecode reader.

- When an error occurs on the word PLL (or video PLL), the sampling frequency display turns red.
- When the timecode does not advance correctly, “TC ERR” is displayed.
- When the format of the entered timecode is different from the format setting of the unit, the timecode mode is display in red.

7 RETURN button

Touch this button to return to the previous window (from which the current window is displayed).

Basic Components and Functions of the Windows

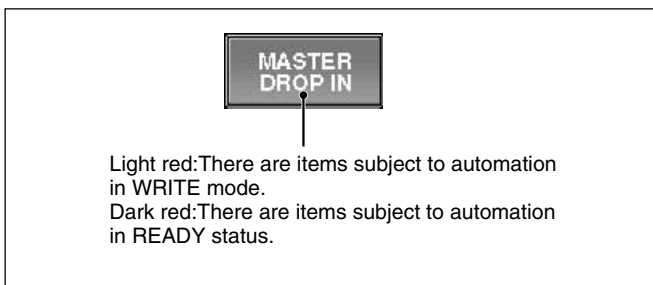
8 MASTER DROP IN button

Under normal conditions (where there are no items subject to automation in WRITE mode), this button is displayed in dark red.

If you touch the button while it is dark red, the button turns light red and controls in the automation READY status are 'DROPEd' into automation WRITE.

If even one of the items subject to automation is switched to WRITE mode, this button turns light red.

If you touch the MASTER DROP IN button while it is light red, this button turns dark red and all controls in automation WRITE are 'DROPEd' out and return to the READY status.



Bottom menu bar

Touching one of the bottom menu buttons 9 to 15 opens a menu related to the settings of the unit.

For details on the window, see pages indicated in parentheses.

9 CHANNEL button

Touch this button to open the CHANNEL menu which allows you to select windows for channel processing controls. The display changes to the one corresponding to the selected window.

CHANNEL menu

- CHANNEL (page 43)
- INPUT/PAN/ASSIGN (page 44)
- EQUALIZER/FILTER (page 46)
- DYNAMICS (page 47)
- AUX SEND (page 49)

10 AUDIO button

Touch this button to open the AUDIO menu which allows you to select windows that control and display fader functions, input/output routing and communication functions.

The display changes to the one corresponding to the selected window.

AUDIO menu

- OVERVIEW (page 50)
- FADER (page 51)
- FADER GROUPING (page 52)
- INPUT ROUTING (page 55)
- OUTPUT ROUTING (page 57)
- MONITOR (page 59)
- OSC/TALKBACK (oscillator/talkback) (page 62)

11 SNAPSHOT button

Touch this button to open the SNAPSHOT window (page 64).

12 CUE button

Touch this button to open the CUE window (page 66).

13 AUTOMATION button

Touch this button to open the AUTOMATION window (page 68).

14 MACHINE CONTROL button

Touch this button to open the MACHINE CONTROL window (page 70).

15 SYSTEM button

Touch this button to open the SYSTEM menu which allows you to select the windows that control system settings.

The display changes to the one corresponding to the selected window.

SYSTEM menu

- TITLE MANAGER (page 72)
- MIDI (page 75)
- SYNC/TIME CODE (page 76)
- I/O STATUS (page 81)
- MISC SETUP (page 84)

Operating the Touch Panel

Changing the channel

“CH XX” which is displayed next to the window name indicates the number of the channel.

To change the channel, press the ACCESS button on the corresponding channel strip.

Example: To change the channels to be displayed from CH-1 to CH-48

- 1** Press the 25 to 48 button on the Assignment panel to switch the faders to channels 25 to 48.
- 2** Press the ACCESS button corresponding to the CH-48.
“INPUT/PAN/ASSIGN: CH 48” appears on the window.

You can also change the channel by using the +/- CHANNEL button on the Parameter Setting panel.

Selecting the item

Many functions can be directly switched by button icons on the display. The color of the button icons will change to show their status.

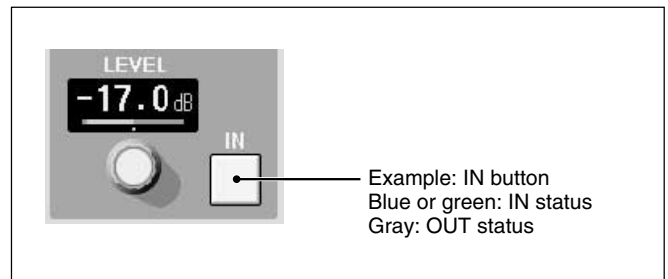
In this manual, such an operation is described using the phrase “Touch .. to select...”.

The color change is not described if it is not necessary.

Setting the function ON/OFF (or IN/OUT) on the window

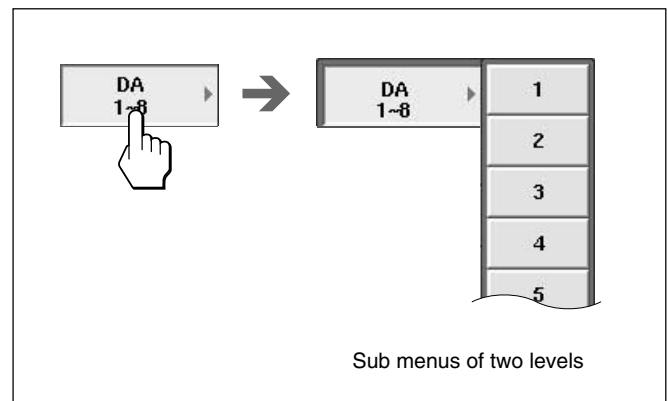
The IN button and NOTCH button allow you to switch the appropriate function on or off on the EQUALIZER/FILTER window and INPUT/PAN/ASSIGN window.

When you touch one of these buttons, the color of the button turns green and this means the function of these buttons is IN (or ON). When you touch one of these buttons again, the color of the buttons turns pale and this means that the function of those buttons is OUT (or OFF).



Selecting the channel or source individually

On the AUDIO INPUT ROUTING window and AUDIO OUTPUT ROUTING window, when you want to select a single channel, the sub menus of two levels open. Touch the desired channel or source to select it.



Basic Components and Functions of the Windows

Writing data in the snapshot and automation data

When READY SETUP button is light yellow

All of the appropriate channel processing controls on the display can be switched into READY status by touching the button icons by or parameter numeric value window. The READY status is shown by either the parameter number turning yellow, or yellow bar appearing under the buttons. The controls in SAFE mode have green parameter numbers or no bar display under the switches.

When the READY SETUP button is dark yellow

Individual channel controls that are already in the READY status can be 'DROP'ed into automation WRITE by touching their parameter value or button icon. The WRITE mode is displayed by touching the parameter numbers red or by displaying a red bar under button icons. New automation data is written when a control is in WRITE and timecode is run at PLAY speed.

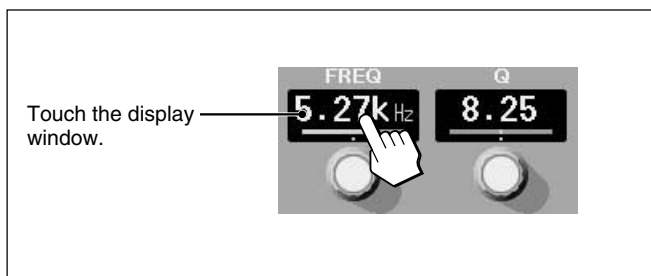
If you touch the display window when a control is in SAFE mode, parameter numbers turn red, but data is not written.

Note

Automation data written in the unit is cleared when the power is turned off or the unit is restarted unless you perform the KEEP operation.

Also, the snapshot data is cleared when the unit is turned off or restarted if the KEEP function hasn't been performed.

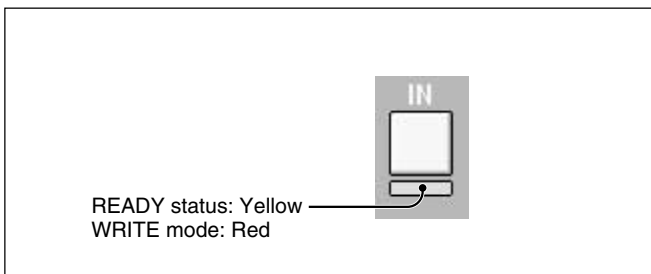
For detailed information on the KEEP operation, see pages 37 and 88.



READY/WRITE display on the IN/OUT button icons on the window

In READY status, a yellow bar appears under the IN/ON buttons.

When 'DROP'ed into automation WRITE, a red bar appears under the IN/ON buttons.



Menu Windows

CHANNEL Window

To open this window, touch the CHANNEL button on the bottom menu bar to open the menu, then select [CHANNEL].

channel specified by pressing the ACCESS button on the channel strip. When you operate the controls and faders, the control moves are displayed on the window.

The CHANNEL window displays the status of the

By touching the item, the window corresponding to the item opens.
By touching the display window, the item corresponding to the display window drops in or drops out, or switches between READY and SAFETY.

The screenshot shows the CHANNEL window for channel CH1. It features a top status bar with title 'No flying birds', snapshot 'Start of MIX', and various mode buttons. The main area is divided into several sections: dynamics (with graphs and parameters like THRESHOLD, RATIO, ATTACK, HOLD), input/pan/assign (with TRIM, DELAY, and MTR controls), EQ/FIL (with frequency sliders for LF, LMF, HMF, HF), and AUX SEND (with level sliders for 1-8). A fader level display is on the right, and a bottom menu bar contains buttons for CHANNEL, AUDIO, SNAPSHOT, CUE, AUTO-MATION, MACHINE CONTROL, SYSTEM, and MASTER DROP IN.

Numbered callouts in the image point to the following elements:

- 1: Display for DYNAMICS (top left)
- 2: Display for INPUT/PAN/ASSIGN (top left)
- 1: Display for DYNAMICS (middle left)
- 3: Display for EQ/FIL (middle left)
- 4: Display for AUX SEND (middle left)
- 5: Channel No. and channel select buttons (top right)
- 2: Display for INPUT/PAN/ASSIGN (middle right)
- 6: SNAP ISOL buttons (middle right)
- 7: AUTO ISOL buttons (bottom right)
- 8: Fader level display (bottom right)

1 Display for DYNAMICS

Displays the following: Dynamic ON/OFF, dynamic insert point, active dynamics page (GATE/EXPANDER or COMPRESSOR/DUCKING), linking, graph and gain.

2 Display for INPUT/PAN/ASSIGN

Displays the following: MONO/STEREO channel mode, MTR bus master, AUX SEND master and AUX return (in stereo mode, even channel and odd channel are linked), trim, phase inversion, delay ON/OFF and delay value, MTR bus and PROGRAM bus assignments, Panning and surrounding panning status

3 Display for EQ/FIL

Displays the following:

- Frequency and ON/OFF of the high-cut filter and low-cut filter and NOTCH mode of the low-cut filter

- Frequency, ON/OFF, Q, level, characteristics (peaking/shelving type) of the HF, HMF and LF sections.

4 Display for AUX SEND

Displays the following: Send level to the AUX SEND bus. Pan when the AUX SEND bus is set in stereo mode, ON/OFF and prefader/postfader

5 Channel No. and channel select buttons

The channel select buttons allow you to increase or decrease the channel number of the accessed channels.

6 SNAP ISOL (isolate) buttons

These buttons show the functions that are active or isolated from snapshot recall.

7 AUTO ISOL (automation isolate) buttons

These buttons show the functions that are active or isolated from dynamic automation.

8 Fader level display

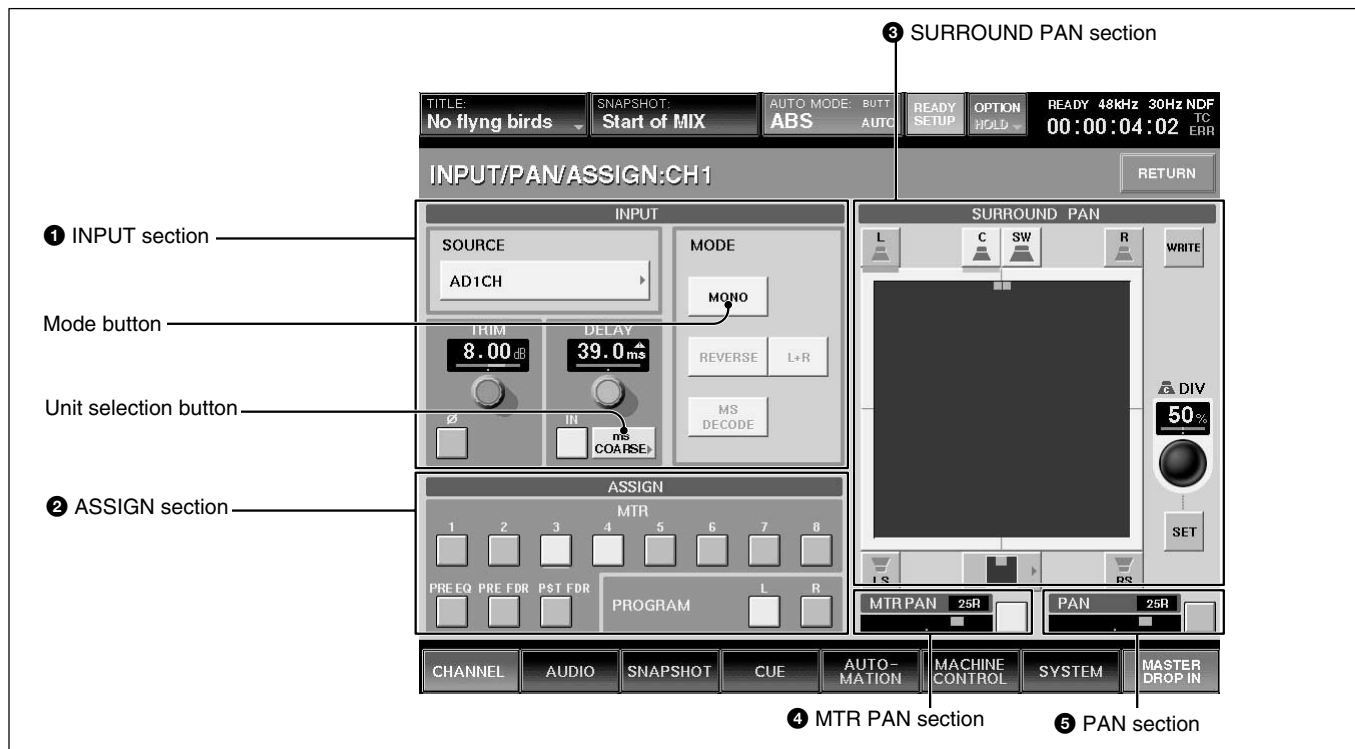
Displays the fader level.

INPUT/PAN/ASSIGN Window

To open this window, touch the CHANNEL button on the bottom menu bar, then select “INPUT/PAN/ASSIGN.” Or, when the CHANNEL window is displayed, touch any point of the INPUT/PAN/ASSIGN display.

Note

When setting a channel or an aux send master to STEREO mode, DYNAMICS, EQ, AUX SEND LEVEL, AUX PRE, CUT, FADER and MTR SEND operate in stereo mode.



1 INPUT section

SOURCE section

Displays the source currently selected.

To change the source, touch this button to open the list of available inputs.

TRIM section

Display window: Displays the input gain trim setting that are controlled by the TRIM control on the Parameter Setting panel.

Ø button: Touching this button inverts the phase of the input signal. In its normal state, the button color is gray. When the phase is inverted, this button color changes to green.

Delay section

Display window: Displays the setting of the programmable delay amount that are controlled by the DELAY control on the Parameter Setting panel.

IN button: Touch this button to turn the delay ON or OFF on the window. In its normal state (when the delay is off), the button color is gray. When the delay is on, this button changes to green.

Unit selection button: Touch to select the delay mode to SAMPLE, mS or FRAME units. Each unit has two adjusting modes: NORMAL mode (adjusts in minimum units) and COARSE mode (rough adjustment).

When you change the delay mode, if the displayed mode and actual delay amount are different units, a yellow Δ appears over the unit display in the window.

MODE section

MODE button: Toggles between MONO and STEREO link mode.

When STEREO is displayed on the button, adjacent channels, (i.e. channels 1 and 2), operate in stereo mode. The odd channel is L and the even channel is R. The REVERSE, L + R and MS DECODE buttons are active, only when the STEREO button is lit.

REVERSE button: When this button is lit, the right and left are swapped.

L + R button: When this button is lit, the right and left channels are mixed (L + R signal).

MS DECODE button: Inserts a middle/side decoder to convert the odd numbered channel (M - Mid-capsule) and even numbered channel (S - Side-capsule) to Left and Right. This is only active in STEREO mode.

These signals are converted to right and left signals before the channel faders.

② ASSIGN section

MTR button and PROGRAM button: Touching these buttons results in the output of the displayed channel being assigned to the corresponding the MTR or PROGRAM buses.

PRE EQ button: When this button is ON, the signal before the equalizer/dynamics circuit is sent to the MTR bus.

PRE FDR button: When this button is ON, the signal before the channel fader is sent to the MTR bus.

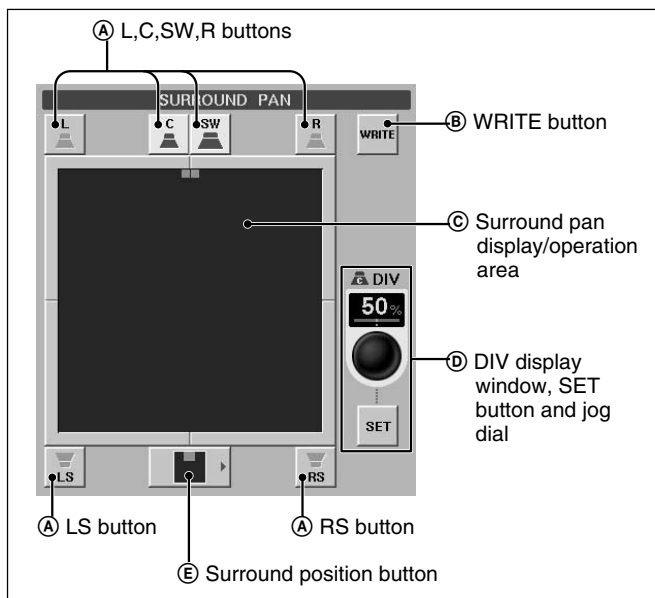
POST FDR button: When this button is ON, the signal after the channel fader is sent to the MTR bus. If the PRE EQ button, the PRE FADER button or the POST FDR button is selected, the remaining two buttons are cleared.

③ SURROUND PAN section

To switch the MTR buses to Surround, the SURROUND button must be “ON” in the MTR BUS MODE section of the MISC SET UP window.

When the unit is in normal mode, this section is not active. For channels set to stereo link, the surround panning for the right channel and left channel can be set individually.

For detailed information on the MISC SETUP window, see page 84.



④ L (left), C (center), R (right), LS (left surround), RS (right surround) and SW (sub woofer) buttons

These have the same functions as the MTR button on the unit.

The assignment of MTR buses to the surround send outputs is as follows.

- L button → MTR 1 bus
- C button → MTR 3 bus
- R button → MTR 2 bus
- LS button → MTR 5 bus
- RS button → MTR 6 bus
- SW button → MTR 4 bus

⑤ WRITE button

Touch this button to switch the surround pan to READY and to DROP IN/OUT of automation WRITE.

⑥ Surround pan display/operation area

In surround mode, you can set the surround panning in this area. Touch this area, then drag the icon to the desired point.

⑦ DIV display window, SET button and jog dial

In surround mode, by touching the SET button, you can set the divergence value (ratio of the divergence among L channel, center channel and R channel) using the jog dial on the unit. The set divergence value is displayed on the DIV window.

Touching the DIV display window allows you to set the mode to READY and to DROP IN/OUT of automation WRITE.

⑧ Surround position button

Touch this button to access the nine preset surround pan positions. You can set the surround position by selecting the icon corresponding to the desired type from the list.

⑨ MTR PAN section

Displays the panning operation status of the MTR bus. Touch this button to set pan on or off.

Note

The MTR pan in surround mode is linked with the L↔R direction of the surround pan. When the surround pan is set to ON, the MTR pan is set to ON.

⑩ PAN section

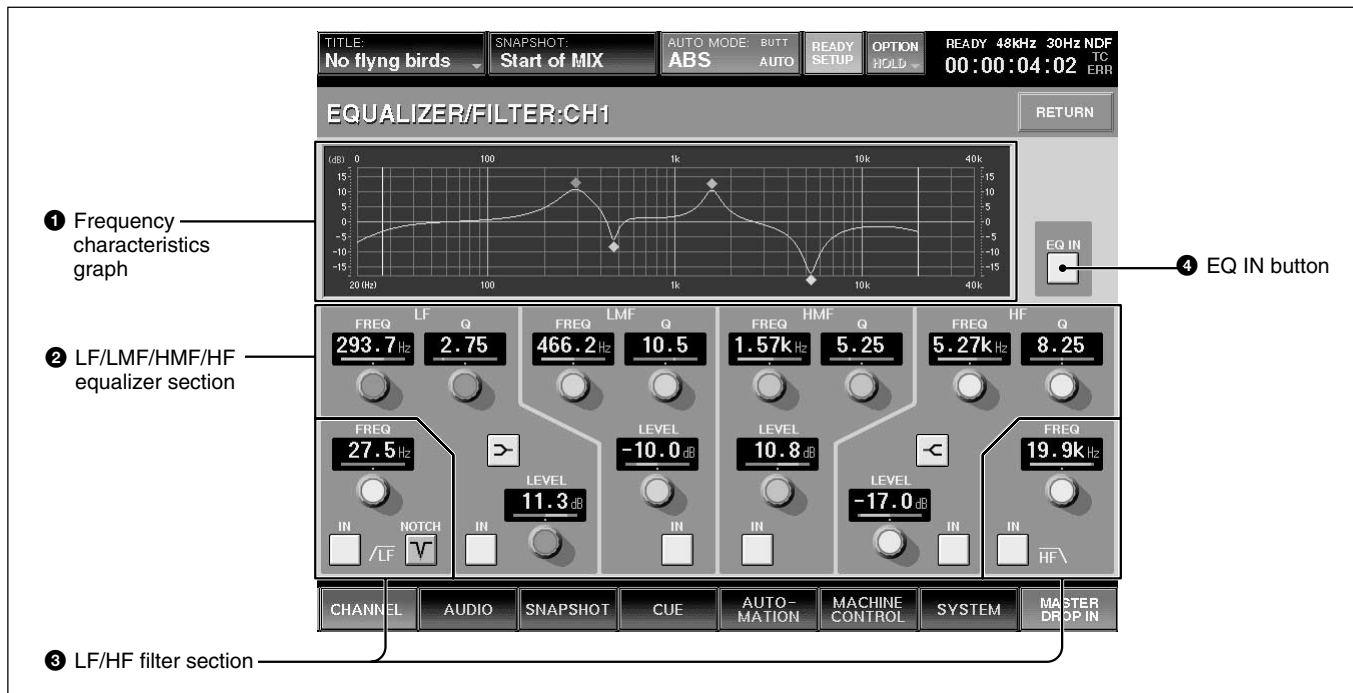
Displays the normal panning operation status. Touch this button to set pan on or off.

EQUALIZER/FILTER Window

To open this window, touch the CHANNEL button on the bottom menu bar, then select “EQUALIZER/FILTER.” Or, when the CHANNEL window is displayed, touch any point on the EQ/FIL display section.

This window displays the settings on the EQUALIZER section on the Parameter Setting panel of the unit.

If you touch the display window where the numerical value is displayed, that item is set to READY status or automation DROP IN/OUT.



1 Frequency characteristics graph

Displays the total frequency characteristics of the equalizers and filters.

2 LF/LMF/HMF/HF equalizer section

Displays Q, the level and in/out status of each equalizer section.

FREQ (frequency) display: Displays the frequency set by the FREQ control.

Q display: Displays the setting of the Q control.

LEVEL display: Displays the level set by the LEVEL control on the unit.

IN button: This button puts each equalizer section in and out of the circuit.

▷/◁(equalizer characteristics selector) buttons: These buttons change the equalizer section from a peaking equalizer to a shelving type of equalizer.

3 LF/HF filter section

FREQ (cut-off frequency) display

Displays the filter’s cut-off frequency set by the FREQ control on the EQUALIZER section on the Parameter Setting panel.

IN button: This button puts the filter in and out of circuit.

NOTCH button (only for low-cut filter): This button turns notch mode ON or OFF. When this button is lit, the low-cut filter acts as a notch filter.

4 EQ (equalizer) IN button

Touch this button to turn on or off the whole equalizer section. This button is linked to the IN button under the DYNAMICS section on the Parameter Setting panel.

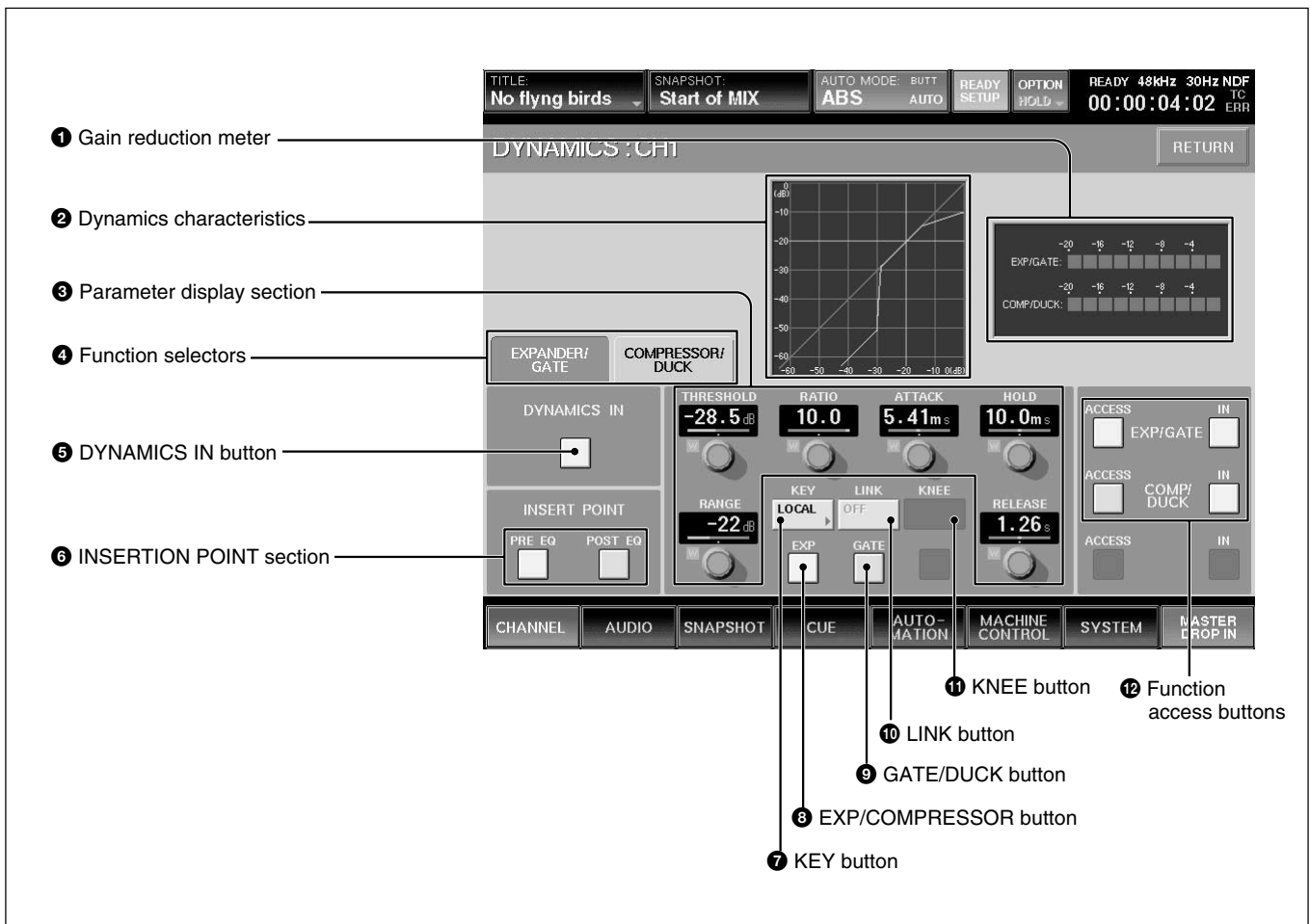
Note

Even if the IN button in each equalizer section is lit, the equalizer/filter sections are not turned on if this button is not lit. Filters are turned on or off regardless of the EQ IN button setting.

DYNAMICS Window

To open this window, touch the CHANNEL button on the bottom menu bar, then select “DYNAMICS”. Or when the CHANNEL window is displayed, touch any point of the DYNAMICS display.

This window displays the settings of the DYNAMICS section on the Parameter Setting panel. If you touch the display window where the numerical value is displayed, that item is set to READY status or automation DROP IN/OUT.



1 Gain reduction meter

Displays the gain reduction of both dynamics sections.

2 Dynamics characteristics

Displays the graph of the dynamics gain transfer function.

3 Parameter display section

Displays the following values of the Expander/Gate or Compressor/Ducking selected by the Function selectors (4).

- THRESHOLD: Threshold
- RATIO: Ratio
- ATTACK: Attack time
- HOLD: Hold time
- RANGE: Range of the gate (In compressor mode, gain)
- RELEASE: Release time

4 Function selectors

Switch the function to be displayed on the Parameter display section 3 between Expander/Gate and Compressor/Duck.

EXPANDER/GATE tab: Touch this tab to select the Expander/Gate function.

COMPRESSOR/DUCK tab: Touch this tab to select the Compressor/Duck function.

5 DYNAMICS IN button

This puts the dynamics in the signal path.

Note

Even if the individual IN buttons of the EXT/GATE or the COMP/DUCK are selected, the dynamics are not in the circuit if the DYNAMICS IN button is out.

6 INSERTION POINT section

Switches the insertion point of the dynamics between PRE/POST EQ.

PRE EQ button: Touch this button to insert the dynamics processing before the equalizer.

POST EQ button: Touch this button to insert the dynamics processing after the equalizer.

7 KEY button

Touch this button to open the sub menu that allows you to select the key signal for the dynamics processing.

LOCAL: Uses its own channel signal as the key signal.

1 to 24 (or 25 to 48): Uses the signal of the selected channel as the key signal. The audio channel is selected using two-level channel lists.

AUX: Uses the AUX SEND signal as the key signal. The setting of this button is common to EXPAND/GATE and COMPRESSOR/DUCK.

8 EXP (expander)/COMPRESSOR button/9 GATE/DUCK button (when the EXPANDER/GATE tab 4 is selected)

Selects the parameters to be displayed on the Parameter display section 3 between the expander (when the EXP button is selected) and gate (when the GATE button is selected).

When the COMPRESSOR/DUCK tab 4 is selected, 8 becomes the COMPRESSOR button and 9 becomes the DUCK button.

10 LINK button

Touch this button to link the dynamics settings of this channel to the adjacent channel to the right.

The setting of this button is common to EXPAND/GATE and COMPRESSOR/DUCK.

Note

Adjacent channels are placed in different pages, such that CH 24 and CH 25, CH 48 and CH1, cannot be linked. Also, AUX SEND 1 to 4 and AUX SEND 5 to 8 can be linked. However, AUX SEND 4 and AUX SEND 5 cannot be linked.

11 KNEE button

This button is effective only when the compressor mode is selected.

Touch this button to open the sub menu. Then select the knee amount. If SOFT is selected, the dynamics transfer function has a smooth curve at the threshold point.

12 Function access buttons

These buttons have the same function as the ACCESS button and IN button on the DYNAMICS section on the Parameter Setting panel.

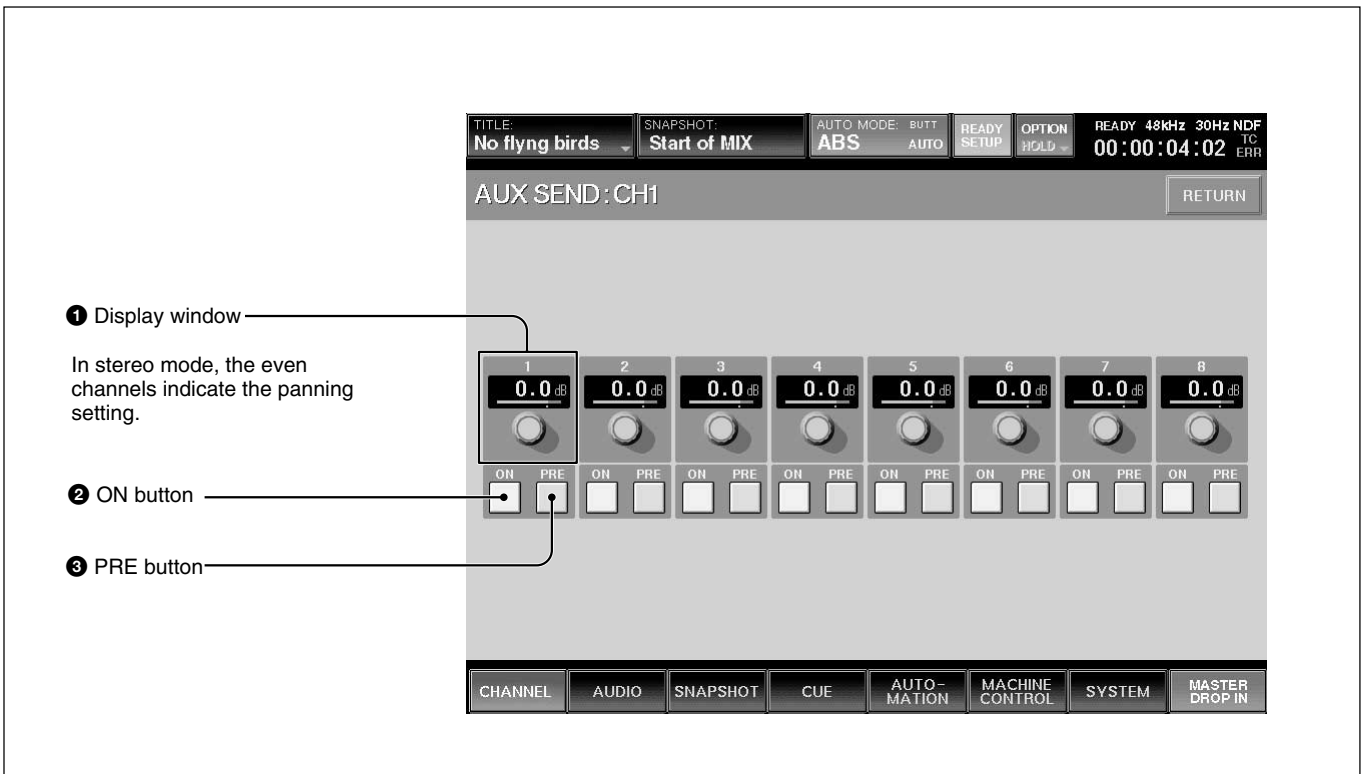
ACCESS button of EXP/GATE (or COMP/DUCK): Touch these buttons to switch the display between controlling the EXP/GATE and COMP/DUCK.

IN button of EXP/GATE (or COMP/DUCK): Touch these buttons to activate the parameters of the expander/gate (or compressor/ducking) displayed on the Parameter display section 3.

AUX SEND Window

To open this window, touch the CHANNEL button on the bottom menu bar, then select “AUX SEND.” Or, when the CHANNEL window is displayed, touch any point on the AUX SEND display. This window allows you to display and control the settings for AUX SEND 1 to 8.

The ON button and PRE button on the window have the same function as those of the AUX SEND section on the Parameter Setting panel. By touching the display window where the numerical values are displayed, these items are switched to READY or DROP IN/OUT of automation WRITE.



1 Display window
In stereo mode, the even channels indicate the panning setting.

2 ON button

3 PRE button

1 Display window

Displays the levels of the AUX SEND 1 to 8 busses. The level of the AUX send bus is adjusted using AUX SEND controls 1 to 8 on the AUX SEND section on the Parameter Setting panel.

When the AUX send bus is set to stereo mode, the display windows of the even channels indicate the panning/balance settings.

To set the AUX SEND bus to stereo mode, select the MASTER button on the PAGES section and then access one of the AUX SEND faders. On the display, select STEREO using the channel mode select button on the CHANNEL window.

2 ON buttons 1 to 8

Touch the desired button to light it up. The accessed channel is sent to the corresponding AUX send bus. For busses set in stereo mode, the pairing of the odd and even channel is 1 and 2, 3 and 4, 5 and 6, and 7 and 8.

3 PRE (prefader) buttons 1 to 8

Touch the desired button to light it up. The pre-fader signal of the channel is routed. When the button is routed, the post-fader signal is sent out. For busses set in stereo mode, the odd and even channels are linked, the PRE button of the even channel toggles the pan on and off.

AUDIO OVERVIEW Window

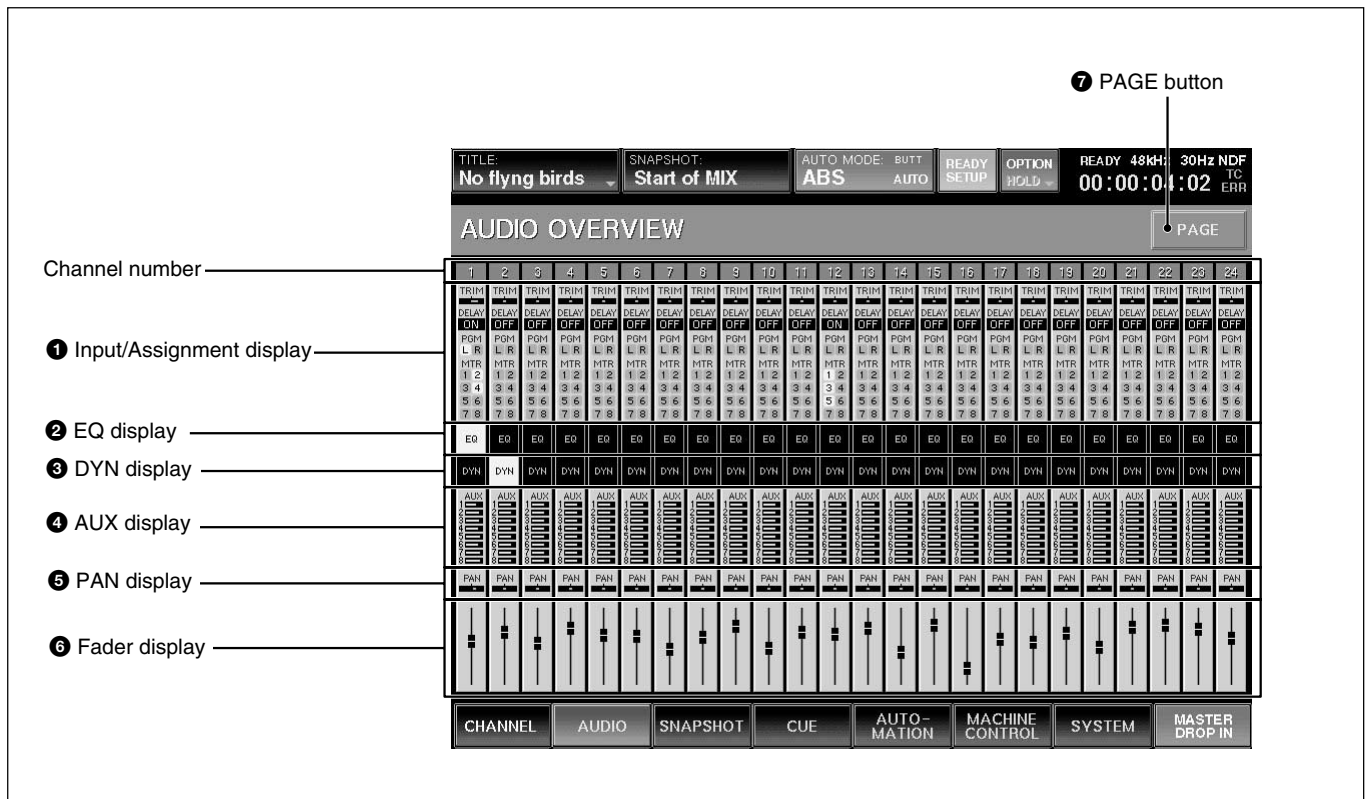
To open this window, touch the AUDIO button on the bottom menu bar, then select “OVERVIEW”.

This window allows you to see the settings performed on the unit at glance.

To change channels from the page for CH 1 to CH 24 to the page for CH 25 to CH 48, touch the PAGE button on the window.

This window shows the active/inactive status of the equalizer, dynamics, MTR routing and AUX SEND routing.

When you touch the display, the window of the corresponding channel (where detailed settings of the touched item is displayed) appears.



1 Input/Assignment display

Displays the following items:

- TRIM: Trim ON/OFF
- DELAY: Delay ON/OFF
- PGM: Status of assignment to the program buses L and R
- MTR: Status of assignment to the MTR bus

2 EQ display

Displays whether the equalizer/filter circuit is in or out.

3 DYN display

Displays whether the dynamics circuit is in or out.

4 AUX display

Displays the AUX send level.

5 PAN display

Displays the pan position. When PAN is off, this is displayed in gray.

6 Fader display

Displays the fader level.

7 PAGE button

Changes the channel page to be displayed on the AUDIO OVERVIEW window.

AUDIO FADER Window

To open this window, touch the AUDIO button on the bottom menu bar, then select “FADER.”

This window allows you to see the fader levels of channels 1 to 48, the MTR busses, the AUX send busses and the AUX return busses.

Touching the display of the desired channel opens the CHANNEL window of the corresponding channel.

The screenshot shows the 'AUDIO FADER' window with the following data:

Channels 1 to 48																							
TITLE: No flying birds		SNAPSHOT: Start of MIX		AUTO: ABS		MODE: BUTT AUTO		READY: SETUP		OPTION: HOLD		READY 48kHz 30Hz NDF		00:00:04:02		TC ERR							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
-7.6	-2.6	-8.7	-0.7	-4.3	-4.8	-1.3	-5.1	0.0	-1.2	-2.7	-3.5	-1.0	-1.6	0.9	-3.3	-6.0	-3.1	-3.0	-1.1	-0.2	0.6	-1.3	-5.3
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
0.0	-6.8	0.0	-3.7	-1.1	-5.7	-3.9	0.0	0.0	-8.9	-1.9	0.0	-8.3	-8.4	-8.5	0.0	0.0	0.0	OFF	-2.2	-2.3	0.0	-8.1	0.0
MTR1	MTR2	MTR3	MTR4	MTR5	MTR6	MTR7	MTR8	AM1	AM2	AM3	AM4	AM5	AM6	AM7	AM8	AUX1	AUX2	AUX3	AUX4	AUX5	AUX6	AUX7	AUX8
-2.1	0.0	-5.4	-3.7	-3.7	-2.7	0.0	0.0	-1.1	-7.3	-1.2	0.6	-3.2	0.0	0.0	0.0	0.0	-1.6	0.0	-1.3	0.0	-2.0	0.0	0.0

Callouts in the image point to:

- 1 Fader operation level**: Points to the vertical knob on the fader slider.
- 2 Automation level**: Points to the horizontal line on the fader slider.

Bottom menu bar labels:

- CHANNEL
- AUDIO
- SNAPSHOT
- CUE
- AUTO-MATION
- MACHINE CONTROL
- SYSTEM
- MASTER DROP IN

Labels below the faders:

- MTR busses 1 to 8
- AUX send busses 1 to 8
- AUX return busses 1 to 8

1 Fader operation level

The position of the knob indicates the level of the fader currently set on the unit.

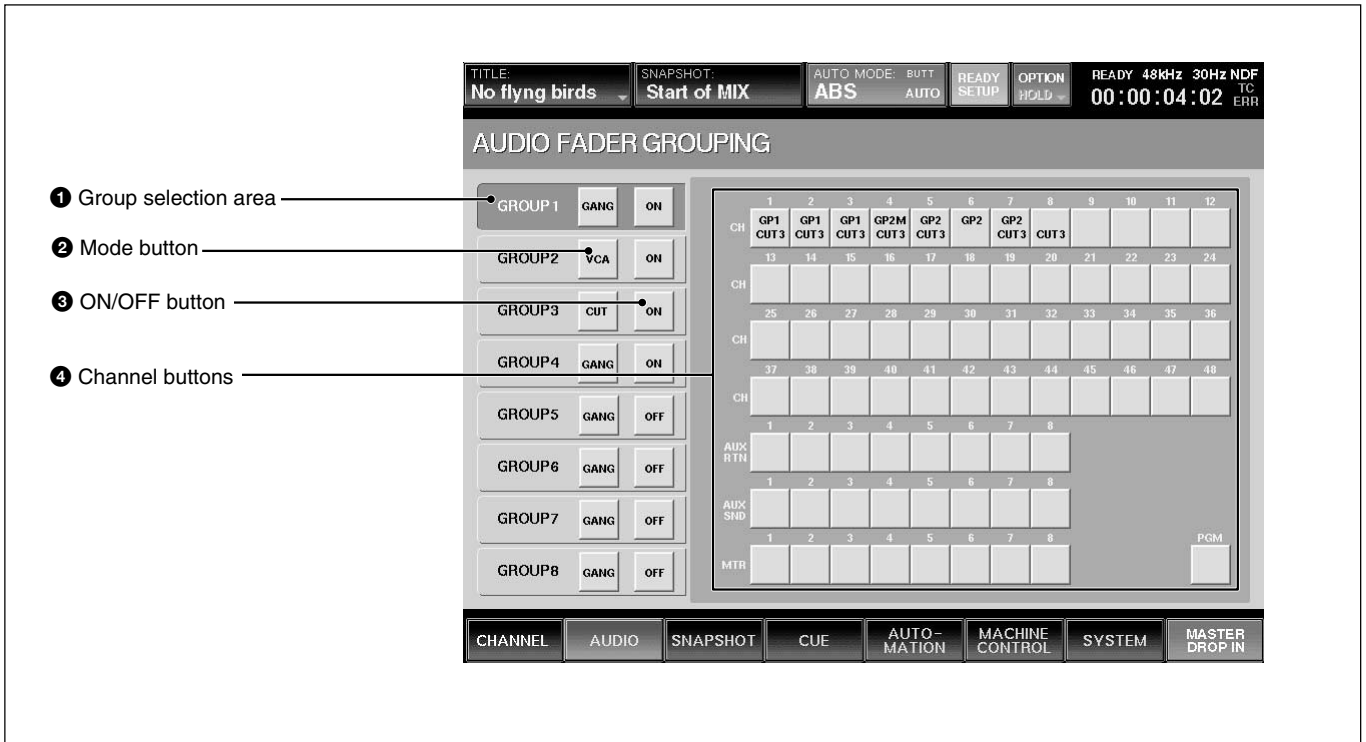
2 Automation level

The position of the horizontal line indicates the level stored in the automation data.

AUDIO FADER GROUPING Window

To open this window, touch the AUDIO button on the bottom menu bar, then select “FADER GROUPING.” This window allows you to set the fader group and cut

group for channels 1 to 48, the MTR busses, the AUX send busses and the AUX return busses.



1 Group selection area

Touch the corresponding button to select the desired group.

2 Mode button

Each time you touch this button, the button display changes to GANG, VCA, or CUT, in order.

GANG: Keeps the relative level among faders when touching faders on the unit.

VCA: When moving the fader assigned as the master fader, the difference between the original level and the current level is added to the level of the slave fader as offset. Slave faders don't move when the master fader is moved.

CUT: The cut switches of the channels belonging to the corresponding group operate together.

The cut group is set independently from the fader group.

Note

To select the mode of the group, remove all channels from the group before attempting to select the mode.

3 ON/OFF button

Selects whether the corresponding group is active.

4 Channel buttons

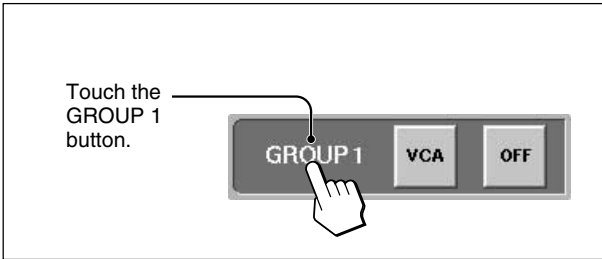
One channel can belong to one fader group and one cut group. Channels cannot belong to multiple fader groups or cut groups.

On the channel button, the upper number indicates the fader group number and the lower number indicates the cut group number.

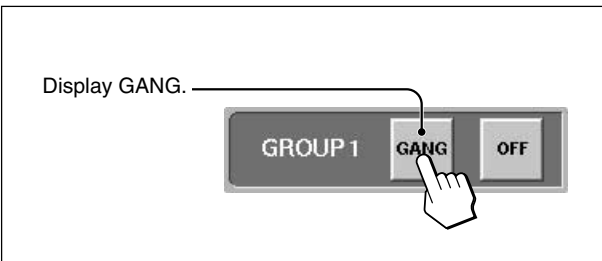
To assign or remove the channel to or from the group, proceed as follows.

Setting the GANG fader group

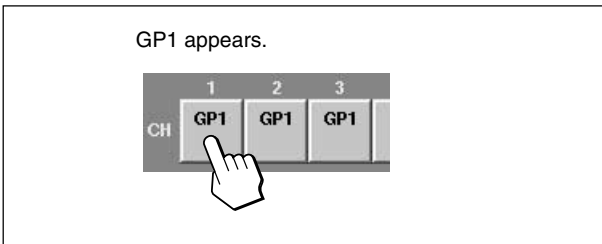
- 1 Touch the desired group button.
Example: To set GP 1 to the GANG mode:



- 2 Touch the mode button for the group selected in step 1 until GANG appears on the mode button.



- 3 Touch the channel button(s) that you wish to assign to the GANG group.
Channel(s) already assigned to other GANG or VCA groups must be unassigned before being available for selection.
The group number appears on the channel button.



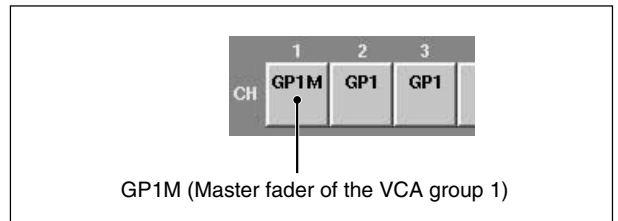
To remove the channel from the group, touch this button(s) on which the group number is displayed. The group number disappears and that channel is removed from the group.

Setting the VCA fader group

Perform the following operation after step 1 described in “Setting the GANG fader group”.

- 2 Touch the mode button corresponding to the group selected in step 1 until VCA appears on the mode button.

- 3 Touch the channel button that you wish to assign to the VCA group.
When there are channels that are not assigned to the group, the fader of the channel that you touched first becomes the master fader. GP1M is displayed on the channel button assigned to the master fader.



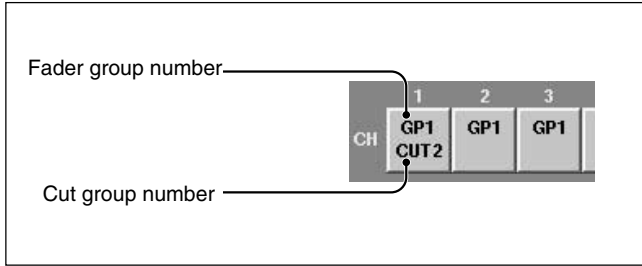
To remove the channel(s) from the group, touch this button(s) on which the group number is displayed.

In the VCA group, if you touch the channel button assigned to the master fader, the master fader becomes a slave fader of the group, and the group has no master fader. The fader which you touch first after removing the former master fader becomes the new master fader of the group.

Setting the CUT group

You can set the CUT group with the same operation procedure as the ones for setting the GANG group except that you have to display CUT on the mode button in step 2.

The cut group number is displayed on the lower part of the channel button.

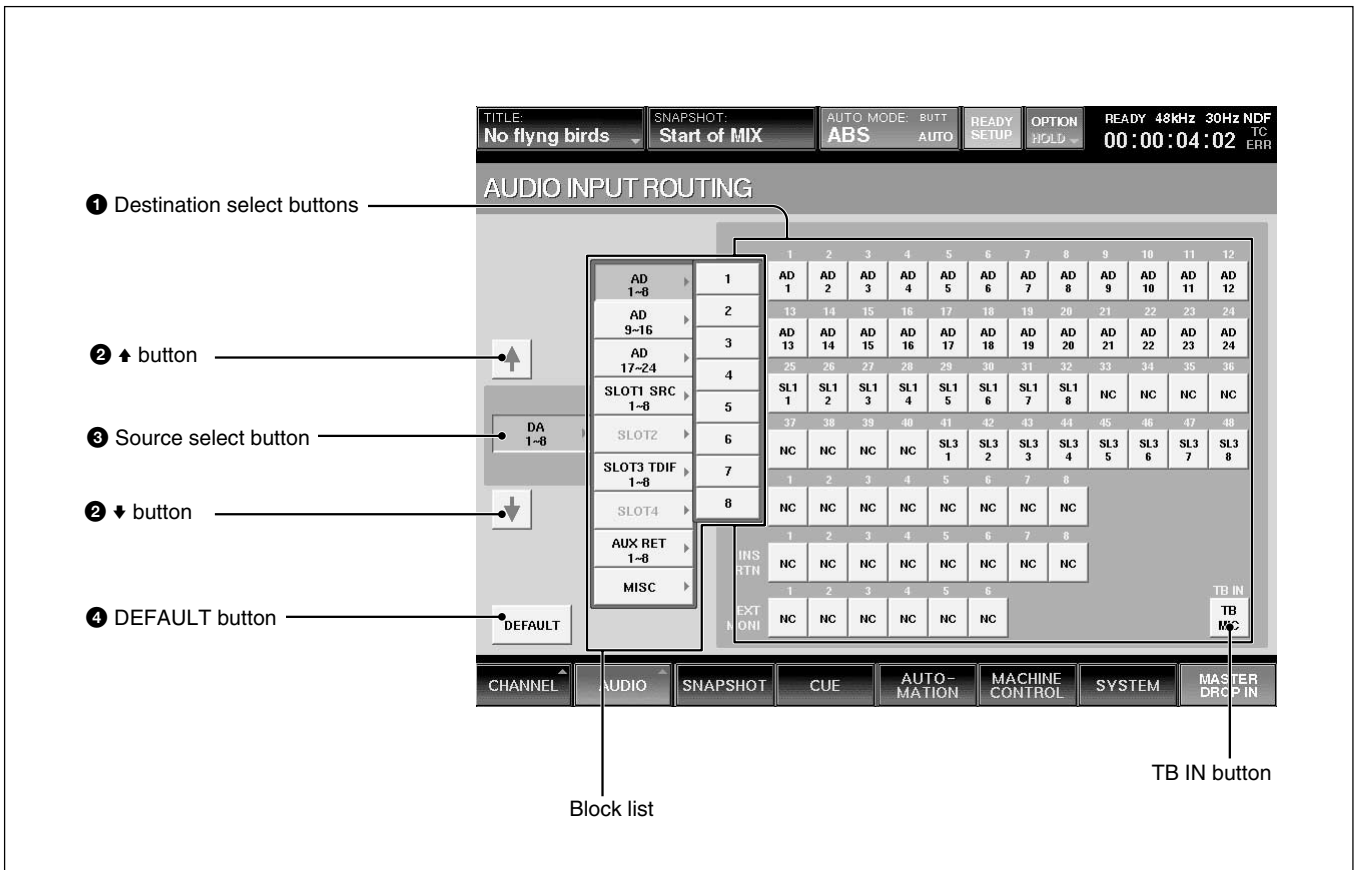


Clearing the group

- 1 Touch the group button corresponding to the group that you wish to clear.
- 2 Touch all channel buttons assigned to the group selected in step 1.

AUDIO INPUT ROUTING Window

To open this window, touch the AUDIO button on the bottom menu bar, then select “INPUT ROUTING.” This window allows you to assign the desired input signal to the desired channel.



1 Destination select buttons (CH-1 to CH-48, AUX RET 1 to 8, INS RET 1 to 8, EXT MONI 1 to 6, TB IN)

The large display area shows all of the available destinations for the input matrix. Once an input signal has been selected, routing is achieved by pressing the appropriate destination button.

The talkback microphone can also be routed.

By selecting the TB IN button, the input signal selected by the source select button is used as the talkback signal. For example, if you assign LINE IN CH24 to the TB IN button, the input of the LINE IN CH 24 can be used as the talkback signal.

2 Up/Down buttons

Touch the **▲** button to select the block over the currently selected block.

Touch the **▼** button to select the block below the selected block.

3 Source select button

Displays the selected source block.

Touch this button to open the block list in the **▶** direction. Touch the desired block button to open the list of the sources included in the block.

The list of source blocks and the source list of each source block are as follows:

- Blocks for AD 1 to 8 to AD 17 to 24
Each block has the source lists for 8 inputs.
- Blocks for SLOT 1 to SLOT 4
Each block has the source lists for 8 channels.
- AUX RET block
This block has the source list for 8 channels.
- MISC block
Includes the lists of 2TR1-L, 2TR1-R, 2TR2-L, 2TR2-R, NC (NO CONNECTION) and TB MIC.

The display of the block list buttons corresponding to SLOT 1 to SLOT 4 depends on the board inserted.

- When the DMBK-R101 is inserted: SLOTxADC1 to 8
- When the DMBK-R102 is inserted: SLOTxDAC1 to 8
- When the DMBK-R103 is inserted: SLOTxDIO1 to 8
- When the DMBK-R104 is inserted: SLOTxSRC1 to 8
- When the DMBK-R105 is inserted: SLOTxINSERT1 to 8
- When the DMBK-R106 is inserted: SLOTxADAT1 to 8
- When the DMBK-R107 is inserted: SLOTxTDIF1 to 8

4 DEFAULT button

Touch this button to reset the setting of the input matrix to the default.

Assigning the input source

- 1** Touch the source select button.
The block list opens.
- 2** Touch the desired source block on the block list.
The list of the sources included in the block opens.

If you want to assign all 8 sources to 8 adjacent processing channels, go to step 4.

- 3** Touch the desired source on the source list.
- 4** Touch the desired destination select button to select the destination processing channel to which the source signal is to be routed.
The source signal selected in step 3 is automatically routed to the destination processing channel. When you want to assign a complete block, simply select the block as is in step 2, then touch the first destination processing channel.
Example: When you select ANALOG IN 1 to 8 as a block, if you touch this button of CH-3, the source signals of ANALOG IN 1 to 8 are routed to CH-3 to CH-10 respectively.

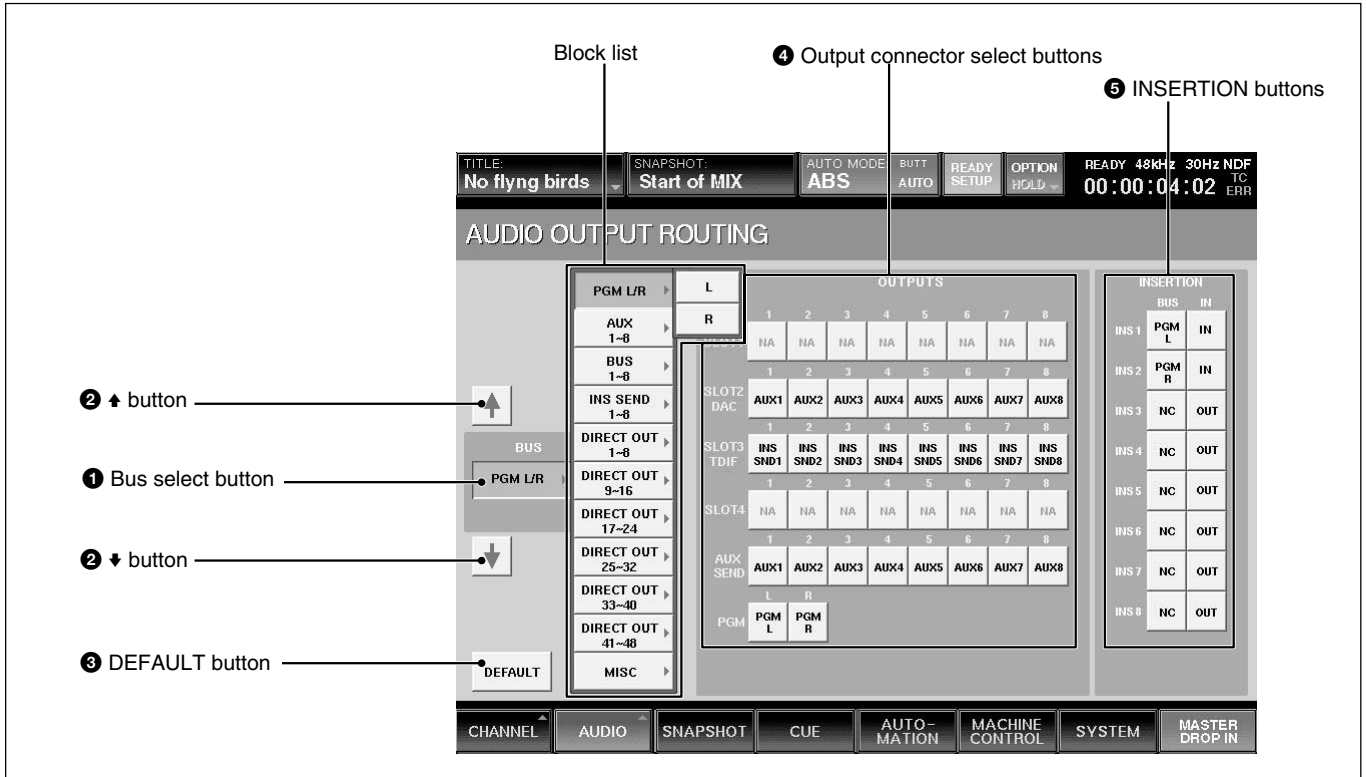
Resetting the input matrix to the default setting

- 1** Touch the DEFAULT button.
A dialog box appears.
- 2** Touch [OK] in the dialog box.
The setting of the input matrix is reset to the default setting.

For detailed information on the contents of the default setting, see page 90.

AUDIO OUTPUT ROUTING Window

To open this window, touch the AUDIO button on the bottom menu bar, then select “OUTPUT ROUTING”. This window allows you to assign the bus output signal to the desired output connector.



1 Bus select button

Displays the block (or bus) currently selected. Touch this button to open the list for the bus output blocks in the ► direction. Touch the desired bus block to open the list of the busses included in the block.

The list of the block and its output bus list are as follows:

- PGM L/R
L and R
- AUX
This block has 8 buses (AUX 1 to 8).
- MTR
This block has 8 buses (MTR 1 to 8).
- INS SEND
This block has 8 buses (Insert Send 1 to 8).
- DIRECT OUT 1 to 8 to 41 to 48
Each block has 8 outputs.

• MSC

This block has NC (NO CONNECTION), CR MONITOR 1 to 6 and ST MONITOR L/R.

2 ↕/↕ buttons

Touch the ▲ button to select the block above the selected block.
Touch the ▼ button to select the block below the selected block.

3 DEFAULT button

Touch this button to reset the setting of the output matrix to the default.

④ Output connector select buttons

SLOT 1 to 4, AUX SEND 1 to 8, PGM, MONI OUT

Selects the output connector to which the bus block is routed.

Each of SLOT 1 to SLOT 4 has 8 output connectors.

⑤ INSERTION buttons

BUS buttons: Assigning an insert to an output bus is a 2 stage process. Firstly the output buses are assigned to internal INSERTION circuits (assigned by selecting each mono output bus from the block list and then touching the selected INSERTION button), second each insertion must be assigned to an output and an input on the two routing pages.

IN button: When IN is displayed on the button by touching it, the bus insert is active.

When OUT is displayed on the button, the insertion send signal is still outputted. However, the insertion return signal is not used.

Note

These inserts can be only assigned to bus signals (PGM, AUX SEND and MTR buses).

if you touch this button of SLOT 1, the bus signals of MTR 1 to 8 are routed to SLOT 1 to SLOT 8 respectively.

Resetting the output matrix to the default setting

- 1 Touch the DEFAULT button.
A dialog box appears.
- 2 Touch [OK] in the dialog box.
The setting of the output matrix is reset to the default setting.

For detailed information on the contents of the default setting, see page 90.

Assigning the bus

- 1 Touch the bus select button.
The block list of the bus opens.
- 2 Touch the desired bus on the block list.
The list of the busses included in the selected block opens.

To select the busses by the block, go to step 4.
- 3 Touch the desired bus on the bus list.
- 4 Touch the output connector button to route the bus signal.
The bus signal selected in step 3 is routed to the output terminal selected in step 4.

You can route entire output block to an adjacent set of output connectors by simply selecting the block and then touching the first output connector button.

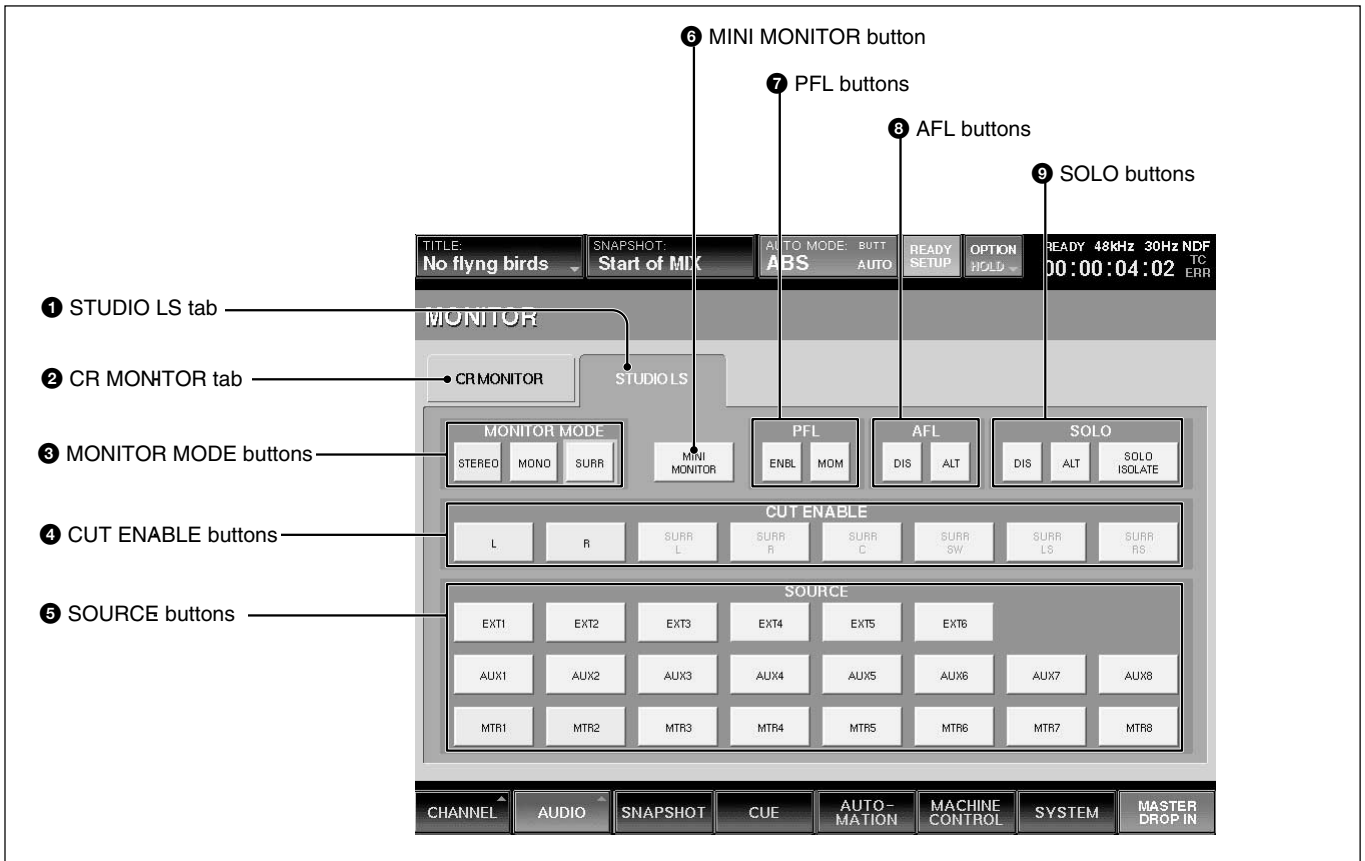
Example: When you select MTR 1 to 8 as a block,

MONITOR Window

To open this window, perform one of the following:

- Touch the AUDIO button on the bottom menu bar, then select “MONITOR.”
- Press the SETUP button on the STUDIO LS section or the CR MONITOR section of the front panel.

This window allows you to control and check the settings for monitoring.



1 STUDIO LS (studio monitor) tab

Touch this tab to switch the display to the studio monitor section.

2 CR MONITOR (control monitor) tab

Touch this tab to switch the display to the control room monitor section.

3 MONITOR MODE buttons

Select the mode for the audio monitoring.

STEREO button: Touch this button to select the stereo mode.

The L signal (or the odd channel) is outputted directly to the L channel of the monitor and the R signal (or the even channel) is outputted directly to the R channel of the monitor.

MONO button: Touch this button to select the monaural mode.

The L + R signal is outputted to both the L and the R channels of the monitor.

SURR (surround) button: Touch this button to select the surround mode. The signal of MTR 1 to 6 or EXT 1 to 6 is sent to CR MONI 1 to 6 as the surround signal. This button is active only for CR MONITOR and you can turn it on and off regardless of the settings of the STEREO and MONO buttons.

4 CUT ENABLE buttons

When the CUT button on the CR MONITOR section is lit, you can cut the monitor signal by touching the desired CUT buttons, L, R, SURR L to SURR RS on the window.

The SURROUND L, C, SW, R, LS and PS buttons are active only in the surround mode.

Note

If the CUT ENABLE button is set to OFF, even if you press the CUT button on the CR MONITOR section so that it is lit, the audio signal cannot be cut.

For detailed information on the CR MONITOR section, see page 24.

5 SOURCE buttons

These are used to select the signals for control room monitoring. Touch the CR MONITOR tab, then select the desired source for each EXT, AUX, MTR button on the SOURCE section of the Control room section, by touching the corresponding SOURCE buttons. For the STUDIO LS monitoring, touch the STUDIO LS tab. You can monitor the source selected on the SOURCE buttons.

EXT 1 to EXT 6 buttons: The input routing matrix allows you to assign any input signal to the EXT 1 to 6 channels. When you touch EXT 1 to 6 buttons, you can monitor the signals using the EXT button on the SOURCE section.

When the SURR button is set to ON, you can monitor the signals of EXT 1 to EXT 6.

When the SURR button is set to OFF, you can select one pair among pairs of 1/2, 3/4, and 5/6. It is possible to set both buttons to ON in one pair.

For example, When the EXT 1 button is ON and the EXT 2 is OFF, by touching either the EXT 1 or EXT 2, a pair of EXT 1/2 is selected.

When EXT 1 and EXT 2 buttons are ON and the EXT 6 button is OFF, by touching the EXT 6 button, the pair of EXT 5 and EXT 6 is selected.

In the CR MONITOR section, you can monitor the selected source signals when the EXT button in the SOURCE section of the Control room section is selected.

In the STUDIO LS section, you can monitor the selected source signal by selecting the EXT 1 to 6 button and pressing the SETUP button on the front panel.

AUX 1 to AUX 8 buttons: These buttons allow you to monitor the AUX SEND buses and they operate like the EXT 1 to 6 buttons.

In the CR MONITOR section, you can monitor the signals when the AUX button in the SOURCE section of the Control room section is selected.

In the STUDIO LS section, you can monitor the signal when the SETUP button is selected in the STUDIO LS section on the Master panel.

MTR 1 to MTR 8 buttons: When the SURR button is set to ON, you can monitor the surround sound mixer's output from the MTR buses 1 to 6. MTR 7 and MTR 8 become one pair. You can select either MTR 1 to MTR 6 or a pair of MTR 7 and MTR 8. In this case, by selecting either MTR 7 or MTR 8, select the pair.

When the SURR button is set to OFF, these buses are selected by pairs of 2 channels as in the case of the EXT buttons.

In the CR MONITOR section, you can monitor the signals when the MTR button in the SOURCE section of the Control room section is selected.

In the STUDIO LS section, you can monitor the signal when the SETUP button is selected in the STUDIO LS section on the Master panel.

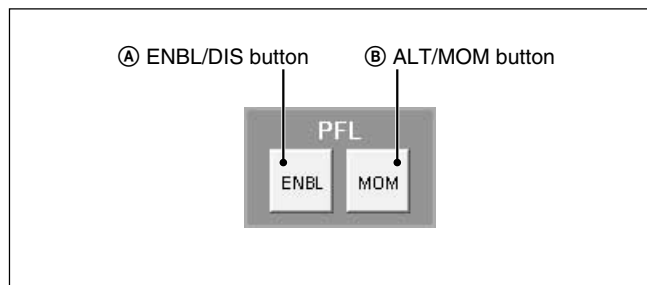
PGM button: L and R monitored by selecting the PGM button in the CR and STUDIO LS sections.

6 MINI MONITOR buttons

When the SURR button is set to OFF, you can change the output bus of the CR monitor from CR 1/2 to CR 5/6. This button is not active when the SURR button is set to ON.

7 PFL buttons

Select how the PFL signal and AFL signal are injected into the monitoring.



Ⓐ ENBL/DIS (enable/disable) button

This button enables (or disables) the PFL monitor logic to inject the signal into the control room or studio LS output. It is possible to configure the mixer so that studio LS can be used as a dedicated PFL output.

When ENBL is displayed, the PFL signal is inserted into the monitor signal.

When DIS is displayed, the PFL signal is not inserted into the monitor signal.

Ⓑ ALT/MOM (alternate/momentary) button

This button works for both the studio and the control monitor signals.

Selects the operation of the SOLO button of each channel when PFL is set to SOLO mode.

When MOM (MOMENTARY) is displayed, the PFL signal is active only while you hold down a channel SOLO button.

When ALT is displayed, the SOLO buttons operate in a latching mode.

Ⓒ AFL buttons

Select how to insert the AFL signal and SOLO signal into the monitor signal.

Ⓐ ENBL/DIS (enable/disable) button

When ENBL is displayed, the AFL signal is inserted into the monitor signal.

When DIS is displayed, the AFL signal is not inserted into the monitor signal.

Ⓑ ALT/MOM (alternate/momentary) button

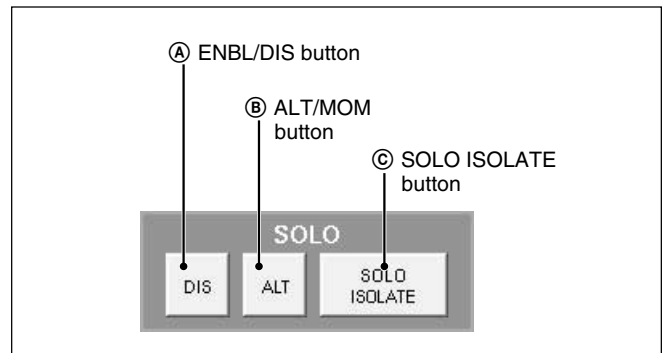
This button works for studio monitor signals and select the operation of the SOLO button when the mixer is set to SOLO mode.

When MOM (MOMENTARY) is displayed, the AFL signal is inserted only while you hold down the SOLO button on the unit.

When ALT is displayed, the AFL signal is toggled off and on each time you press the SOLO button.

⑨ SOLO buttons

Set the functions of SOLO.



Ⓐ ENBL/DIS (enable/disable) button

Selects whether the SOLO function is executed or not. When ENBL is displayed, the SOLO function is executed.

When DIS is displayed, the execution of the SOLO function is prohibited.

Note

In DMX-R100, the SOLO mode is the listening mode which cuts all other channels. So SOLO affects the monitor and other mixer outputs. The AFL and PFL are the non-destructive listening modes that do not affect the other mixer outputs.

This button works for both the studio and the control monitor signals, differentiating from AFL and PFL.

Ⓑ ALT/MOM (alternate/momentary) button

This button works for both studio and control monitor signals.

Selects the operation of the SOLO button of each channel when setting the SOLO mode to SOLO.

When MOM is displayed, the SOLO signal is inserted only while you hold down the SOLO button on the unit.

When ALT is displayed, the SOLO signal is toggled off and on each time you press the SOLO button.

Ⓒ SOLO ISOLATE button

SOLO ISOLATE allows you to protect mixer channels from being CUT when the SOLO button is pressed on another channel. The SOLO ISOLATE is often used on channels that process signals from external effects devices.

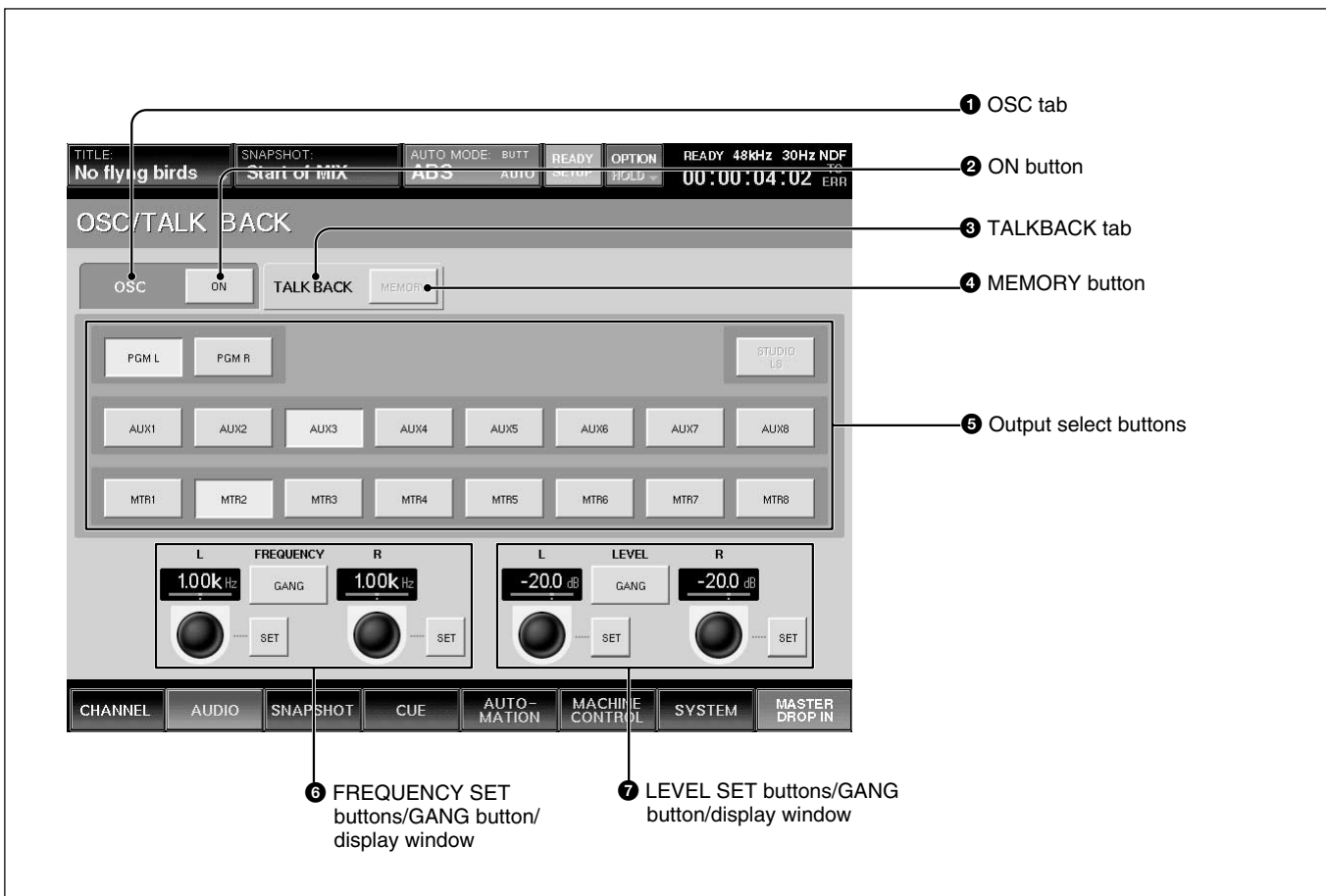
To set a channel to SOLO ISOLATE, touch the SOLO ISOLATE button on the display and then press the channel SOLO buttons for the desired channels. Switching the SOLO ISOLATE display but clears the isolated channels.

OSC/TALKBACK Window

To open this window, perform one of the following:

- Touch the AUDIO button on the bottom menu bar, then select “OSC/TALKBACK”.
- Press the SETUP button on the Talkback panel on the unit.

This window allows you to operate oscillators and talkback functions.



1 OSC (oscillator) tab

Touch this tab to set up the oscillators.

3 TALKBACK tab

Touch this tab to set up the settings for talkback system.

When selecting the OSC tab

When the OSC tab 1 is selected, buttons 2 and 5 act as setting buttons for oscillators.

2 ON (Oscillator signal output ON/OFF) button

When the button is ON, the oscillator signal is sent to the signal path. Select the signal path for the oscillator signal output using the Output select buttons 5.

When the button is OFF, the oscillator signal is not outputted.

⑤ Output select buttons

Touch the corresponding button to select the desired signal path for the oscillator signal.

⑥ FREQUENCY SET buttons/GANG button/display window

L SET/R SET buttons: Touch the SET button so that you can set the frequency of the L or R oscillator signal using the jog dial on the unit. The set frequency is displayed on the display window.

GANG button: Touch the GANG button so that you can adjust the frequency of the L and R oscillator signals in gang mode.

⑦ LEVEL SET buttons/GANG button/display window

L SET/R SET buttons: Touch the SET button so that you can set the level of the L or R oscillator signal using the jog dial on the unit. The set level is displayed on the display window.

GANG button: Touch the GANG button so that you can adjust the level of the L and R oscillator signals in gang mode.

When selecting the TALKBACK tab

When the TALKBACK tab ③ is selected, buttons ④ and ⑤ act as control buttons for talkback signals. Buttons ⑥ are not effective.

④ MEMORY button

When the MEMORY button is on, the active/inactive status of the talkback output select buttons ⑤ are stored. The buttons on the TALKBACK panel are then enabled to activate talkback to PGM, AUX SEND and MTR buses.

When the MEMORY button is off, the talkback signal of the built-in microphone is sent to the bus selected on the Talkback panel while holding down the corresponding output select button ⑤.

⑤ Output select buttons

Touch the desired output select button so that the talkback signal is sent to the bus or connector selected by the output select button.

⑦ LEVEL SET buttons/GANG button/display window

Touch the R LEVEL SET button to adjust the level of the talkback signal using the jog dial on the unit.

SNAPSHOT Window

To open this window, perform one of the following:

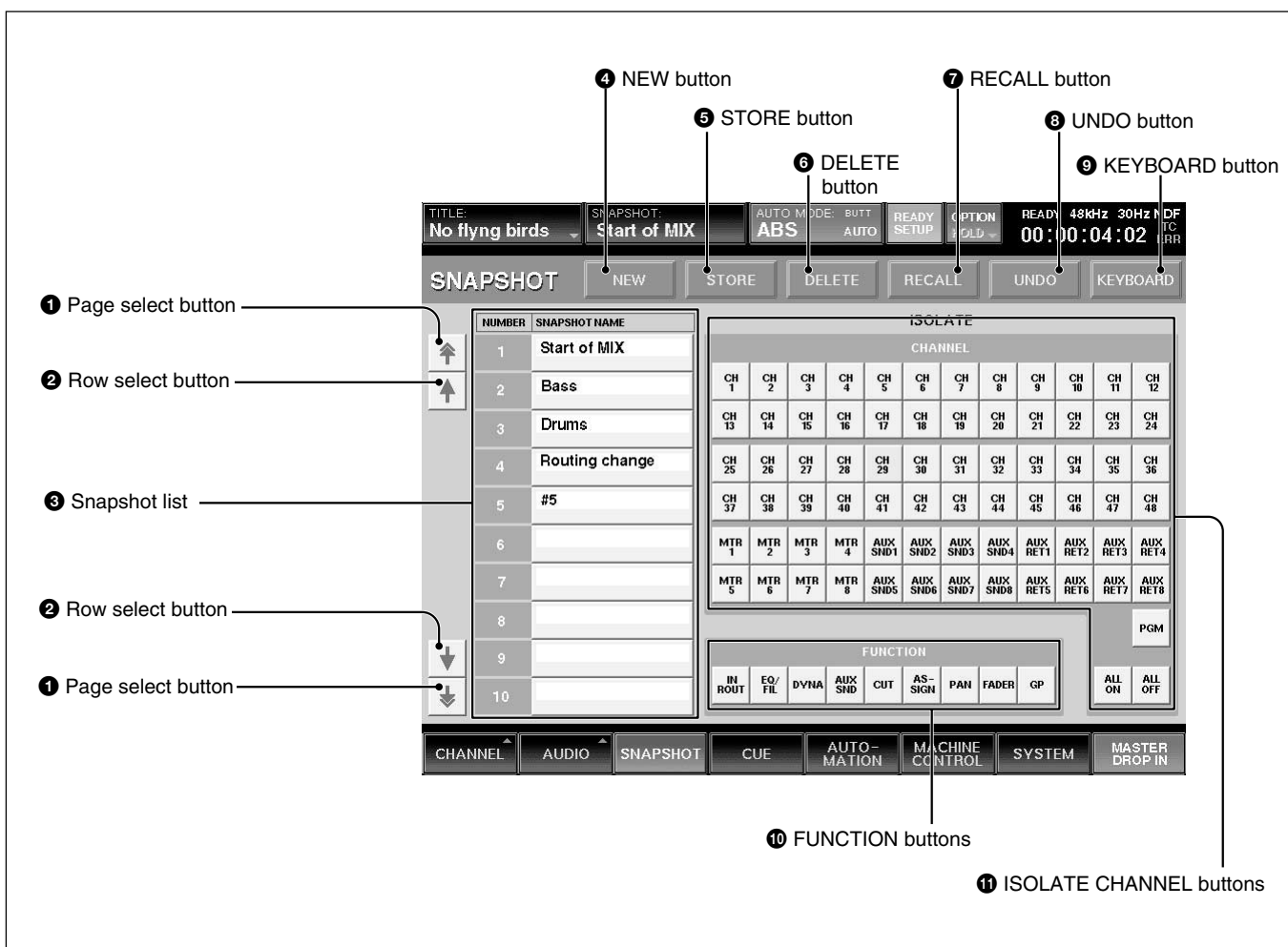
- Touch the SNAPSHOT button on the bottom menu bar.
- Press the SETUP button from among SNAPSHOT buttons on the Automation panel.

This window allows you to control and monitor the snapshot automation.

For detailed information on snapshot automation, see page 94.

Note

When you switch on/off of the prefader signal of AUX SEND or switch pre/post signal of DYNAMICS from snapshot recall, the output signal may momentarily switch to the unity gain level.



1 Page select button

Touch to move the snapshot list **3** upwards or downwards by 10 rows.

2 Row select buttons

Touch to move the snapshot list **3** upwards or downwards one row at a time.

3 Snapshot list

Displays the number and name of the stored snapshots.

You can enter a name for the snapshot data by using the keyboard connected to the unit or from the KEYBOARD window.

To select a snapshot, touch its number or name in the list.

4 NEW button

Touch this button to store the current mixer settings as a new snapshot data.

The lowest unused number is used for the new snapshot and it is temporarily named “# + xx” (xx is the snapshot number).

5 STORE button

Touch this button to store the current mixer setting to the snapshot data selected on the snapshot list **3**.

6 DELETE button

Touch this button to delete the snapshot selected on the snapshot list **3**.

7 RECALL button

Touch this button to recall the snapshot selected from the snapshot list **3**.

8 UNDO button

Touch this button to cancel the previous snapshot operation.

9 KEYBOARD button

Touch this button to open the KEYBOARD window. This KEYBOARD window allows you to enter or change the name of a snapshot.

10 FUNCTION (local) buttons

When you touch the FUNCTION button, the corresponding function is not recalled when the SNAPSHOT RECALL is performed. Other functions not listed below are recalled by snapshot independently of the FUNCTION LOCAL button settings.

- IN ROUT button removes the INPUT ROUTER, \emptyset , TRIM, DELAY functions.
- EQ/FIL button removes the equalizer and filter functions.
- DYNA button removes the dynamics functions.
- AUX SND button removes the aux send functions.
- CUT button removes the cut functions.
- ASSIGN button removes the assign functions.
- PAN button removes the panning and surround panning functions.
- FADER button removes the fader and MTR send functions.
- GP button removes the fader group settings.

The FUNCTION (local) buttons only affect SNAPSHOT RECALL. All of the mixer’s processing parameters are saved, regardless of the FUNCTION button status.

11 ISOLATE CHANNEL buttons

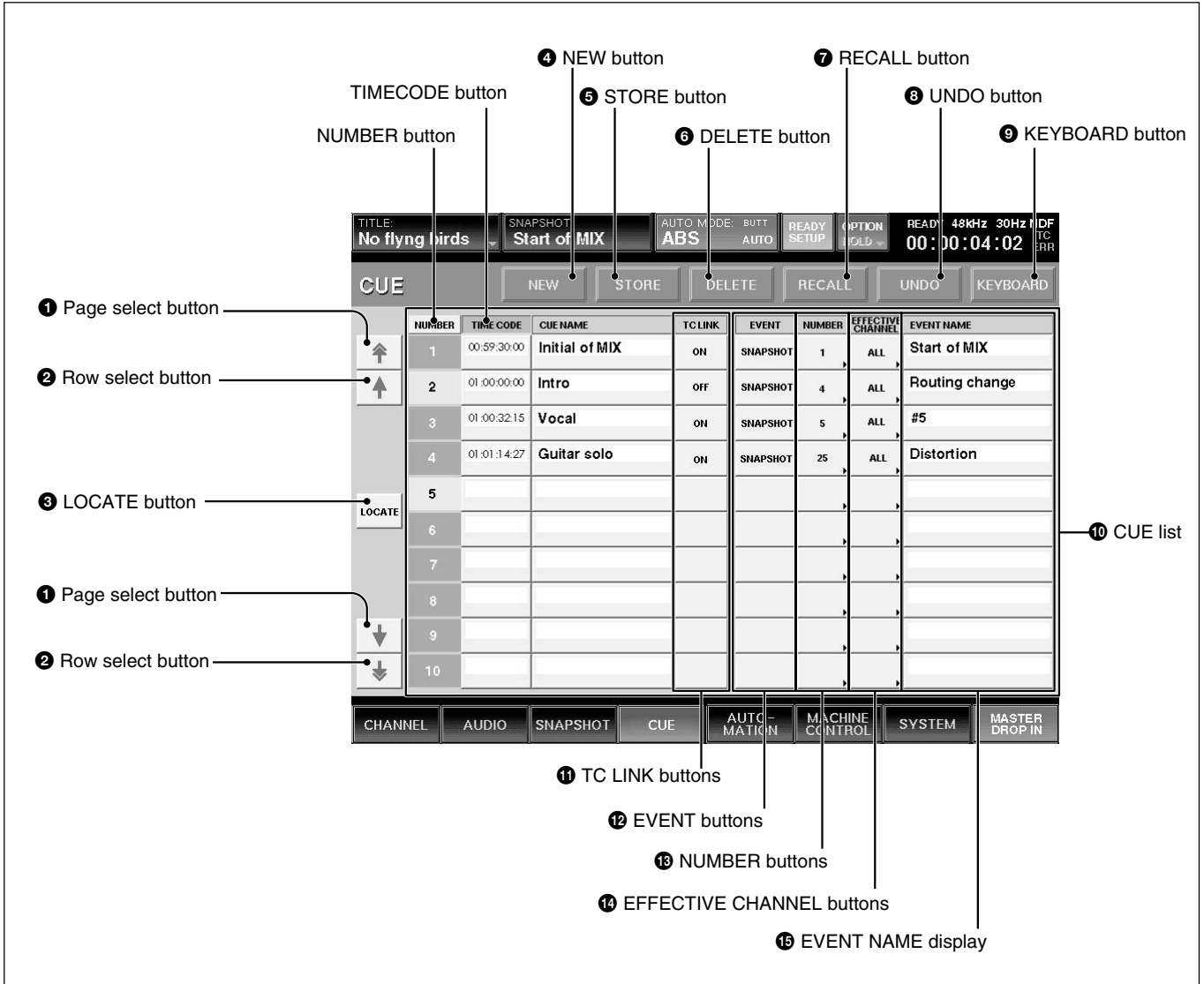
CH 1 to PGM buttons: Touch the button corresponding to the channel that you want to remove SNAPSHOT RECALL. The ISOLATE CHANNEL buttons only affect the SNAPSHOT RECALL, and all of the mixer’s channels are saved in snapshots regardless of the ISOLATE CHANNEL button status. **ALL ON button:** Sets all channels to the ISOLATE function.

ALL OFF button: Clears the ISOLATE function of all channels

CUE Window

To open this window, touch the CUE button on the bottom menu bar. This window allows you to control the cue function.

For detailed information on cue operation, see page 96.



1 Page select button

Touch this button to move the CUE list **10** up or down by 10 rows .

2 Row select button

Touch this button to move the CUE list **10** up or down one row at a time.

3 LOCATE button

To locate the selected machine to a cue timecode, select the cue by touching it on the display and then touch the LOCATE button.

4 NEW button

Touch this button to save a new cue. The timecode displayed on the display window on the Automation panel is value for the new cue.

The lowest number among the unused numbers is assigned to the new cue point and it is temporarily named “# + xx” (xx is the cue point number). This new cue point is displayed on the CUE list.

When the TC LINK button is lit on the Automation panel on the unit, and you touch the NEW button, the mixer saves a cue and snapshot and it also automatically links the snapshot to the cue, using the TC LINK function.

Note

Do not recall snapshots linked to continuous cues that have duration lower than 5 frames each other. Otherwise, only the snapshot linked with the last cue may be recalled. Automation data for duration of remaining cues may not be recalled and saved.

5 STORE button

Touch this button to save a cue. The timecode displayed on the Automation panel is saved with the cue.

6 DELETE button

Touch this button to delete the selected cue point from the CUE list **10**.
If the event is linked with the cue point, the event is not deleted.

7 RECALL button

Touch this button to recall the cue point data selected on the CUE list **10**.
When the event is linked with the cue point, this event is executed.

8 UNDO button

Touch this button to cancel the previous snapshot function performed using the SNAPSHOT buttons on the Automation panel on the unit.

9 KEYBOARD button

Touch this button to open the KEYBOARD window. This KEYBOARD window allows you to enter or change the name of the cue point.

10 CUE list

Displays the number, address (timecode) and name of cue points stored.

NUMBER row: Displays the cue number.

TIMECODE row: Displays the time (timecode) of the cues.

By touching the timecode box, you can change the timecode using the ten key pad.

CUE NAME row: By touching a cue name box, you can enter or change the name of the cue point using the keyboard connected to the unit or on the KEYBOARD window.

When you touch the NUMBER button on the top of the NUMBER row or the TIME CODE button on the TIMECODE row, the cue list is sorted in the order of the cue numbers or the timecode.

When the cue list is sorted in the order of the timecode, the current cue is lit green if any cue point is not selected.

11 TC LINK buttons

Touch the button to link a SNAPSHOT RECALL to the specified cue.

12 EVENT buttons

Touch the desired button to open the menu list of the events that can be TC linked.

SNAPSHOT button: Links a snapshot.

NA (NoACTION) button: Nothing is executed.

13 NUMBER buttons

Touch the desired button to open the event name list and select the desired event to be executed.

14 EFFECTIVE CHANNEL buttons

Specify the channels which the event affects.

When the ALL button is displayed: Touch this button to specify all channels.

When the EVENT button **12** indicates SNAPSHOT then only the ALL button is automatically switched to ALL.

15 EVENT NAME display

Displays the event name.

Initial cue

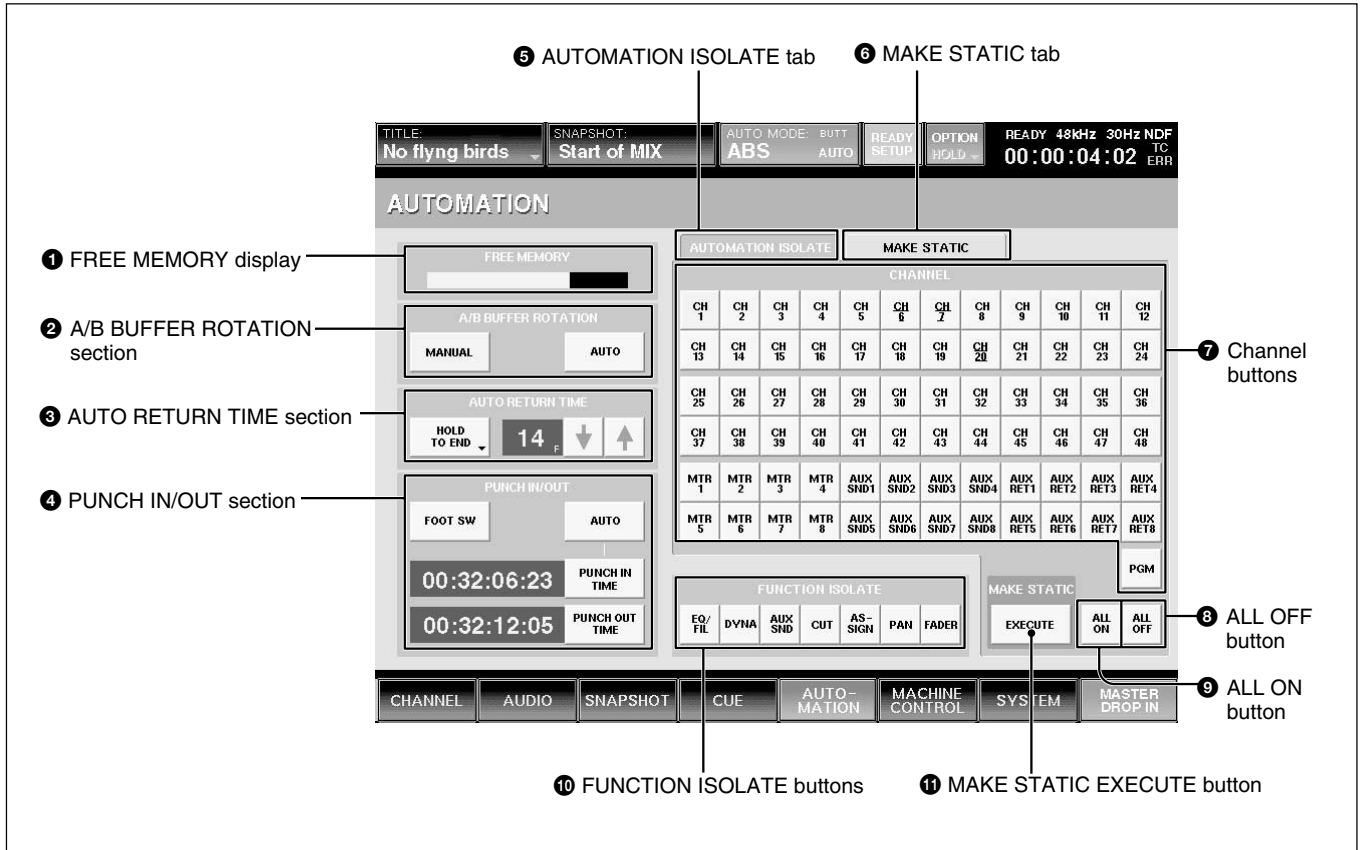
- CUE 1 is reserved as an initial cue to indicate the start point of the dynamic automation.
- If automation reference timecode is lower value than the CUE 1 value, dynamic automation doesn't operate.
- To change the initial cue, perform the same procedure as for changing other cue points. But if you set the timecode after the timecode of the initial cue, dynamic automation data between the former timecode and the newly set timecode will be lost. Similarly, you can change the snapshot linked with the initial cue. But if you change it, a problem may occur between the snapshot data and the automation data.

For detailed information on cue, see "Cue Operation Procedure" on page 96.

AUTOMATION Window

To open this window, touch the AUTOMATION button on the bottom menu bar. This window allows you to control aspects of the dynamic automation.

For detailed information on automation, see page 98.



1 FREE MEMORY display

Displays the remaining amount of memory available for dynamic automation data storage.

2 A/B BUFFER ROTATION section

Sets the memory buffers for two different modes.

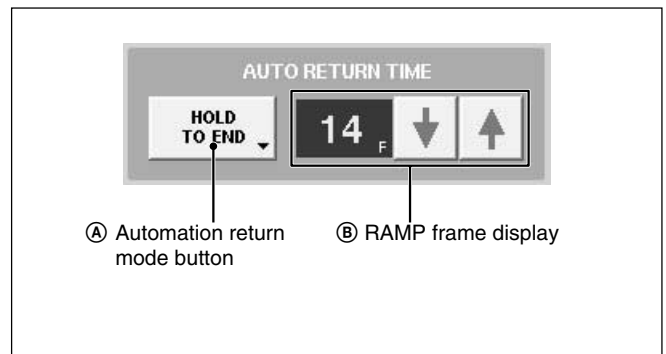
AUTO button: When an automation data is completed, the active buffer switches automatically from A to B or B to A.

(When the TC AUTOMATION SAFE button is selected on the Automation panel, the active buffer is not switched since automation data can not be overwritten.)

MANUAL button: The MANUAL mode allow two separate automation files for the title.

3 AUTO RETURN TIME section

This section allows you to set the mode for control to return to previous automated positions when the DROP OUT function is performed.



Ⓐ Automation return mode button

Touch this button to select the mode that returns to the previous data.

BUTT: Returns to the previous data quickly after the DROP OUT.

RAMP: Ramps back to the previous position after the DROP OUT.

HOLD TO NEXT: Holds the position after the DROP OUT until the next automation move is replayed.

HOLD TO END: Holds the position after the DROP OUT.

Ⓑ RAMP frame display

Sets the time to return to the position stored in the previous data in unit of frame.

You can set the desired number of frames using the ↓/↑ buttons.

④ PUNCH IN/OUT section

This section allows you to punch in and out of dynamic automation WRITE by sending the ON/OFF signal or specifying the timecode.

FOOT SW button: Touch this button to active the foot switch automation WRITE control. When this button is not selected, the foot switch status is ignored.

AUTO button: Touch this button to enable the PUNCH IN TIME/PUNCH OUT TIME display windows. When this button is not selected, automation data is stored regardless of the values in the PUNCH IN/OUT TIME windows.

PUNCH IN TIME button and display window:

Touch this button to accept the time displayed on the timecode display window on the Automation panel.

This time is then displayed in the windows.

You can enter the timecode using the ten keys by touching the timecode on the display window.

Remember to press the ENTER button to accept this value.

You can increase or decrease the numeric values using the + / - buttons and the jog dial.

PUNCH OUT TIME button and display window:

Touch this button to accept the time displayed on the timecode display window on the Automation panel.

This time is then displayed in the window.

You can enter the timecode using the ten keys by touching the timecode on the display window.

Remember to press the ENTER button to accept this value.

You can increase or decrease the numeric values using the + / - buttons and the jog dial.

⑤ AUTOMATION ISOLATE tab

Selects the channels or functions that you want to isolate from automation replay.

Touch this tab, then touch the CHANNEL button(s) and FUNCTION button(s) for the functions you want to isolate.

⑥ MAKE STATIC tab/⑩ MAKE STATIC EXECUTE button

To select the channels whose automation data you want to delete, touch the MAKE STATIC tab ⑥, then touch the desired CHANNEL button(s).

Touching the MAKE STATIC EXECUTE button after selecting the channel results in clearing all the automation data from that channel.

⑦ Channel buttons (CH1 to PGM)

After selecting the AUTOMATION ISOLATE tab ⑤ (or MAKE STATIC tab ⑥), select the channel that you want to isolate from automation replay (or the channel that you want to delete) using these channel buttons.

⑧ ALL OFF button

Touch this button so that no channels are selected.

⑨ ALL ON button

Touch this button to select all channels.

⑩ FUNCTION ISOLATE buttons

Touch the button to remove the mixer's functions from automation replay. The function corresponding to the selected button is not loaded when replaying automation files.

MACHINE CONTROL Window

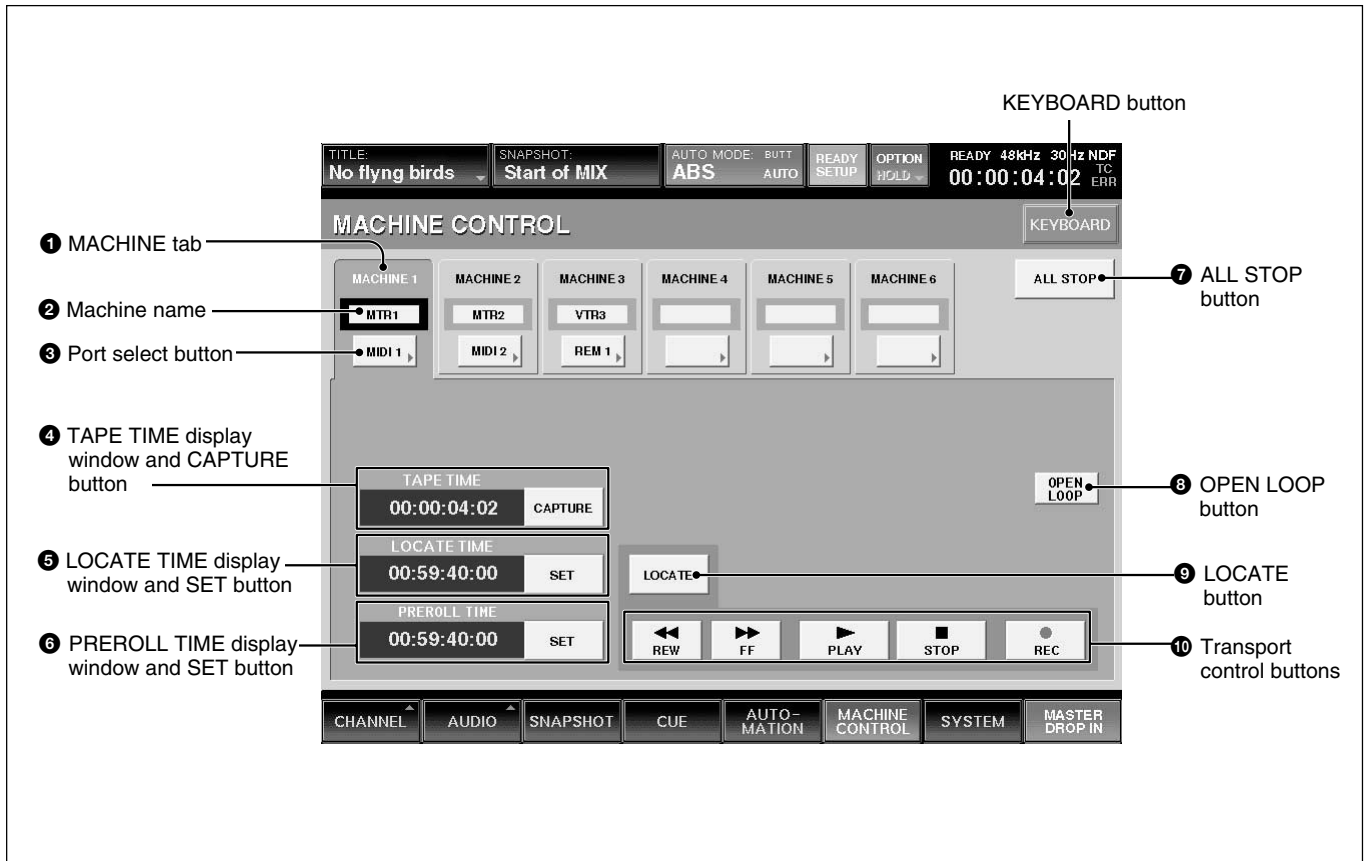
To open this window, touch the MACHINE CONTROL button on the bottom menu bar. This window allows you to set up the mixer to control devices that use MIDI machine control (MMC), Sony 9-pin and timecode chase.

Note

There may be machines which cannot be controlled

using this unit. Only one machine can be controlled at any one time, but the mixer can be quickly re-configured to control up to six different machines.

Chapter 3 Menu



1 MACHINE tab

Touch this tab to select the machine to be controlled. You can control the selected machine using the transport control keys on the unit or from the MACHINE CONTROL window.

2 Machine name

Displays the name of the machine. You can change the name of the machine selected by touching this part, and using the keyboard connected to the unit or the KEYBOARD window.

3 Port select button

Selects the port assigned to the machine.

- MIDI 1 to 16
- REMOTE OUT 1 or 2
- TC GEN: Built-in timecode generator
- NC (no connection)

4 TAPE TIME display window and CAPTURE button

Displays the tape time of the machine. Touch the CAPTURE button to copy the tape time value displayed on the TAPE TIME display window onto the LOCATE TIME display.

Note

The tape time may not be displayed depending on the machines connected.

5 LOCATE TIME display window and SET button

Displays the time the machine locates when the LOCATE button 9 is touched.

Touching the SET button allows you to enter the locate time using the ten key pad.

You can increase or decrease the numeric values using the + / - buttons and the jog dial.

6 PREROLL TIME display window and SET button

Sets a preroll time which is used to calculate actual LOCATE times.

Note

You cannot enter a minus value for the time.

Touching the SET button allows you to enter the locate time using the ten key pad.

You can increase or decrease the numeric values using the + / - buttons and the jog dial.

7 ALL STOP button

Touch this button to issue the stop command to all of the machine control ports.

8 OPEN LOOP button

When MIDI is selected by the Port select button 3, this button is automatically set to OFF (the button becomes deactivated) and MIDI must be controlled using a closed loop (i.e. 2 MIDI cables).

When the return signal is not sent back from the machine after 2 seconds have elapsed, the unit decides that it is not possible to exercise control with the closed loop. In this case, after the dialog is displayed, the unit changes to open loop control and this button becomes activated.

Also, you can switch between closed loop control and open loop control manually.

Note

In OPEN LOOP control, the tape time and the transport status of the machine can not be displayed. Also, the transport status may differ from the actual machine transport.

Open loop control and closed loop control

The open loop control is the one-way control mode where the command is sent to the machine, but the return signal is not received from the machine. In the closed loop mode, the return signal is also received from the machine. Thus, 2 MIDI cables (one for the send command and the other is for the return signal) are required in the closed loop control.

9 LOCATE button

Touch this button to issue the locate command to the machine at the locate time displayed on the LOCATE TIME display window.

Notes

- There may be machines that cannot locate even if the locate command is received.
- The LOCATE button is not effective in the open loop control.

10 Transport control buttons

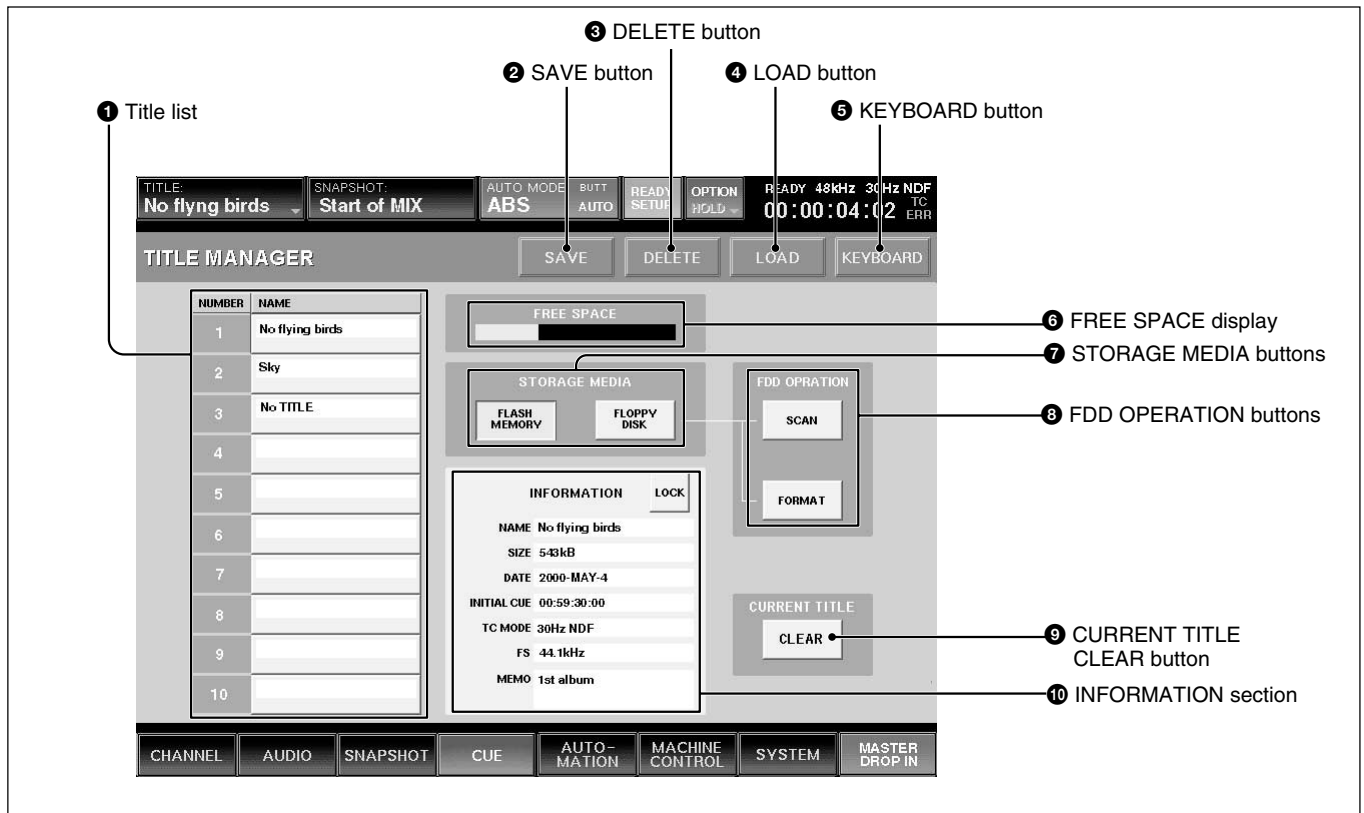
Touch the corresponding button to issue the FF, REW, PLAY, STOP or REC command to the connected machine.

To set the machine to record mode, touch the REC button first to make it active, then touch the PLAY button. Or touch the REC button while playing.

TITLE MANAGER Window

To open this window, touch the SYSTEM button to open the SYSTEM menu, then select “TITLE MANAGER.”

This window allows you to create, store and load the mixer’s titles.



In the DMX-R100, data related to a project (snapshot data, dynamic automation data, settings for sampling frequency, timecode mode, etc.) is called “Title.”

There are two types of titles:

- Current title which is the data associated to the current project.
- Title stored as a file

1 Title list

Displays the list of titles stored in the media selected by the STORAGE MEDIA button **7**.

A maximum of 10 titles can be stored in the flash memory. This depends on the size of the title. When you open this window, the title loaded last is selected.

You can store a minimum one title on one floppy disk. However, 2 or more floppy disks may be required to store 1 title depending on the size of the title.

② SAVE button

Touch this button to store the current title into the selected title on the list. Select the media where the current title is to be saved by the STORAGE MEDIA buttons ⑦ before attempting to save.

Notes

- When executing “SAVE” on a floppy disk, the data previously saved on the disk is cleared.
- After executing “SAVE”, do not turn off the power while the cursor indication changes to an arrow showing that the data has been processed or while the LED on the floppy disk drive is on. If you turn off the unit during this process, the title being saved may be lost, as the unit requires time to write the data in the flash memory or on the floppy disk.

③ DELETE button

Touch this button to delete the title selected on the title list.

④ LOAD button

Touch this button to load the title selected on the title list on the unit.

Note

When a title with different Fs setting is loaded, the unit automatically restarts.

⑤ KEYBOARD button

Touch this button to open the KEYBOARD window allowing you to enter the title name or memo.

⑥ FREE SPACE display

Displays the amount of free space for the media selected by the STORAGE MEDIA button ⑦. When FLOPPY DISK is selected, if the title is saved on multiple floppy disks, the amount of free space for each disk is displayed.

⑦ STORAGE MEDIA buttons

FLASH MEMORY button: Touch this button to display the titles stored in the built-in flash memory on the title list.

When the TITLE MANAGER window is opened, the built-in flash memory is automatically selected.

FLOPPY DISK button: Touch this button to display the titles stored on the floppy disk.

A dialogue “There are no titles or this an unformatted disk. Check the media in the floppy disk drive.” appears, in the following cases:

- A floppy disk is not inserted in the drive.
- The inserted disk is unformatted.

Notes

- When the titles have been saved in the floppy disk, titles and their information are displayed. When no title is saved on the floppy disk, the title list section and INFORMATION section are blank.
- When data has been saved in 2 or more floppy disks due to the size of the title, #1 or #2 is attached to the title name displayed in the NAME box in the INFORMATION section.
- When loading a title of two-disk set, be sure to load the first disk (#1 is displayed or blank in the NAME box in the INFORMATION section). When the second disk of a two-disk set should be inserted, the dialog to replace the disk appears.

⑧ FDD OPERATION buttons

SCAN button: Touch this button so that a floppy disk is scanned and the titles stored on the disk are displayed. Be sure to touch this button when you change the floppy disk.

FORMAT button: Touch this button to format the floppy disk inserted in the floppy disk drive. All data stored on the disk is erased. Titles displayed on the title list disappear.

⑨ CURRENT TITLE CLEAR button

Touch this button, and a confirmation dialog box appears. After confirming, the new title is created based on the current sampling frequency and timecode mode in the flash memory and is loaded on the unit as a current title.

The new title is named “UNTITLED”.

Notes

- If a new title is created, all snapshot and automation data current in the unit are cleared. It is recommended that you save the data using the SAVE button ② before creating a new title.
- When a new title is created by the CURRENT TITLE CLEAR button, the initial cue is automatically created. Before using the unit in automation mode, reset the initial cue data.

For detailed information on the cue operation, see page 96.

⑩ INFORMATION section

The following information is displayed for the tile selected on the title list. You can enter the name and a memo in those rows.

NAME row: Displays the name of the title. To enter the title name, touch the NAME row, and then enter the name using the keyboard connected to the unit or on the KEYBOARD window.

SIZE row: Displays of the data size of the title.

DATE row: Displays the date when the title was saved last.

INITIAL CUE row: Displays the timecode of the initial cue (CUE 1) from which automation starts.

TC MODE row: Displays the mode of the timecode to be used in automation.

Fs row: Displays the sampling frequency.

MEMO row: Displays the memo attached to the title. To enter a memo, touch the MEMO row, then enter the text using a keyboard or on the KEYBOARD window.

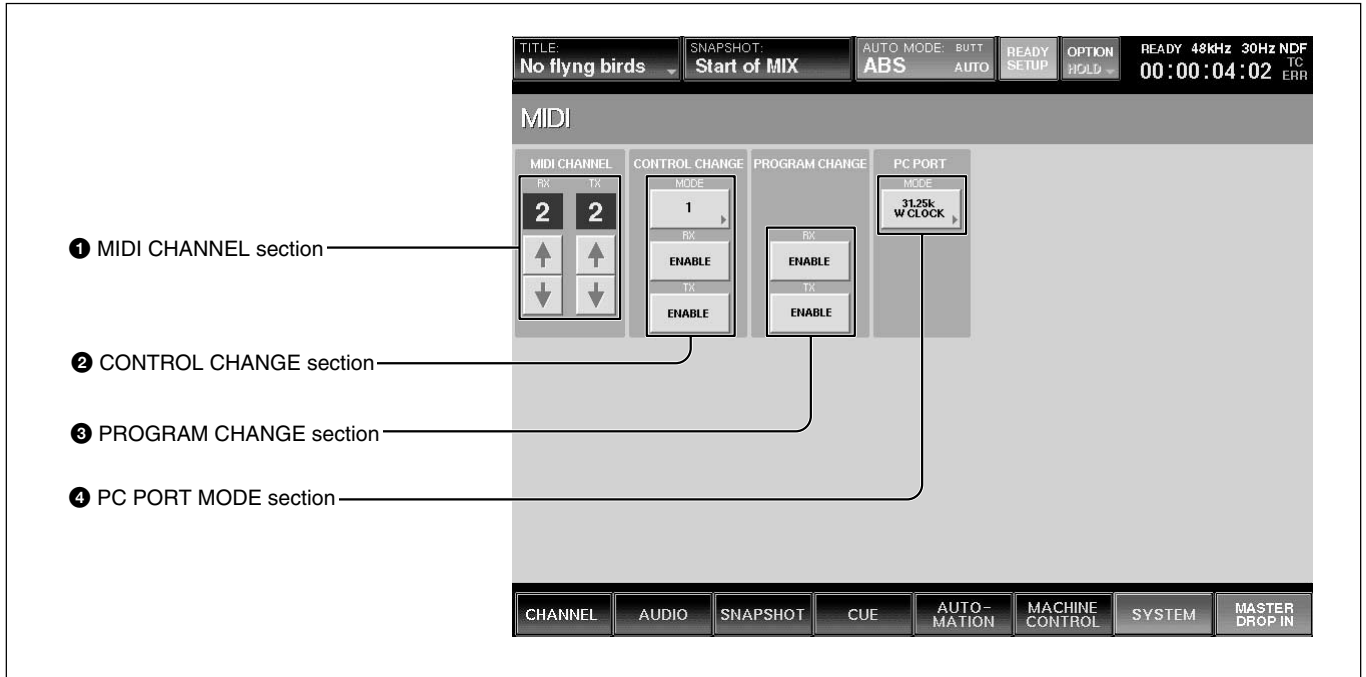
LOCK button: Touch this button to lock the title selected on the title list. The title is protected from being overwritten or deleted.

When any title is not selected, the information on the current title saved last by selecting KEEP on the TITLE menu.

MIDI Window

To open this window, touch the SYSTEM button on the bottom menu bar, then select “MIDI” on the menu. This window allows you to perform the assignment of

the MIDI channels, program change-snapshot configuration, mixer event-control change configuration and the settings of the PC ports.



1 MIDI CHANNEL section

RX channel display and channel increment and decrement buttons: Displays the channel that receives the MIDI message and executes tasks. Touch the ↓ or ↑ buttons to select the channel.

TX channel display and channel increment and decrement buttons: Displays the channel to be used when transmitting the MIDI message. Touch the ↓ or ↑ buttons to select the channel.

Note

Usually set the RX channel and TX channel to the same channel.

2 CONTROL CHANGE section

MODE button: Touch this button to select either MODE 1 or MODE 2 to set up the configuration of parameters on the unit and control change message. *For details for each mode, see page 115.*

RX ENABLE button: When this button is selected (ON), the parameters defined in each mode are updated when receiving the control change message to the MIDI IN connector.

TX ENABLE button: When this button is selected (ON), the parameters defined in each mode are sent from the MIDI OUT connector.

3 PROGRAM CHANGE section

RX ENABLE button: When this button is selected (ON), the snapshot data is recalled on the unit when receiving the program change message at the MIDI IN connector.

TX ENABLE button: When this button is selected (ON), the snapshot data is recalled and the program change message corresponding to its program number is sent from the MIDI OUT connector.

4 PC PORT MODE section

Selects the mode according to the PC connected to the PC PORT connector.

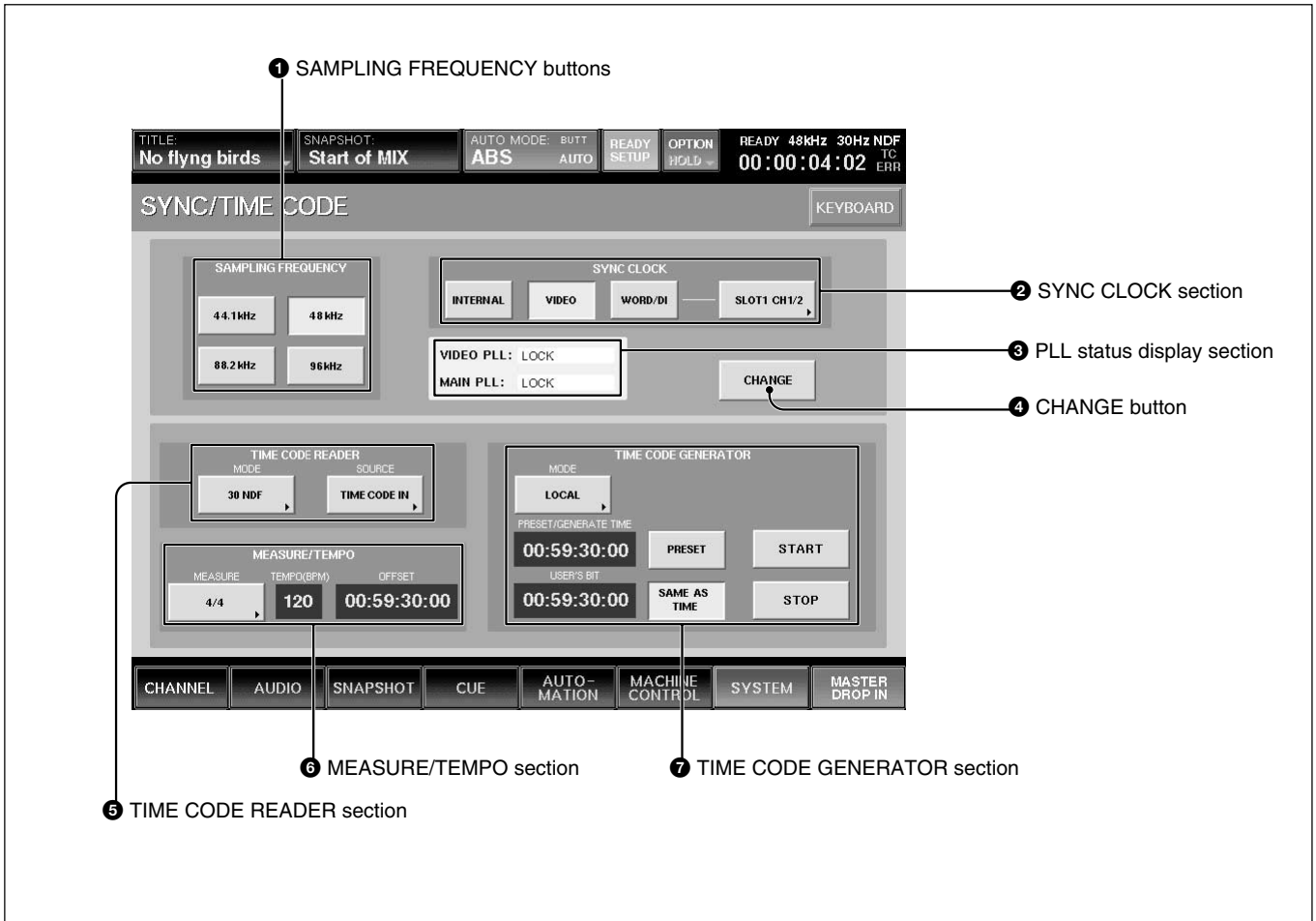
31.25 k W CLOCK: Selects this mode when a Macintosh computer is used.

31.25 k, 38.4 kHz: Selects when a PC/AT compatible computer is used. Select either 31.25 k or 38.4 Kz according to the external MIDI device.

SYNC/TIME CODE Window

To open this window, touch the SYSTEM button on the bottom menu bar, then select “TIME CODE” on the menu.

This window allows you to control the settings of the reference signal and the timecodes used for automation.



Synchronous signal section

1 SAMPLING FREQUENCY buttons

Touch the button corresponding to the desired sampling frequency from 44.1 kHz, 48 kHz, 88.2 kHz or 96 kHz.

Note

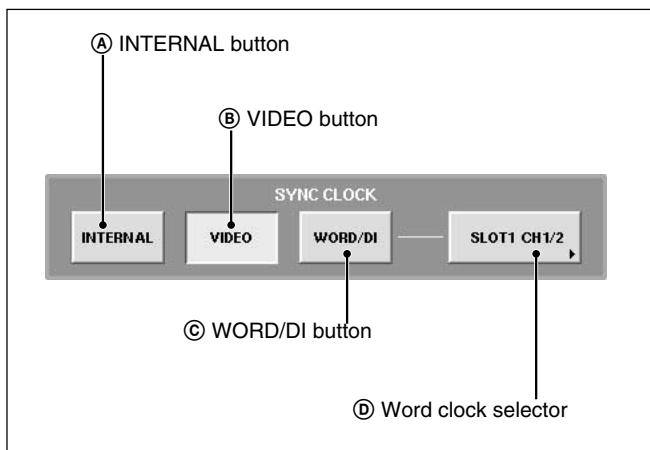
When 88.2 kHz or 96 kHz is selected, the frequency range expands to 40 kHz. However, the following functions are limited. Buttons corresponding to the limited functions are disabled.

- Input channel: The channel number is reduced from 48 to 24.

- AUX Send: The channel number is reduced from 8 to 2.
- AUX Return: The channel number is reduced from 8 to 4.
- MTR bus: The channel number is reduced from 8 to 4.
- Insertion send: The channel number is reduced from 8 to 4.
- Direct out: The channel number is reduced from 48 to 24.
- Optional boards: DMBK-R106 and DMBK-R107 cannot be used. The DMBK-R104 cannot be used for a channel where the sample rate converter is set to ON.
- Surround mode is not available.
- The number of oscillator paths becomes one and the same signal is outputted to both the L and R channels.

- The maximum value of the programmable delay amount is half.
- The channel number of the EXT inputs of MONITOR is reduced from 6 to 2.
- When INPUT is selected in the CHANNEL METERS section in the MISC SETUP window, the OVER indicator does not function.
- The SOLO buttons of the AUX Return function as AFL buttons even if these are set to PFL.
- When SYNC LOCK is set to WORD/DI, if the sync reference signal is greater than 96 kHz, the DSP (Digital Signal Processor) does not work properly and this may cause noise.

2 SYNC CLOCK section



The unit synchronizes using the reference selected by touching one of these buttons.

A INTERNAL button

Touch this button to use the built-in word clock generator as the reference signal. When this button is selected, external digital audio equipment must be synchronized with the DMX-R100 that is the sync master.

B VIDEO button

The unit synchronizes using the video signal connected to the REF VIDEO connector on the unit. When this button is selected, external digital audio equipment must be synchronized either to the same video signal or to a synchronous word clock, as produced by the mixer.

C WORD/DI (digital input) button

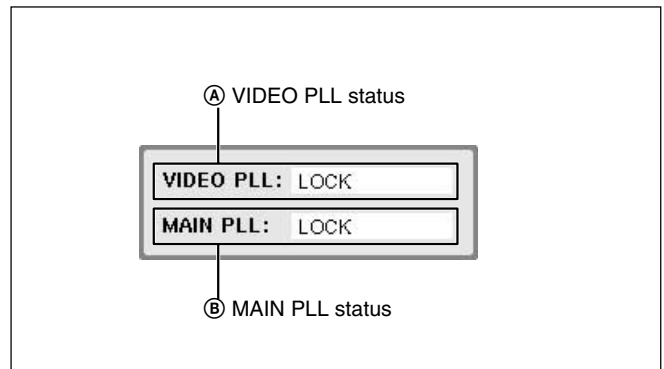
The unit synchronizes using a word clock signal connected to the REF WORD connector or a digital audio signal connected to any of the mixer's digital inputs. You can select which signal you use as the reference signal by using the word clock selector D. When this button is selected, the unit and external digital audio equipment must be synchronized using the same reference sync signal.

D Word clock selector

Displays the source of the external reference word clock when the WORD/DI button C is touched. Touching the selector results in opening the list and you can then select the source from the following.

- REF WORD IN
- 2TR IN 2
- AUX RTN 5/6, 7/8
- CH 1/2, CH3/4, CH5/8 or CH7/8 for SLOT 1 to SLOT 4

3 PLL status display section



A VIDEO PLL status

When the VIDEO is selected as the reference signal, the status of PLL which generates the word clock signal from the video signal is displayed.

When a signal other than VIDEO is used as the reference signal, "-----" is displayed.

LOCK: Operating correctly.

UNLOCK: Synchronization is lost. Check the setting of the terminated resistor or whether the correct video signal is being inputted.

NO VIDEO: The video signal is not input. Check the setting of the terminated resistor or whether the correct video signal is inputted.

-----: A signal other than VIDEO is used.

ⓑ MAIN PLL status

Displays the status of PLL which generates clock signals used internally by the unit.

LOCK: Operating correctly.

UNLOCK: Synchronization is lost. When the word clock signal is selected as the reference signal, check the setting of the terminated resistor or if the word clock selector is set correctly. Check whether the device that supplies the clock signal is working correctly.

When INTERNAL or VIDEO is selected as the reference signal, the unit may be defective.

NO WORD: The word clock signal is not input.

When WORD CLOCK is selected as the reference signal, check the setting of the terminated resistor or if the word clock selector is set correctly. Check whether the device that supplies the clock signal is working correctly.

When INTERNAL or VIDEO is selected as the reference signal, the unit may be defective.

④ CHANGE button

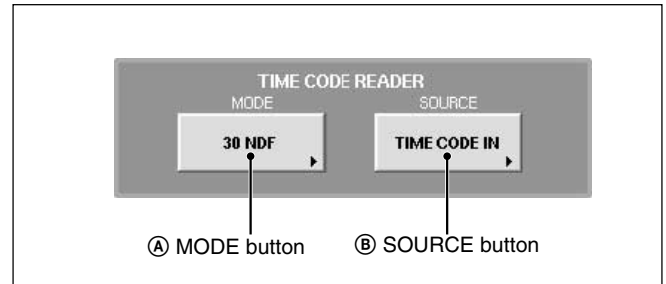
Touch this button to change the setting of the SYNC CLOCK section. A dialog box appears. After confirming, select [OK]. The unit restarts and the settings are changed.

Note

When restarting, the contents of the title which has not been saved will be lost.

TIME CODE section

⑤ TIME CODE READER section



Ⓐ MODE button

Displays and selects the mode of the timecode to be used for automation.

The timecode generator works according to the timecode selected here.

Touching this button opens the following list:

- 29.9F/s DF
29.97 frames/second, drop frame
- 30NDF
30 frames/second, non drop frame
- 29.9F/s NDF
29.97 frames/second, non drop frame
- 30DF
30 frames/second, drop frame
- 25F/s
25 frames/second

Note

After storing the automation data, be sure not to change the mode of the timecode. This results in incorrect operation of the automation mode or a shift in recalling events.

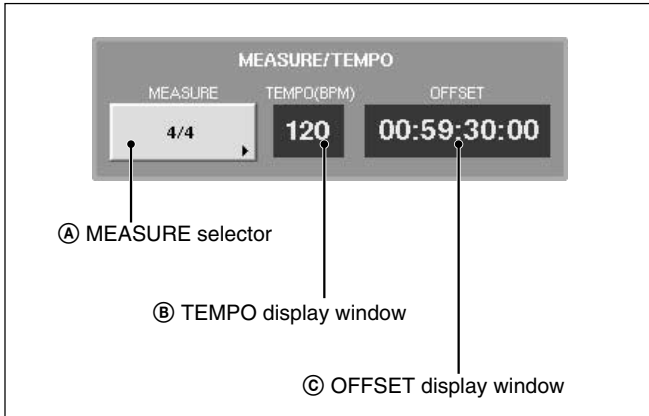
Ⓑ SOURCE button

Displays and selects the timecode source used for automation.

- TIMECODE IN
The timecode source is the signal inputted to the TIME CODE IN connector.
- TC GENERATOR
The signal generated by the built-in timecode generator
- MTC (PC PORT)
The MTC (MIDI timecode) signal inputted to the PC PORT connector
- MTC IN
The MTC (MIDI timecode) signal inputted to the MTC IN connector

6 MEASURE/TEMPO section

When the BARS button is lit on the timecode input section on the Automation panel, the beats and bars are calculated on the settings entered in this section.



A MEASURE selector

Selects the measures of a tune.

First level: $n/2$, $n/4$, $n/8$, $n/16$

2nd level: n

B TEMPO display window

Touch this part to select and enter the tempo.

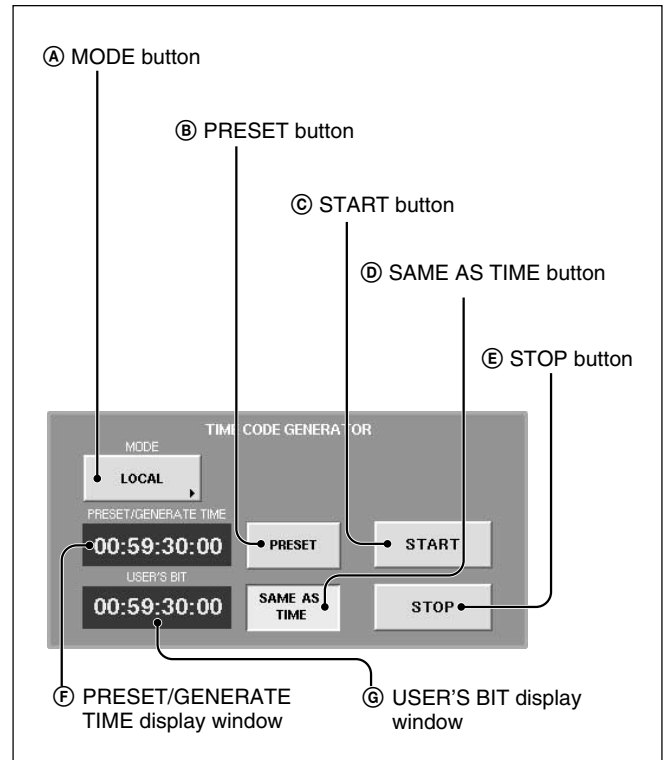
C OFFSET display window

Touch this part to select and enter the timecode of the first beat of the first measure.

Notes

- The values of the measure, beats and MIDI clocks displayed when pressing the BARS button on the Automation panel are estimated values obtained by converting the timecode value based on the information set by MEASURE/TEMPO section. The greater the difference from the timecode set on the OFFSET display window is, the greater the error is.
- The automation operation is executed based on the timecode regardless of the setting of the BARS button.

7 TIME CODE GENERATOR section



A MODE button

Touch this button to set the operation mode of the built-in timecode generator.

- LOCAL
The timecode can be run and stopped using the START/STOP buttons.
- SLAVE LOCK
Generates the timecode based on the timecode read by the built-in reader.
- SLAVE LOCK (AUTO RUN)
Once the timecode read by the built-in reader runs correctly, the timecode is generated as running automatically generated regardless of the incoming timecode.
- EMULATE MTR
Controls using the machine control functions of the unit as the emulation machine. In this mode, a LOCATE command will produce a burst or timecode, allowing the machine using the timecode chase to locate.

Menu Windows

Ⓑ PRESET button

Touch this button to set ON. You can enter and display the preset time on the PRESET/GENERATE TIME display window.

When the LOCAL mode is selected, touching START will generate timecode from the preset time.

Enter the timecode using the keyboard connected to the unit or on the KEYBOARD window after touching the PRESET/GENERATE TIME display window.

Ⓒ START button

When the generator is in LOCAL mode, touching the START button will make the timecode start running from the preset value.

Ⓓ SAME AS TIME button

Touch this button to set the user bits to the same value as the current timecode.

Ⓔ STOP button

Touch this button to stop the generator, when in LOCAL mode or SLAVE LOCK (AUTO RUN) mode.

Ⓕ PRESET/GENERATE TIME display window

Displays the preset time or the generated timecode according to the PRESET button status.

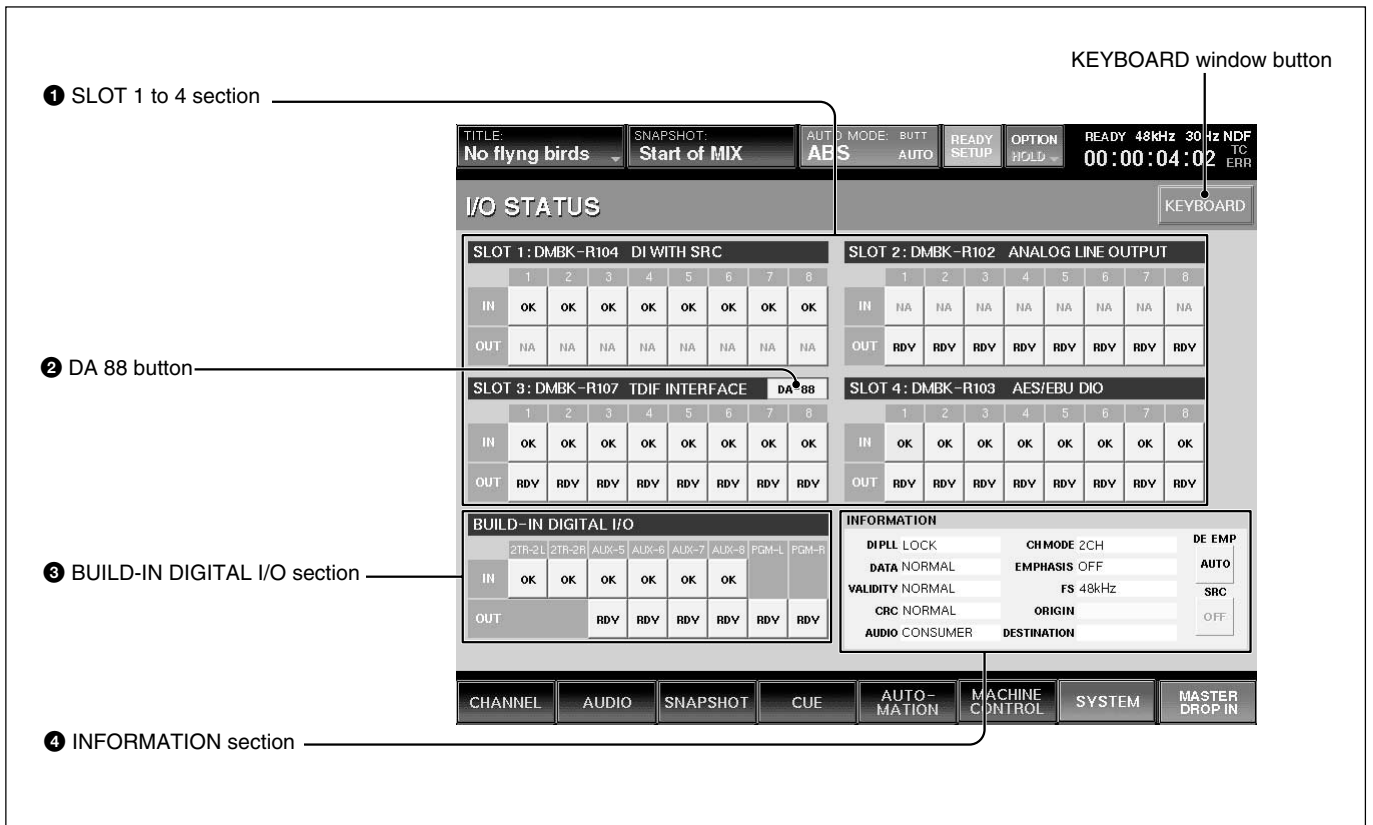
Ⓖ USER'S BIT display window

Displays and enters the timecode user bit data. Enter the user bit using the ten key pad after touching this display window. The values that can be entered are 0 to 9. A, B, C, D, E and F can not be entered.

I/O STATUS Window

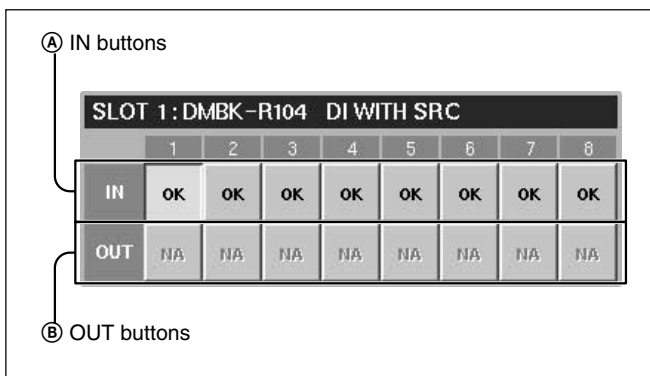
To open this window, touch the **SYSTEM** button on the bottom menu bar, then select the **I/O STATUS** on the menu.

This window allows you to check the performance of the digital audio input/output.



1 SLOT 1 to 4 section

Displays the name and function of the board inserted into the four slots on the unit. It also displays the status of the input/output signals.



A IN buttons

On these buttons, OK, NA, or !xxx is displayed as the status of the input signal of the channel.

By touching this button, the details of the input signal of the channel are displayed on the INFORMATION section 4.

The status displays have the following meaning.

- **OK**
Indicates that the signal is inputted correctly.
- **NA (Not Available)**
Indicates that the input signal cannot be used.
- **!xxx**
Indicates that there is trouble in the input signal. In this case, touch this button to display the details on the INFORMATION section and check the status. When !UNLC (unlock) is displayed, the input's PLL cannot be locked.

Menu Windows

When !SLP (SLIP) is displayed, the input signal is not synchronized to the unit.

Ⓑ OUT buttons

On these buttons, RDY or NA is displayed as the status of the output signal of the channel. By touching this button, the details of the output signal of the channel are displayed on the INFORMATION section ④.

The content of the display is as follows:

- RDY (ready)
Indicates that this channel can be used as the output signal.
- NA (Not Available)
Indicates that this channel cannot be used.

② DA 88 button

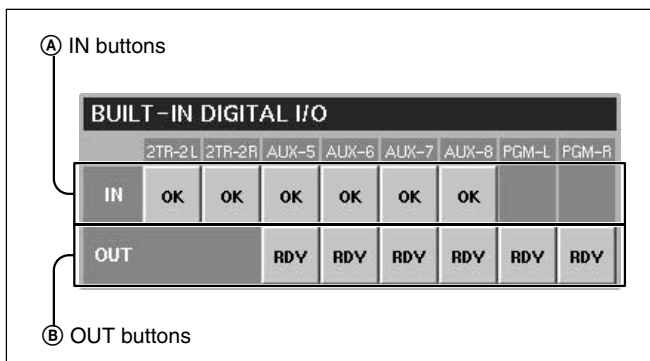
This button is displayed only when the DMBK-R107 is inserted into the slot.

When you have interfaced a DA-88 manufactured by the TEAC corporation with a DMBK-R107 Interface Board, touch this button to set it to ON (lit in green). When you use another TDIF device, set this button to OFF.

If this button is not turned on (lit in green) with a DA-88 inserted into the slot, it is necessary to replace the ROM in the DMBK-R107 slot. Contact your Sony dealer.

③ BUILT-IN DIGITAL I/O section

Displays the status of the signal of the built-in digital input/output connectors.



Ⓐ IN buttons

On these buttons, OK, NA, or !xxx is displayed as the status of the input signal.

By touching this button, the details of the input signal of the channel are displayed on the INFORMATION section ④.

The content of the display is as follows:

- OK
Indicates that the signal is inputted correctly.
- NA (Not Available)
Indicates that this channel cannot be used as the output signal.
- !xxx
Indicates that there is trouble in the input signal or attention is required.
In this case, touch this button to display the details on the INFORMATION section and check the status of the input signal.
When !UNLC (unlock) is displayed, the input's PLL cannot be locked.
When !SLP (SLIP) is displayed, the input signal is not synchronized to the unit.

Ⓑ OUT buttons

On these buttons, RDY or NA is displayed as the status of the output signal of the channel. By touching this button, the details of the output signal of the channel are displayed on the INFORMATION section ④.

The content of the display is as follows:

- RDY (ready)
Indicates that this channel can be used as the output signal.
- NA (Not Available)
Indicates that this channel cannot be used as the output signal.

④ INFORMATION section

Displays detailed information on the signal selected by SLOT 1 to SLOT 4, the IN button or OUT button on the BUILT-IN DIGITAL I/O section.

The following items are displayed as the detailed information of the signal:

- DIPLL
Displays the status of the lock of the PLL built in each input path.
LOCK: Displays that the PLL is correctly locked.
UNLOCK: Displays that the PLL is not locked. In this case, "----" is displayed on the remaining information items.
- DATA
Displays the status of synchronization between the signal and the unit.
NORMAL: Indicates that they are correctly synchronized.

SLIP: Asynchronization causes interpolation or cropping of data. This results in noise or distortion. Check that the unit synchronizes with each unit correctly.

However, when the sampling converter is effective on the DMBK-R104, there is no problem even if SLIP is displayed.

- **VALIDITY**

Displays the status of the VALIDITY flag of the AES/EBU digital audio signal.

NORMAL: Indicates that the VALIDITY flag bit is 0.

INVALID: Indicates that the VALIDITY flag bit is 1. This signal is not suitable as an audio signal.

- **CRC**

Displays the result of the CRC check of the channel status of the AES/EBU digital audio signal.

NORMAL: Indicates that there is no trouble.

ERROR: Indicates that there is some trouble with the results of the CRC check. For the items after CRC, such as AUDIO, CH MODE and so on, NA is displayed.

- **AUDIO**

Displays the mode of the digital audio signal.

PROFESSIONAL: Indicates that the signal is sent from equipment for broadcasting studio.

NON AUDIO: Indicates that the signal is not an audio signal.

CONSUMER: Indicates that the signal is sent from equipment for consumer use.

COPY IHN: Indicates that the signal is sent from equipment for consumer use and has a copyright.

- **CH MODE**

Displays the mode of the digital audio signal. 2 CH or STEREO is displayed depending on the definition of the channel status.

- **EMPHASIS**

Displays the status of emphasis of the digital audio signal.

ON: Indicates that the signal is a preemphasised digital audio signal.

OFF: Indicates that the signal is not a preemphasised digital audio signal.

- **FS**

Displays the sampling frequency of the digital audio signal.

- **ORIGIN**

Displays the ORIGIN information written in the channel status of the AES/EBU digital audio signal in four characters.

When the OUT button is selected, after touching this

row, you can enter the information using the keyboard or on the KEYBOARD window.

- **DESTINATION**

Displays the DESTINATION information written in the channel status of the AES/EBU digital audio signal in four characters.

When the OUT button is selected, after touching this row, you can enter the information using the keyboard or on the KEYBOARD window.

- **DE EMP button**

Touch this button to set whether the digital audio signal is emphasised or deemphasised.

AUTO: Indicates that the digital audio signal is automatically deemphasised according to the emphasis flag.

ON: Indicates that the digital audio signal is deemphasised regardless of the emphasis flag.

OFF: Indicates that the digital audio signal is not deemphasised regardless of the emphasis flag.

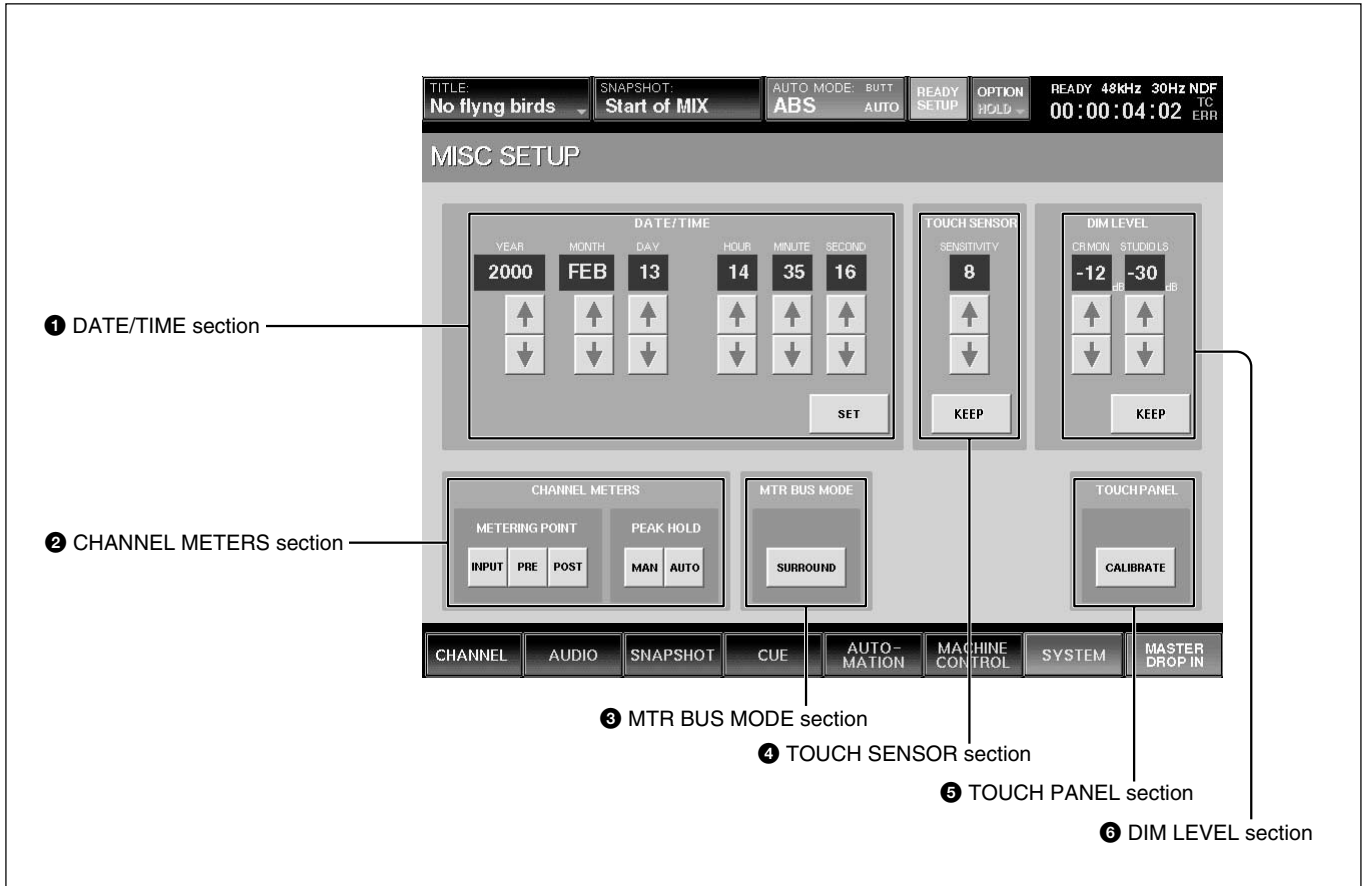
Notes

- INSERTION return 1 to 8 do not have the deemphasis function.
- When the digital audio signal is used as INSERTION return 1 to 8, set the emphasis of the effector's output to off.

MISC SETUP Window

To open this window, touch the SYSTEM button on the bottom menu bar, then select “MISC SETUP” on the menu.

This window allows you to control and check settings for the system’s clock, the channel meter display, the sensitivity of the touch sensor and the dimmer level of the monitor signals.



1 DATE/TIME section

Sets the built-in clock.

YEAR

MONTH

DAY

HOUR (24-hour time display system)

MINUTE

SECOND

↕/↗ buttons: Increases or decreases the value.

SET button: Touch this button to adjust the time of the built-in clock.

2 CHANNEL METERS section

Sets the peakhold of the master meter and channel meters and selects the signal which is to be displayed on the channel meters.

When the channel faders are used as faders for AUX SEND 1 to 8 or MTR bus, the meters display the level of the bus signal.

METERING POINT button

Selects the point in the signal path to be displayed.

INPUT button: Selects the signal of the point just before the ∅ switch (phase inversion) of the input signal path.

PRE (prefader) button: Selects the signal of the point located before the CUT switch of the input signal path.

PST (post fader) button: Selects the signal of the point located before the pan of the input signal path. For AUX send, MTR bus and PGM, the signal after the master fader is selected.

PEAK HOLD button

Selects the method used to display the peak hold level of the input signals.

MAN (manual) button: Touch this button to always display the maximum level of the input signal (peakhold status). Touch this button again to cancel the display of the peakhold status.

AUTO button: Touch this button to display the peak level of the input signal for three seconds, and the hold display is automatically reset.

③ MTR BUS MODE section

Touch the button to display SURROUND. When SURROUND is displayed, the MTR bus is set to surround mode. When the display is off, the MTR bus is set to mono/stereo mode.

④ TOUCH SENSOR section

Sets the sensitivity of the fader touch sensor.

SENSITIVITY display: Displays the sensitivity as steps of 0 to 15. The maximum sensitivity is 15.

▼/▲ buttons: Increase or decrease the sensitivity.

KEEP button: Touch this button to store the sensitivity on the SENSITIVITY display window in the current title. At the same time, data in the work area is also stored in the current title.

⑤ TOUCH PANEL section

Calibrates the touch panel.

When the cursor does not move correctly, calibration of the touch panel is required.

Touch the button to open the calibration window.

To calibrate the touch panel, proceed as follows:

- 1** Turn off the power and connect a mouse to the MOUSE connector on the rear panel. Then turn on the power again.
- 2** Select the CALIBRATE button on the TOUCH PANEL section.
A dialog box appears.
- 3** Select [YES] on the dialog box.
The calibration window appears.

- 4** Touch the CALIBRATE button on the window. Perform the following operations, step 5 to step 7, according to the blue arrow indicated on the calibration window.

- 5** Touch the left top of the window according to the blue arrow indication.
The blue arrow indication turns red. By touching the left top again, the arrow turns blue and points to the right bottom.

Note

The arrow indicates the corner to be touched. Be careful not to touch the arrow itself. If you touch the arrow accidentally, start the calibration operation again from step 1.

- 6** Touch the right bottom on the window according to the blue arrow indicator.
Touching the arrow at the first time causes the blue arrow to turn red. Touching the red arrow causes a circle mark to appear at a point a little to the right of the center.

Note

Be careful not to touch the arrow.

- 7** Touch the circle mark on the window.
- 8** Touch the EXIT button to terminate the calibration.
The calibration of the touch panel is terminated.

Note

If you fail to calibrate the touch panel, you won't be able to operate the touch panel. If you fail, open the CALIBRATION panel using the mouse connected to the MOUSE connector again, then perform operations of step 5 to 8 again.

⑥ DIM LEVEL section

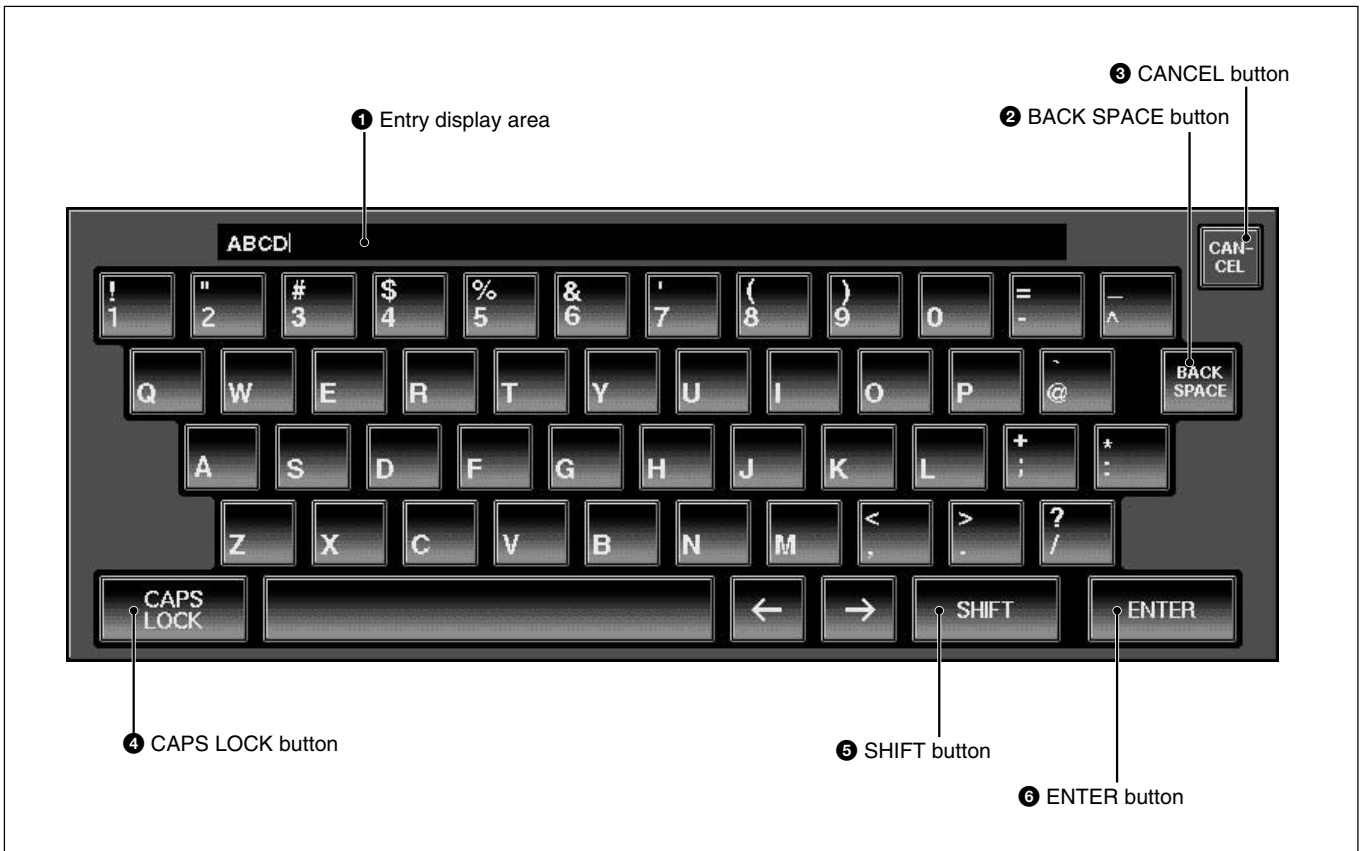
Adjusts the dimmer level of the monitor signals.

▼/▲ buttons: Increase or decrease the dimmer level of the CR MON (control room monitors) or STUDIO LS (studio monitors). The adjusted values are displayed on the display windows.

KEEP button: Touch this button to store the dimmer level displayed on the window in the current title. At the same time, data in the work area is also stored in the current title.

KEYBOARD Window

To open this window, touch the **KEYBOARD** button on the **SNAPSHOT**, **CUT**, **TITLE MANAGER**, **MACHINE CONTROL**, **SYNC/TIMECODE** or **I/O STATUS** window.



1 Entry display area

Displays the characters entered.
When the item is already named on the window opened before the **KEYBOARD** window opens, that name is displayed here.

2 BACK SPACE button

Deletes the character placed before the cursor.

3 CANCEL button

Clears the characters entered in the entry display area 1 and closes the **KEYBOARD** window. The original name is not replaced.

4 CAPS LOCK button

Touch this button to enter the alphabetical characters from A to Z in capitals. Numeric numbers and symbols are not affected by this button.

5 SHIFT button

Touch this button to set the shift function to ON to use the upper symbols on the numerical and symbol buttons.

The **SHIFT** button is reset to OFF when you have entered one character.

6 ENTER button

Enters the name entered in the entry display area, replaces the name on the window opened before the **KEYBOARD** window opens. Pressing the **ENTER** button also closes the **KEYBOARD** window.

Changing the Keyboard Type

The DMX-R100 is factory-preset for use with a Japanese type keyboard. Select the desired keyboard type as described below.

- 1 Turn on the power of the DMX-R100.
“Loading Now.....” appears.
- 2 While the numbers of dots on the screen is increasing, press [K] on the keyboard currently connected.

The following dialogue appears;

“Do you want to change the keyboard type?”

f : French keyboard (fr_FR_102.kbd)

g : German keyboard (de_DE_102.kbd)

j : Japanese keyboard (ja_JP_106.kbd)

u : US keyboard (en_US_101.kbd)

other : Don't change the keyboard type.”

- 3 Touch the character of the desired keyboard type; “f”, “g”, or “u”.
The keyboard type indication on the bottom left of the window changes to the one selected.

Updating the DMX-R100 System

When you turn on the power of the DMX-R100, the starting-up window opens.

DMX-R100



Sony Digital Audio Mixer

After the starting-up window closed once, the bar indication [-] starts to blink on the left top of the LED window.

While the bar indication [-] is blinking, if you press the ESC key on the external key board, the following dialogue appears:

“Will you update this system? (y/n)”

If the above dialogue appears on the window, **be sure to select “N”**.
The system starts as usual.

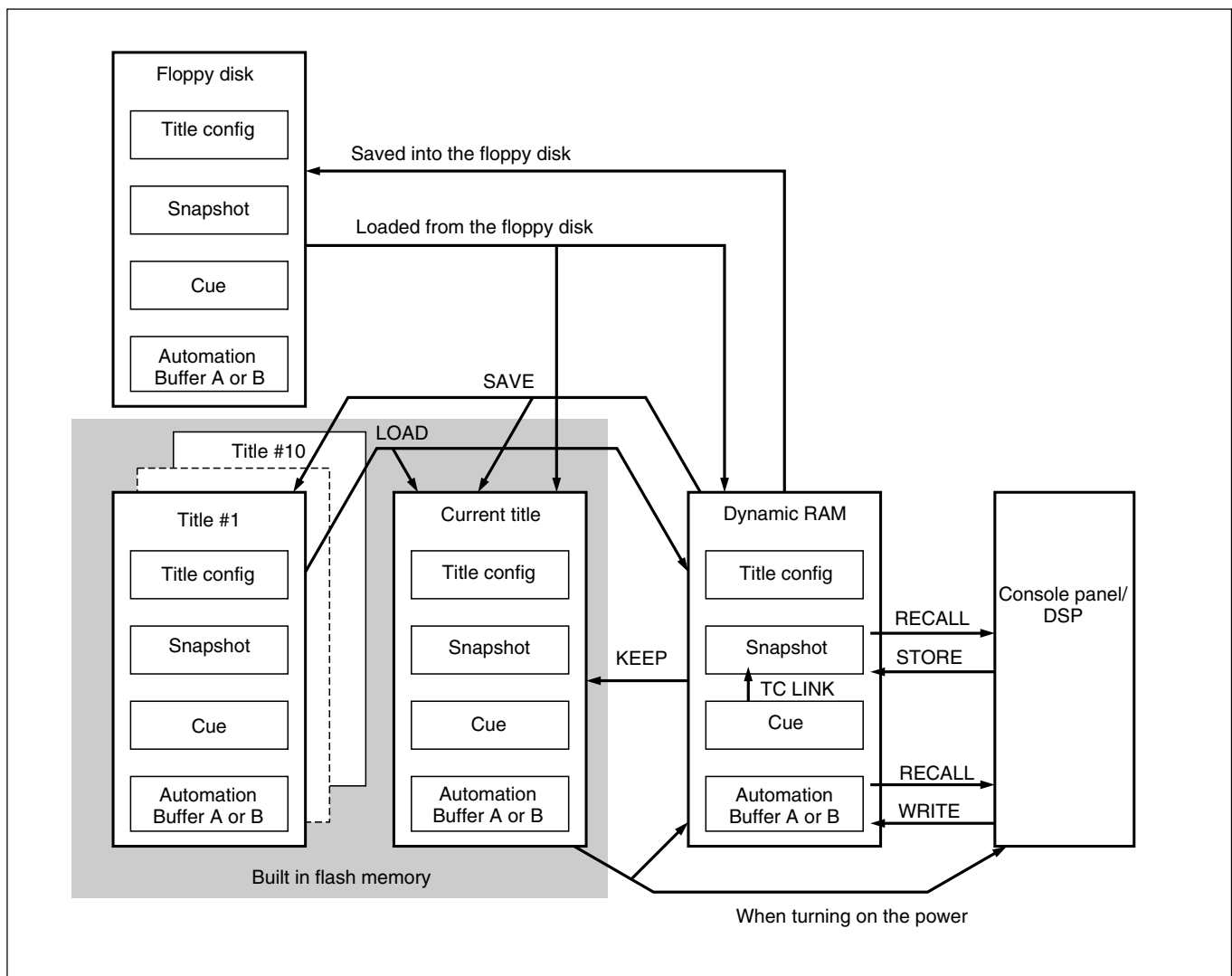
WARNING

If you press “y” on the key board, without having the floppy disks for updating system, the DMX-R100 system files may be damaged.

If you need update the system, contact your nearest Sony dealer.

Memory Structure and Title

Structure of Snapshot and Automation Memory



The above figure shows the memory structure of the unit.

Automation data, snapshot data and cue data created on the unit are stored, updated and deleted on the dynamic RAM. Thus, when restarting the unit or turning off the power of the unit, this data is lost.

To save the data that are being operated on the unit, select **KEEP** from the **TITLE** menu which opens by touching the **TITLE** button on the top bar on the window (in this manual, this operation is also called **KEEP'd**). Data in the work area on the dynamic RAM is saved in the current title which is the backup file in the flash memory. Thus, the data is not lost when restarting or turning off the power of the unit. You can save the current title as the title with the title number and title name on the **TITLE MANAGER** window.

Also, you can initialize the title by using the **CLEAR** button of **CURRENT TITLE** on the **TITLE MANAGER** window. In this case, the timecode and the sampling frequency of the title being used are stored. However, the remaining data items (such as automation data, snapshot data and cue data) are cleared.

About Titles

In operating the unit, data such as snapshots, dynamic automation data, sampling frequencies and timecode required for the mixing operation are stored in 'Titles'.

There are two types of titles: One is the "current title" automatically created in the flash memory, the other is the title stored as a file.

For detailed information on how to create a title, see "TITLE MANAGER Window" on page 72.

Initializing a title (CURRENT TITLE CLEAR)

A new current title which has no data is created based on the current sampling frequency and timecode mode setting. At this time, all data other than the sampling frequency and timecode are cleared.

The current title is the work title created in the memory or flash memory.

Saving a title

The current title is saved into the specified TITLE number.

Loading a title

The specified title is loaded in the current title.

If the setting for Fs (sampling frequency) and/or SYNC SOURCE is different between the loaded title and current title, the unit restarts after giving a confirmation message.

Changing the sampling frequency

When you change the sampling frequency, the contents of the current title is cleared.

Titles when turning on the power of the unit

When there are created titles

- The sampling frequency, sync source and timecode mode are set on the unit according to the content of the existing title.
- The current title worked on just before turning off the unit is automatically loaded. The initial cue is automatically recalled and the dynamic automation data is automatically loaded into the effective buffers.

Memory Structure and Title

When you use the unit for first time (with the default setting) or there are no current files

Create the current title with the following settings for the synchronous signal and timecode mode:

For detailed information on how to set these items, see “SYNC/TIME CODE Window” on page 76.

- Sampling frequency: 48 kHz
- Sync-lock (reference synchronous signal): INTERNAL
- Timecode mode: NTSC30NDF

Create the initial cue and snapshot with the following settings:

- Initial cue: 00:00:00:01
- Snapshot: not linked.

Default setting of the unit

Item	Setting
Input routing	<ul style="list-style-type: none"> • Connect AD 1 to 24 to CH-1 to CH-24. • When the DMBK-R105 is inserted in the option slot, connect each input channel of the DMBK-R105 to Insertion return 1 to 8. • When the DMBK-R101/103/104/106/107 is/are inserted, connect them starting from the lowest slot number to the channels from CH-25 in order.
Channel mode	Monaural
Trim setting of the input signal	0 dB
Delay amount	0 Frame, COARSE: OFF
Pan, MTR pan	Control: Center, Button: ON
Surround pan	Front center
Divergence	100 %
MTR assign	OFF
PGM assign	PGM L/R: ON
Equalizer	Control : Center, Button: OFF
Dynamics	Control :Center, Button: OFF, EXPANDER: Access
AUX send	Set all busses to monaural, OFF and POST
Fader group	Set all groups to GANG and OFF.
Cut	OFF
Fader	- infinity
Output routing	<ul style="list-style-type: none"> • Connect PGM L/R busses to the PGM L/R connectors. • Connect the AUX 1 to 8 busses to the AUX 1 to 8 connectors. • When the DMBK-R105 is inserted in the option slot, connect each output channel of the DMBK-R105 to insertion send 1 to 8. • When the DMBK-R102/103/106/107 is/are inserted.

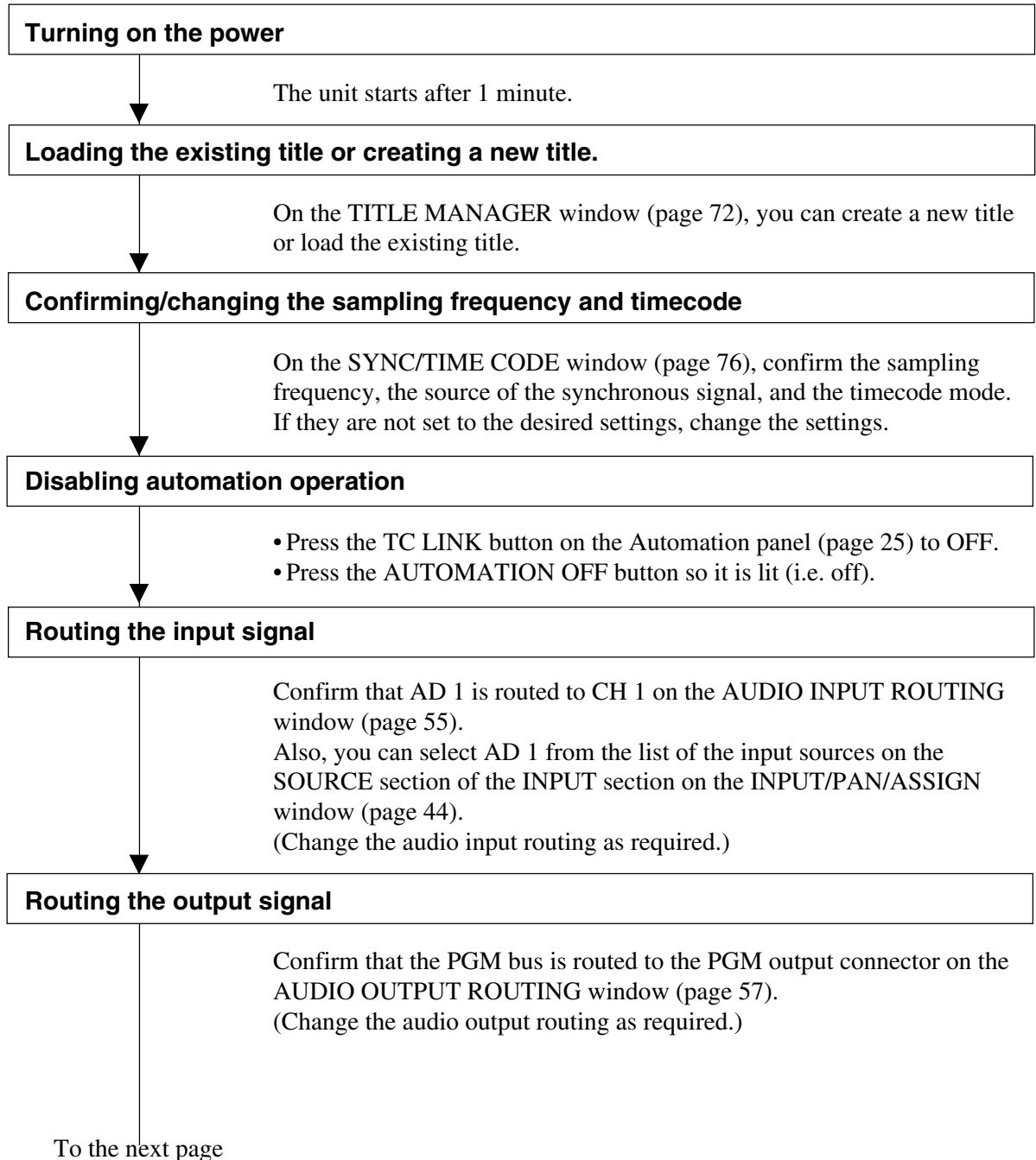
Basic Operation Procedure

Basic Mixer Operation Flow from Turning On to Monitoring

The basic mixer operation is explained in the following operation flow chart.

Example: In the following flow chart, audio from the microphone connected to the IN A connector is routed to CH 1 and the fader is used as a channel fader. Then the signal is output to the PGM bus and monitored on the control monitor. The unit is used in manual mode.

For detailed information on operations, see the page in parentheses.



From the previous page

Confirming/setting monitoring

- Select the CR MONITOR tab on the MONITOR window (page 59) and confirm that CUT L/CUT R buttons are set to OFF. (Change the settings as required.)
- Press the PGM button on the SOURCE section on the control room monitor section on the unit (page 24) so that the button lights up.

Setting the analog head amplifier

- Select the INPUT button on the CHANNEL METERS section on the MISC SETUP window (page 84).
- Release the INPUT B button on the Analog head amplifier panel (page 11) so that the button is not lit. The IN A connector becomes active.
- Watching the meter of the channel (in this example, CH 1) connected to the corresponding head amplifier, adjust the gain using the GAIN control on the Analog head amplifier panel.
- In this example, set the PAD button on the Analog head amplifier panel to OFF to connect the microphone. (Set the PAD button to on or off, as required.)
- Depress the + 48 V button on the Analog head amplifier, as required.

Note

When devices other than microphones that cannot receive power from the external unit are connected to the IN A connector, release this + 48 V button (not depressed). If you set this button to ON, the connected external unit may be damaged.

Setting the channel

- Press the ACCESS button on the channel strip panel (page 12) for CH 1 on the unit so that the button lights up.
- Press the PROGRAM L/R buttons on the BUS ASSIGN section (page 18) on the unit. (The signal of the channel is assigned to the PGM bus.)
- Set the level of the PROGRAM fader to 0 dB. (Change the level of the PROGRAM fader, as required.)
- Watching the master meter (page 22), adjust the level using the channel fader.
- Adjust the monitor sound volume using the controls on the Control room monitor section (page 24).

Storing the channel settings as data

- To store the channel data, store it as snapshot data using the STORE button on the SNAPSHOT window (page 64).
- When restarting the unit or turning off the power of the unit, save data by selecting KEEP on the TITLE menu which opens by touching the TITLE button.

Using the stereo signal

When setting PAN of the channel to OFF

- 1 Display “STEREO” on the MODE button by touching it on the INPUT/PAN/ASSIGN window (page 44).
- 2 Set the PAN button to OFF on the INPUT/PAN ASSIGN window.
- 3 Perform settings for the PROGRAM L/R buttons on the BUS ASSIGN section on the Parameter setting panel.
 - For the L channels (usually the odd channels), set the PROGRAM L button to ON and the PROGRAM R button to OFF.
For the R channels (usually the even channels), set the PROGRAM R button to ON, and the PROGRAM L button to OFF.
You can also set the PROGRAM L/R bus on the ASSIGN section on the INPUT/PAN/ASSIGN window.
 - Select the status of the REVERSE button, the L + R button and the MS DECODE button on the INPUT/PAN/ASSIGN window, as required.

When setting PAN of the channel to ON

- 1 Display “STEREO” on the MODE button by touching it on the INPUT/PAN/ASSIGN window (page 44).
- 2 Set the pan of odd and even channels to ON.
- 3 Set the PROGRAM L/R buttons in the BUS ASSIGN section on the Parameter setting panel to ON.
- 4 Turn the pan control of the odd channel fully counterclockwise.
- 5 Turn the pan control of the even channel fully clockwise.
- 6 Adjust the panning settings of the odd and even channels as required.

Note

For channels set in stereo, you have to perform pan/surround panning settings for L and R independently. Perform the pan/surround panning settings, as required.

Snapshot Automation Procedure

The unit can memorize up to 99 control settings (snapshots).

By linking the stored snapshot settings with the timecode, the snapshot automation operations are performed as explained below.

Since the snapshot data is stored in the working memory when storing it by using the STORE button on the SNAPSHOT window, data stored in the work memory is cleared when restarting the unit or turning off the power of the unit. Store the data in the current title by selecting KEEP on the TITLE menu which opens by touching the TITLE button, or save the data as a title file by using the SAVE button on the TITLE MANAGER window.

To perform operations on the unit, use the buttons, the SNAPSHOT buttons and the ten key pad on the Automation panel.

For buttons and windows used for snapshot automation, see “Automation Panel” on page 25, “SNAPSHOT Window” on page 64 and “TITLE MANAGER window” on page 72.

Storing/updating a snapshot data

To store/update the snapshot data by manipulating buttons on the unit

- 1** Adjust or set the parameters on the unit as required.
- 2** Confirm that the TC LINK button is set to OFF (not lit).
It is located among the SNAPSHOT buttons.
- 3** Press the SNAPSHOT button so that the button lights up.
- 4** Using the ten key pad, enter the number of the snapshot that you want to store.
- 5** Press the STORE button.
It is located among the SNAPSHOT buttons.
The control settings on the unit are stored along with the snapshot number.

To store/update the snapshot data on the window

- 1** Adjust or set the parameters on the unit as required.
- 2** Open the SNAPSHOT window.
- 3** To create new snapshot data:
Touch the NEW button to select it.
Channel processing control values are stored in a new snapshot when the NEW button is pressed. The lowest number among the vacant numbers is assigned and the snapshot is given “# + snapshot number” as a temporary name.

-
- 4** To update the snapshot data:
 - ① Touch the number of the data that you want to update on the snapshot list on the window.
At this time, you cannot select a not-registered snapshot.
 - ② Touch the STORE button on the window.
The data of the selected snapshot number is replaced with the current status of control settings on the unit.

Recalling a snapshot data

To recall the snapshot data using the ten key pad

- 1** Confirm that the TC LINK button is set to OFF (the button is not lit).
- 2** Press the SNAPSHOT SET button so that the button lights up.
- 3** Enter the number of the snapshot data that you want to recall.
- 4** Press the RECALL button on the unit.

To recall the snapshot data on the window

- 1** Open the SNAPSHOT window.
- 2** Touch the number of the snapshot data that you want to recall on the snapshot list.
- 3** Touch the RECALL button on the window.

Changing the name of the snapshot data

- 1** Open the SNAPSHOT window.
- 2** Touch the number of the snapshot data whose name you want to change on the snapshot list.
- 3** Touch the name that you want to change.
- 4** Touch the KEYBOARD window button.
- 5** Enter the name on the KEYBOARD window.
- 6** Touch the ENTER button.

Deleting snapshot data

- 1** Open the SNAPSHOT window.
- 2** Touch the number of the snapshot that you want to delete on the snapshot list.
- 3** Touch the DELETE button.

Cue Operation Procedure

Since the cue data is stored in the work memory when storing it by using the STORE button on the CUE window, data stored in the work memory is cleared when restarting the unit or turning off the power of the unit. Store the data in the current title by selecting KEEP on the TITLE menu which opens by touching the TITLE button or save the data as a title file by using the SAVE button on the TITLE MANAGER window.

To perform the cue operation by manipulating buttons and controls on the unit, use the buttons, the SNAPSHOT SET buttons and the ten key pad on the Automation panel on the unit.

To perform a cue operation on the window, use the CUE window.

For details of the buttons and windows, see “Automation panel” on page 25, “CUE window” on page 66 and “TITLE MANAGER window” on page 72.

Initial cue

- CUE 1 is reserved as an initial cue to indicate the start point of the automation.
- When the timecode before the timecode specified for the initial cue is entered, automation data does not become effective until the timecode advances beyond the timecode of the initial CUE.
- To change the initial cue, perform the same operating procedure as for changing other cue points. **But if you set the timecode after the timecode of the initial cue, automation data between the former timecode and the timecode newly set will be lost.** Similarly, you can change the snapshot linked with the initial cue. But if you change it, an inconsistency problem may occur between the snapshot data and the dynamic automation data.

Storing a cue point

The operation necessary to register CUE 2 and to link with the snapshot is explained below.

To store the cue point using the ten key pad

- 1** Press the TC LINK button on the unit so that the button lights up.
- 2** Create the control settings you want to store by manipulating the unit.
- 3** Press the SNAPSHOT SET button so that the button lights up.
- 4** Enter the desired cue number (02 in this example) using the ten key pad.

-
- 5 Press the STORE button on the unit.
A cue point with the specified cue number (02 in this example) is stored and automatically linked with the new snapshot data.

To store the cue point on the CUE window

- 1 Open the CUE window.
- 2 Touch the NEW button.
At this time, if there are no cue points registered on the cue list, so CUE 2 is created.
- 3 Select the TC LINK button by touching the TC LINK button corresponding to CUE 2.
- 4 Touch the NUMBER button of the EVENT linked with CUE 2.
The event name list (name of the snapshot) opens.
- 5 Select the desired event name (name of the snapshot).
The specified event (snapshot) is linked with CUE 2.

Note

If you change the time of the initial cue and the snapshot data linked with the initial cue, the data existing between the time before the change and after the change are lost and this may have an adverse effect on the result after recalling automation. Take special care when updating the initial cue.

Changing a timecode of a cue point

- 1 Open the CUE window.
- 2 Touch the TIMECODE display corresponding to the cue point that you want to change.
- 3 Enter a new timecode using the ten key pad.
Or increase or decrease a value using the + / - buttons and the jog dial.
- 4 Press the ENTER key.

Changing the snapshot data linked with the cue point

- 1 Open the CUE window.
- 2 Touch the NUMBER display of the EVENT of the cue point that you want to change on the cue list.
- 3 Touch the desired event (snapshot) on the event name list.
The event linked with the cue point is changed.

Changing the name of the cue point

- 1** Open the CUE window.
- 2** Touch the CUE NAME display corresponding to the cue point that you want to change on the cue list.
- 3** Enter a new name for the cue point on the KEYBOARD window or using the keyboard connected to the unit.

Deleting a cue point

- 1** Open the CUE window.
- 2** Touch the NUMBER display corresponding to the cue point that you want to delete.
- 3** Touch the DELETE button.
Only the cue point is deleted. Even if the snapshot is linked with the deleted cue point, the snapshot data is not deleted. If you want to delete the snapshot data too, delete the snapshot data separately.

Automation Procedure

Do not set the items to both snapshot and dynamic automation. For example, if you want to control the fader in automation, set the faders for the snapshot in ISOLATE mode. Even though you can set the same item to both snapshot and automation, the unit may perform unexpected operations.

The unit has two modes for automation: ABS (absolute) mode and TRIM (fine adjustment) mode. To perform automation operation, use the TC AUTOMATION buttons on the Automation panel or on the AUTOMATION window. *For details of buttons, see “Automation Panel” on page 25, and for operations on the window, see “AUTOMATION Window” on page 68.*

Since the automation data that is being written is stored in the dynamic RAM, data stored in the dynamic RAM is cleared when restarting the unit or turning off the power of the unit. Store the data in the current title by selecting KEEP on the TITLE menu which opens by touching the TITLE button. Or save the data as a title file by using the SAVE button on the TITLE MANAGER window.

Writing automation data at the first time (in ABS mode)

- 1** Clear the current tile on the TITLE MANAGER window. Or clear the automation data by touching the MAKE STATIC EXECUTE button on the AUTOMATION window.
All items subject to automation data are cleared.
Even if the timecode advances and automation is set to the RUN status (where automation is being executed), data will not be recalled.

- 2** Change the settings so that automation works properly to write and recall automation data.
 - ① Touch the ABS button on the Automation panel to select ABS mode.
All channels are removed from dynamic automation.
 - ② Confirm that the timecode of cue 1 (the initial cue) is set before the project start timecode.
 - ③ Select the items to be controlled by automation using the CHANNEL buttons in the AUTOMATION ISOLATE tab in the SNAPSHOT window.
 - ④ Set the READY SETUP button to ON and select ALL CANCEL using the OPTION button.
All items subject to automation are in SAFE mode.

- 3** Create a rough mix by manipulating faders, controls and switches currently in the status changed in step 2.

- 4** After creating the rough mix, set the automation items you want to record to READY.

- 5** Confirm that the SAFE button on the panel goes off.

- 6** Set the automation items to drop-in status (WRITE).
 - ① Set the tape recorder to play.
 - ② Drop in items using one of the following methods.
 - Drop in items in READY status with the proper timing.
 - Press the blinking WRITE button on the channel strip.
 - Touch the MASTER DROP IN button on the window to turn its color to light red.

Or you can set the tape recorder to play after setting the automation items to WRITE mode. In this case, after the unit confirms that the timecode has advanced correctly, the unit starts to store data.

- 7** Store automation data by manipulating the faders, controls and buttons as required.

(Continued)

- 8** Drop out the automation data using one of the following methods.
- Touch the MASTER DROP IN button on the window to turn its color to dark red.
 - Touch the numerical value of the items subject to automation.
 - Release the fader.
 - Stop the tape recorder.

Automation data for the items set in WRITE mode in step 6 is written.

Notes

- If a lot of items are dropped in/out at the same time using the MASTER DROP IN button, data near the drop in/drop out point may not be stored and recalled correctly.
- Automation items in WRITE mode are removed from snapshot recall and control from MIDI.

Updating automation data

The data of the automation items is recalled according to the timecode entered. To update automation data, set the desired automation items to READY, then drop them into WRITE.

You can select either ABS mode or TRIM mode to update data, using the ABS button or TRIM button of the TC AUTOMATION buttons on the Automation panel.

In ABS mode, you can set the speed to return to the previous data from the new data in the AUTO RETURN TIME section in the AUTOMATION window.

Fader operation and its results

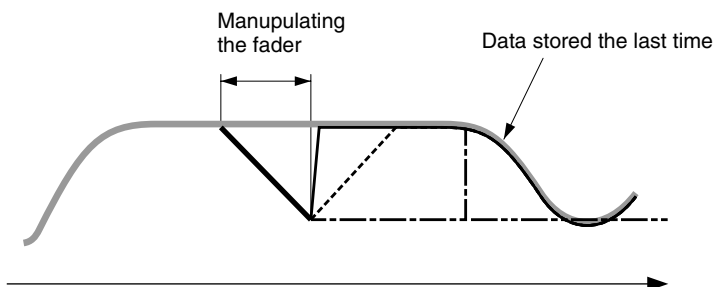
The following figures show the fader operation and the results of the fader operation.

In the figures, the fader operations are indicated using the following lines:

— : Indicates the data stored last time (previous data)

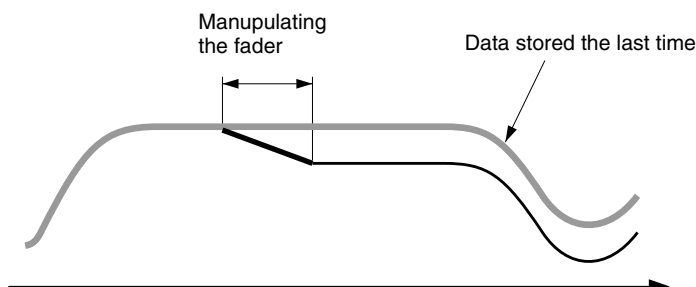
— : Indicates the actual results of the fader operation (new data).

When operating the faders in ABS mode



- BUTT: The fader is reset to the position stored the last time (previous data) at the instant you release the fader.
- RAMP: The fader is reset to the stored position at the specified speed, when you release the fader.
- HOLD TO NEXT: After you release the fader, the fader's position remains as it is up to the next event.
- HOLD TO END: After you release the fader, the fader's position remains as it is up to the end. The previous data is overwritten.

When operating the faders in trim mode



The operation performed while holding the fader down is added to the last stored data as offset and recalling is continued.

To update automation in ABS mode

Set the tape recorder to play and set the desired automation items in READY status. The method used to set in READY status depends on faders, controls and buttons.

When any processing control in a channel is in READY status, the channel's WRITE button flashes. Also on the display, buttons display a yellow bar and numerical values in the window change to yellow.

- To drop in faders, touch the fader knob or the numerical value displayed on the window.

When you drop in by touching the fader knob, release the fader to drop out (the status where WRITE is cleared).

When you drop in by touching the numerical value displayed on the window, you can drop out using one of the following methods:

- Touch the numerical value again.
- Press the WRITE button of that channel.
- Touch the MASTER DROP IN button.
- Stop the tape recorder.

- To drop in buttons, touch them.

The button is automatically dropped in.

You can drop out using one of the following methods:

In ABS mode

- Press the WRITE button of that channel.
- Touch the MASTER DROP IN button.
- Stop the tape recorder.

In Trim mode, release the button to drop out automatically.

For items dropped in, replay of previously recorded automation is stopped and new automation data is written.

When dropping out, faders and other controls return to the previous automation data and replay of the previous data continues according to the method specified in the AUTO RETURN TIME section in the AUTOMATION window

Note

When HOLD TO END is specified, the status of faders, controls and switches at drop out are held and stored as automation data to the end of the title.

To update in TRIM mode

In TRIM mode, you can update previous automation data by adding offsets.

By continuing to hold a button down, you can change the ON/OFF timing of CUT.

Note

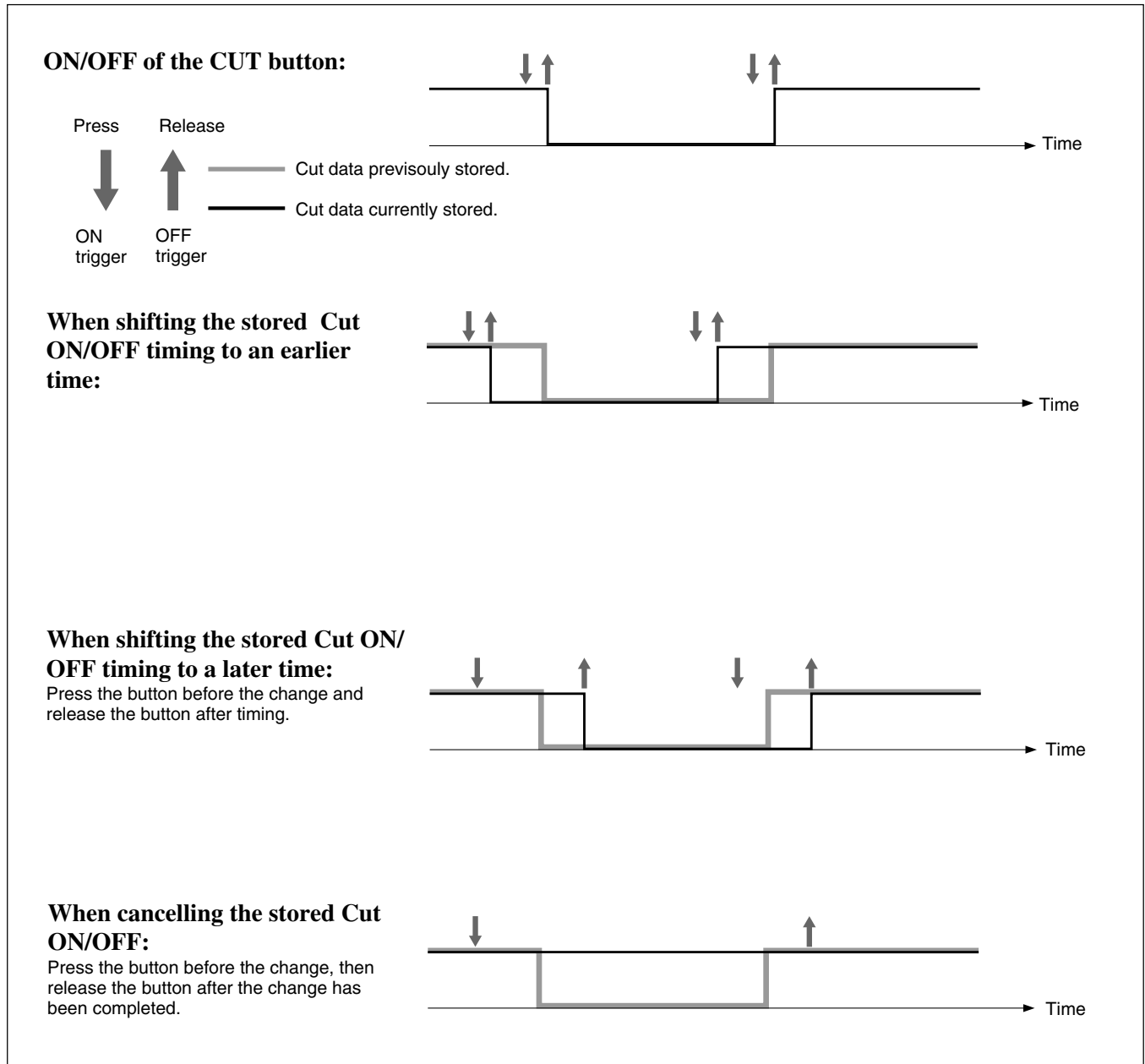
In TRIM mode, operation of the buttons is changed, so the audio signal is affected when you release the button.

Basic Operation Procedure

For example, by releasing the CUT button, the data and audio signals are changed as follows.

- 1** When you press the CUT button, the audio signal status is held with the ON trigger and LEDs and ON/OFF status are inverted.
- 2** As long as you hold down the CUT button, the audio signal status in step 1 is held and the displays change according to the automation operation.
- 3** When you release the CUT button, the audio signal status is adjusted to the display status with the OFF trigger.

The audio signal status in steps 1 to 3 is stored as automation data.



Using the Automatic Isolate Function

The automatic isolate function allows you to remove automation control from selected channel or function. Using this automatic isolate function, you can manually adjust the level, regardless of the stored automation data. Even if the automation item is set to the isolate function, the control will write automation data if dropped in.

This can be used as an automation mode, allowing you to stop previous automation playback, finding a new setting of the control and dropping in.

- 1** Set the channel or function that has the item you want to adjust to ISOLATE in the AUTOMATION window.
- 2** Set the item to be adjusted to READY.
- 3** Start the tape recorder to play, and adjust the sound signal to the proper level.
Repeat level adjustments as required.
- 4** Rewind the tape and play it back.
- 5** Drop it at the proper point to set the desired item to WRITE.
- 6** Stop the tape recorder.
- 7** Clear ISOLATE of the automation item.

Using the Write Hold Mode

After WRITE HOLD mode is set, controls hold their adjusted position even when the timecode is stopped. This function allows you to hold the fader group.

You can readjust the level without previously stored automation data being replayed when timecode is stopped.

- 1** Press the SAFE button to set it to ON (lit).
- 2** Set the READY button on the top menu bar to ON, open the OPTION button menu and select the WRITE HOLD mode.
- 3** Select the FOOT SW button or AUTO button in the PUNCH IN/OUT section in the AUTOMATION window.
Punch in/out is set.
- 4** Set the automation item to be adjusted to READY.
- 5** Start the tape recorder.

(Continued)

- 6** Drop in the item selected in step 4.
- 7** Adjust the level.
- 8** Repeat the adjustment by rewinding the tape as required.
- 9** Set the SAFE button to OFF after adjusting the level to the proper one.
- 10** Start the tape recorder.
- 11** Store the required duration by punching the information in/out.
You can drop out manually as required.
- 12** Clear Punch in/out and WRITE HOLD modes.

Note

In WRITE HOLD mode, once the automation item is set in WRITE, this WRITE mode is held until it is dropped out manually. If you do not use the SAFE button and the punch in/out function, the automation data is overwritten each time the tape recorder plays back.

Punching In/Punching Out

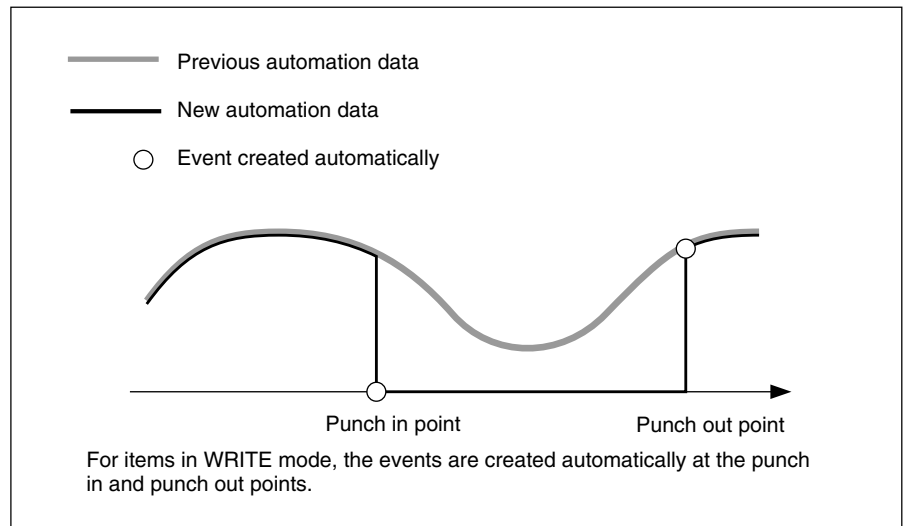
Punching in/punching out using the automation function

You can change automation data between specified durations by using the punch in/out function.

The following example shows a case where you want to remove noise recorded on the tape by cutting the audio with the fader.

- 1** Find the timecodes of the start and end of the noise.
- 2** Set the timecodes found in step 1 in PUNCH IN TIME and PUNCH OUT TIME windows, then press the AUTO button.
The automation data is stored during the duration displayed on the display windows.
- 3** Rewind the tape.
- 4** Set the SAFE button on the panel to OFF so that it goes off.
- 5** Drop in the fader of the desired channel, and slide the fader down to the minimum position.
The display turns in red, but data will not be written up to the PUNCH IN point.
- 6** Start the tape recorder to play back.

During the duration specified by the punch in/out function, the minimum level is stored as automation data for the corresponding fader. At the punch in point, the current fader level is stored. At the punch out point, the fader level of the previous data is stored.



When the settings have been completed and everything is ready to save them as data, select KEEP by touching the TITLE button on the window, as required.

Performing punch in/punch out using the foot switch

Punching in/punching out using the foot switch allows you to manually control the Drop in/out using an external foot switch.

To perform a cut operation, use the AUTOMATION buttons section on the Automation panel on the unit and in the AUTOMATION window. For details of buttons, see “Automation Panel” on page 25, and for operations on the window, see “AUTOMATION Window” on page 68.

- 1** Select the FOOT SW button on the PUNCH IN/OUT section on the AUTOMATION window.
- 2** Press the ABS button on the TC AUTOMATION section on the Automation panel of the unit so that it lights up.
- 3** Set the fader or other control whose signal you want to cut to READY.
- 4** Drop in the fader whose signal you want to cut on the window. The display turns in red, but data will not be written until the foot switch is set to ON.
- 5** Press the SAFE button on the TC AUTOMATION section on the Automation panel of the unit so that it goes off.

(Continued)

Basic Operation Procedure

- 6** Locate the tape recorder at a point a little before the PUNCH IN time and start to play.
- 7** Slide the faders up to the desired level.
- 8** Set the foot switch to ON at the desired time.
- 9** Stop the tape recorder at the proper timing. Or switch the foot switch to OFF.

Dialogues on the Window

In the following cases, a dialogue box appears on the window to confirm the operation and indicate the status of the unit. Selecting the [YES] or [CANCEL] button on the box gives the result shown in parenthesis.

Cases	Dialogues and remedies
When you touch the DELETE button on the SNAPSHOT window.	“Are you sure you want to delete the selected snapshot?” [Yes] (The snapshot is deleted.) [CANCEL] (Cancels the deletion.)
When you touch the DELETE button on the CUE window.	“Are you sure you want to delete the selected cue?” [Yes] (The cue is deleted) [CANCEL] (Cancels the deletion.)
The sampling frequency or sync source changes when you touch the CHANGE button on the SYNC/TIME CODE window.	“Are you sure you want to change the FS or sync source? The current title will be lost, if you continue.” [Yes] (The FS or sync source is changed, and the unit restarts automatically.) [CANCEL] (No action)
When you touch the CURRENT TITLE CLEAR button on the TITLE MANAGER window.	“Are you sure you want to clear the current title?” [Yes] (The current title is cleared.) [CANCEL] (No action)
When you try to save a title with a title which has already been saved, on the TITLE MANAGER window.	“Are you sure you want to overwrite the saved title?” [Yes] (The title is overwritten.) [CANCEL] (No action)
When you try to delete a title which has already been saved, on the TITLE MANAGER window.	“Are you sure you want to delete the title?” [Yes] (The current title is deleted.) [CANCEL] (No action)
When you try to load a title, on the TITLE MANAGER window:	“Are you sure you want to load the title? The current title will be overwritten, if you continue.” [Yes] (The title is loaded.) [CANCEL] (No action)
When the VIDEO is selected as the reference signal, the VIDEO PLL is unlocked.	“Video PLL unlocked.” [Yes] (The dialogue is closed.) Remedy: Confirm that the correct reference video signal is inputted and the video signal path is correctly terminated.
The MAIN PLL is unlocked	“MAIN PLL unlocked.” [Yes] (The dialogue is closed.) Remedy: Confirm that the signal selected as the SYNC source is inputted correctly.
An error occurs when searching for a title saved on the floppy disk.	“There are no titles or this is an unformatted disk. Check the media in the floppy disk drive.” [Yes] (The dialogue is closed.) Remedy: Ignore the dialogue when the disk is already formatted and no title is saved on it. In any other case, format the floppy disk.

Dialogues on the Window

Cases	Dialogues and remedies
The title files are corrupted.	<p>“Corrupted title files. Do you want to initialize all titles?”</p> <p>[Yes] (The corrupted title files are deleted.)</p>
The storage space is insufficient to save the current title.	<p>“Insufficient storage space. You must delete unnecessary file(s) first.”</p> <p>[Yes] (The dialogue is closed.)</p> <p>Remedy: Delete any unnecessary file(s) . Or save the title on a floppy disk.</p>
Load error occurs.	<p>“Load error. Current title cleared.”</p> <p>[Yes] (The dialogue is closed.)</p> <p>Remedy: If the load error occurs again after reloading, the title or the media is corrupted.</p> <p>If this dialogue appears while loading up a title from the flash memory, delete the title.</p> <p>Note that when this dialogue appears, the current title is cleared.</p>
While saving a title, a write error occurs.	<p>“Save error.”</p> <p>[Yes] (The dialogue is closed.)</p> <p>Remedy: While saving on a floppy disk, check that the write-protect tab is set to the protect position or not. While saving on the flash memory of the unit, retry saving.</p>
The current title is corrupted when starting up the unit.	<p>“Corrupted title file. The current title is initialized.”</p> <p>[Yes] (The corresponding title is initialized to the default setting.)</p>
The file of the title to be loaded is corrupted.	<p>“Corrupted title file. This title is deleted.”</p> <p>[Yes] (The corresponding title is cleared.)</p>
When you touch the CALIBRATE button on the TOUCH PANEL section of the MISC SETUP window.	<p>“Is a PS2 mouse connected to mouse port? Without a mouse, you cannot re-calibrate the touch screen, if you fail to calibrate it successfully.”</p> <p>[Yes] (Execute the calibration program of the touch panel.)</p> <p>[Cancel] (No action)</p> <p>NOTE</p> <p>Be sure to calibrate the touch panel with a mouse connected. If you fail calibration, re-calibrate the touch panel using the mouse.</p>

Cases	Dialogues and remedies
When you execute to load or save the title while automation is being run:	“No file access while automation is in ‘RUN’.” [OK] (No action)
The tape recorder does not start operation even though 2 seconds have elapsed when MIDI controlling the tape recorder.	“Switching MIDI Machine Control to OPEN LOOP.” [OK] (Switched in open loop control mode.)
When you copy data between the buffers A and B:	“Are you sure you want to copy automation data? Destination buffer will be overwritten” [Yes] (Execute copying.) [Cancel] (No action)
When you execute MAKE STATIC function:	“Are you sure you want to erase automation data?” [Yes] (Execute erasing automation data.) [Cancel] (No action)
When you try to change the initial cue while automation is being run:	“Initial cue timecode value can not be changed, while automation is in ‘RUN’” [OK] (No action)
There are cues to be deleted if you change the timecode of the initial cue.	“You are changing initial cue timecode value. Cue(s) proceeding the initial cue timecode value will be deleted.” [Yes] (The timecode is changed) [Cancel] (No action)
You try to create the cue with the timecode that is a lower value than the Cue 1 value.	“The cue has not been stored as the timecode value is before the initial cue.” [OK] (No action)

Specifications

Input/Output Connectors

Digital audio input/output

Digital input connectors

Connector	Number of inputs	Number of channels	Connector type	Signal format
AUX RET 5/6, 7/8	×2	×4	XLR-3-31	AES/EBU
2TR IN 2	×1	Stereo ×2	XLR-3-31	AES/EBU

Digital output connectors

Connector	Number of outputs	Number of channels	Connector type	Signal format
PGM	×1	×2 (L/R)	XLR-3-32	AES/EBU
AUX SEND 5/6, 7/8	×2	×4	XLR-3-32	AES/EBU

Analog audio input/output

Analog input connectors

Connector	Number of inputs	Number of channels	Connector type	Reference level	Maximum input level	Input impedance
IN A1 to 12	×12	×12	XLR-3-31, Balanced	-60 to + 10 dBu	+ 24 dBu	4.7 kΩ
IN B1 to 12	×12	×12	1/4 " TRS, Balanced	-60 to + 10 dBu	+ 24 dBu	10 kΩ
LINE IN 13 to 24	×12	×12	Combo coax, Balanced	-60 to + 10 dBu	+ 24 dBu	10 kΩ
2TR IN 1 L/R	×2	×2 (L/R)	1/4 " TRS, Balanced	+ 4 dBu	+ 24 dBu	10 kΩ
AUX RET 1 to 4	×4	×4	1/4 " TRS, Balanced	+ 4 dBu	+ 24 dBu	10 kΩ

Analog output connectors

Connector	Number of outputs	Number of channels	Connector type	Reference level (load impedance)	Maximum input level (load impedance)	Output impedance
PGM L/R	×2	×2 (stereo)	1/4 " TRS, Balanced	+ 4 dBu (10 kΩ)	+ 24 dBu (10 kΩ)	150 Ω
	×2	×2 (stereo)	XLR-3-32, Balanced			
AUX SEND 1 to 8	×8	×8	1/4 " TRS, Balanced			
STD MONITOR L/R	×2	×2 (stereo)				
CR MONITOR 1 to 6	×6	×6				

Analog insertion signal

Connector	Number of inputs/outputs	Number of channels	Connector type	Reference level (load impedance)	Maximum input/output level (load impedance)	Input/output impedance
INSERTION 1 to 12 (send/return)	×12	×12	1/4 " TRS, Unbalanced	0 dBu (10 kΩ)	+20 dBu (10 kΩ)	Send: 150 Ω Return: 10 kΩ

Control signal input/output

Connector	Connector type (load impedance)	Signal format	Reference level
REF WORD (with 75 Ω termination switch) IN OUT	×1, BNC type (75 Ω) ×1, BNC type (75 Ω)	Duty 50 %	_____
REF VIDEO	×2, BNC type (loop through) (75 Ω)	NTSC Color/ B & W PAL	VB, BB: 1.0 ±0.2 Vp-p Composite: 0.2 V to 5 Vp-p
TIME CODE input/output	XLR-3-32, Balanced/XLR-3-31, Balanced	SMPTE/EBU	_____
MIDI MTC IN OUT THRU	DIN 5-pin, female	MIDI standard	
REMOTE IN OUT 1, OUT 2	D-sub 9-pin, female	Sony 9-pin	
PC PORT	Mini DIN 8-pin, female	_____	
FOOT SW	Phone jack	Make-point	
MOUSE	Mini DIN 6-pin, female	PS/2	
KEYBOARD	Mini DIN 6-pin, female	PS/2	
USB	_____	USB	
SERIAL	D-sub 9-pin, male	RS-232C	
MONITOR	D-sub high density 15-pin, female	Analog RGB	

Pin assignment

XLR-3-31/XLR-3-32 connector	2:Hot	3:Cold	1:GND
1/4 " TRS (Balanced) connector	Tip:Hot	Ring:Cold	Sleeve:GND
1/4 " TRS (Unbalanced) connector	Tip:INSERTION SEND	Ring:INSERTION RETURN	Sleeve:GND

When 88.2 kHz or 96 kHz is selected as a sampling frequency, some functions are limited.

For detailed information, see page 76.

Specifications

Audio Characteristics

Signal processing characteristics

Characteristics		Specification	
Signal processing		32/40 bit floating point	
Equalizer	High frequency range	Frequency range	1fs ¹⁾ : 622 Hz to 19.9 kHz (61 points) 2fs ²⁾ : 622 Hz to 39.8 kHz (73 points)
		Response adjustable range	±20 dB (128 points, 0.25 to 0.5 dB step)
		Q	0.5 to 16 (63 points)
		Type	Shelving/Peaking switchable
	High-mid frequency range	Frequency range	220 Hz to 7.0 kHz (61 points)
		Response adjustable range	±20 dB (128 points, 0.25 to 0.5 dB step)
		Q	0.5 to 16 (63 points)
		Type	Peaking
	Low-mid frequency range	Frequency range	77.8 Hz to 2.5 kHz (61 points)
		Response adjustable range	±20 dB (128 points, 0.25 to 0.5 dB step)
		Q	0.5 to 16 (63 points)
		Type	Peaking
	Low frequency range	Frequency range	27.5 Hz to 880 Hz (61 points)
		Response adjustable range	±20 dB (128 points, 0.25 to 0.5 dB step)
		Q	0.5 to 16 (63 points)
		Type	Shelving/Peaking switchable
Filter	High cut filter	Cut-off frequency	1fs ¹⁾ : 1.48 kHz to 22.35 kHz (48 points) 2fs ²⁾ : 1.48 kHz to 42.2 kHz (59 points)
		Roll-off characteristics	12 dB/Octave
	Low cut filter	Cut-off frequency	27.5 Hz to 415 Hz (48 points)
		Roll-off characteristics	12 dB/Octave
Dynamics	Compressor/Ducking	Threshold	0 dB to - 60 dB (106 points)
		Attack time	20 μs to 1 s (121 points)
		Release time	31.6 ms to 50.1 s (97 points)
		Ratio	1 : 1 to ∞ : 1 (31 points)
		Range	AUTO, 0 dB to 15 dB (0.25 dB step)
		Hold time	20 μs to 1 s (121 points)
	Expander/Gate	Threshold	0 dB to -80 dB (126 points)
		Attack time	20 μs to 1 s (121 points)
		Release time	31.6 ms to 50.1 s (97 points)
		Ratio	1 : 1 to 1 : 10 (31 points)
		Range	0 dB to 60 dB (1 dB step)
		Hold time	20 μs to 1 s (121 points)
Oscillator	Frequency	20 Hz to 20 kHz (28 points)	
	Output level	- ∞ to 10 dBFS (31 points)	
Level meter	Indicator	20 segment LED	
	Overload detection	Full-scale 1 word	

1): 1fs: 44.1/48 kHz

2): 2fs: 88.2/96 kHz

Another audio characteristics

Characteristics	Specifications	
Frequency response	Line input (LINE IN to PGM OUT)	20 Hz to 20 kHz, ± 0.2 dB
	Mic input (MIC IN to PGM OUT)	20 Hz to 20 kHz, ± 0.3 dB
Harmonic distortion	Line input (LINE IN to PGM OUT)	0.01 %, at + 4 dBs, 1 kHz
	Mic input (MIC IN to PGM OUT)	0.1 %, at - 60 dBs, 1 kHz
Noise level	Mic input	-104 dBu, 600 Ω terminated (-80 dB μ , 4 dB standard)
	Mic input	-126 dBu, 150 Ω terminated
Crosstalk	Between input and output channels	90 dB at 1 kHz
Dynamic range	Line input (LINE IN to PGM OUT)	104 dB
A to D converter	24-bit, $\times 128$ oversampling	
D to A converter	24-bit, $\times 128$ oversampling	
Total delay	2.5 ms (Between LINE IN and PGM OUT) $F_s = 48$ kHz	

Automation Function

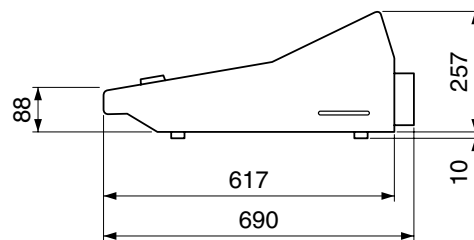
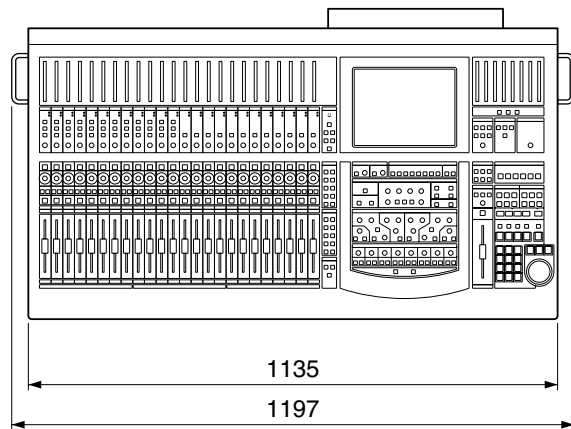
Item	Contents	
Title	Contents of title	Title configuration, snapshot automation, mix (saved dynamic automation)
	Number of title configuration	$\times 1$
	Number of snapshot automation	$\times 1$
	Storage	Built-in flash memory or floppy disk
Title configuration	Contents of title configuration	FS, Initial snapshot, Timecode mode, Output
Snapshot automation	Number of snapshots	99 max.
	Number of MIDI events	99 max.
	Number of cue points	99 max.
	Number of events per cue point	1
	Size of snapshot	8 kbyte/snapshot
	Memory	Dynamic RAM ^{a)}
	Time accuracy of cue linked event	± 2 frames
	Contents of snapshots	Input router, delay, phase, trimming, input mode, filter, equalizer, dynamics, pan, assign, cut, fader, AUX
Dynamic automation	Buffer size	1 M byte
	Number of temporary buffers	2 (A and B)
	Event size	12 bytes/effective frame (min)
	Memory	Dynamic RAM ^{a)}
	Time accuracy	± 2 frames
	Contents of dynamic automation ^{a)}	Filter, equalizer, dynamics, pan, assign, cut, fader, AUX
Fader resolution	10-bit (1024 steps)	

a) When you turn off the power of the unit, or start the unit without performing KEEP operation, the automation data will be cleared.

Specifications

Others

- Power requirements DMX-R100 (UC): AC120 V,
60 Hz
DMX-R100 (CE): AC 220 to
240 V ~, 50/60 Hz
- Power consumption 200 W
- Peak inrush current
- (1) Power ON, current probe method:
50 A (240V)
 - (2) Hot switching inrush current,
measured in accordance with
European standard EN55103-1: 10 A
(230V)
- Appel de courant de crête
- (1) Mise sous tension (ON), méthode de
sondage du courant: 50 A (240V)
 - (2) Mesuré conformément à la norme
européenne EN55103-1 : 10 A
(230V)
- Spitzenstrom
- (1) Einschaltstrom, Stromsonde: 50 A
(240V)
 - (2) Gemessen in EN55103-1: 10 A
(230V)
- Dimensions 1140 x 240 x 677 (w/h/d) mm
(45 x 9 1/2 x 26 3/4 inches)
- Mass 55 kg (121 lb 4 oz)
- Operating temperature 5°C to 35°C (41°F to 95°F)
- Storage temperature -20 °C to 60°C (-4°F to 140°F)



(unit : mm)

Supplied Accessories

- Power supply cord (1)
- Operating Instructions (1)

Optional Accessories

- DMBK-R101 8CH Analog Line In Board
- DMBK-R102 8CH Analog Line Out Board
- DMBK-R103 8CH AES/EBU DIO Board
- DMBK-R104 8CH Sampling Rate Converter DI Board
- DMBK-R105 8CH Insertion board
- DMBK-R106 Interface Board for ADAT
- DMBK-R107 Interface Board for TDIF

Design and specifications are subject to change without notice.

MIDI Implementation Chart

Function		Transmitted	Recognized	Remarks
Basic:	At power on	1 to 16, OFF	1 to 16, OFF	Memorized after the power off.
Channel:	Assignable	1 to 16, OFF	1 to 16, OFF	
Mode:	At power on	×	OMNI ON/OFF	Memorized after the power off.
	Message	×	×	
	Altered	*****	×	
Note		×	×	
Number	True voice	*****	×	
Velocity:	Note ON	×	×	
	Note OFF	×	×	
After touch	Keys	×	×	
	Channels	×	×	
Pitch Bend		×	×	
Control change	0-102	○	○	Refer to the control change table.
	Assignable	0/127		
Program change		○	○	
	Assignable			
System Exclusive		○	○	Bulk damp
System common:	Song position	×	×	
	Song select	×	×	
	Tune	×	×	
Real time:	Clock	×	×	
	Command	×	×	
Others	Local ON/OFF	×	×	
	All note OFF	×	×	
	Active sensing	×	×	
	Reset	×	×	
Remarks:				

Mode 1: OMNI ON, POLI

Mode 2: OMNI OFF, MONO

Mode 3: OMNI OFF, POLI

Mode 4: OMNI OFF, MONO

○: Yes

×: No

Control Change Table

Parameter change No.	Mode 1	Mode 2	Parameter change No.	Mode 1	Mode 2
	Function	Function		Function	Function
0	—	—	40	CH39 Fader	AUX8 MASTER Fader
1	CH1 Fader	CH1 Fader	41	CH40 Fader	AUX RET1 Fader
2	CH2 Fader	CH2 Fader	42	CH41 Fader	AUX RET2 Fade
3	CH3 Fader	CH3 Fader	43	CH42 Fader	AUX RET3 Fader
4	CH4 Fader	CH4 Fader	44	CH43 Fader	AUX RET4 Fader
5	CH5 Fader	CH5 Fader	45	CH44 Fader	AUX RET5 Fader
6	CH6 Fader	CH6 Fader	46	CH45 Fader	AUX RET6 Fader
7	CH7 Fader	CH7 Fader	47	CH46 Fader	AUX RET7 Fader
8	CH8 Fader	CH8 Fader	48	CH47 Fader	AUX RET8 Fader
9	CH9 Fader	CH9 Fader	49	CH48 Fader	PGM MASTER Fader
10	CH10 Fader	CH10 Fader	50	MTR1 MASTER Fader	CH1 PAN
11	CH11 Fader	CH11 Fader	51	MTR2 MASTER Fader	CH2 PAN
12	CH12 Fader	CH12 Fader	52	MTR3 MASTER Fader	CH3 PAN
13	CH13 Fader	CH13 Fader	53	MTR4 MASTER Fader	CH4 PAN
14	CH14 Fader	CH14 Fader	54	MTR5 MASTER Fader	CH5 PAN
15	CH15 Fader	CH15 Fader	55	MTR6 MASTER Fader	CH6 PAN
16	CH16 Fader	CH16 Fader	56	MTR7 MASTER Fader	CH7 PAN
17	CH17 Fader	CH17 Fade	57	MTR8 MASTER Fader	CH8 PAN
18	CH18 Fader	CH18 Fader	58	AUX1 MASTER Fader	CH9 PAN
19	CH19 Fader	CH19 Fader	59	AUX2 MASTER Fader	CH10 PAN
20	CH20 Fader	CH20 Fader	60	AUX3 MASTER Fader	CH11 PAN
21	CH21 Fader	CH21 Fader	61	AUX4 MASTER Fader	CH12 PAN
22	CH22 Fader	CH22 Fader	62	AUX5 MASTER Fader	CH13 PAN
23	CH23 Fader	CH23 Fader	63	AUX6 MASTER Fader	CH14 PAN
24	CH24 Fader	CH24 Fader	64	AUX7 MASTER Fader	CH15 PAN
25	CH25 Fader	MTR1 MASTER Fader	65	AUX8 MASTER Fader	CH16 PAN
26	CH26 Fader	MTR2 MASTER Fader	66	AUX RET1 Fader	CH17 PAN
27	CH27 Fader	MTR3 MASTER Fader	67	AUX RET2 Fader	CH18 PAN
28	CH28 Fader	MTR4 MASTER Fader	68	AUX RET3 Fader	CH19 PAN
29	CH29 Fader	MTR5 MASTER Fader	69	AUX RET4 Fader	CH20 PAN
30	CH30 Fader	MTR6 MASTER Fader	70	AUX RET5 Fader	CH21 PAN
31	CH31 Fader	MTR7 MASTER Fader	71	AUX RET6 Fader	CH22 PAN
32	—	MTR8 MASTER Fader	72	AUX RET7 Fader	CH23 PAN
33	CH32 Fader	AUX1 MASTER Fader	73	AUX RET8 Fader	CH24 PAN
34	CH33 Fader	AUX2 MASTER Fade	74	PGM MASTER Fader	CH1 CUT
35	CH34 Fader	AUX3 MASTER Fader	75	CH1 PAN	CH2 CUT
36	CH35 Fader	AUX4 MASTER Fader	76	CH2 PAN	CH3CUT
37	CH36 Fader	AUX5 MASTER Fader	77	CH3 PAN	CH4 CUT
38	CH37 Fader	AUX6 MASTER Fade	78	CH4 PAN	CH5 CUT
39	CH38 Fader	AUX7 MASTER Fader	79	CH5 PAN	CH6 CUT

Parameter change No.	Mode 1	Mode 2	Parameter change No.	Mode 1	Mode 2
	Function	Function		Function	Function
80	CH6 PAN	CH7 CUT	104	CH30 PAN	AUX RET7 CUT
81	CH7 PAN	CH8 CUT	105	CH31 PAN	AUX RET8 CUT
82	CH8 PAN	CH9 CUT	106	CH32 PAN	CH1 AUX1 SEND
83	CH9 PAN	CH10 CUT	107	CH33 PAN	CH2 AUX1 SEND
84	CH10 PAN	CH11 CUT	108	CH34 PAN	CH3 AUX1 SEND
85	CH11 PAN	CH12 CUT	109	CH35 PAN	CH4 AUX1 SEND
86	CH12 PAN	CH13 CUT	110	CH36 PAN	CH5 AUX1 SEND
87	CH13 PAN	CH14 CUT	111	CH37 PAN	CH6 AUX1 SEND
88	CH14 PAN	CH15 CUT	112	CH38 PAN	CH7 AUX1 SEND
89	CH15 PAN	CH16 CUT	113	CH39 PAN	CH8 AUX1 SEND
90	CH16 PAN	CH17 CUT	114	CH40 PAN	CH9 AUX1 SEND
91	CH17 PAN	CH18 CUT	115	CH41 PAN	CH10 AUX1 SEND
92	CH18 PAN	CH19 CUT	116	CH42 PAN	CH11 AUX1 SEND
93	CH19 PAN	CH20 CUT	117	CH43 PAN	CH12 AUX1 SEND
94	CH20 PAN	CH21 CUT	118	CH44 PAN	CH13 AUX1 SEND
95	CH21 PAN	CH22 CUT	119	CH45 PAN	CH14 AUX1 SEND
96	CH22 PAN	CH23 CUT	120	CH46 PAN	CH15 AUX1 SEND
97	CH23 PAN	CH24 CUT	121	CH47 PAN	CH16 AUX1 SEND
98	CH24 PAN	AUX RET1 CUT	122	CH48 PAN	CH17 AUX1 SEND
99	CH25 PAN	AUX RET2 CUT	123	CH48 PAN	CH18 AUX1 SEND
100	CH26 PAN	AUX RET3 CUT	124	—	CH19 AUX1 SEND
101	CH27 PAN	AUX RET4 CUT	125	—	CH20 AUX1 SEND
102	CH28 PAN	AUX RET5 CUT	126	—	CH21 AUX1 SEND
103	CH29 PAN	AUX RET6 CUT	127	—	CH22 AUX1 SEND

Parameter change No.	Mode 3
	Function
0 to 25	Invalid
26	Talkback (PGM)
27	Talkback (AUX)
28	Talkback (MTR)
29	Talkback (STUDIO)
30	Talkback (SLATE)
31 to 127	Invalid

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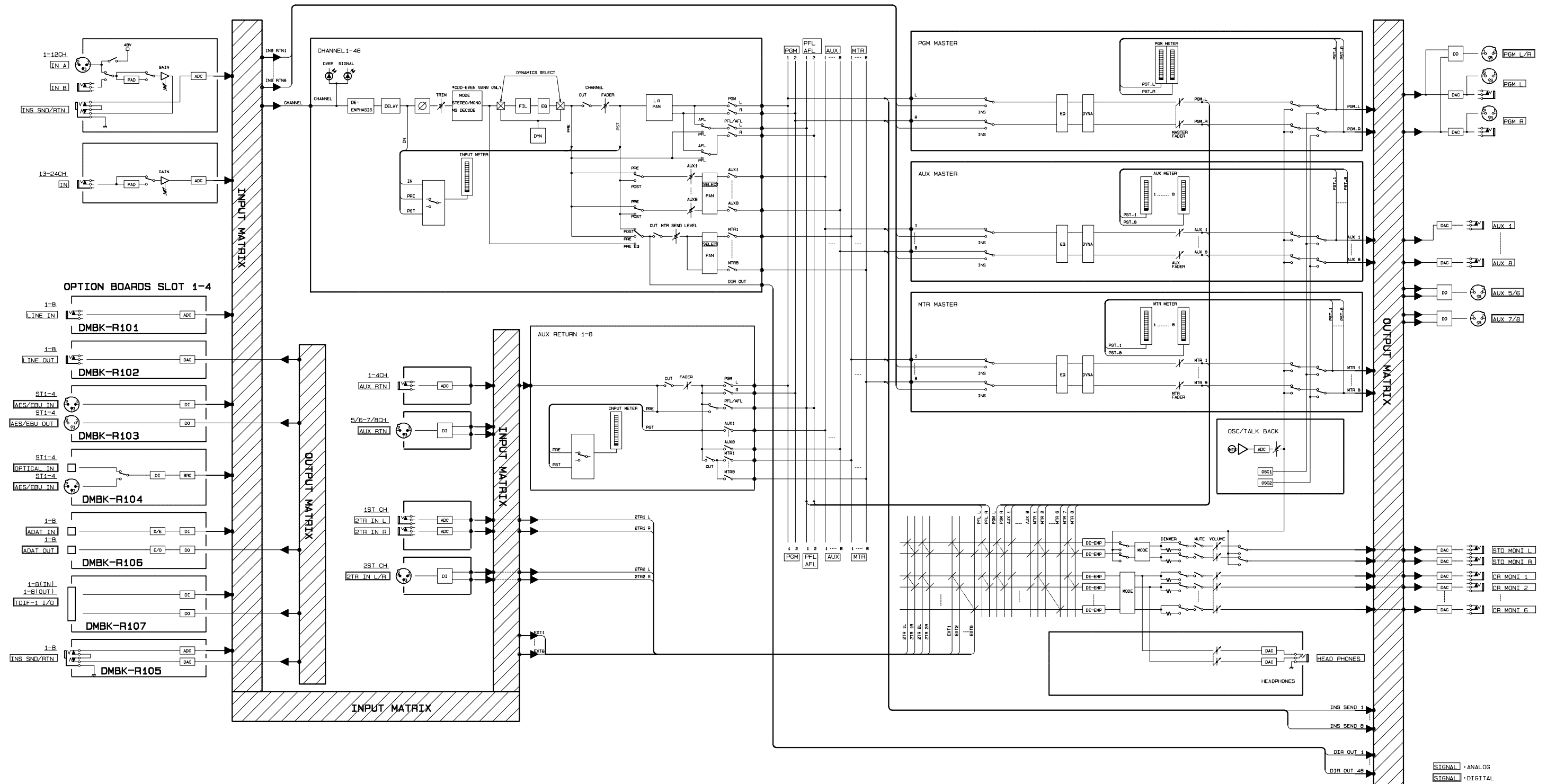
Write

- Write button 12
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Block Diagram

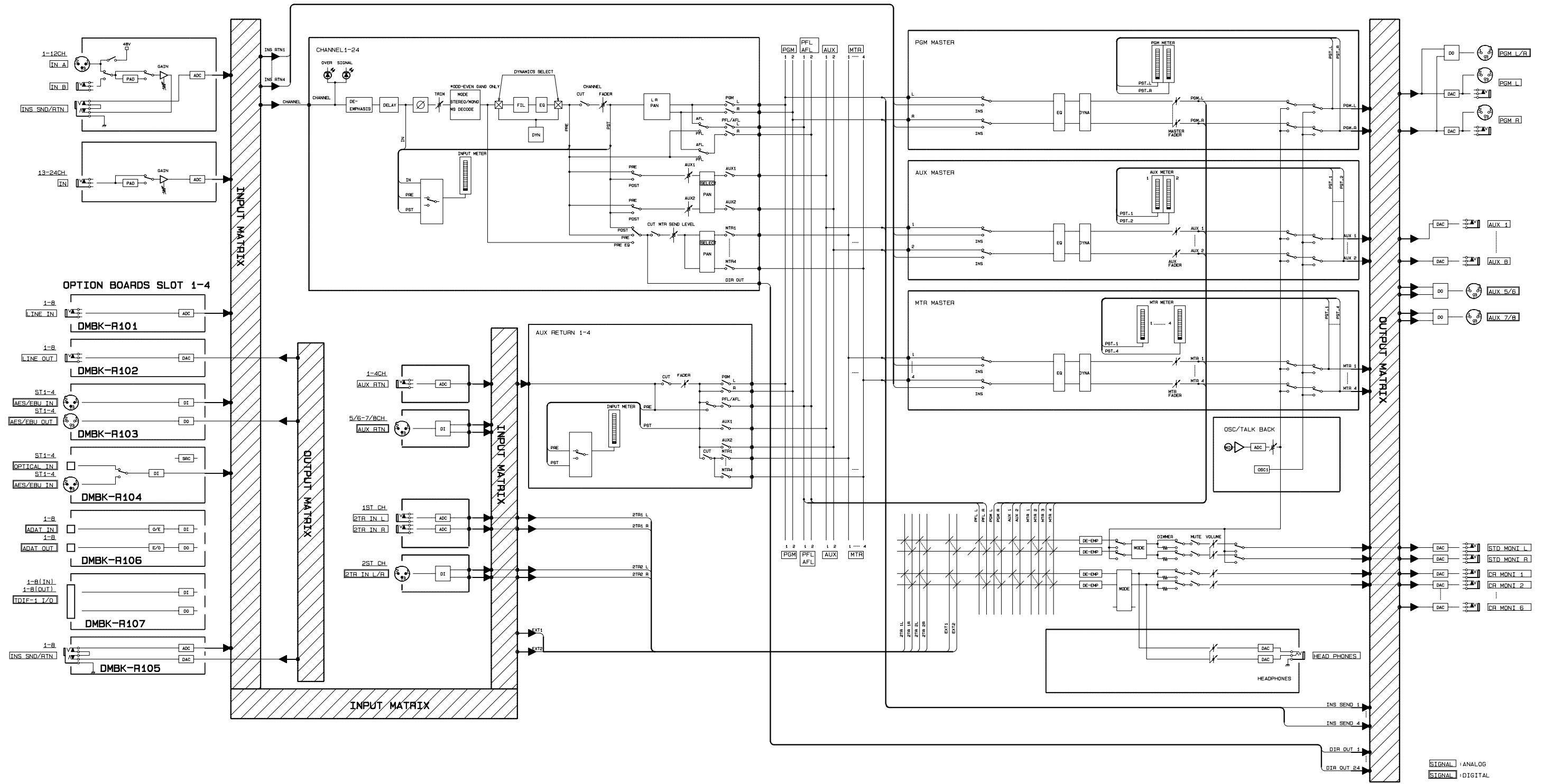
Fs = 44.1/48 kHz (1 fs)



Appendix

Block Diagram

Fs = 88.2/96 kHz (2 fs)



Appendix

