

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.

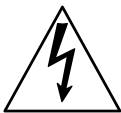
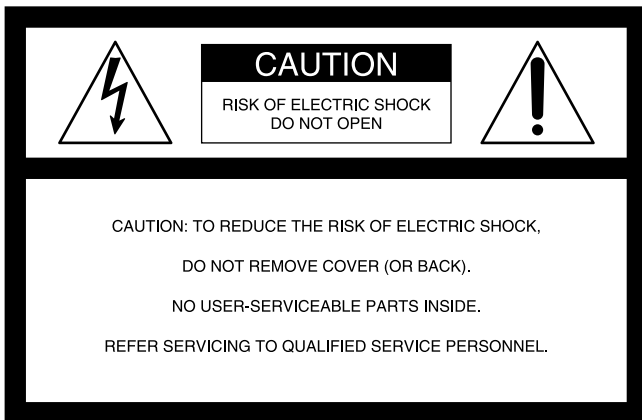
Model No. DMX-R100 Serial No. _____

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)

Table of Contents

Chapter 1

Overview

Overview	6
Connection Examples	7
Video Post Production	7
Music Production	8
Live Recording	9

Chapter 2

Locations and Functions of Parts and Controls

Locations and Functions of Parts and Controls	10
Composition of the Front Panel	10
Analog Head Amplifier Panel	11
Channel Meter Panel	11
Channel Strip Panel	12
Talk-Back Panel	13
Assignment Panel	14
Parameter Setting Panel	15
Master Panel	19
Automation Panel	22
Elements of the Rear Panel	24
Power Supply Section	24
Control Signal Connectors	25
Analog Signal Connectors	27
Digital Signal Connectors	29
Optional Boards	30

Chapter 3

Menu

Menu Structure	32
Basic Components and Functions of the Windows ...	33
Basic Components of the Windows	33
Operating the Touch Panel	35
Menu Windows	37
CHANNEL Window	37
INPUT/PAN/ASSIGN Window	38

(Continued)

Table of Contents

Chapter 3

Menu

EQUALIZER/FILTER Window	40
DYNAMICS Window	41
AUX SEND Window	43
AUDIO OVERVIEW Window	44
AUDIO FADER Window	45
AUDIO FADER GROUPING Window	46
AUDIO INPUT ROUTING Window	49
AUDIO OUTPUT ROUTING Window	51
MONITOR Window	53
OSC/TALKBACK Window	55
SNAPSHOT Window	57
CUE Window	59
AUTOMATION Window	61
TITLE MANAGER Window	62
MACHINE CONTROL Window	64
MIDI Window	66
MISC SETUP Window	67
SYNC/TIME CODE Window	69
I/O STATUS Window	73
KEYBOARD Window	76

Chapter 4

Operation Tips

Memory Structure and Title	77
Memory Structure	77
About Titles	78
Basic Operation Procedure	80
Basic Mixer Operation Flow from Turning On to Monitoring	80
Snapshot Automation Procedure	82
Cue Operation Procedure	84
Dynamic Automation Procedure	87
Punching In/Punching Out	89
Performing the Fine Adjustment of the Cut Point	91

Appendix

Specifications	92
Input/Output Connectors	92
Audio Characteristics	94
Automation Function	95
Others	96
Supplied Accessories	96
Optional Accessories	96
MIDI	97
MIDI Implementation Chart	97
Control Change Table	98
Index	100
Block Diagram	103

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 be used to convert an analog audio signal to a digital audio signal at 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 unit 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 options boards is limited.

For details, see page 69.

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.

Automation functions for professional use

• Snapshot automation

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.

• Full-dynamic 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 with the touch-sensor improves operation. A scene stored as a snapshot data can be linked with a cue point that is defined as timecode. These functions provide you with the same function as those of a large console-type mixer.

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

Usage of channel strips

The LEDs of the pan controls and faders on the channel strip for each channel allow you to know 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 option 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 channels with full functions, 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. You can input and output audio signals of up to 8 channels to one optional slot. Thus, maximum 32 channels of inputs/outputs are available for four slots.

Surround mode

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

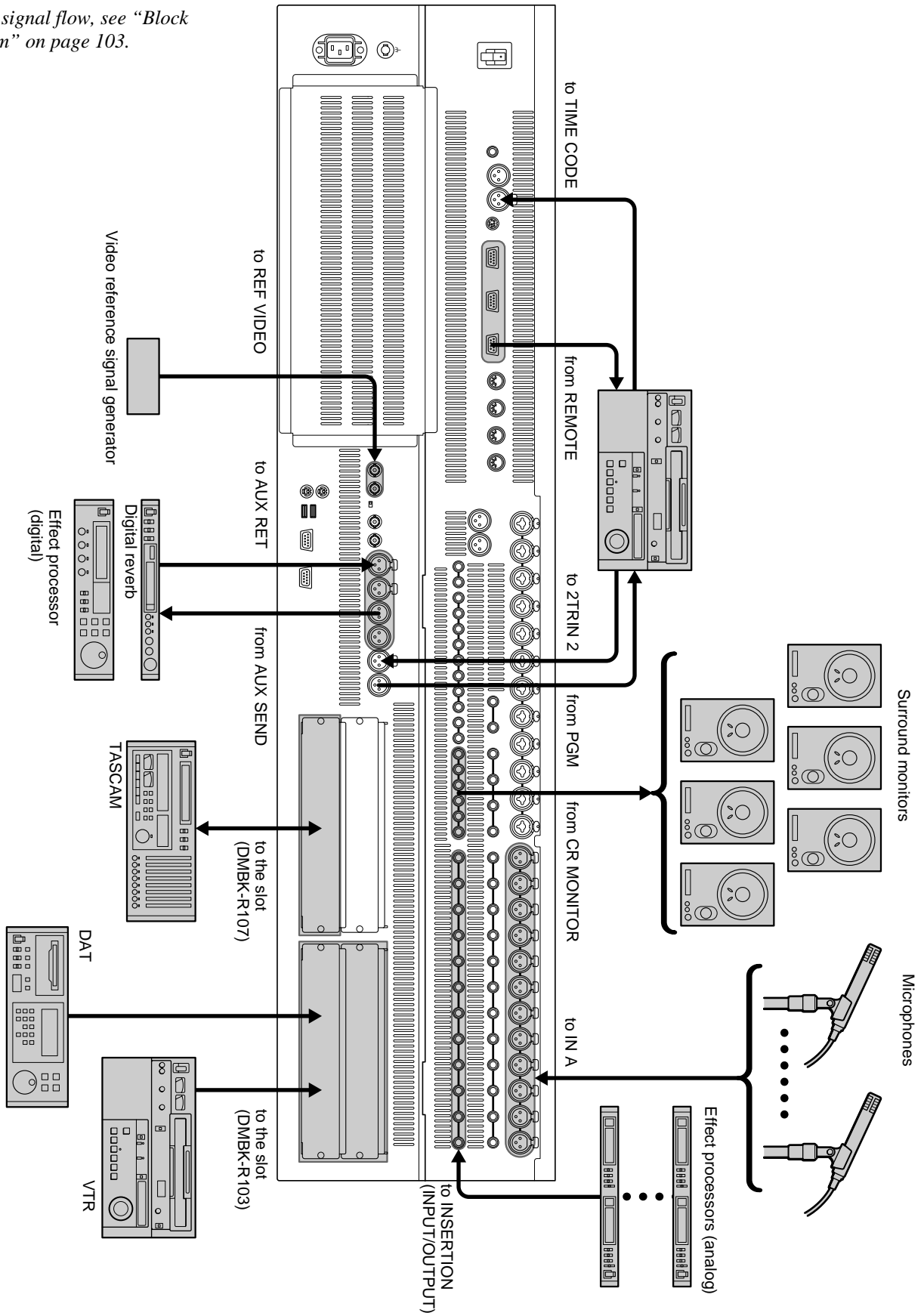
Connection to video equipment

- 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 add other equipment.
- The unit can control up to 2 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.

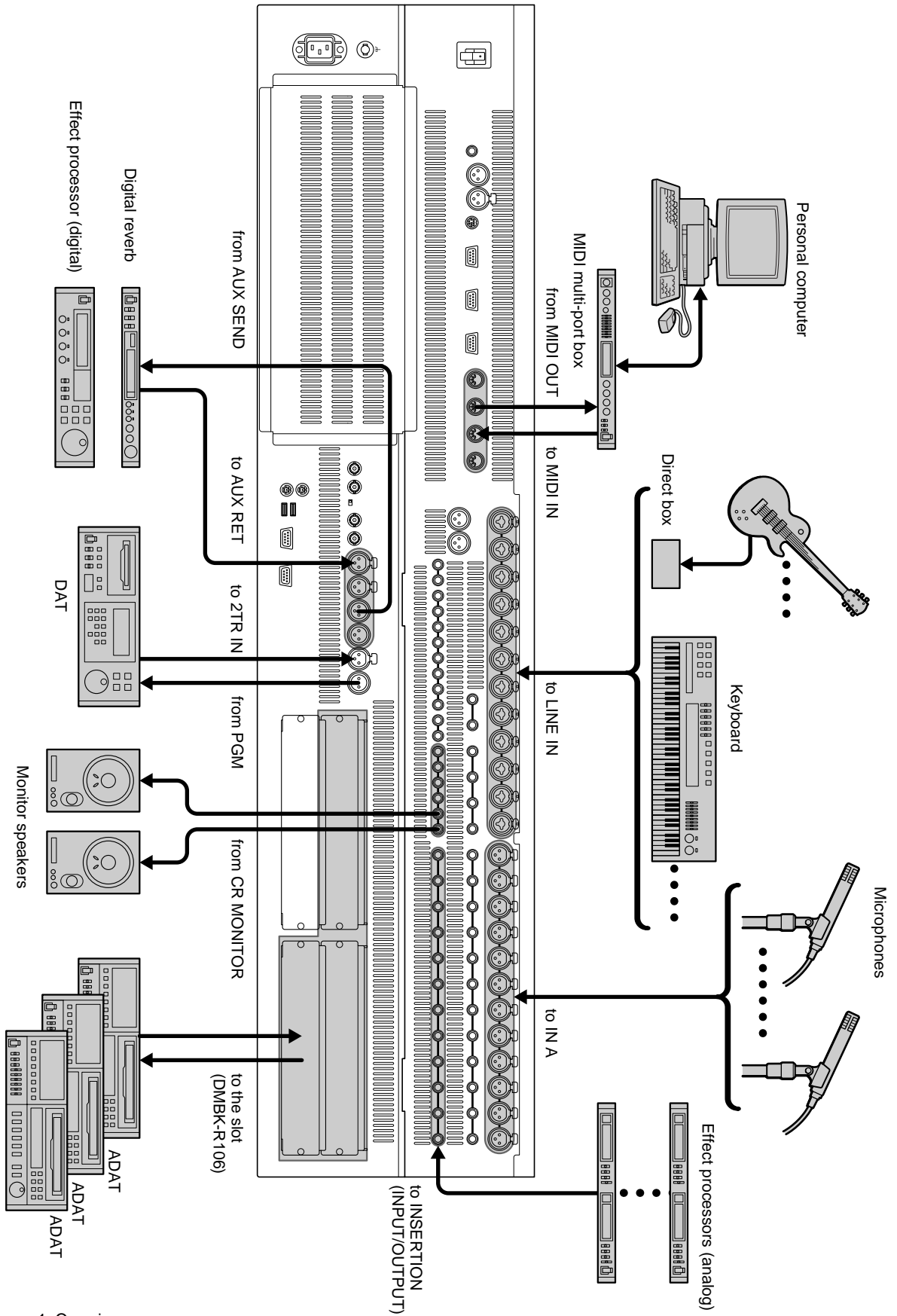
Connection Examples

Video Post Production

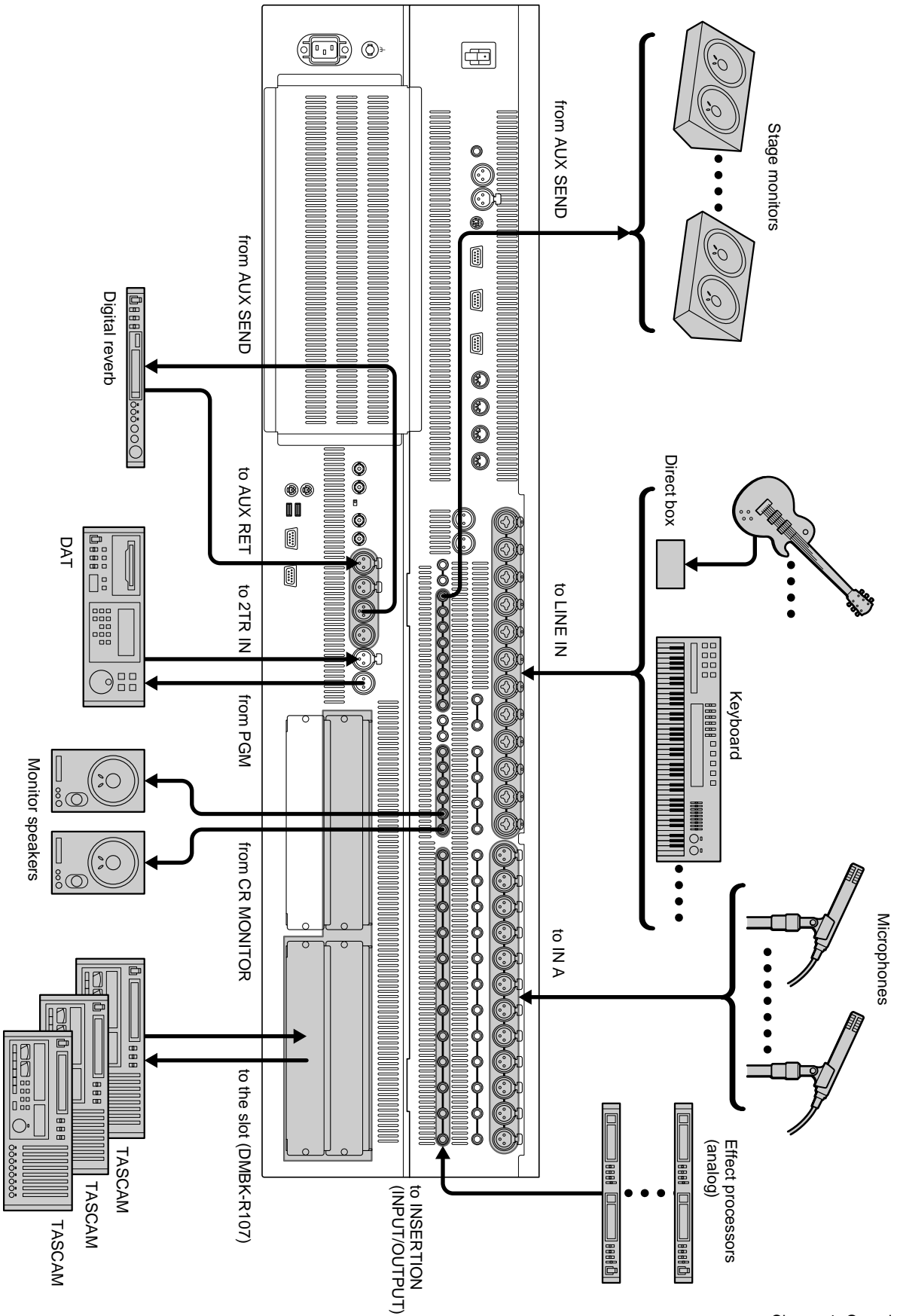
For the signal flow, see “Block Diagram” on page 103.



Music Production



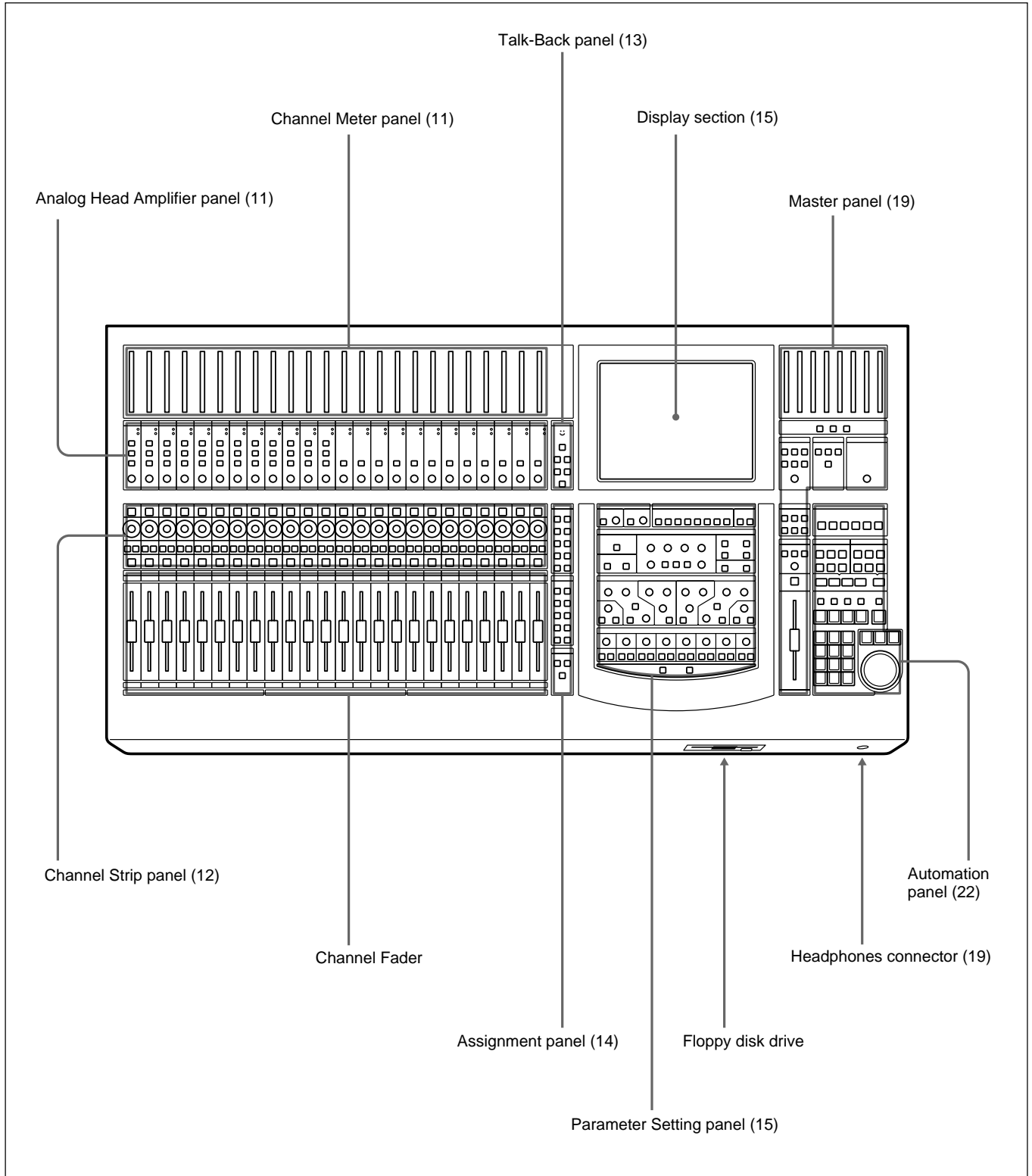
Live Recording



Locations and Functions of Parts and Controls

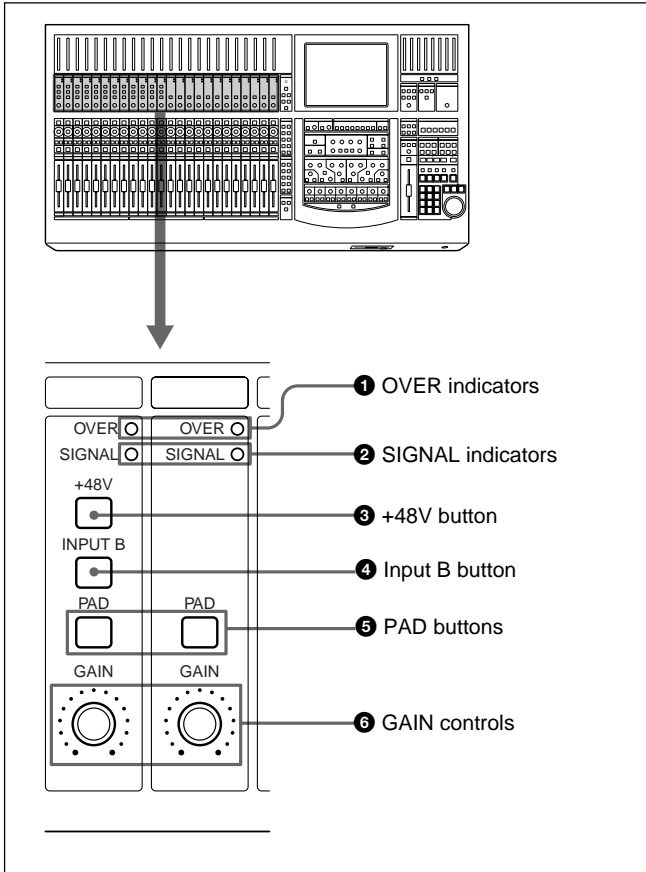
Composition of the Front Panel

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 used for automation function.



1 OVER (analog head amplifier peak) indicators
Lights when the input level reaches near the level at which 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 according to the audio input routing.

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 to be sent to the analog head amplifier. When pressed, the IN-B connector ($1/4$ " TRS jack) on the rear panel becomes activated. When this button goes off, the IN A connector (XLR connector) becomes activated.

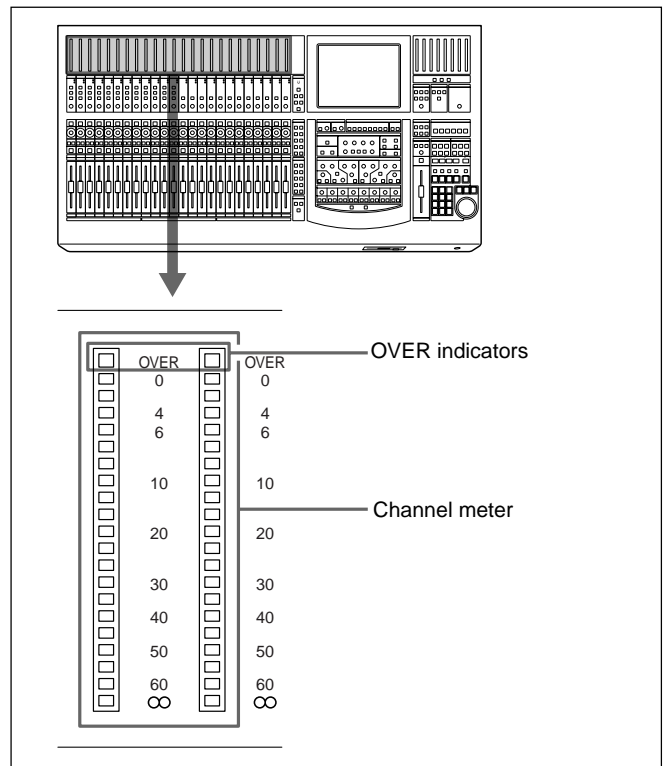
5 PAD buttons

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

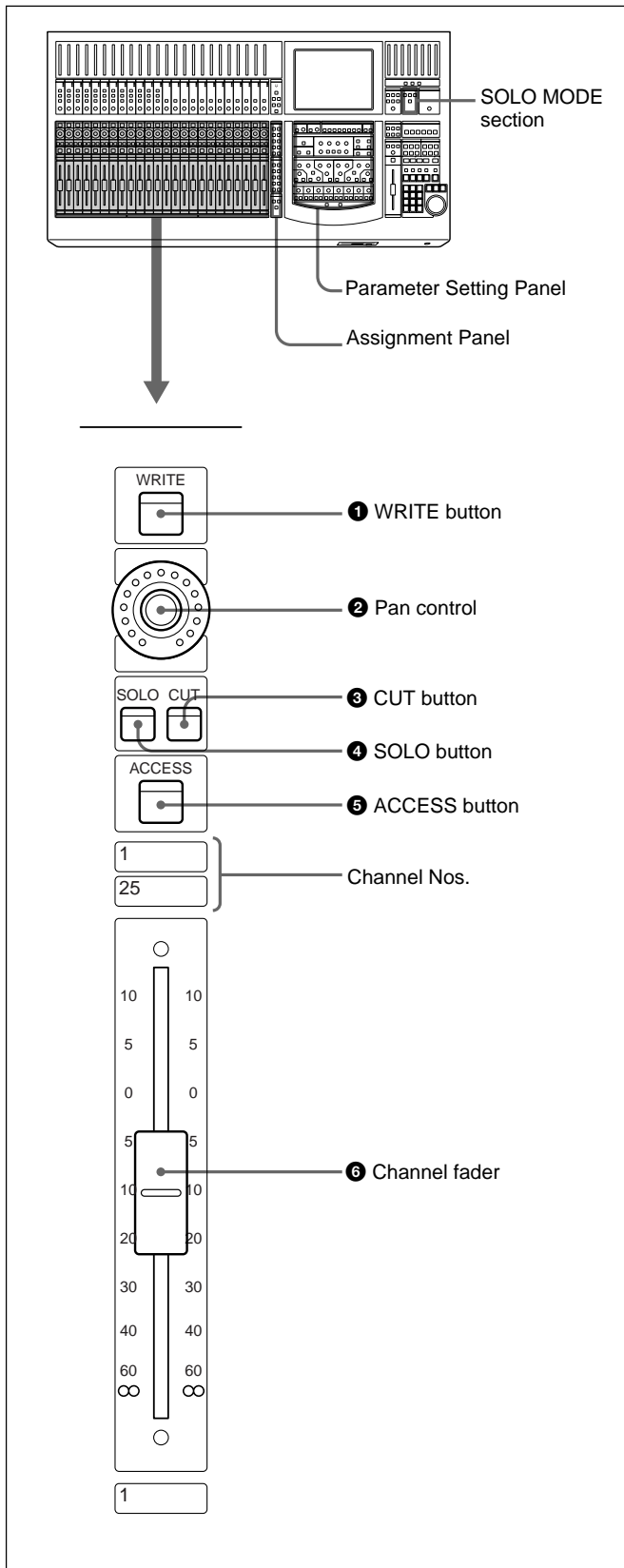


The channel meters indicate the input signal level of the channel strips.

On the MISC SETUP window, you can select whether the pre-fader signal or post-fader signal is indicated. When the input signal is the analog signal, these meters indicate the level of the signal converted to a digital signal.

The OVER indicator lights when the level of the input signal reaches the clip level (0 dBFS).

Channel Strip Panel



Note

To select the desired channel, press the ACCESS button corresponding to the desired channel so that the ACCESS button lights.

The PAGES button on the Assignment panel allows you to switch the channel strip to channels 1 to 24 or channels 25 to 48.

1 WRITE button

Press this button so that it lights, to disable the settings on the PAN control of that channel recalled by the dynamic automation operation and store the setting manually performed as the dynamic automation data. (However, when you use the PAN control to adjust the trimming volume, the operation of the control is not included in the dynamic automation data. When this button is not lit, the PAN control is controlled by the recalled automation data.

2 Pan control

Used for various purposes: pan control of the channel, trimming the volume of the channel adjustments, send-volume of the signal to the AUX 1 to AUX 8 connectors, or adjusting the send-volume of the signal to the MTR bus. The function is determined by the PAN section on the Assignment panel.

3 CUT button

Selects whether the post-fader signal is output to the bus or not. (When the button is lit after it has been released, the signal is not output.)

The instant you press this button: The button lights if it is out. The button goes off if it is lit.

While you are holding down the button: The settings on the audio recalled by the automation operation are disabled and the audio is cut. However, the lighting/not-lighting status of buttons related to the audio status depend on the recalled automation data.

When you release the button: The audio status depend on the lighting/not lighting status of the buttons. (off trigger)

The audio status change from pressing the button to releasing it is stored as the dynamic automation data. *For detailed information on how to perform the fine adjustment of the cut point, see page 91.*

4 SOLO button

Press this button so that it lights, to output the signal of the corresponding channel to the SOLO bus and to route the SOLO bus to the monitor path at the same time.

Select the SOLO bus mode on the SOLO MODE section. This button is not used for automation function.

For details of the SOLO MODE section, see page 20.

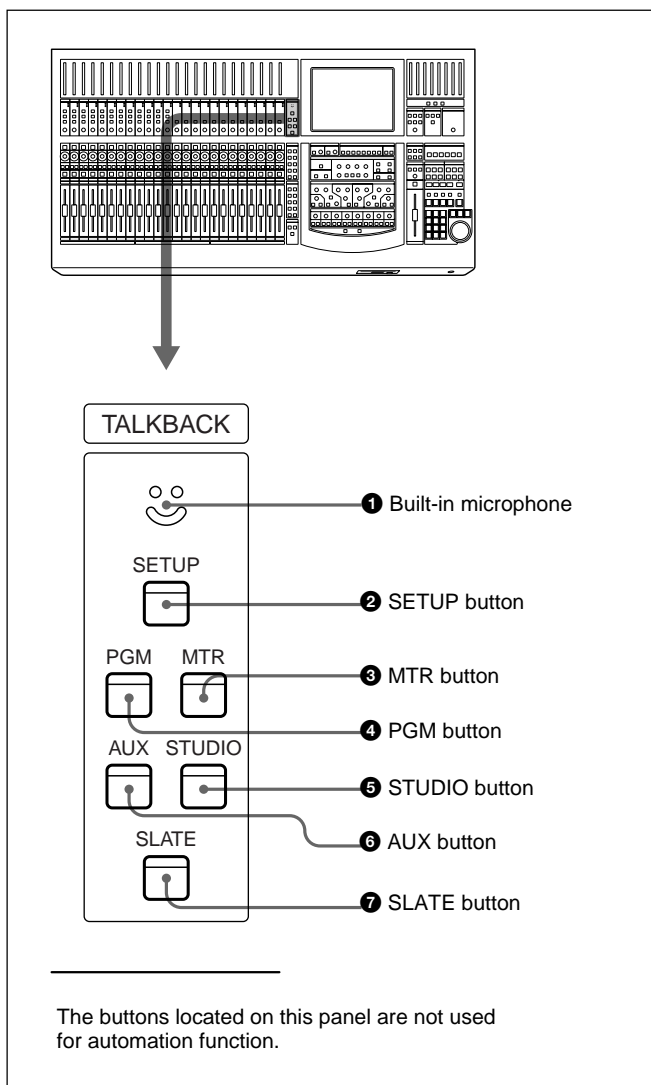
5 ACCESS button

Press this button so that it lights, to perform settings related to the corresponding channel on the Assignment panel and Parameter setting panel. This button is not used for automation function. Settings performed on the Parameter setting panel are displayed on the Display.

6 Channel fader

Used for various purposes: the trim fader for the channel, the fader for the signal to AUX 1 to AUX 8 bus, or the fader for the signal to the MTR bus. The function is determined by the FADER 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.

3 MTR button

Press this button so that it lights, to route the talkback signal selected 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 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

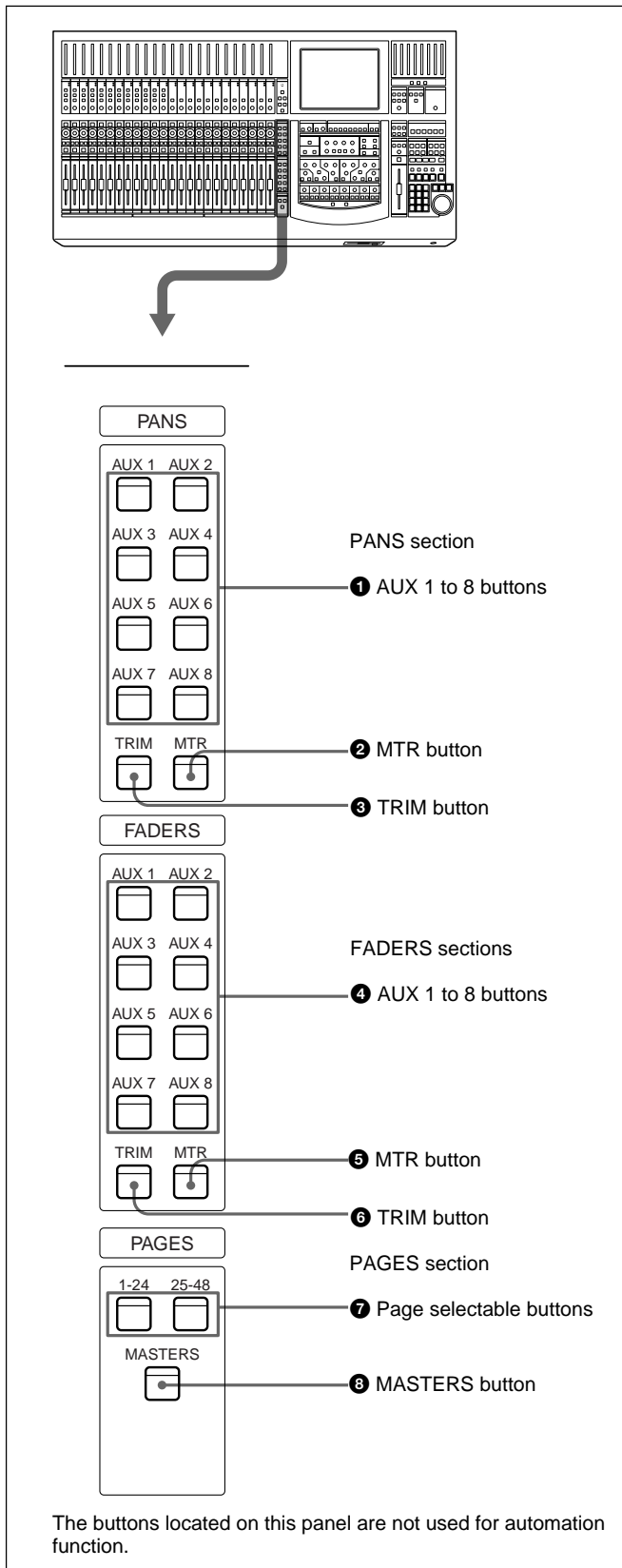
Press this button so that it lights, to route the talkback signal to the AUX bus selected on the OSC/TALK BACK screen.

7 SLATE button

Press this button so that it lights, to route the slate signal to the output selected on the OSC/TALK BACK screen.

For detailed information on the OSC/TALKBACK window, see page 55.

Assignment Panel



PANS section

This section allows you to select the functions of the Pan controls on the Channel strip panel. To use the Pan control knobs on the Channel strip panel as the pan volume control, make all buttons in this section go off.

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 the signals to the selected auxiliary send bus among AUX 1 to AUX 8.

2 MTR button

Press this buttons so that it lights, to function the Pan controls on the channel strip panel as the send-volume controls for the signals to the MTR bus.

3 TRIM button

Press this button so that it lights, to function the Pan controls on the channel strip panel as the trimming volume controls.

FADERS section

This section allows you to select the functions of the channel faders on the Channel strip panel. To use the faders as the channel faders, make all buttons in this section go off.

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 the signals to the selected auxiliary send bus among AUX 1 to AUX 8.

5 MTR button

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

6 TRIM button

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

PAGES section

This section allows you to select the channels to be used on the Channel strip panel.

Even if the button is switched, the data of each channel set in the input strip panel will not be changed.

Since the Analog Head Amplifier panel and Channel strip panel are not related each other, the analog input signals are not changed even if the MASTERS button is pressed.

7 Page selectable buttons

Press a 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) performed on the Channel strip panel on the corresponding channel strips (channels 1 to 24).

Press a button (25 - 48) so that it lights, to load settings performed on the channel strip panel on the corresponding channel strips (channel 25 to 48).

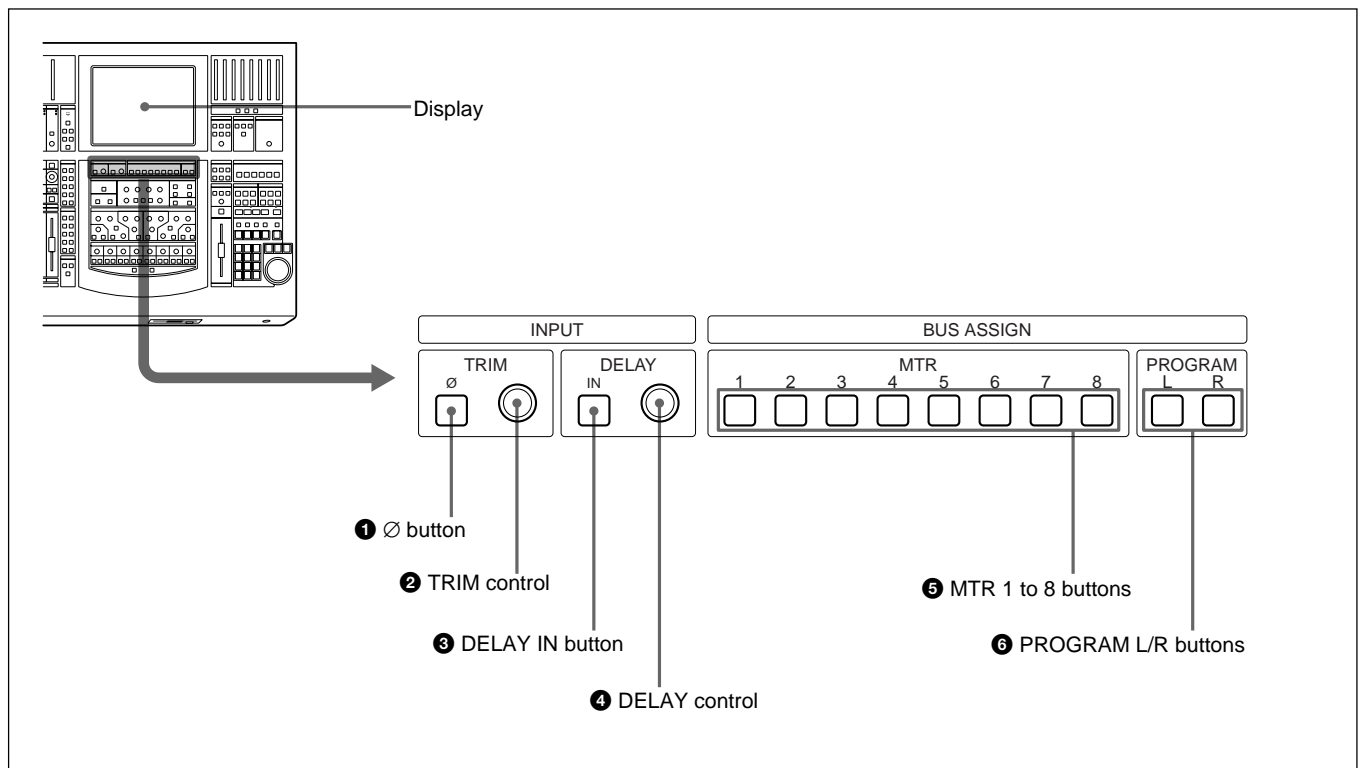
8 MASTERS button

Press this button so that it lights. When this button is lit, parts and 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 starting from the left-most channel in the following order: 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 channel whose parameters are to be set is selected by using the ACCESS button on the

channel strip panel. When you operate the button or control, the set parameters are displayed on the screen.



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 signal converted to a digital signal.

Buttons and controls in the INPUT section are used only for the snapshot automation function.

1 Ø button

Inverts the phase of the input signal.

2 TRIM control

Compensates the level of the input signal between -15 dB and +15 dB.

3 DELAY IN button

Press this switch 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

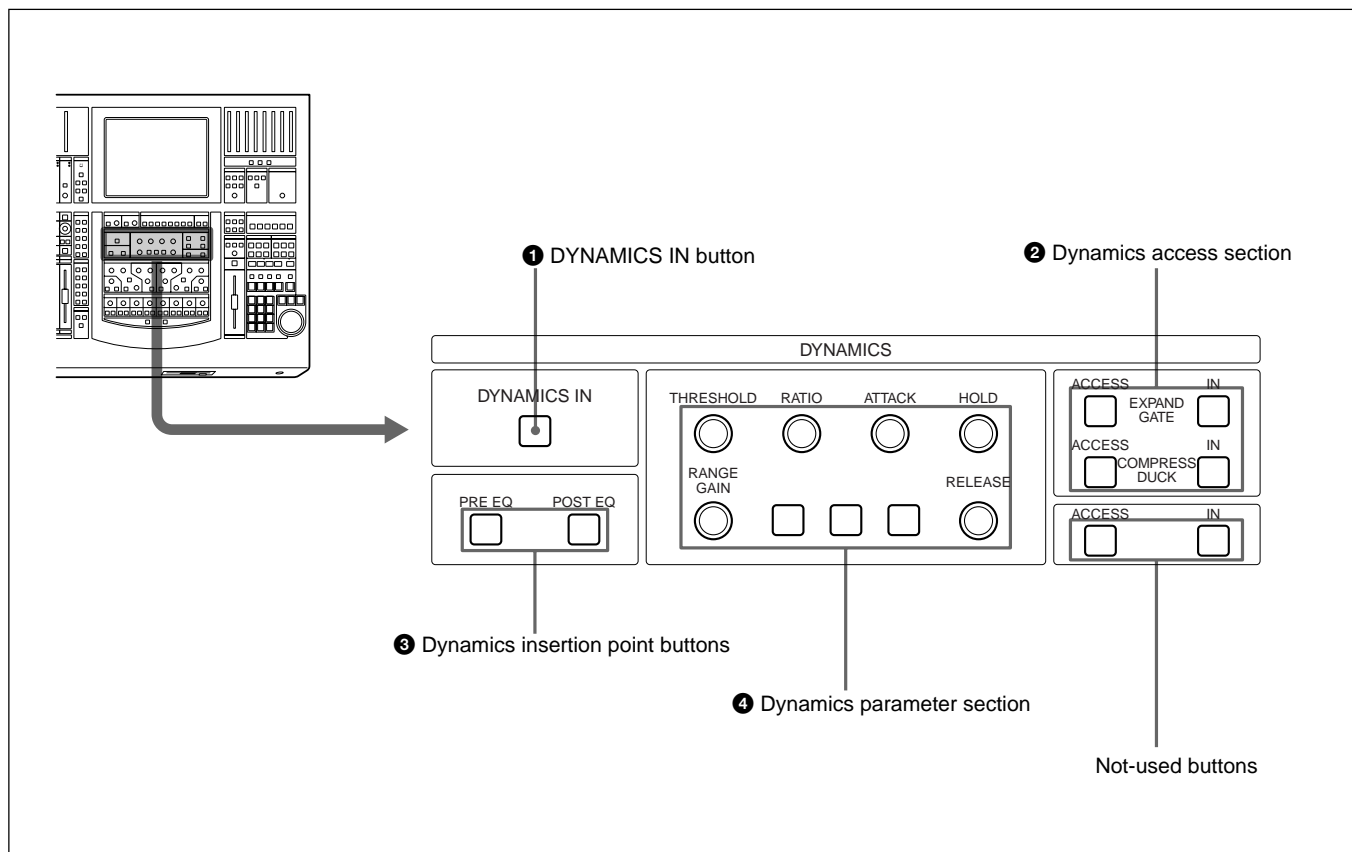
Press this button so that the output signal of the channel whose parameters are being set is sent to the selected MTR bus.

6 PROGRAM L/R buttons

Press the PROGRAM L button so that the output signal of the channel whose parameters are being set is sent to the L-channel of the PGM bus.

Press the PROGRAM R button so that the output signal of the channel whose parameters are being set is sent to the R-channel of the PGM bus.

DYNAMICS section



❶ DYNAMICS IN button

Press this button to make the dynamics setting function effective.

The settings on the DYNAMICS section is displayed on the DYNAMICS window (page 41).

❷ Dynamics access section

Selects the functions of dynamics parameter section ❹

ACCESS button for EXPAND/GATE: Press this button so that 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 make the expander and gate effective.

ACCESS button for COMPRESS/DUCK: Press this button so that 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 make the compressor and ducking effective.

Buttons in this section are not used for automation function.

❸ Dynamics insertion point buttons

Select the point where the dynamics settings should be 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 used only for the snapshot automation function.

❹ Dynamics parameter section

Functions of buttons in this section depend on the setting of the ACCESS button in the dynamics access section ❷.

When the corresponding parameter is set in the write mode on the DYNAMICS screen (when “W” is displayed), recalling of the dynamics automation data is prohibited and its parameter settings are stored as automation data.

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

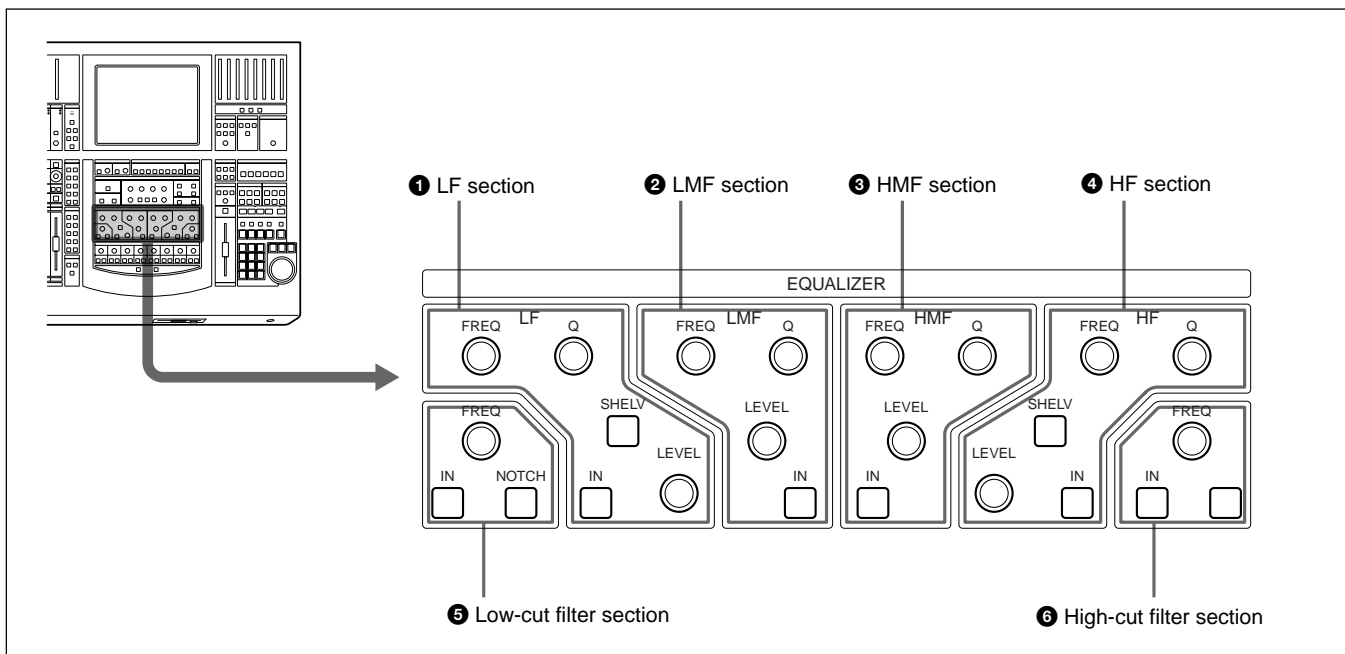
RANGE/GAIN control: Range in the DUCK mode and gain in COMPRESS mode.

If you rotate the control fully clockwise, the gain is adjusted automatically in COMPRESS mode.

RELEASE control: Release time

Buttons in this section are used for the snapshot automation function.

EQUALIZER section



When parameters corresponding to buttons and controls in this section are set to the write mode on the EQUALIZER window (page 40) (“W” is displayed), it is prohibited to recall dynamic automation data and parameter settings are stored as dynamic automation data.

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

1 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. When the button is not pressed, the peaking type is selected. When the button is pressed, the shelving type is selected.

LEVEL control: Sets the level.

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

2 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.

3 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.

4 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. When the button is not pressed, the shelving type is selected. When the button is pressed, the peaking type is selected.

LEVEL control: Sets the level.

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

5 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.

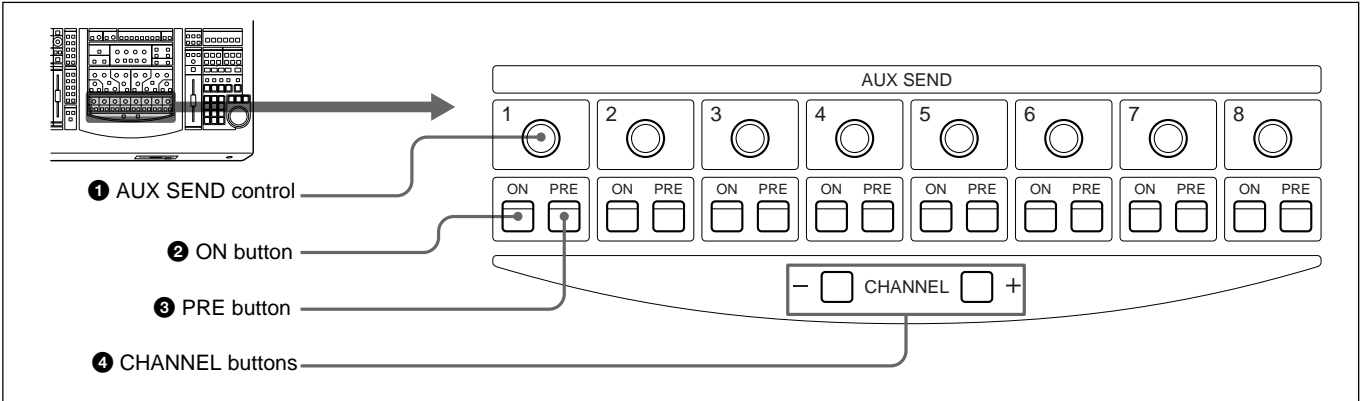
NOTCH button: Press this button so that the low-cut filter acts as a notch filter.

6 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.

AUX SEND section and CHANNEL button



1 AUX SEND controls 2 ON button 3 PRE button

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

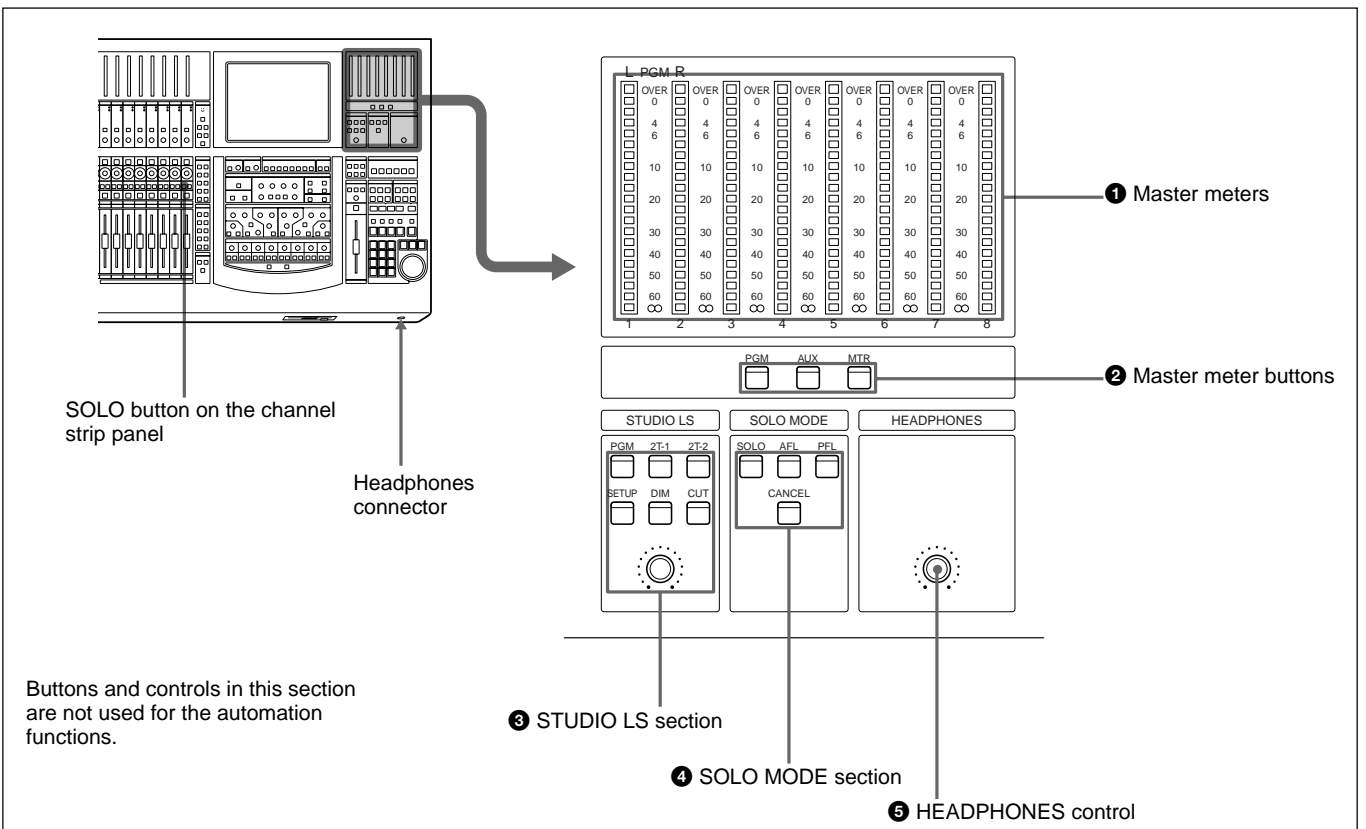
Controls and ON and PRE buttons of AUX SEND 1 to 8 are used for the snapshot automation function and the dynamic automation function.

4 CHANNEL buttons

Select the channel whose setting is to be performed on the window. This button is not used for the automation functions.

Master Panel

Master meter/studio monitor/solo mode sections



Locations and Functions of Parts and Controls

❶ Master meters

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

❷ 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 the 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 meter 1 to 8.

❸ 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 signals are output.

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

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

SET UP button: When this button is lit, the MONITOR widow (page 53) is displayed.

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.

You can control the volume of the studio monitor using the controls in this section.

❹ SOLO MODE section

Determines the function of the SOLO buttons on the channel strip panel.

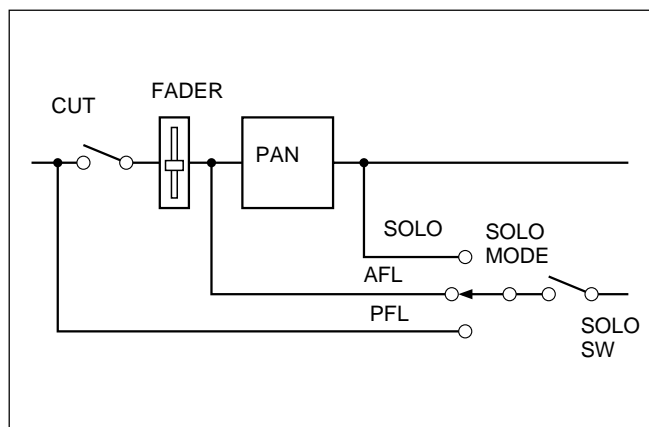
SOLO button: When this button is lit, the SOLO buttons on the Channel strip panel function as the solo buttons.

AFL (after-fader listening) button: When this button is lit, the SOLO buttons on the channel strip panel function as the AFL buttons.

PFL (pre-fader listening) button: When this button is lit, the SOLO buttons on the channel strip panel function as the PFL buttons.

CANCEL button: If this button is pressed when the SOLO button is used in ALT-mode, all of the SOLO buttons on the channel strip panel are turned off.

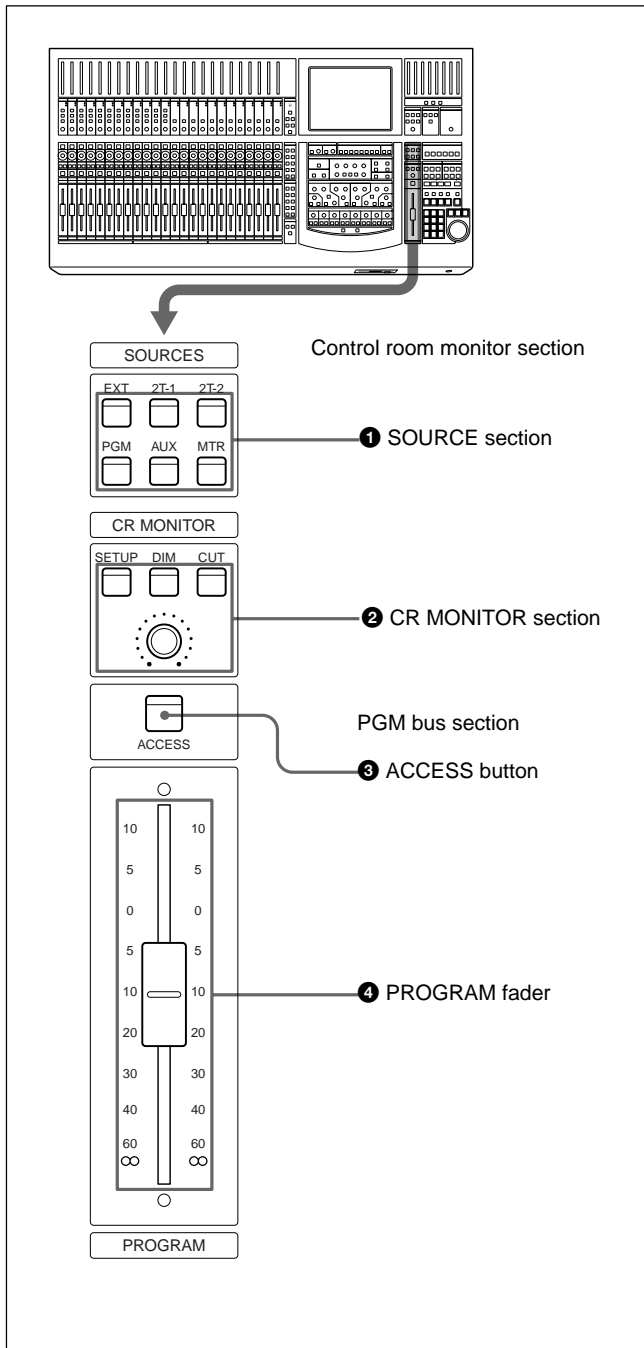
For detailed information on the ALT mode, see "MONITOR Widow" on page 53.



❺ HEADPHONES control

Adjusts the volume of the headphones.

Control room monitor section and PGM bus section



1 SOURCE section

Selects the signal of 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 53) is output.

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

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

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

AUX button: When this button is lit, the signal of the AUX bus selected on the MONITOR window is output.

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

2 CR (control room) MONITOR section

Controls the signal of the control room monitor speaker.

SETUP button: Press this button to open the MONITOR window. You can select the monitor mode on this screen.

DIM button: When this button is lit, the monitor level is reduced. You can set the reduced level on the MISC SETUP window (page 67).

CUT button: Cuts the signal to the room monitor speakers.

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

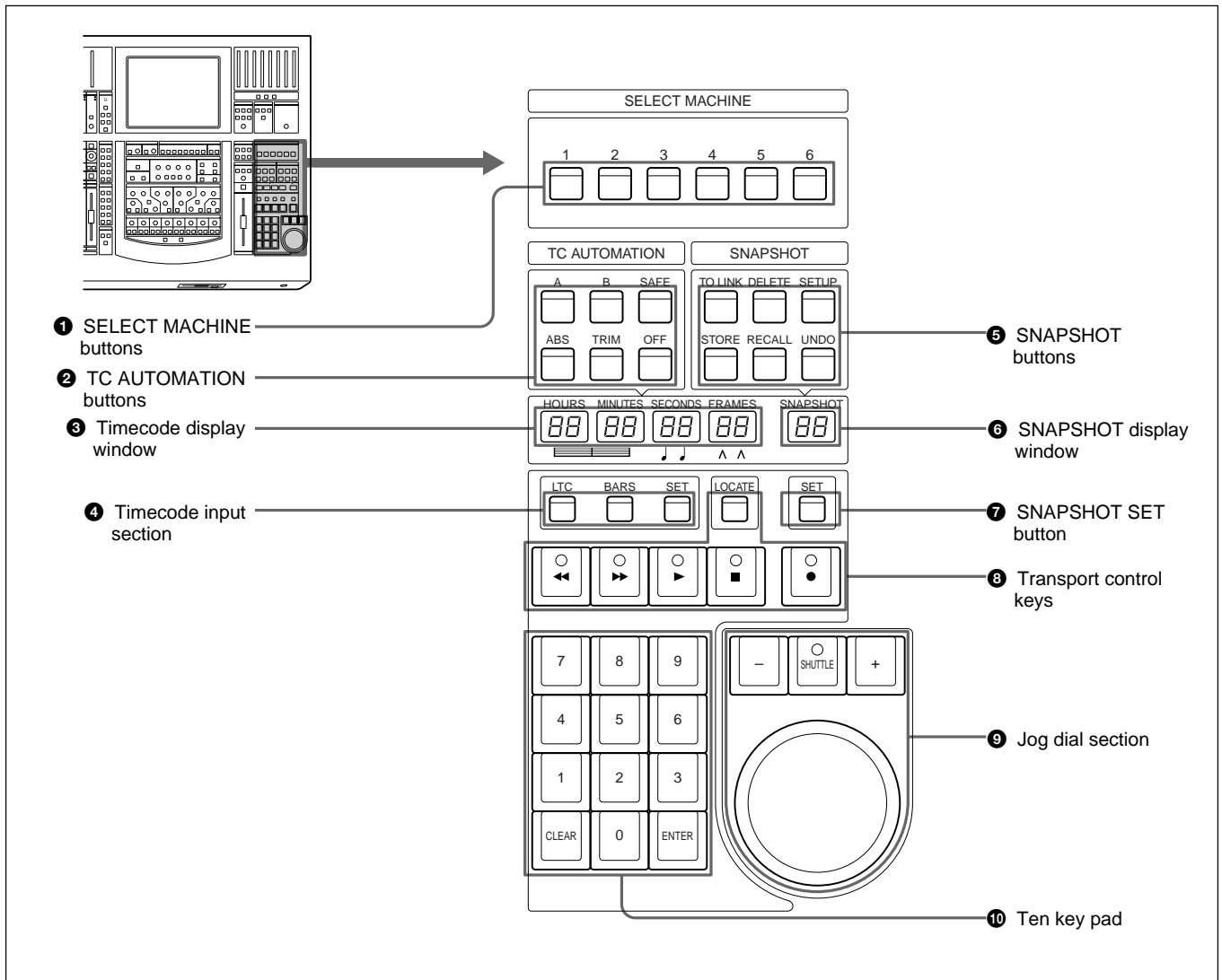
3 ACCESS button

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 is used for the automation and dynamic automation functions.

Automation Panel



1 SELECT MACHINE buttons

Select 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 64) on the display.

2 TC (timecode) AUTOMATION buttons

Timecode automation is done using these buttons.

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

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

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

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

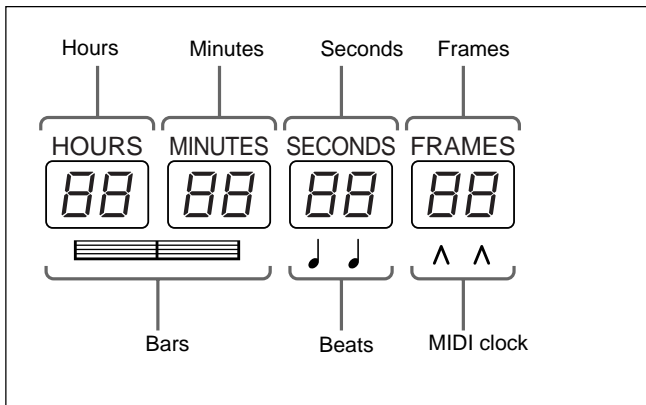
TRIM button: When this button is lit, the timecode automation data is recalled in the trimming mode.

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 87.

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 upper two digits of bars, beats and the MIDI clock are 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 is displayed in the window.

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

SET button: When this button is lit, you can input the desired value using the ten key pad.

When this button is not lit, the values read by the built-in timecode reader or the values of bars, beats and the MIDI clock are displayed.

⑤ SNAPSHOT buttons

TC LINK button: When this button is lit, you can recall the snapshot data according to the timecode. (Snapshot automation)

Also, when this button is lit, you can recall the snapshot data manually.

While the TC LINK button is lit, the number on the SNAPSHOT window is treated as the cue number.

The snapshot data is stored with a new cue point. This cue point is linked with the timecode.

When this button is not lit, you can recall the snapshot data manually. The snapshot data is stored without the timecode.

DELETE button: By pressing this button, the snapshot data currently displayed on the SNAPSHOT display window is deleted.

SETUP button: Press this button so that it lights, to display the SNAPSHOT window (page 57).

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 with the timecode is stored.

RECALL button: Press this button so that it lights, to recall the snapshot data currently displayed on the SNAPSHOT display window. If the TC LINK button is lit, you can recall the snapshot data according to the desired timecode.

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

The number displayed on the window is treated as a cue number when the TC LINK button ⑤ is lit.

⑧ Transport control keys

Control 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 timecode currently displayed on the timecode display window ③.

⑨ Jog dial section

You can change the value in the SNAPSHOT display window using the dial or the SHUTTLE +/- buttons.

When the SET button appears on the SNAPSHOT screen on the display, you can change the value using the SET button on the display.

When the SET buttons on both the panel and screen are off, you can control the tape movement using the jog dial and the SHUTTLE +/- buttons.

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.

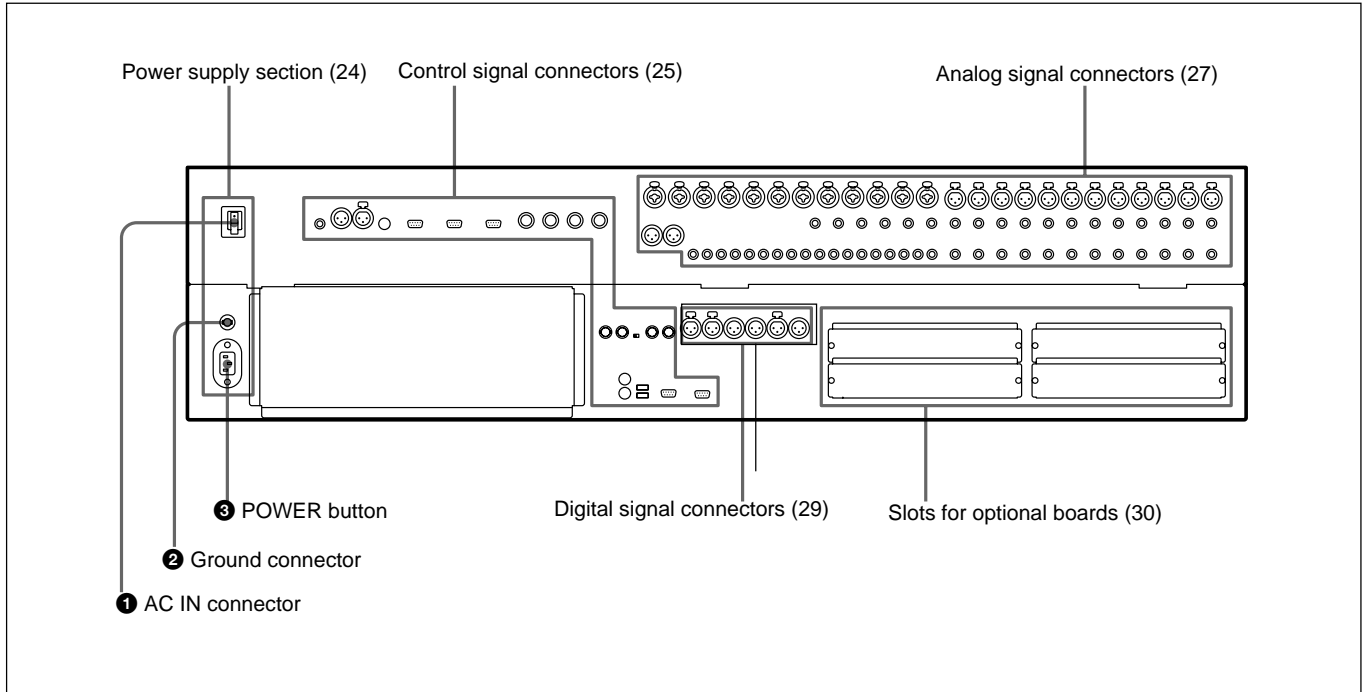
Pressing the ENTER key accepts entering the values displayed on the window, if there are any values entered using the ten key pad.

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 92, and for signal flow, see “Block Diagram” on page 103.



Chapter 2 Locations and Functions of Parts and Controls

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 button

Press the I (IN) side of the button. Power is supplied to the unit. At this time, the system clears the A/B buffer data and starts at the timecode of the TITLE and the sampling frequency when you turned off the power the last time.

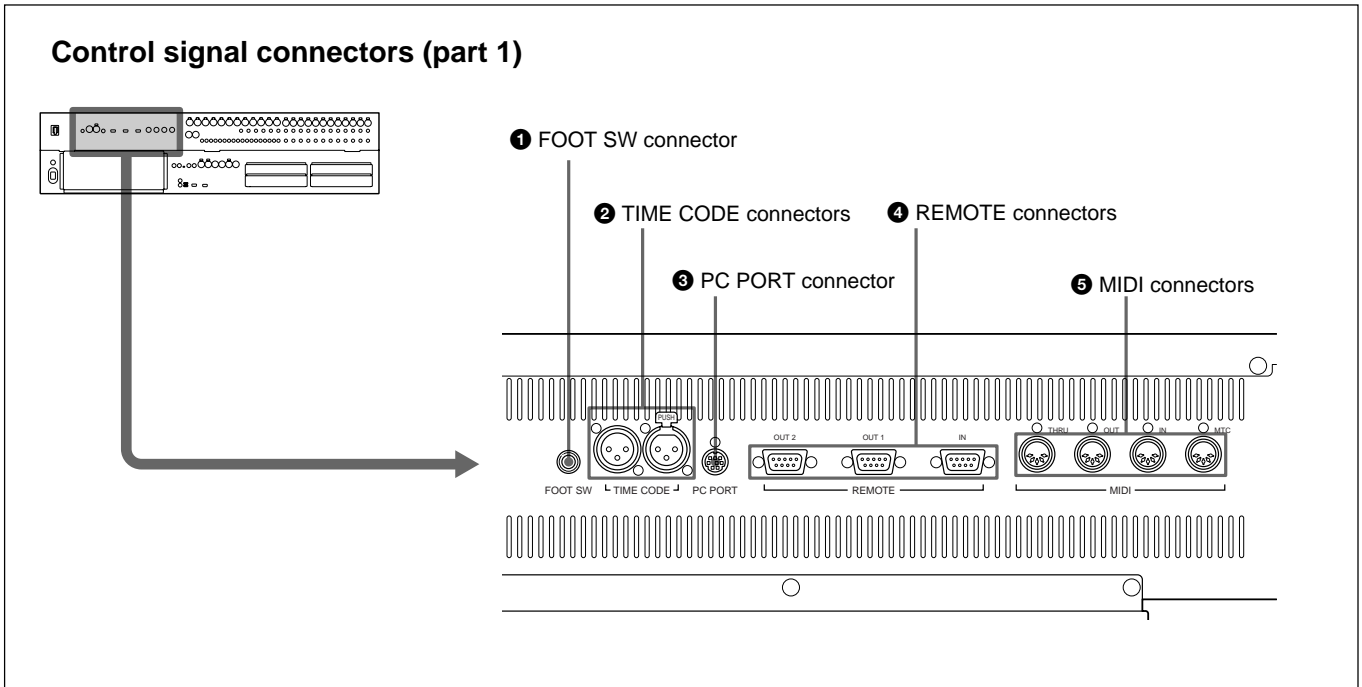
As required, load the title in the A/B buffer to use the automation data.

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 to turn off the power of the unit and each device before attempting to make any connections.

Control Signal Connectors

For connection examples, see page 7, for detailed information on connectors, see “Specifications” on page 92, and for signal flow, see “Block Diagram” on page 103.



❶ FOOT SW connector (Phone jack)

Connect the foot switch (not supplied) so as to remotely control the on/off of the automation functions and punch-in/punch-out of the recorder.

❷ TIME CODE connectors (XLR 3-pin)

Input/output a timecode to synchronize with the external devices.

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

OUT connector: Outputs the timecode to the external device.

❸ PC PORT connector (Mini DIN 8-pin)

Connect the host computer.

❹ REMOTE connectors (D-sub 9-pin)

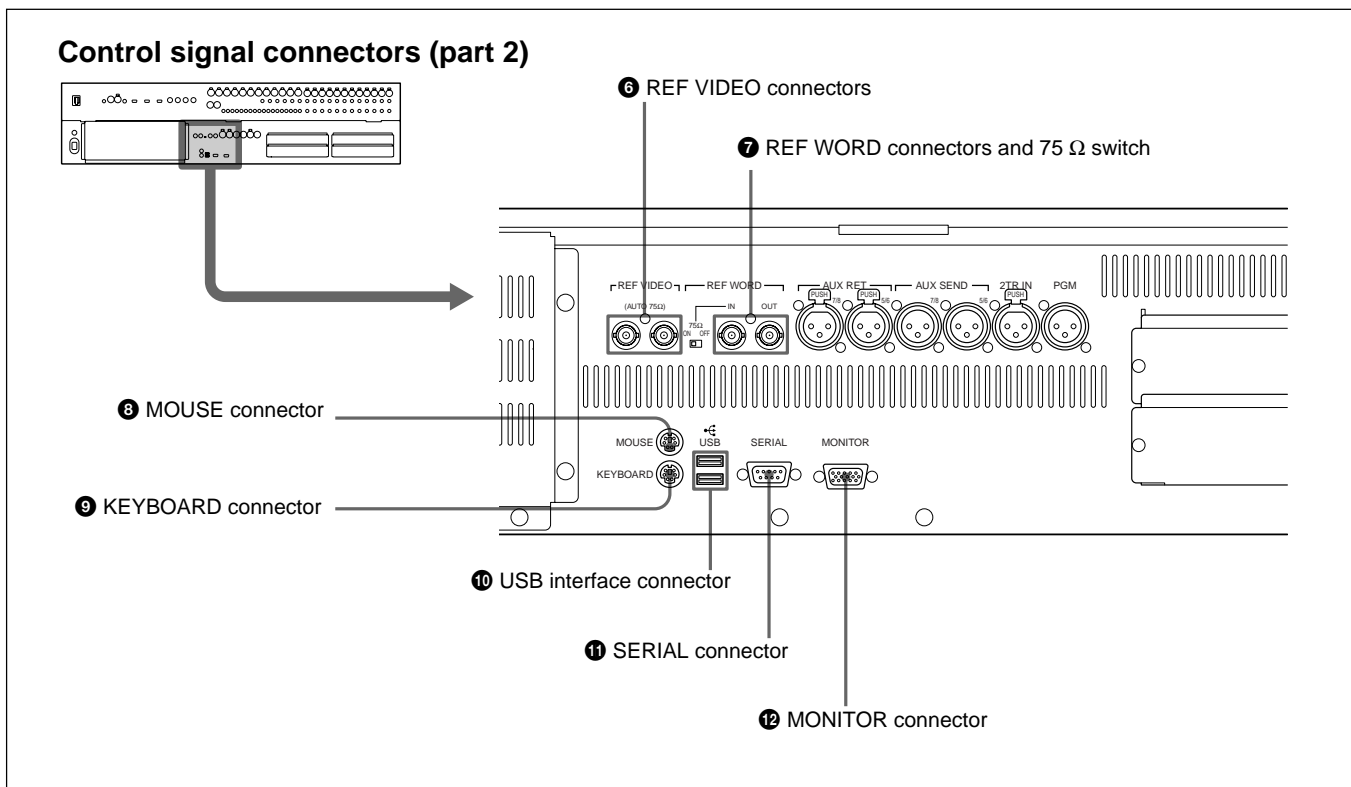
IN connector: For expansion use in future.

OUT 1/2 connectors: Connect an external device such as VTR. You can control the devices connected to these connectors using the transport control keys on the automation panel.

❺ MIDI connectors (DIN 5-pin)

Connect another MIDI devices.

Locations and Functions of Parts and Controls



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

Input NTSC or PAL reference video signals so as to synchronize with the external device. These connectors are loop-through. When the loop-through output is not used, the vacant connector is automatically terminated at 75 Ω.

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

Input the word signal so as to synchronize with the external device.

REF WORD IN connector: Inputs the word sync signal.

75 Ω switch: To use the word sync signal, you have to set this 75 Ω switch correctly.

REF WORD OUT connector: Outputs the word sync signal.

8 MOUSE connector (Mini DIN 6-pin)

Connect a mouse to perform the window operation (PS/2 type).

9 KEYBOARD connector (Mini DIN 6-pin)

Connect a keyboard of the computer to enter character based data (PS/2 type).

10 USB interface connector

For expansion use in future.

11 SERIAL connector (D-sub 9-pin)

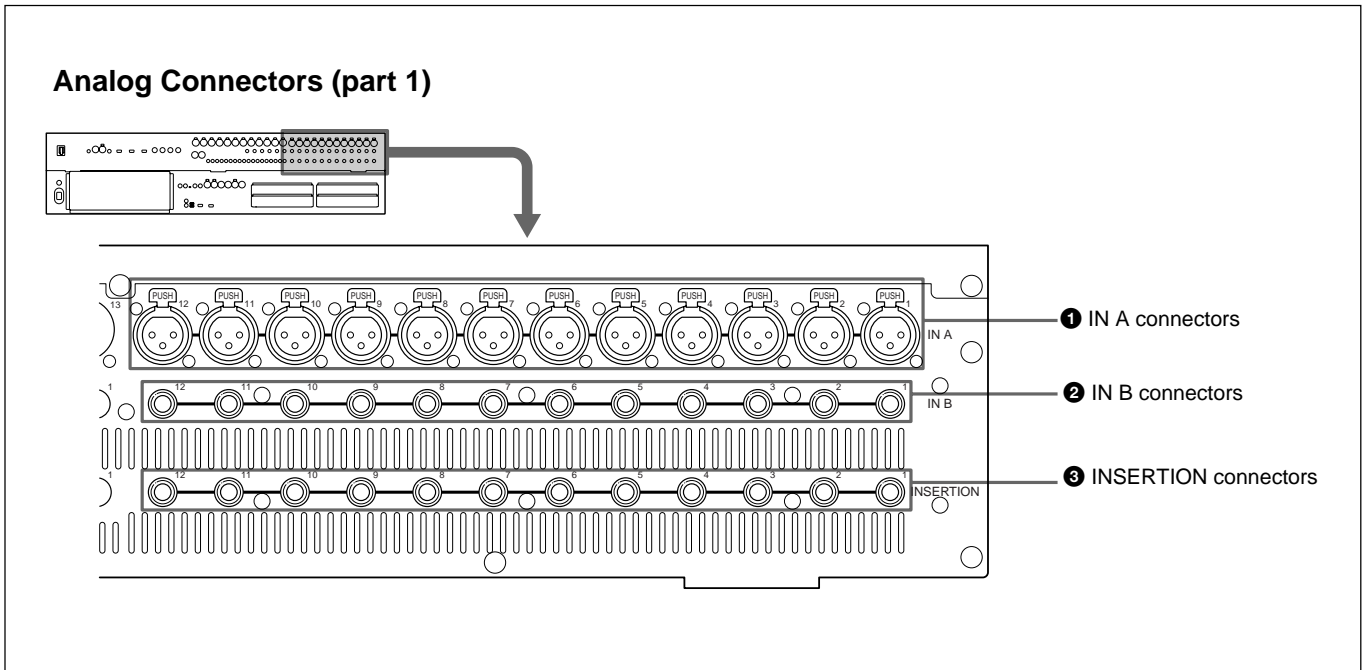
For expansion use in future.

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

Connect a commercially available computer display monitor to display the same information as shown on the display of the unit.

Analog Signal Connectors

For connection examples, see page 7, for detailed information on connectors, see “Specifications” on page 92, and for signal flow, see “Block Diagram” on page 103.



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

Input analog audio signals.

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 a microphone. Connect the microphones which work on an external power supply.

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

Input the analog audio signals.

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

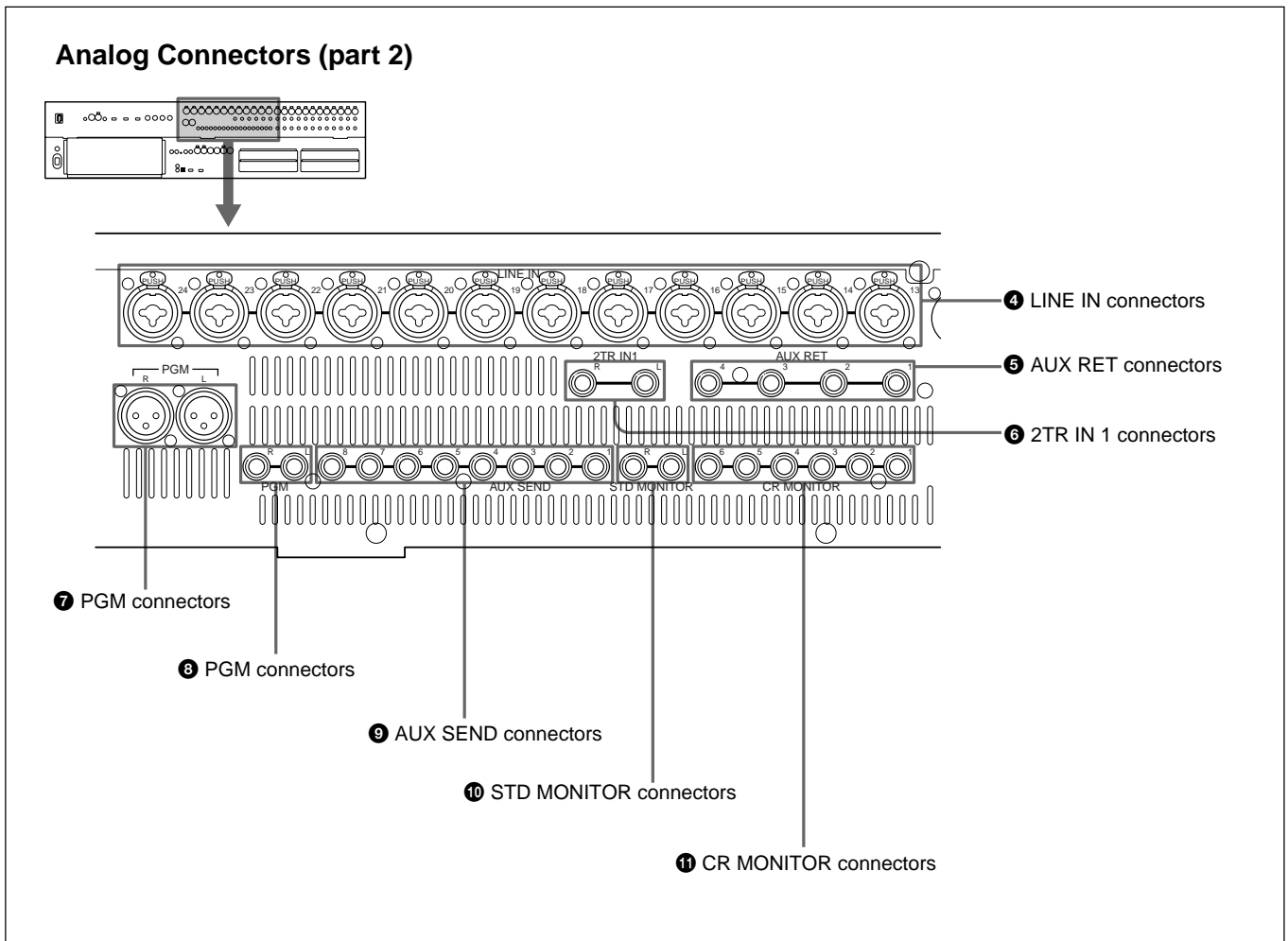
The IN B 1 to 12 connectors are not equipped with power for microphones.

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

Input the analog signals which are processed by the external effector and so on.

For the pin assignment of the INSERTION connectors, see page 93.

Locations and Functions of Parts and Controls



4 LINE IN (line input) connectors 13 to 24 (Combo coax)
 Input the analog signal sent from the keyboard and so on.

5 AUX RET (auxiliary return) connectors (1/4" TRS jack)
 Input analog signals which are processed using the external effector and so on.

6 2TR IN 1 (2-track signal input) connectors (1/4" TRS jack)
 Input the audio signals from a 2-channel analog recorder used for monitoring.

7 PGM (program) connectors (XLR 3-pin)/8 PGM connectors (1/4" TRS jack)
 Output the 2-channel analog audio signals which are mixed and assigned to the PGM bus.

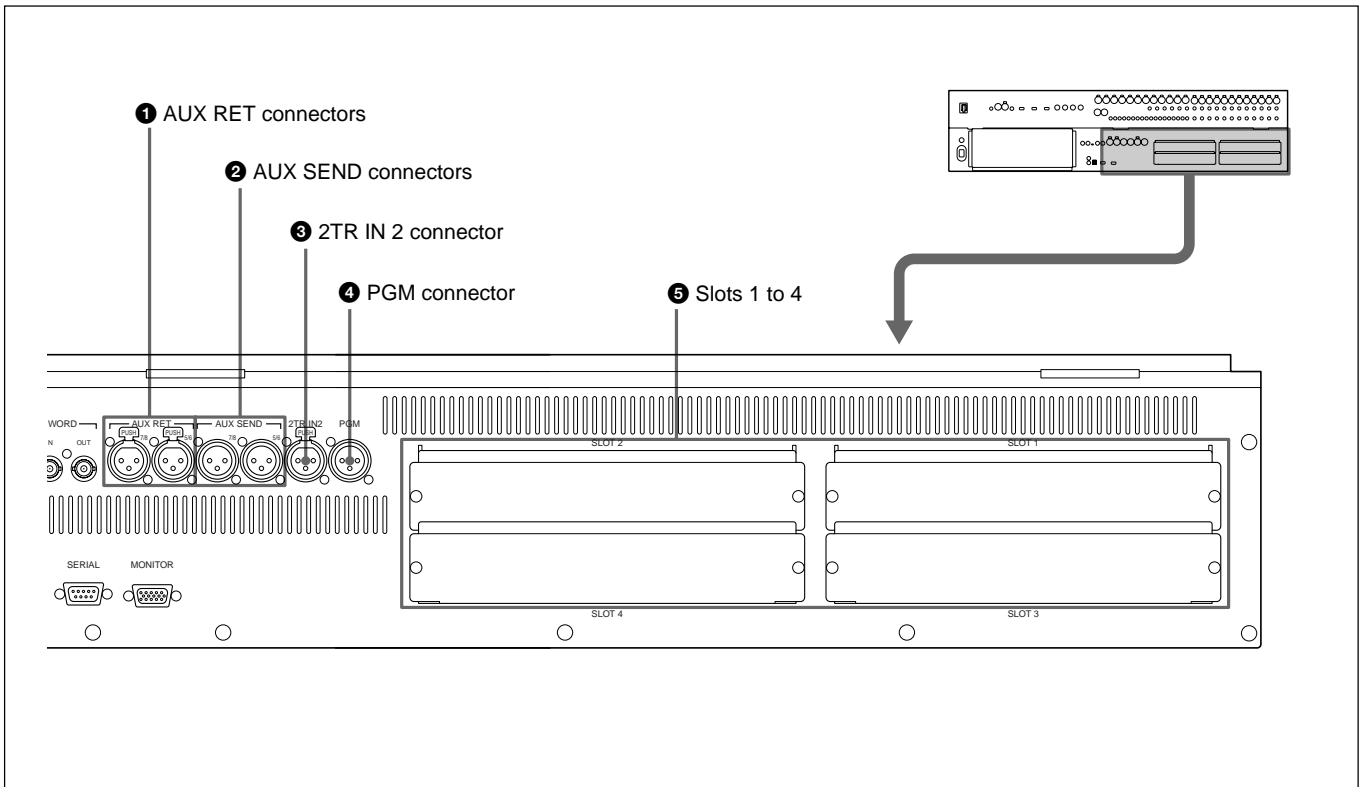
9 AUX SEND connectors (1/4" TRS jack)
 Output the analog signal assigned to the AUX SEND bus. Connects to the analog effector to perform the effect process.

10 STD MONITOR (studio monitor output) connectors L/R (1/4" TRS jack)
 Output the signals for a studio monitor. Connects to the power amplifier for the studio monitor.

11 CR MONITOR (control room monitor output) connectors 1 to 6 (1/4" TRS jack)
 In stereo mode, the connectors 1 and 2 are enabled. They output the L/R signals for the control room monitor.
 When the surround mode is set on the MISC SETUP window (page 67), connectors 1 to 6 are enabled.

Digital Signal Connectors

For connection examples, see page 7, for detailed information on connectors, see “Specifications” on page 92, and for signal flow, see “Block Diagram” on page 103.



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

Input the digital signals which are processed by the external digital effector and so on.
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 channel 5 and channel 6 of the AUX send bus (or channel 7 and channel 8). The signals processed by the connected digital effector are sent back to the AUX RET connectors ❶.

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

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

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

Outputs the 2-channel digital audio signals which are mixed and assigned to the PGM bus. Connects to the 2-channel digital recorders.

❺ Slots 1 to 4 (slots for optional boards)

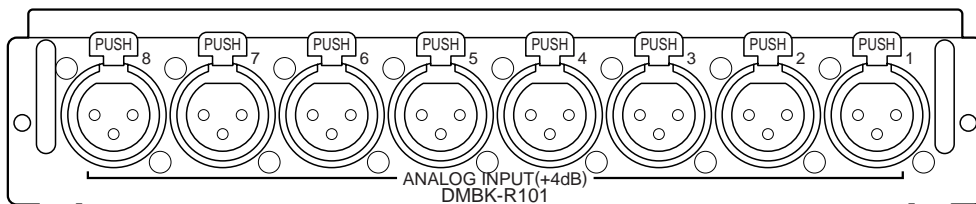
Insert the optional boards here.
For details of how to insert these boards, contact your Sony dealer.
For detailed information on optional boards, see the next page.

Locations and Functions of Parts and Controls

Optional Boards

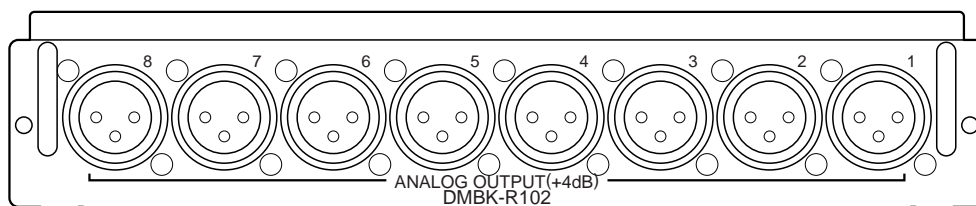
DMBK-R101 8CH Analog Line In Board

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



DMBK-R102 8CH Analog Line Out Board

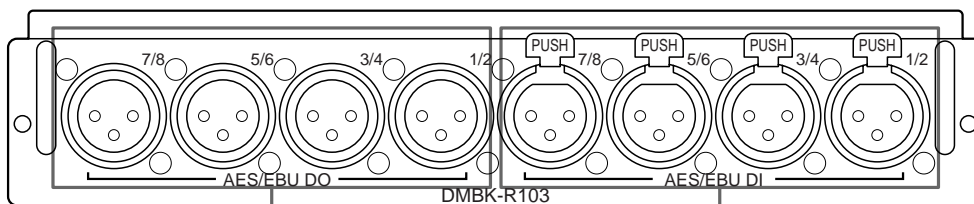
Outputs balanced analog signals (+4 dB standard). The output signals are set on the AUDIO OUTPUT ROUTING screen.



DMBK-R103 8CH AES/EBU DIO Board

Inputs/outputs AES/EBU signals. The transfer rate of the sampling frequency of 88.2 kHz or 96 kHz

becomes twice the rate of the sampling frequency of 44.1 kHz or 48 kHz. Thus, be sure to use peripheral equipment that has the same transfer rate in such a case.



Input connectors

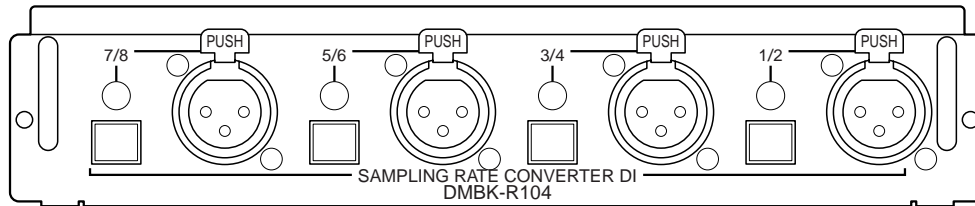
Output connectors

DMBK-R104 8CH Sampling Rate Converter DI Board

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

This board is used to select either XLR connector

inputs or optical connector inputs. Note that this board does not function when the sampling frequency of the unit or input signal is 88.2 kHz or 96 kHz.

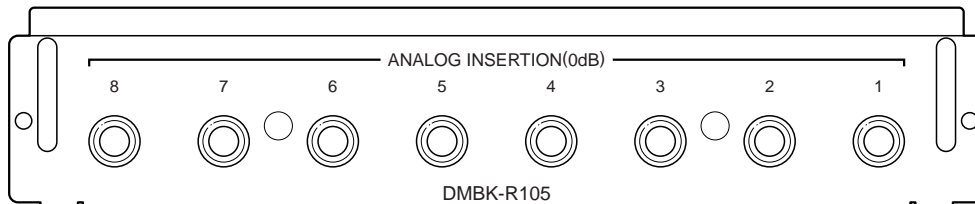


DMBK-R105 8CH Insertion board

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

Note

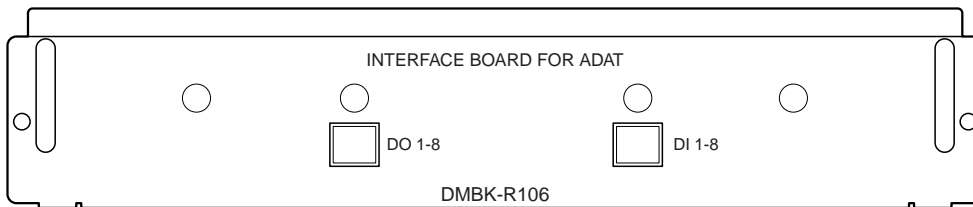
You can use only one DMBK-R105 8CH Insertion Board for each DMX-R100.



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.

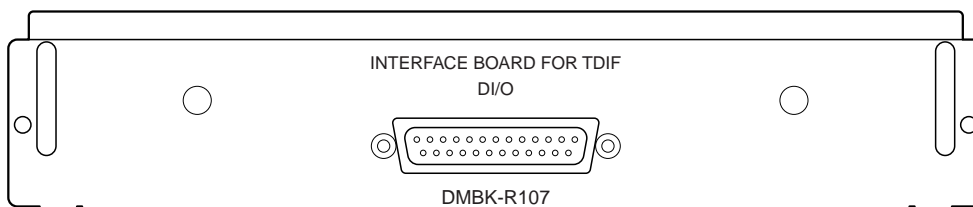
Note that this board does not function when the sampling frequency of the unit or input signal is 88.2 kHz or 96 kHz.



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 sampling frequency of the unit or input signal is 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

Menus of this unit consist of the following menus.
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 33)
- Snapshot display (page 33)
- Automation mode display (page 34)

Menus for settings of the unit

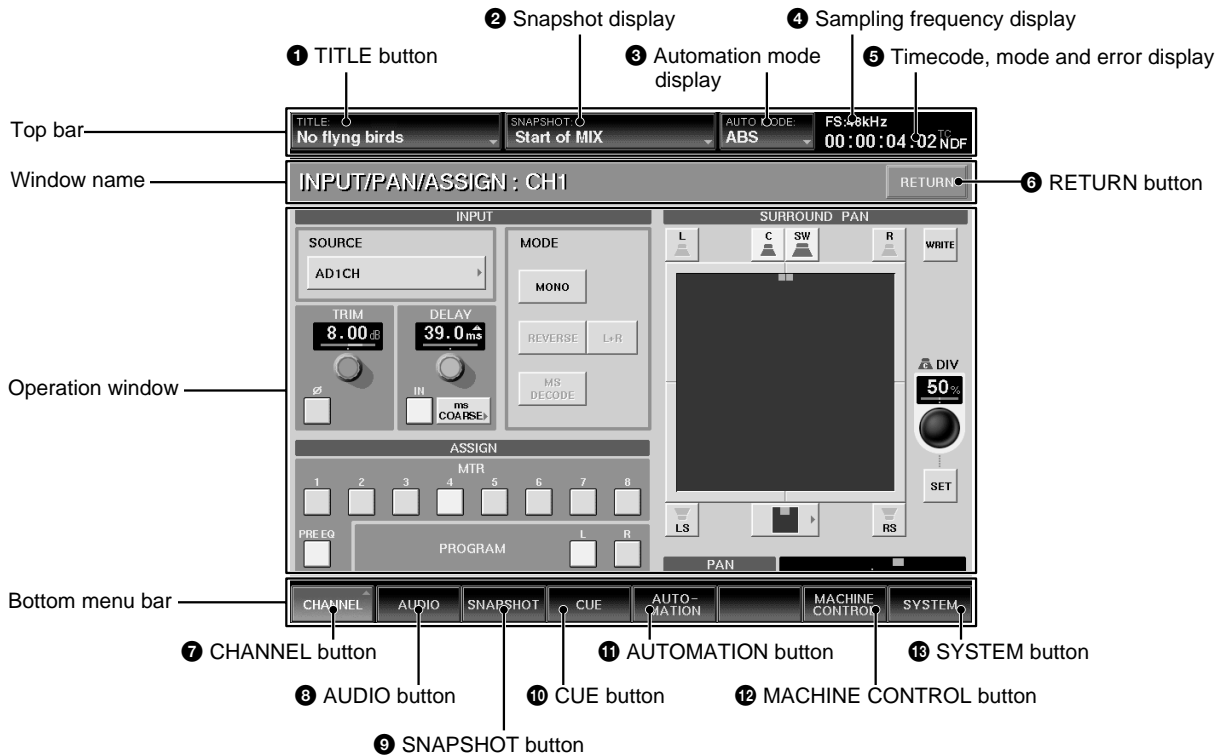
These menus open by touching the bottom menu button on the display.

- CHANNEL menu
 - CHANNEL window (page 37)
 - INPUT/PAN/ASSIGN window (page 38)
 - EQUALIZER/FILTER window (page 40)
 - DYNAMICS window (page 41)
 - AUX SEND window (page 43)
- AUDIO menu
 - AUDIO OVERVIEW window (page 44)
 - AUDIO FADER window (page 45)
 - AUDIO FADER GROUPING (page 46)
 - AUDIO INPUT ROUTING window (page 49)
 - AUDIO OUTPUT ROUTING window (page 51)
 - MONITOR window (page 53)
 - OSC/TALKBACK (oscillator/talkback) window (page 55)
- SNAPSHOT menu
 - SNAPSHOT window (page 57)
 - KEYBOARD window (page 76)
- CUE menu
 - CUE window (page 59)
 - KEYBOARD window (page 76)
- AUTOMATION menu
 - AUTOMATION window (page 61)
- MACHINE CONTROL menu
 - MACHINE CONTROL window (page 64)
 - KEYBOARD window (page 76)
- SYSTEM menu
 - TITLE MANAGER window (page 62)
 - KEYBOARD window (page 76)
 - MIDI window (page 66)
 - SYNC/TIME CODE window (page 69)
 - KEYBOARD window (page 76)
 - I/O STATUS (input/output status) window (page 73)
 - KEYBOARD WINDOW (page 76)
 - MISC SETUP window (page 67)

Basic Components and Functions of the Windows

Basic Components of the Windows

The windows of the unit have different functions. The following window items consisting of the window are common to almost all the windows.



Top bar

1 TITLE button

In this manual, snapshot data (setting for the instantaneous status of the mixer), dynamic automation data (recalled or written according to the timecode on the time axis), settings for sampling frequency, timecode mode, etc., related to the mixing operation for a piece of music are called "Title".

The name of the mixing operation which is being performed is displayed on the TITLE button.

For detailed information on the function of the TITLE MANAGER window and how to enter the title name, see page 62.

Touching the TITLE button opens the TITLE menu and allows you to save the title with the current name.

TITLE menu

KEEP

The Title of the mixing operation that is currently being operated is saved with the name displayed on the TITLE button by selecting KEEP.

2 Snapshot display

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

For detailed information on the function of the SNAPSHOT window and how to enter the name of the snapshot data, see pages 57 and 83.

③ Automation mode display

Displays the Automation mode and automation status.

Automation mode display

- OFF
- ABS (ABSOLUTE: absolute value)
- TRIM
- SAFE ON/OFF
- AUTO PUNCH
- FOOT SW (Foot switch)

For detailed information on each automation mode, see pages 87, 88, 89 and 90.

The following automation status is displayed on the right side of the automation mode display.

Automation status display

- READY: Ready for executing automation.
- RUN: Automation is being executed.
- BUSY: Processing automation data.

④ Sampling frequency display

Displays the sampling frequency and (sometimes) an error indication.

When an error occurs on the word PLL or video PLL of the video synchronous signal, the sampling frequency display blinks.

⑤ Timecode, mode and error display

Displays the timecode read by the built-in timecode reader and its mode.

When the timecode does not run correctly, “TC” is displayed.

Operation window

The window corresponding to the menu selected using one of bottom menu bar buttons opens.

Touching the RETURN button ⑥ returns you to the previous window.

For detailed information on operations common to all the screens, see “Operating the Touch Panel” on the next page.

Bottom menu bar

Touching one of the bottom menu buttons ⑦ to ⑬ opens a menu related to the settings of the unit. *For details on the window, see pages indicated in parentheses.*

⑦ CHANNEL button

Touch this button to open the CHANNEL menu which allows you to select the window for settings related to channels. The display changes to the one corresponding to the selected window.

CHANNEL menu

- CHANNEL (page 37)
- INPUT/PAN/ASSIGN (page 38)
- EQUALIZER/FILTER (page 40)
- DYNAMICS (page 41)
- AUX SEND (page 43)

⑧ AUDIO button

Touch this button to open the AUDIO menu which allows you to select the window required for audio settings other than settings for channels. The display changes to the one corresponding to the selected window.

AUDIO menu

- OVERVIEW (page 44)
- FADER (page 45)
- FADER GROUPING (page 46)
- INPUT ROUTING (page 49)
- OUTPUT ROUTING (page 51)
- MONITOR (page 53)
- OSC/TALKBACK (oscillator/talkback) (page 55)

⑨ SNAPSHOT button

Touch this button to open the SNAPSHOT window (page 57).

⑩ CUE button

Touch this button to open the CUE window (page 59).

⑪ AUTOMATION button

Touch this button to open the AUTOMATION window (page 61).

⑫ MACHINE CONTROL button

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

13 SYSTEM button

Touch this button to open the SYSTEM menu which allows you to select the window required for the system settings.

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

SYSTEM menu

- TITLE MANAGER (page 62)
- MIDI (page 66)
- SYNC/TIME CODE (page 69)
- I/O STATUS (page 73)
- MISC SETUP (page 67)

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 switch on the corresponding channel strip on the unit.

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

- 1 Press the 25 to 48 button of the page selectable buttons on the Assignment panel on the unit.
- 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

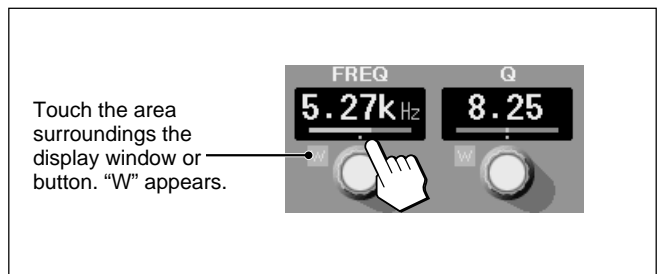
To select an item (or button, display window and so on), touch the desired item. The color of the item touched turns from pale to clear (or highlights, or turns to the opposite color) to indicate that the items is selected.

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. However, when the color change allows you to know the status of a setting such as ON/OFF of the functions, it is described clearly.

Writing data in the dynamic automation data

Touching the area surrounding the display window or buttons results in a “W” (in red) appearing under the display window and operations corresponding to the touched item are written in the dynamic automation data.



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.

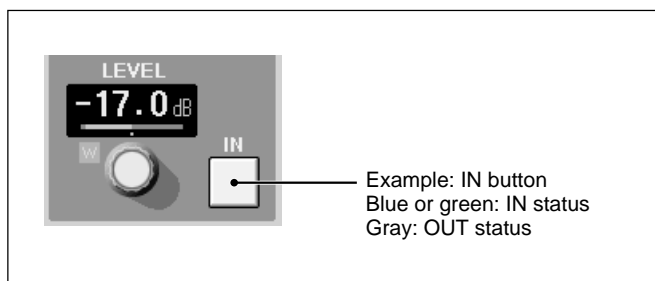
Also, the snapshot data is cleared when the unit is turned off or restarted unless you perform the KEEP operation.

For detailed information on the KEEP operation, see page 77.

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

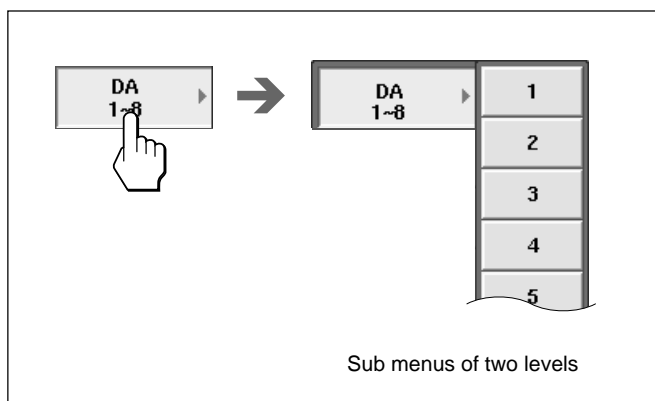
The IN button and NOTCH button which allow you to set the function on or off on the window are provided on the EQUALIZER/FILTER window and INPUT/PAN/ASSIGN window.

When you touch one of these buttons, the color of the button turns clear and this means the function of those 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.



Menu Windows

CHANNEL Window

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

Touching an item on the following window changes the window to the window corresponding to the touched item. When you touch the area surrounding the display window or button, a "W" appears and the operation is written in the dynamic automation data.

1 Display for DYNAMICS

2 Display for INPUT/PAN/ASSIGN

3 DISPLAY for EQ/FIL

4 Display for AUX SEND

5 Channel No. and channel select buttons

6 Local display of the automation

7 Fader level display

The CHANNEL window displays the status of the channel specified by pressing the ACCESS switch on the channel strip on the unit. When you operate the controls and faders on the unit, the operation results (settings) are displayed on the display window in units appropriate to the operation.

1 Display for DYNAMICS

Displays the following:

- ON/OFF of the dynamics and insertion point of dynamics.
- Items related to GATE/EXPANDER or COMPRESSOR/DUCKING (which is selected, GATE/EXPANDER or COMPRESSOR/DUCKING, status of IN/OUT of the dynamics, set values and so on)
- Link display
- Characteristics graph
- Reduction meter

2 Display for INPUT/PAN/ASSIGN

Displays the following:

- Channel mode select button (in stereo mode, even channel and odd channel are linked)
- Trim amount
- Phase inversion
- ON/OFF of the input delay and delay amount

- 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
- ON/OFF
- Prefader/postfader

5 Channel No. and channel select buttons

The channel select buttons allow you to increase or decrease the channel number of the channel to be displayed.

6 Local display of the automation

The function corresponding to the depressed button is not recalled for all channels.

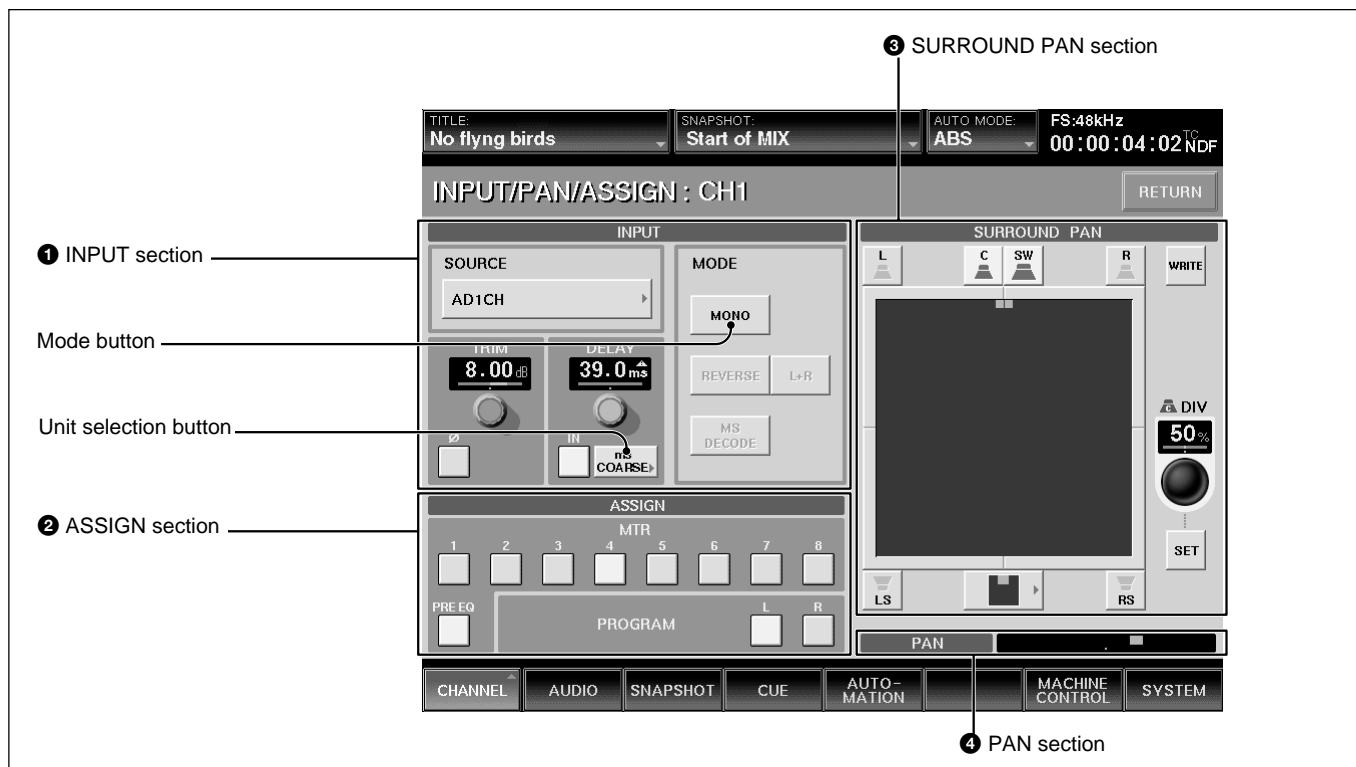
7 Fader level display

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, touching any point of the INPUT/PAN/ASSIGN display section opens the INPUT/PAN/ASSIGN window.



1 INPUT section

SOURCE section

Displays the source currently selected. To change the source, touch this button to open the list of the input sources and select the desired one.

TRIM section

Display window: Displays the trim amount of the input gain set using the TRIM control on the Parameter Setting panel.

Ø button: Touch this button to invert the phase of the input signal on the window. In its normal state, the button color is gray. When the phase is inverted, this button is lit in green.

Delay section

Display window: Displays the delay amount set using the DELAY control on the Parameter Setting panel.

IN button: Touch this button to set 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 is lit in green.

Unit selection button: Touch to select the unit of the delay amount to be displayed from among SAMPLE, ms or FRAME. Each unit has two adjusting modes: normal mode (adjusts in minimum units) and COARSE mode (rough adjustment).

When you change the unit of the delay amount to be displayed, if the amount displayed and actual delay amount are different under the selected unit, a yellow Δ appears over the unit on the display window.

MODE section

MODE button: Toggles MONO and STEREO LINK.

When STEREO LINK is displayed on the button, the adjacent channels, an odd channel and an even channel, 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 LINK button is lit.

REVERSE button: Touch this button to light up the button. The right and left channels are swapped.

L + R button: Touch this button to light up the button. The right and left channels are mixed (L + R signal).

MS DECODE button: Touch to light up the button. The system regards that the signals of odd and even channels are MS encoded signals, setting odd channels to M (Mid-capsule) and even channels to S (Side-capsule) and converts to right and left signals.

② ASSIGN section

MTR button and PROGRAM button: Have the same function as the MTR buttons (1 to 8) and PROGRAM L/R button on the unit. Touching this button on the window results in the output of the channel displayed on the window being assigned to the corresponding the MTR bus or PROGRAM bus.

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

Note

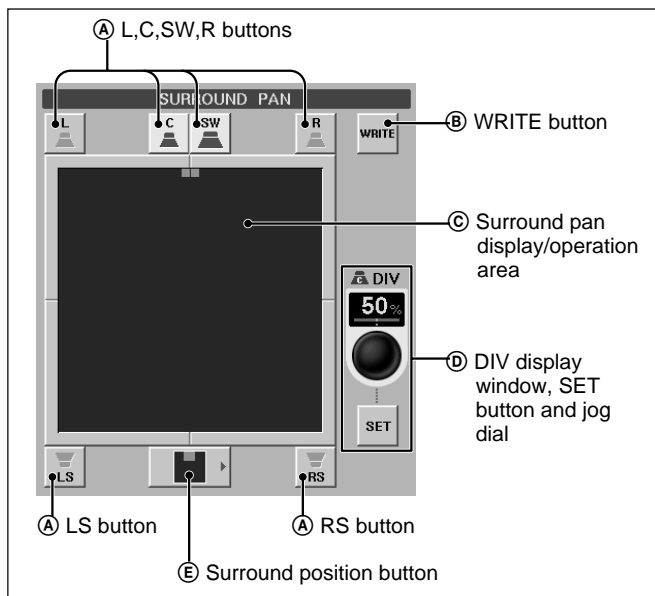
The signal selected by the PRE EQ button is used as the direct output signal of the channel currently displayed.

③ SURROUND PAN section

When the SURROUND button is set to “ON” on the MTR BUS MODE section on the MISC SET UP window, the unit is set in the surround mode and SURROUND PAN section becomes active on this window.

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

For detailed information on the MISC SETUP window, see page 67.



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

Touch to light up the button. The signal is assigned to each MTR bus. They have the same functions as the MTR button on the unit.

- 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

Ⓑ WRITE button

Touch this button to write the surround panning operation in the dynamic automation data.

Ⓒ Surround pan display/operation area

In surround mode, you can set the surround panning on this area. Touch this area, then drag the icon to the desired point and drop it.

Ⓓ DIV display window, SET button and jog dial

In surround mode, by touching this area, 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 window.

If you touch the SET button on the window before starting operation, a “W” appears under the display window and the DIV operation is written in the dynamic automation data.

Ⓔ Surround position button

Touch this button to open the list of the nine types of the main surround pan positions. You can set the surround position by selecting the icon corresponding to the desired type from the list.

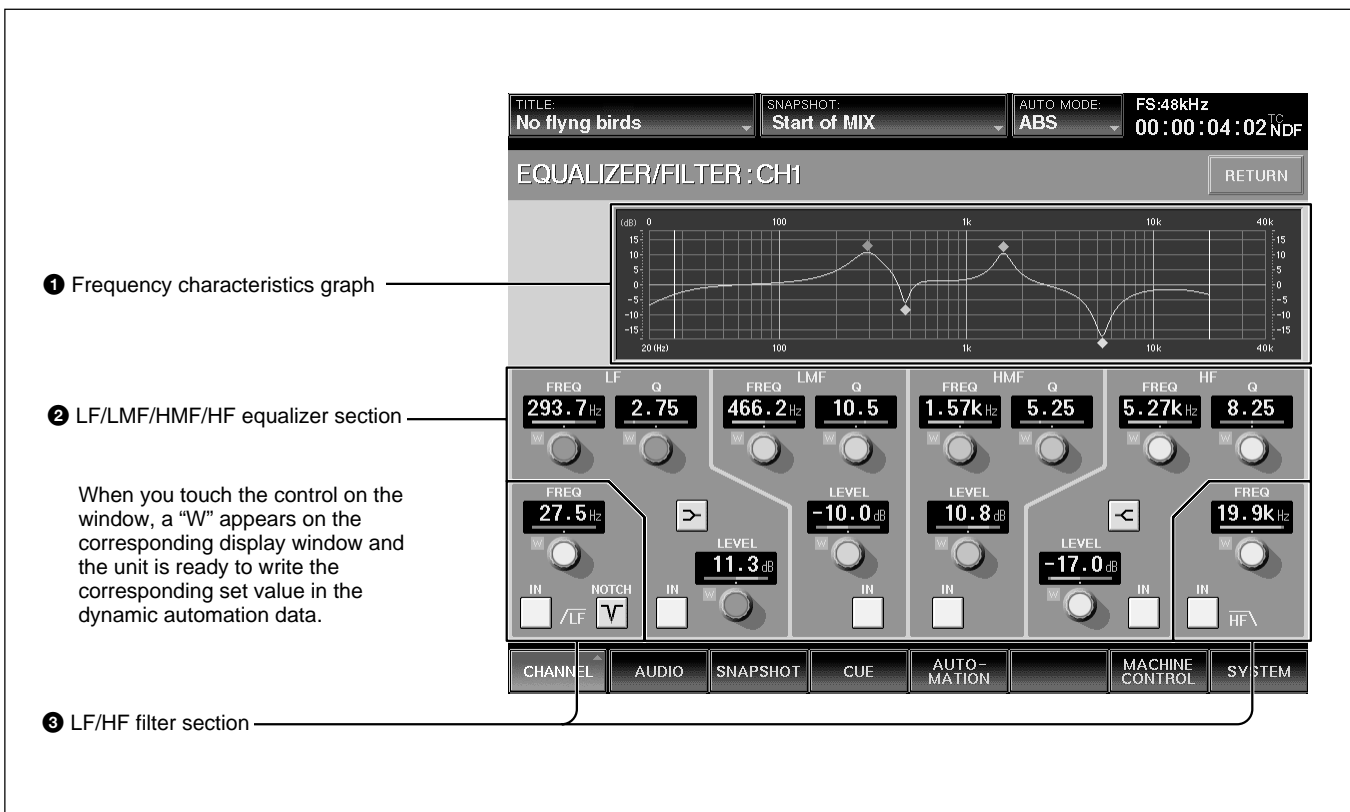
④ PAN section

Displays the normal panning operation status.

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, touching any point on the EQ/FIL display section opens the EQUALIZER/FILTER window.

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



1 Frequency characteristics graph

2 LF/LMF/HMF/HF equalizer section

When you touch the control on the window, a “W” appears on the corresponding display window and the unit is ready to write the corresponding set value in the dynamic automation data.

3 LF/HF filter section

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 the equalizer for each equalizer.

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

Q display: Displays Q set by the Q control on the unit.

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

IN button: Touch this button to light it up. The equalizer corresponding to the touched button becomes active. When this button is not lit, the equalizer is not active.

▷/◁ (equalizer characteristics selector) button:

Touch this button to change the characteristics of the low frequency range equalizer and high frequency range equalizer. When this button is lit, the shelving type is selected. When this button is not lit, the peaking type is selected.

3 LF/HF filter section

FREQ (cut-off frequency) display

Displays the characteristics of the cut-off frequency set by the FREQ control on the EQUALIZER section on the Parameter Setting panel on the unit.

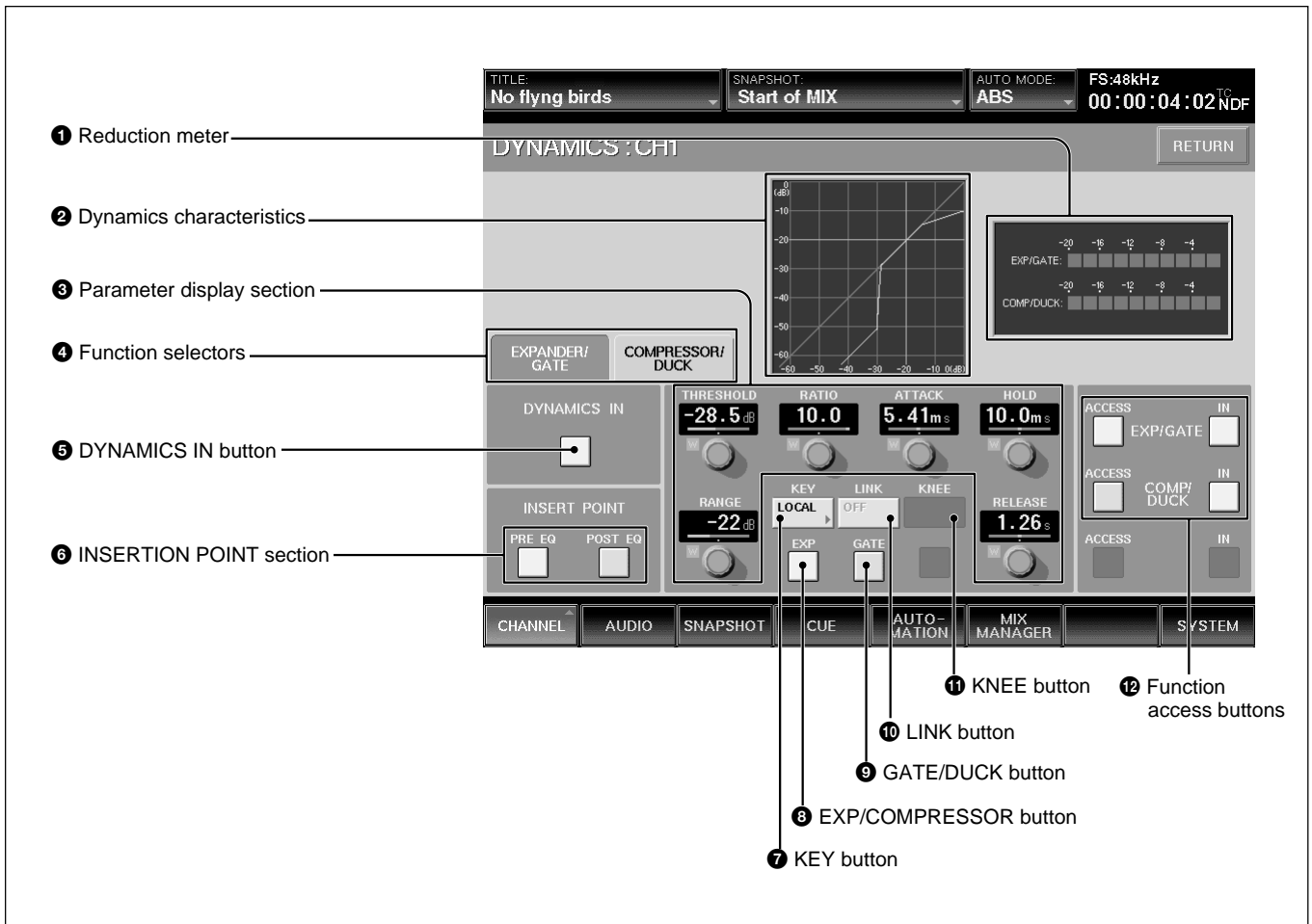
IN button: Touch this button to set the filter on or off. When this button is lit, the corresponding filter is active.

NOTCH button (only for low-cut filter): Touch this button to set notch mode on or off. When this button is lit, the low-cut filter acts as a notch filter.

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, touching any point of the DYNAMICS display section opens

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



1 Reduction meter

Displays the level compressed by the dynamics operation.

2 Dynamics characteristics

Displays the overall static characteristics graph of the dynamics.

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 make-up amount)
- RELEASE: Release time

When you touch the control on the window, a “W” appears below the display window. The unit is ready to write the corresponding value in the dynamic automation data.

④ Function selectors

Selects 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

Touch this button to make the dynamics setting function active.

Note

Even if the IN button of the Function access buttons ⑫ is selected, the dynamics setting function is not effective if this DYNAMICS IN button is not selected.

⑥ INSERTION POINT section

Selects the insertion point of the dynamics settings on the window.

FREQ EQ button: Touch this button to insert the dynamics settings before the equalizer.

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

⑦ KEY button

Touch this button to open the submenu which allows you to select the key signal with which the dynamics settings become enabled.

LOCAL: Uses the 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 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 the own channel to the right-adjacent channel.

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 is selected.

Touch this button to open the sub menu, then select the knee amount. If SOFT is selected, the dynamics are transitioned to the compression range smoothly.

⑫ Function access buttons

These buttons have the save 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 this button so that parameters of the expander and gate (or compressor and ducking) can be set using the controls on the Dynamics parameter section on the Parameter Setting panel on the unit.

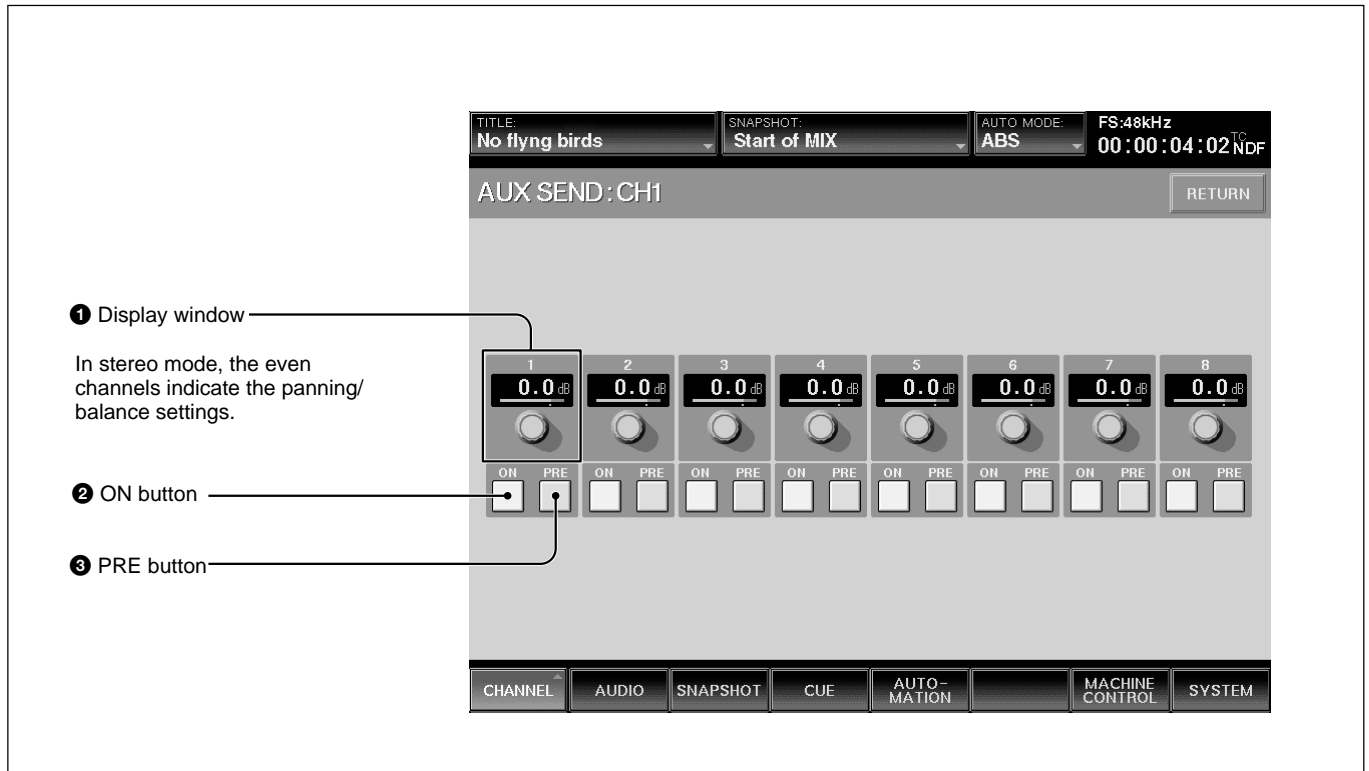
IN button of EXP/GATE (or COMP/DUCK): Touch this button so that the parameters of the expander/gate (or compressor/ducking) displayed on the Parameter display section ③ become effective.

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, touching any point on the AUX SEND display section opens the AUX SEND window. This window allows you to

perform the settings for AUX SEND 1 to 8 and displays the settings.

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.



1 Display window

In stereo mode, the even channels indicate the panning/balance settings.

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 you touch the control on the window, a “W” appears below the display window. The unit is ready to write the operation for adjusting the AUX send level in the dynamic automation data.

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

To set the AUX SEND bus to stereo mode, assign the AUX SEND bus to the channel strip using the MASTERS button in the PAGES section on the unit. Then the CHANNEL window displays the AUX SEND bus’s settings. 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 signal of the channel displayed on the Window name section “AUX SEND: CH XX” is sent to the corresponding AUX send bus.

For busses set in stereo mode, the pairing of the odd channel 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 this button to light it up. The pre-fader signal of the channel is sent out. When the button is not lit, the post-fader signal is sent out.

For busses set in stereo mode, the pairing of the odd channel and even channel is 1 and 2, 3 and 4, 5 and 6, and 7 and 8.

AUDIO OVERVIEW Window

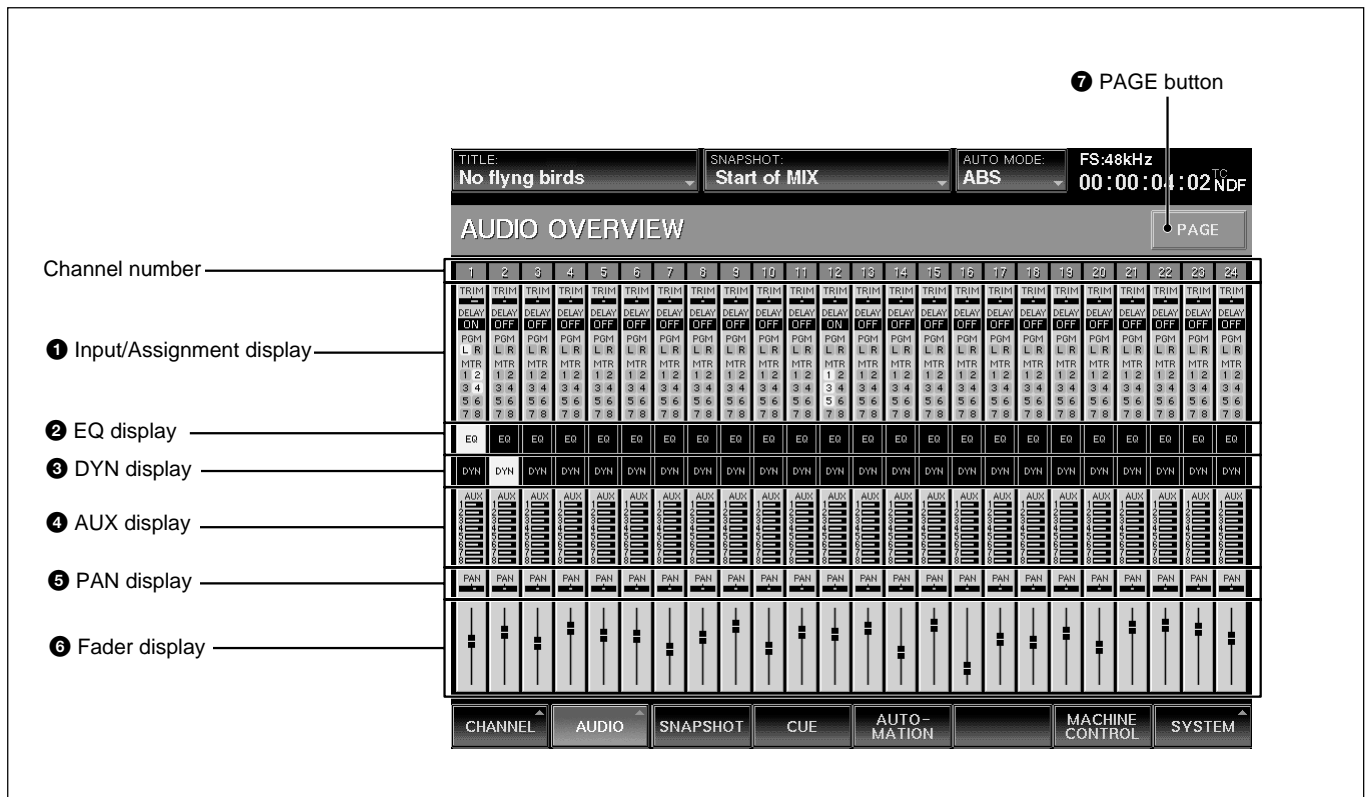
To open this window, touch the AUDIO button on the bottom menu bar, then select “OVERVIEW”.

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.

When the functions of the equalizer, dynamics settings and the output of the AUX send bus are effective, the corresponding display is lit in green. When they are off, the display is gray.

When you touch the display that you want to see, the window of the corresponding channel (where detailed settings of the touched item are 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 effective or not.

3 DYN display

Displays whether the dynamics settings are effective or not.

4 AUX display

Displays the AUX send level.

5 PAN display

Displays the pan position.

6 Fader display

Displays the fader level.

7 PAGE button

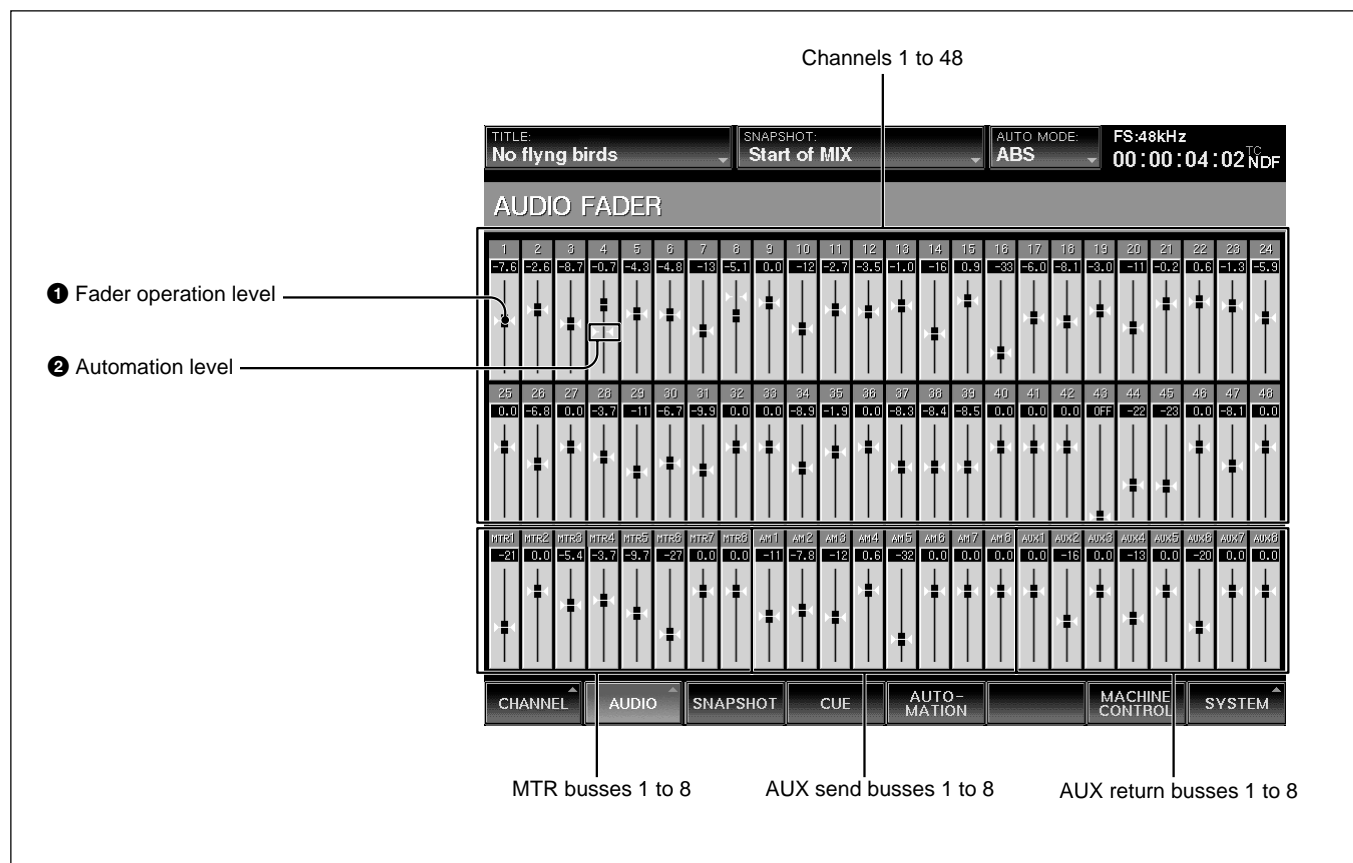
Changes the channel page to be displayed on the AUDIO OVERVIEW window.

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.



1 Fader operation level

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

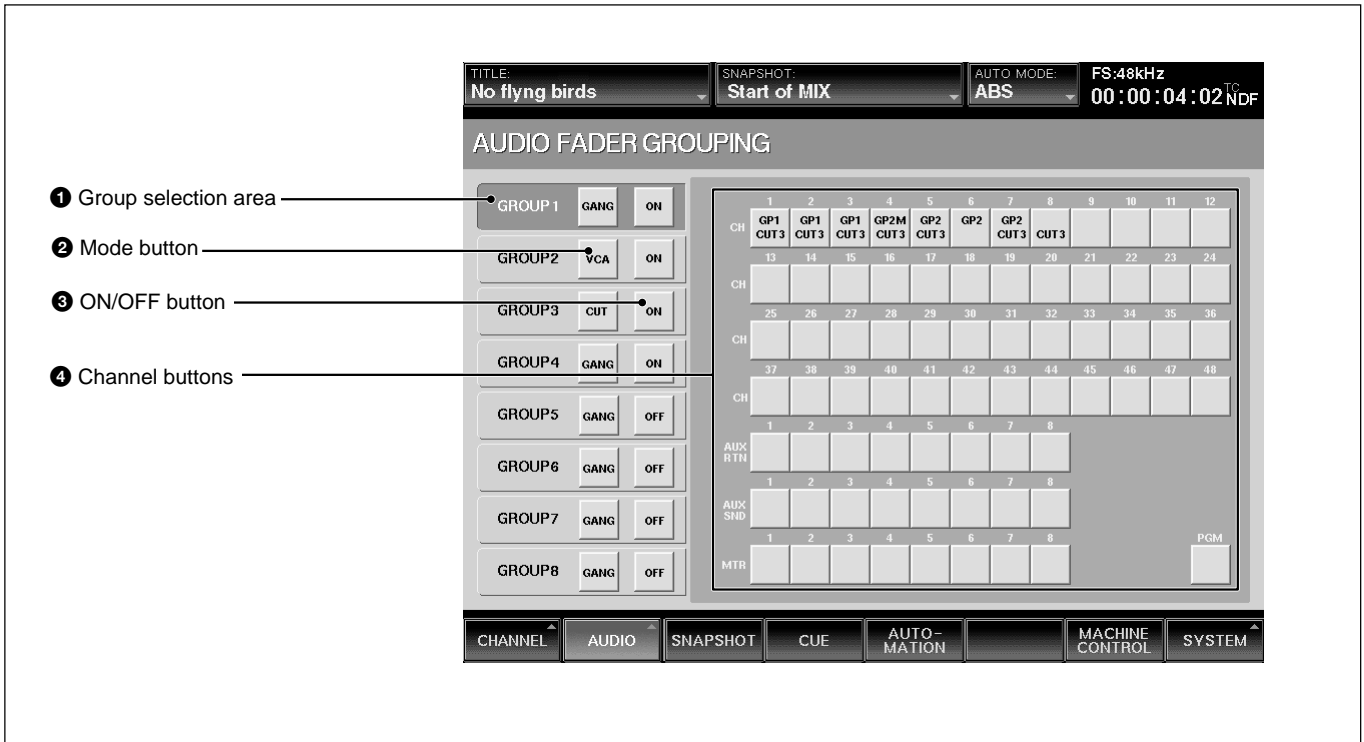
2 Automation level

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

2 Mode button

3 ON/OFF button

4 Channel buttons

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.

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 where the corresponding group is used or not.

4 Channel buttons

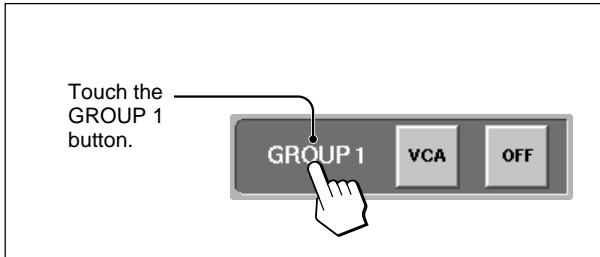
One channel can belong to one fader group and one cut group. Channels cannot belong to multiple fader groups or cut groups.

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.

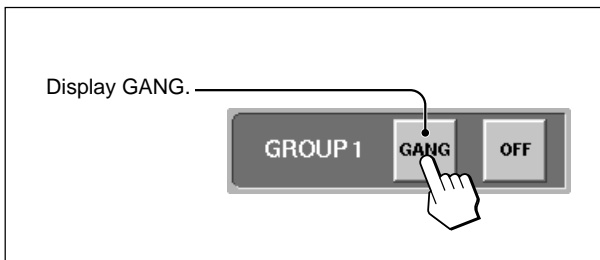
Setting the GANG fader group

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

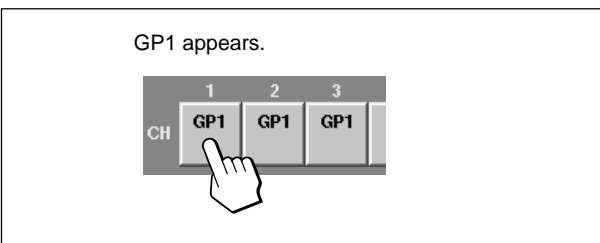


When the channel has been assigned to the group, the group number is displayed on the upper part of the channel button.

- 2 Touch the mode button corresponding to 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.
In this case, do not touch the channel button(s) where the fader group is displayed on the upper part on the button.
The group number appears on the channel button.

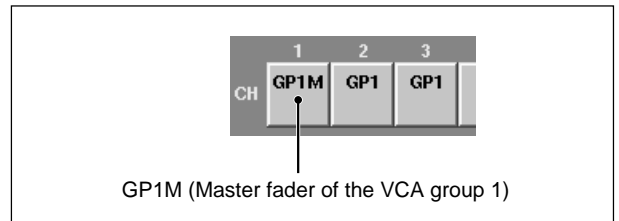


To remove the channel from the group, touch this button(s) on which the group number is displayed. The group number disappears and that channel is removed from the group.

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.



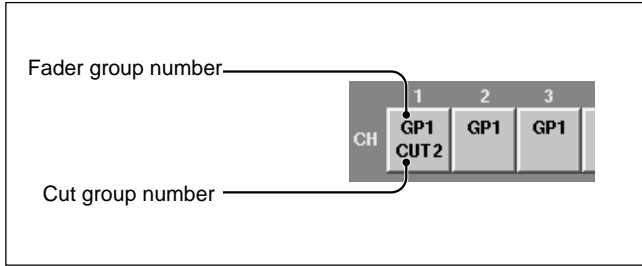
To remove the channel(s) from the group, touch this button(s) on which the group number is displayed. The group number disappears and that channel is removed from the group.

In the VCA group, if you touch the channel button assigned to the master fader, all channels assigned to the VCA group are removed.

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.

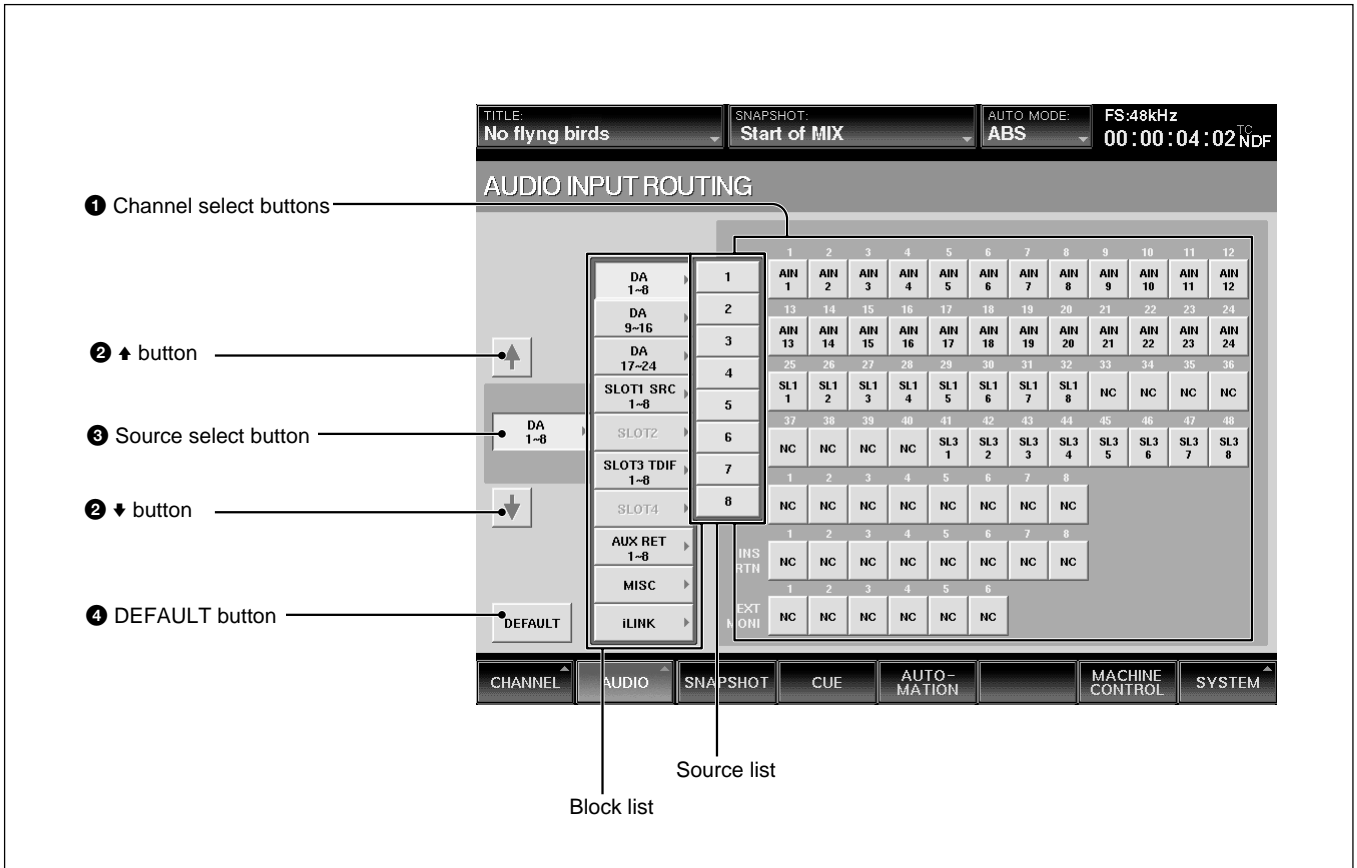


Clearing the group

- 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 Channel select buttons (CH-1 to CH-48, AUX RET 1 to 8, INS RET 1 to 8, EXT MONI 1 to 6)
Selects the channel to which the source signal selected by the Source select button **3** is routed.

2 Up/Down buttons
Touch the **Up** button to select the block over the currently selected block.
Touch the **Down** button to select the block below the currently selected block.

3 Source select button
Displays the currently selected source block. Touch this button to open the block list in the **Right** direction. Touch the desired block button to open the list of the sources included in the block. The list of the source block and the source list of each source block are as follows:

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

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 of the sources by 8 channels opens.
- 2** Touch the desired source block on the block list.
The list of the sources included in the selected block opens.

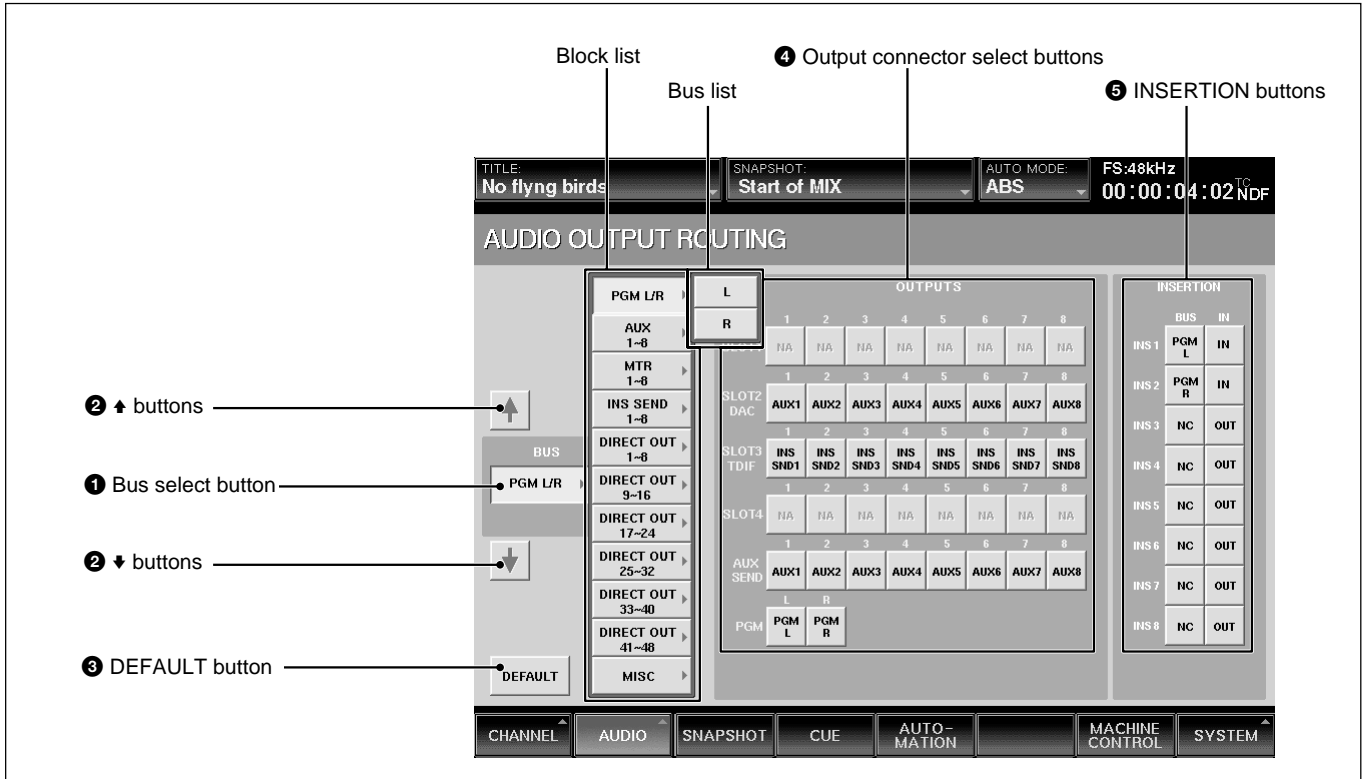
To select the source by the block, go to step 4.
- 3** Touch the desired source on the source list.
- 4** Touch the channel button to which the source signal is routed.
The source signal selected in step 3 is routed to the channel selected in step 4.
When you select the source by the block, the source signals in the block are automatically routed to the channels.
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.

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 desired 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 block by 8 outputs 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 a list of 8 channels.
- MTR
This block has a list of 8 channels.
- INS SEND
This block has a list of 8 channels.
- DIRECT OUT 1 to 8 to 41 to 48
Each block has a list of 8 channels.
- MSC
NC (NO CONNECTION)

2 ↓/↑ buttons

Touch the ▲ button to select the block over the currently selected block. Touch the ▼ button to select the block below the currently 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 L/R

Selects the output connector to which the bus block selected by the bus select button is routed. Each of SLOT 1 to SLOT 4 has 8 output connectors.

5 INSERTION buttons

BUS buttons: After selecting the bus on which you want to provide the insertion circuit on the bus list, touch the BUS button corresponding to the desired bus.

IN button: When IN is displayed on the button by touching it, the insertion circuit is effective.

When OUT is displayed on the button, the insertion send signal is output to the terminal routed to the bus selected by the output connector select button. However, the insertion return signal is ignored.

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 select button to which the bus signal is routed.
The bus signal selected in step 3 is routed to the output terminal selected in step 4.

When you select the bus by the block, the bus signals in the block are automatically routed to the output terminals.

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

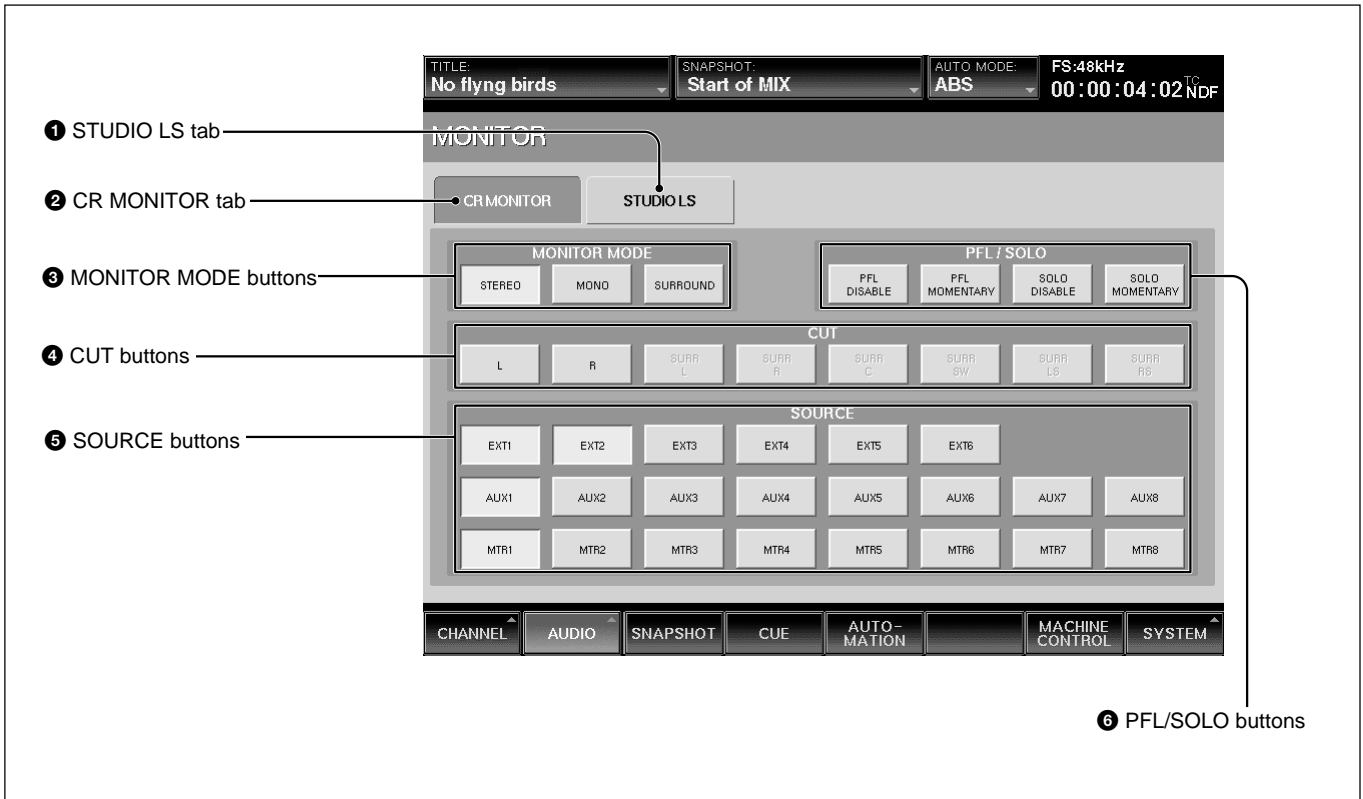
- 1 Touch the DEFAULT button.
A dialog box appears.
- 2 Touch [OK] in the dialog box.
The setting of the output matrix is reset to the default setting.

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 on the Master meter/studio monitor/solo mode sections or on the CR MONITOR section on the Control room monitor section and PGM bus section.

This window allows you to perform settings for monitoring.



1 STUDIO LS (studio monitor) tab

Touch this button to perform settings for the studio monitors.

2 CR MONITOR (control monitor) tab

Touch this button to perform settings for the control room monitors.

3 MONITOR MODE buttons

Selects the mode of the audio for monitoring.

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

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

When monitoring the stereo bus signal, the audio signal where the signals of the L and R channels are mixed is sent.

BUS mode	Monitor mode	Audio signal
STEREO	Stereo	Stereo
MONO	Stereo	The bus signal is sent to the L and R channels.
STEREO	Monaural	L + R
MONO	Monaural	The bus signal is sent to the L and R channels.

SURROUND button: Touch this button to select the surround mode. The SURROUND button is active for the control room monitor only when the SURROUND button on the MTR BUS MODE section on the MISC SETUP window is set to ON.

Menu Windows

4 CUT buttons

When the CUT button on the CR MONITOR section on the unit is lit, you can cut the monitor signal by touching the desired CUT button among the L, R, SURR L to SURR RS cut buttons on the window. The SURR L to SURR RS buttons are active only in the surround mode.

5 SOURCE buttons

Touch one of the following buttons to monitor the signal of the buttons that are lit in the SOURCE section on the Control room monitor section and the PGM bus section on the unit.

PGM button: When you touch this button, you can hear the signal of the PGM bus using the PGM button on the SOURCE section.

EXT 1 to EXT 6 buttons: When you touch this button, you can monitor the selected EXT bus signal using the EXT button on the SOURCE section. In normal mode, the monitor signal is stereo in pairs of the odd external number and even external number. In surround mode, you can monitor the signals of EXT 1 to EXT 6. The status of this button is kept and when you press the EXT button on the SOURCE section on the unit, you can monitor the EXT bus signal selected here.

To monitor the EXT signal, you have to assign the input source to the corresponding EXT bus on the INPUT ROUTING window.

AUX 1 to AUX 8 buttons: When you touch this button, you can monitor the AUX bus signal using the AUX button on the SOURCE section on the unit. If the selected AUX bus is in stereo mode, the AUX buttons are automatically selected in pairs. The status of this button is kept and when you press the AUX button on the SOURCE section on the unit, you can monitor the AUX bus signal selected here.

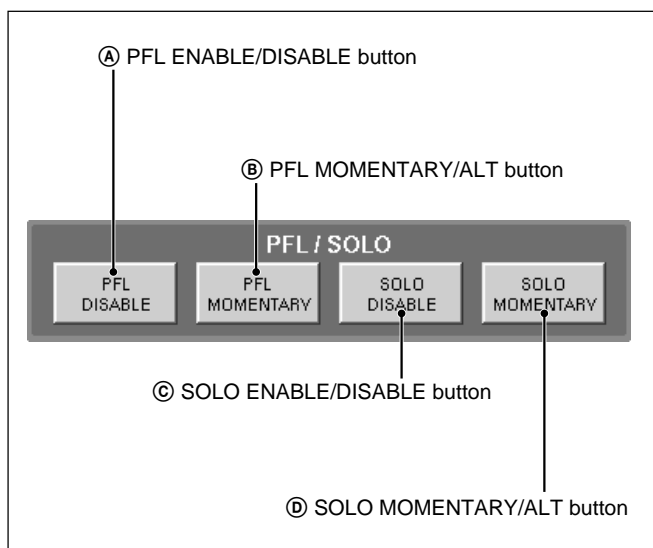
MTR 1 to MTR 8 buttons: When you touch this button, you can monitor the selected MTR bus signal using the the MTR button on the SOURCE section on the unit.

The status of this button is kept and when you press the MTR button on the SOURCE section on the unit, and you can monitor the MTR bus signal selected here.

6 PFL/SOLO buttons

Selects how to insert the PFL/AFL signal and SOLO signal into the monitor signal.

Use the *SOLO MODE* section on the unit to select the PFL/AFL signal and SOLO signal.



A PFL ENABLE/DISABLE button

When ENABLE is displayed on the button, the PFL (prefader)/AFL (after fader) signal is inserted into the monitor signal.

When DISABLE is displayed, the PFL/AFL signal is not inserted into the monitor signal.

This button works for each of studio monitor signal and control monitor signal independently.

B PFL MOMENTARY/ALT button

When MOMENTARY is displayed, the PFL or AFL signal is inserted only while you hold down the SOLO button on the unit.

When ALT is displayed, the PFL/AFL signal is inserted and not inserted alternately each time you press the SOLO button.

This buttons works for both studio and control monitor signals.

C SOLO ENABLE/DISABLE button

When ENABLE is displayed, the SOLO signal is inserted into the monitor signals.

When DISABLE is displayed, the SOLO signal is not inserted.

This button works for each of studio monitor signal and control monitor signal independently.

D SOLO MOMENTARY/ALT (alternate) button
When MOMENTARY is displayed, the SOLO signal is inserted only while you hold down the SOLO button on the unit.

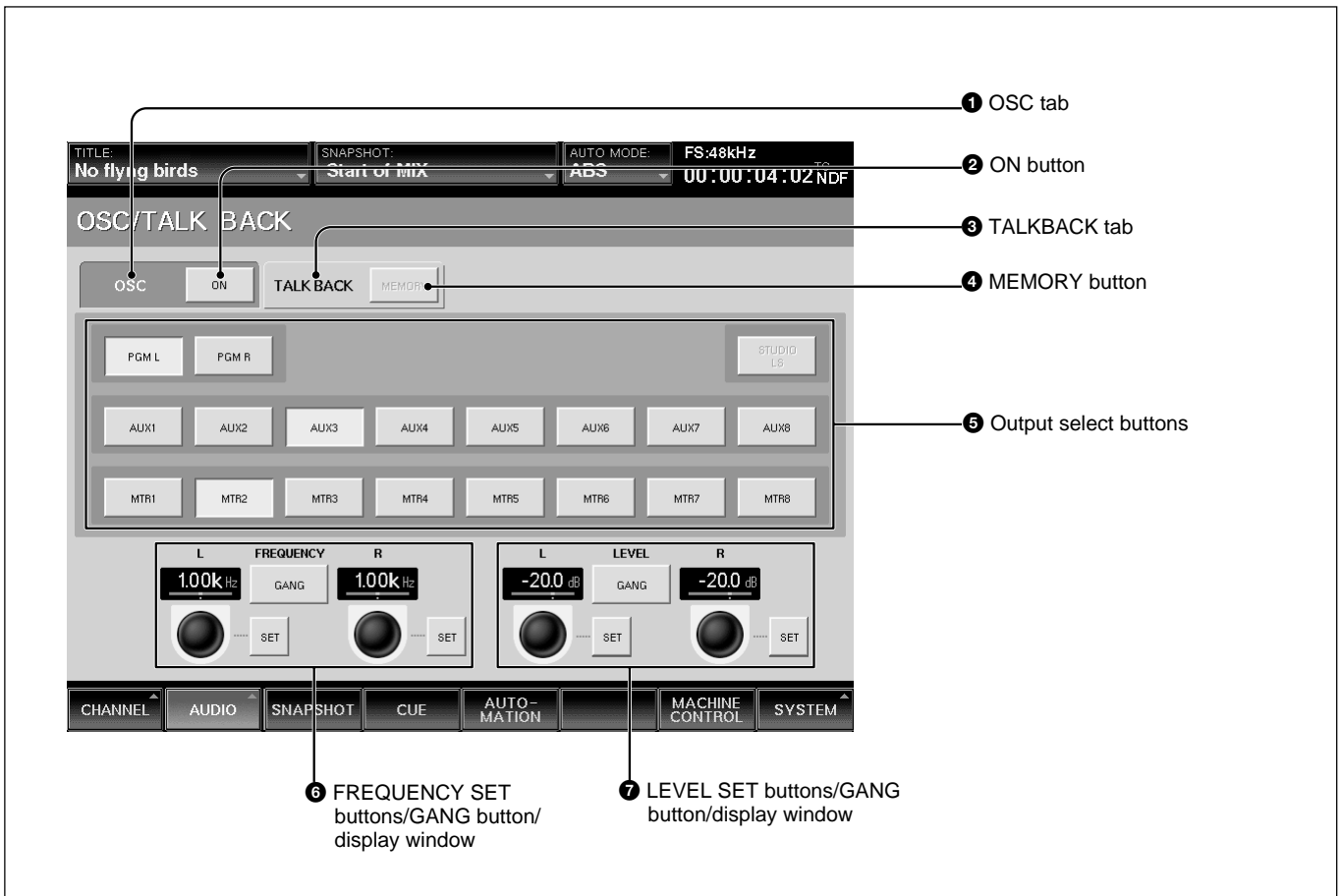
When ALT is displayed, the SOLO signal is inserted and not inserted each time you press the SOLO button. This buttons works for both studio and control monitor signals.

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 perform settings for oscillators and talkback.



1 OSC (oscillator) tab

Touch this button to allow you to perform settings for oscillators.

3 TALKBACK tab

Touch this button to allow you to perform settings for talkback.

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 output to the signal path. Select the signal path to which the oscillator signal is output using the Output select buttons **5**.

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

⑤ Output select buttons

Touch the corresponding button to select the desired signal path to which the oscillator signal is output.

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 setting buttons for talkback signals. Button ⑥ is not effective.

④ MEMORY button

When the button is on, the setting of the output select buttons ⑤ is stored and the talkback signal of the built-in microphone is output to the bus selected on the Talkback panel on the unit.

When the button is off, the talkback signal of the built-in microphone is output to the bus selected on the Talkback panel on the unit 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 output to the bus or connector selected by the output select button.

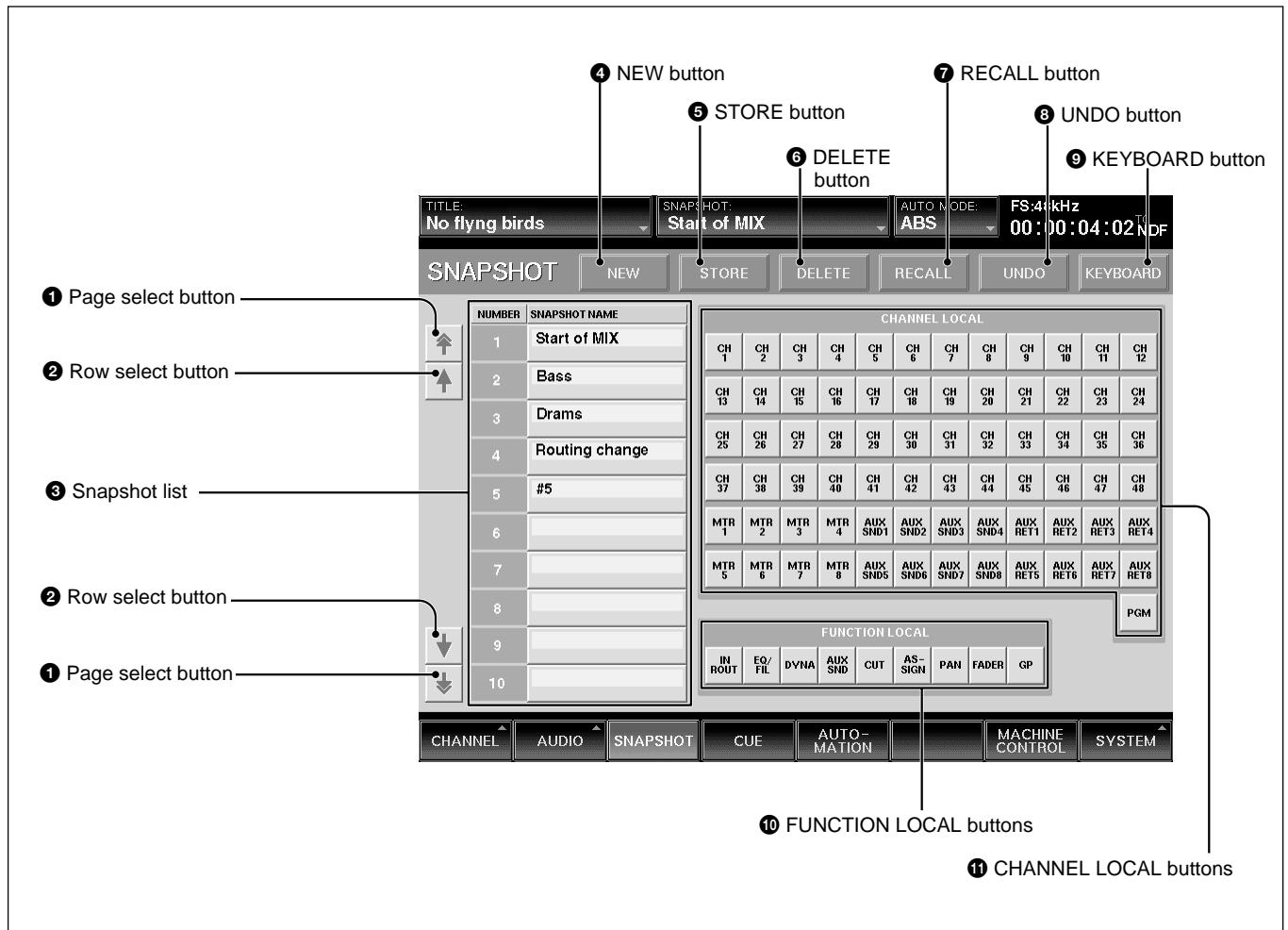
⑦ LEVEL SET buttons/GANG button/display window

Touch the R LEVEL SET button so that you can 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, then select “SNAPSHOT” from the menu.
 - Press the SETUP button from among SNAPSHOT buttons on the Automation panel.

This window allows you to perform settings for snapshot automation.
For detailed information on snapshot automation, see page 82.



1 Page select button

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

2 Row select buttons

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

3 Snapshot list

Displays the number and name of the snapshot data stored. Touching the number or name results in selecting that snapshot data. You can enter the name of the snapshot data by using the keyboard connected to the unit or from the KEYBOARD window.

④ NEW button

Touch this button to store the current status of settings of the unit as a new snapshot data.

The lowest number among the vacant numbers is put to the new snapshot data and it is temporarily named “# + xx” (xx is the snapshot number).

⑤ STORE button

Touch this button to store the current status of the settings of the unit to the snapshot data selected on the snapshot list ③.

⑥ DELETE button

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

⑦ RECALL button

Touch this button to recall the snapshot data selected on the snapshot list ③.

⑧ UNDO button

Touch this button to cancel the previous snapshot operation 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 snapshot data.

⑩ FUNCTION LOCAL buttons

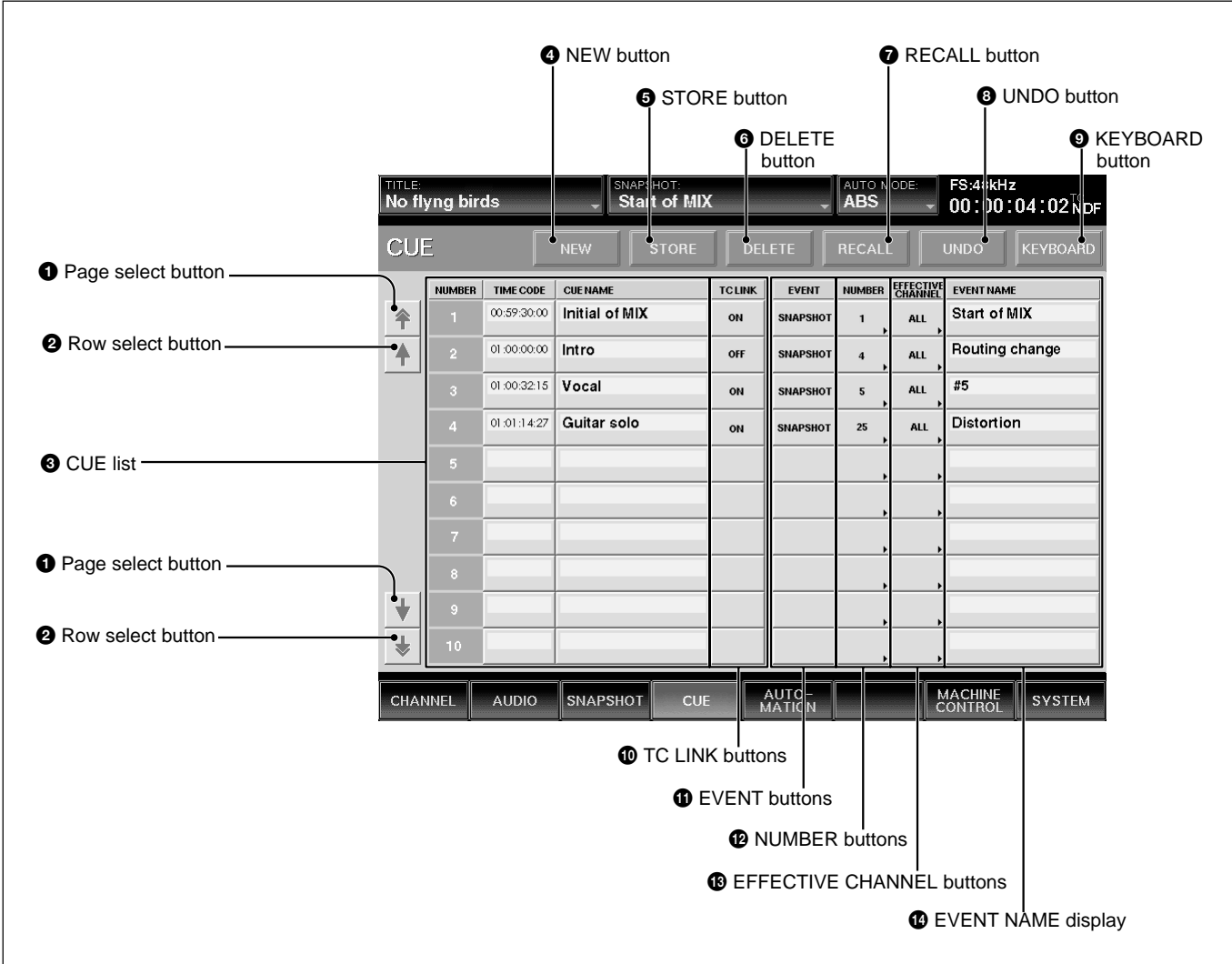
Touch the button corresponding to the function you want to remove from the settings stored, when recalling the snapshot data and performing snapshot automation. The function corresponding to the touched button is not loaded when recalling the data, but operations can be stored as snapshot data.

⑪ CHANNEL LOCAL buttons

Touch the button corresponding to the channel that you want to remove when recalling the snapshot data and performing snapshot automation. The channels are removed when recalling snapshot data and performing snapshot automation, but operations can be stored as snapshot data.

CUE Window

To open this window, touch the CUE button on the bottom menu bar, then select “CUE”. This window allows you to perform cue settings.
 For detailed information on cue operation, see page 84.



- 1 Page select button**
Touch this button to send the cue list 3 upwards or downwards by 10 rows .
- 2 Row select button**
Touch this button to send the cue list 3 upwards or downwards one row at a time.

- 3 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) when the event is executed.
 By touching this row repeatedly, this row is selected and you can change the timecode using the ten key pad on the unit.
CUE NAME row: By touching this row, this row is selected and you can enter or change the name of the cue point using the keyboard connected to the unit or on the KEYBOARD window.

4 NEW button

Touch this button to store the timecode displayed on the display window on the Automation panel on the unit as an address of a new cue point.

The lowest number among the vacant 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 among the SNAPSHOT buttons on the Automation panel on the unit, and you touch the NEW button on this window, the new snapshot data linked with the new cue point is stored.

5 STORE button

Touch this button to store the timecode displayed on the display window on the Automation panel on the unit as the timecode of the cue point selected on the Cue list 3.

6 DELETE button

Touch this button to delete the cue point selected on the cue list 3.

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 3.

When the event is linked with the cue point, this event is executed.

8 UNDO button

Touch this button to cancel the previous snapshot 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 TC LINK buttons

Touch this button to execute the event at the time specified on the cue list.

11 EVENT buttons

Touch this button to open the menu list of the events and select the event to be executed.

SNAPSHOT button: Executes the snapshot automation.

NoACTION button: Nothing is executed.

12 NUMBER button

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

13 EFFECTIVE CHANNEL buttons

Specifies the channels on which the event is executed. When the ALL button is displayed: Touch this button to specify all channels.

When SNAPSHOT is selected by the EVENT button 11 only the ALL button is effective.

14 EVENT NAME display

Displays the event name.

Initial cue

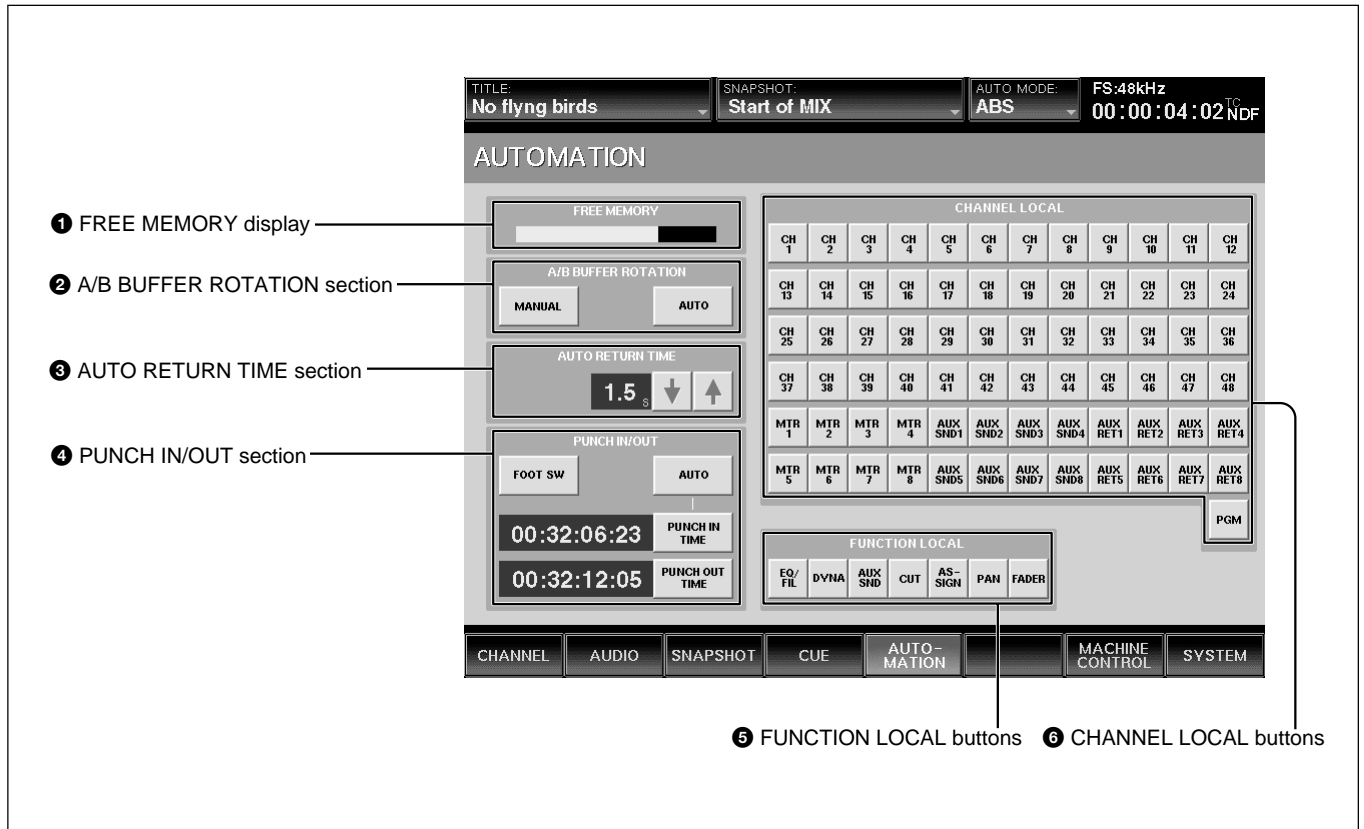
- CUE 1 is reserved as an initial cue to indicate the start point of the automation.
- When the timecode before the timecode specified for the initial cue is entered, automation data does not become effective until the timecode advances beyond the timecode of the initial CUE after the system recalls CUE 1.
- 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, dynamic 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.

For detailed information on cue, see “Cue Operation Procedure” on page 84.

AUTOMATION Window

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

For detailed information on automation, see “Chapter 4 Operation Tips”.



1 FREE MEMORY display

Displays the remaining amount of memory available for dynamic automation operations.

2 A/B BUFFER ROTATION section

Sets how to use the memory buffers to store automation data.

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

(When the SAFE button is selected among TC AUTOMATION buttons on the Automation panel on the unit, the active buffer is not switched since automation data is not renewed.)

MANUAL button: Touch this button to change the active buffer by pressing the A or B button of the TC AUTOMATION buttons on the Automation panel on the unit.

3 AUTO RETURN TIME section

This section allows you to set the time required for the faders to return to the position stored in the automation data when timecode automation data is used in absolute mode or after you finish operating them manually.

If you set the return time to 0 seconds, the faders return to the stored position instantaneously. If you set the return time to “---”, the position (level) where you finish manual operation is kept until the position stored in the automation data is changed.

4 PUNCH IN/OUT section

This section allows you to store the dynamic automation data by sending the ON/OFF signal or specifying the timecode remotely.

FOOT SW button: Touch this button to store the automation data while the foot switch connected to the FOOT SW connector on the unit is ON. When this button is not selected, automation data is stored regardless of the ON/OFF condition of the connected foot switch.

AUTO button: Touch this button to store the automation data during the duration specified on the PUNCH IN TIME/PUNCH OUT TIME display windows. When this button is not selected, automation data is stored regardless of the specified duration.

PUNCH IN TIME button and display window: Touch this button to accept the time displayed on the timecode display window on the Automation panel on the unit as the punch in point. This time is then displayed on the display window.

PUNCH OUT TIME button and display window:

Touch this button to accept the time displayed on the timecode display window on the Automation panel on the unit as the punch out point. This time is then displayed on the display window.

5 FUNCTION LOCAL buttons

Touch this button to remove the settings stored, when recalling the dynamic automation data and performing dynamic automation. The function corresponding to touched button is not loaded when recalling the data.

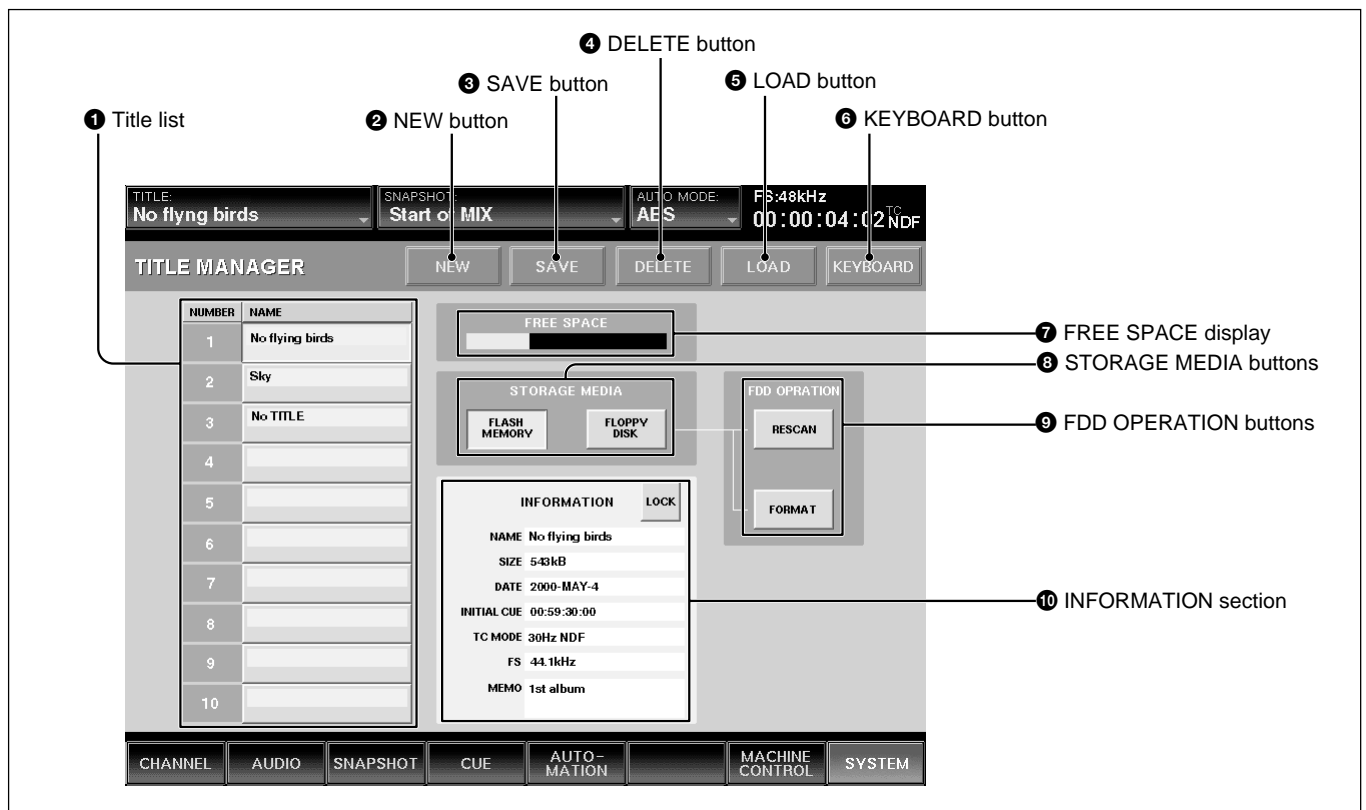
6 CHANNEL LOCAL buttons

Touch this button to remove the channel when recalling the dynamic automation data and performing dynamic automation.

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 title.



In this manual, data related to the mixing operation for one for a piece of music (snapshot data, dynamic automation data, settings for sampling frequency, timecode mode, etc.) is called “Title.”

There are two types of titles:

- Current title that is automatically created in the flash memory to actually perform storing/recalling, when loading.
- Title stored as a file

1 Title list

Displays the list of titles stored in the media selected by the STORAGE MEDIA button 8.

Up to 10 titles can be stored in the flash memory and floppy disk respectively. However, since the number of the titles that can be stored depends on the size of the title, there is a case where you cannot store up to 10 titles.

When you open this window, the title loaded last is selected.

2 NEW button

Touch this button, and the 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 data of the snapshot and dynamic automation that are being operated on the unit are cleared. It is recommended that you save the data using the SAVE button 3 before creating a new title.
- When a new title is created by the NEW button, the initial cue is automatically created. Before using the unit in automation mode, reset the initial cue data.

For detailed information on the initial cue, see page 79. For the cure operation procedure, see page 84.

3 SAVE button

Touch this button to store the current title into the title selected on the title list. Select the media where the current title is to be saved by the STORAGE MEDIA buttons 8 before attempting to save.

4 DELETE button

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

5 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 restarts.

6 KEYBOARD button

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

7 FREE SPACE display

Displays the amount of free space for the media selected by the STORAGE MEDIA button 8.

When FLOPPY DISK is selected, if the title is saved on multiple floppy disks, the amount of free space for each disk is displayed.

8 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 this window is opened from other windows, the built-in flash memory is automatically selected.

FLOPPY DISK button: Touch this button to display the titles stored in the floppy disk inserted in the floppy disk drive on the title list.

If the floppy disk is not inserted in the drive or a read error occurs, an error message appears and nothing is displayed on the title list.

When you change the floppy disk, touch the RESCAN button of the FDD OPERATION 9 or touch the FLOPPY DISK button after touching the FLASH MEMORY button.

9 FDD OPERATION buttons

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

FORMAT button: Touch this button to initialize the floppy disk inserted in the floppy disk drive. All data stored on the disk are erased, titles displayed on the title list disappears and nothing is displayed.

Menu Windows

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 data 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, if any. You can enter a memo, too.

Touch the MEMO row, then enter the memo using the keyboard or on the KEYBOARD window.

LOCK button: Touch this button to lock the title selected on the title list. It is prohibited to save or delete the title.

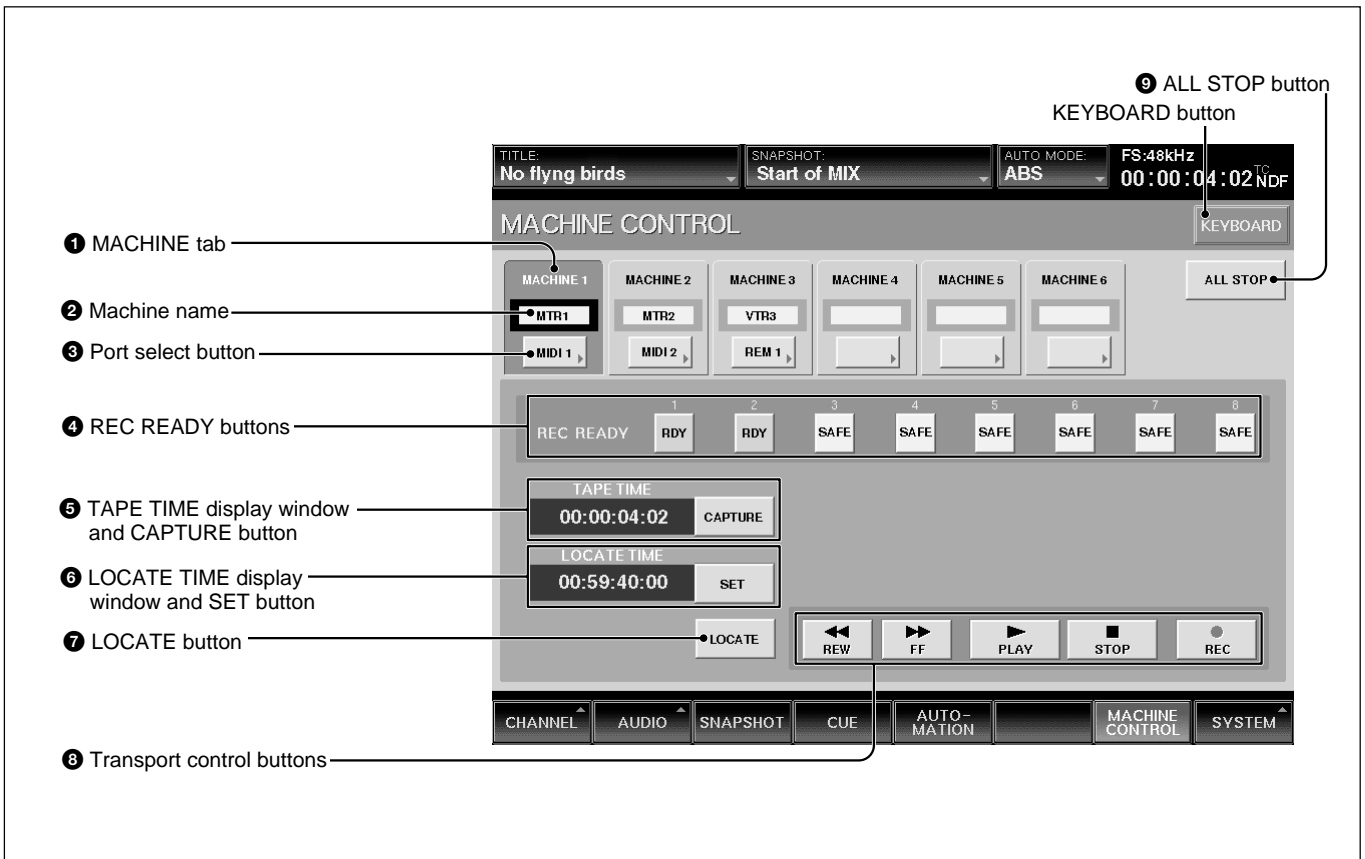
MACHINE CONTROL Window

To open this window, touch the MACHINE CONTROL button on the bottom menu bar.

This window allows you to control the MMC (MIDI machine control) machines connected to the MIDI connectors and the machines which conform to Sony 9-pin protocol and are connected to the REMOTE OUT connectors.

Note

There may be machines which cannot be controlled using this unit.



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 on this MACHINE CONTROL window.

2 Machine name

Displays the name of the machine which you can control.

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

3 Port select button

Selects the port from which the signal is output to control the machine.

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

4 REC READY buttons

Touch this button to issue the Rec Ready command to each track of the machine.

Note

This function may be not available for machines which do not support the Rec Ready remote control mode.

5 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 connected machines.

6 LOCATE TIME display and SET button

Displays the time when the machine locates when the LOCATE button **7** is touched.

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

7 LOCATE button

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

Note

There may be machines that cannot locate even if the locate command is received.

8 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.

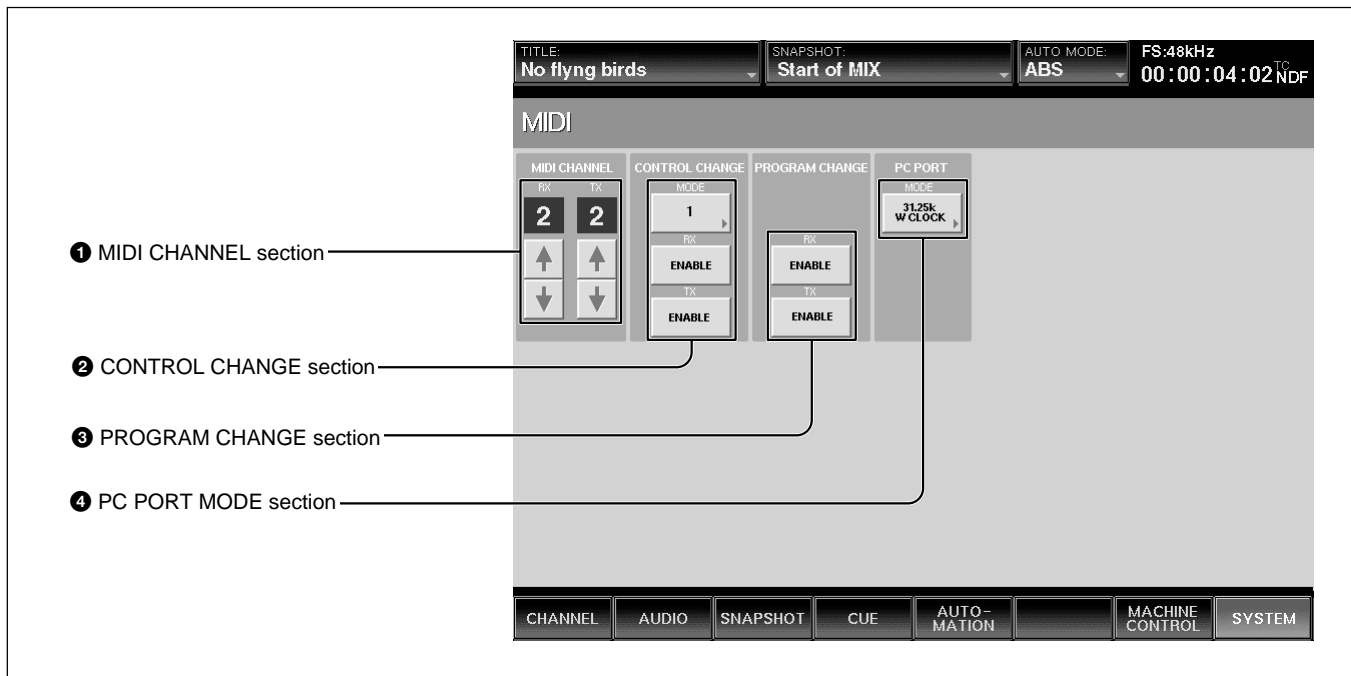
9 ALL STOP button

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

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 setting of PC ports.



1 MIDI CHANNEL section

RX channel display and channel increment and decrement buttons: Displays the channel which 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 this to be the same channel as the RX channel and TX 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 98.*

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.

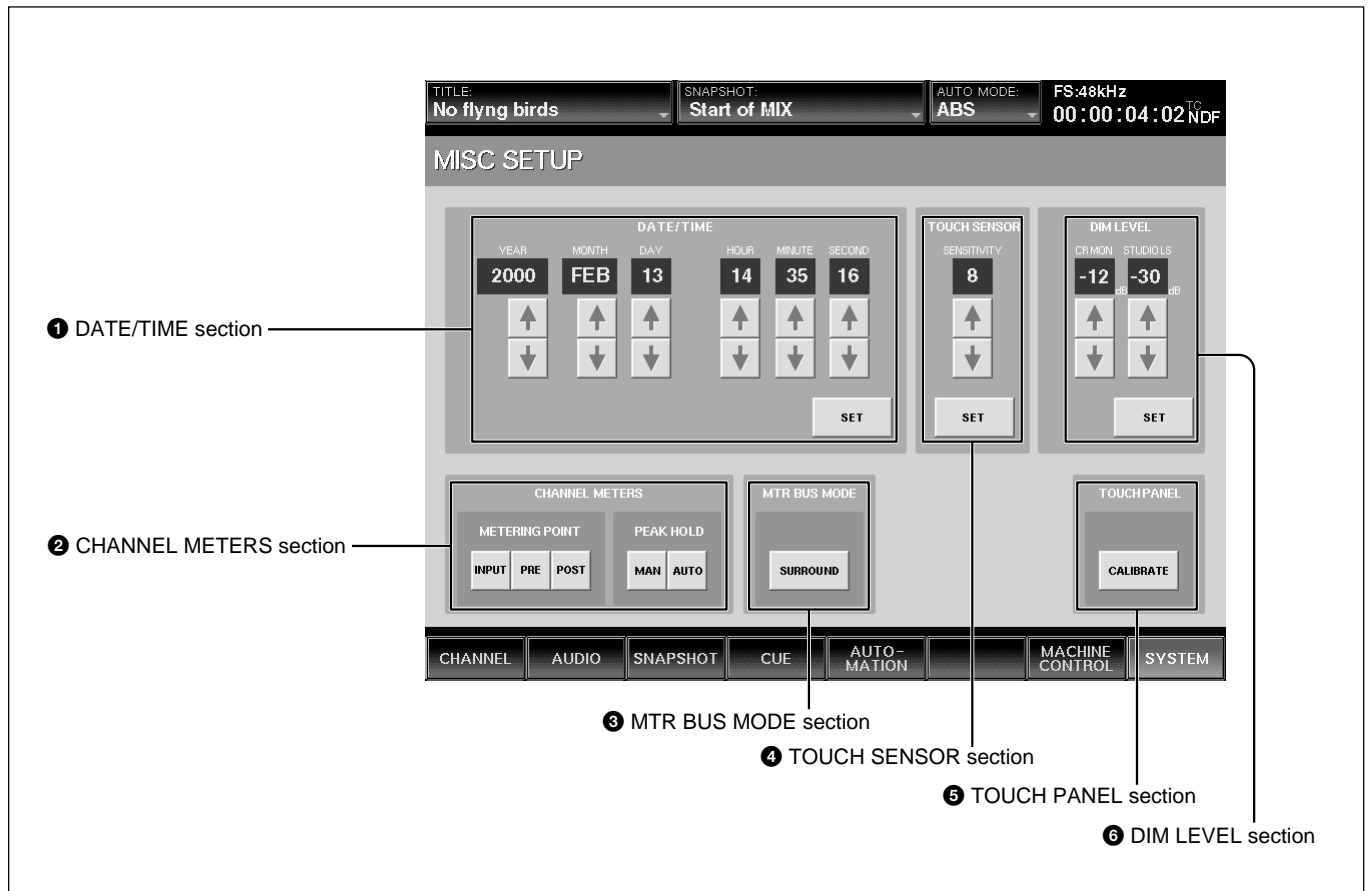
31.25 k W CLOCK: Selects this mode when a Macintosh computer is used.

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 device of the MIDI interface and the application.

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 perform settings for the clock of the unit, the channel meter display, the sensitivity of the touch sensor and the dimmer level of the monitor signals.



1 DATE/TIME section

Sets the clocks built into the unit.

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 to the displayed time.

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 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.

METERING POINT button

Selects the point of the signal to be displayed.

INPUT button: Selects the signal of the point just before the \emptyset switch (phase inversion) of the input signal path.

When the channel faders are used as faders of the AUX SEND or MTR bus, the signal of the corresponding bus is displayed.

PRE (prefader) button: Selects the signal of the point located before the CUT switch of the input signal path.

When the channel faders are used as the faders of AUX SEND or MTR bus, the signal before the master fader is selected.

PST (post fader) button: Selects the signal of the point located before the pan of the input signal path. When the channel faders are used as the faders of the AUX SEND or MTR bus, 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, then cancel the hold display automatically.

③ MTR BUS MODE section

Touch this button to display SURROUND. When SURROUND is displayed, the MTR bus is set in surround mode. When the display is off, the MTR bus is set in monaural mode.

④ TOUCH SENSOR section

Sets the sensitivity of the touch sensor provided with the channel faders.

SENSITIVITY display: Displays the sensitivity at steps of 0 to 15. The maximum sensitivity is 15.

▼/▲ buttons: Increases or decreases the sensitivity.

SET button: Touch this button to store the sensitivity on the SENSITIVITY display window in the unit.

⑤ TOUCH PANEL section

Calibrates the touch panel.

When such a problem that the cursor or point will not locate at the desired point occurs, calibration of the touch panel is required.

Touch this button to open the calibration window.

To calibrate the touch panel, proceed as follows:

- 1** Touch the CALIBRATE button.
The calibration window opens.
Perform the following operations of step 2 to step 5 on the calibration window.
- 2** Touch the left top on the window twice.
- 3** Touch the right bottom on the window twice.
- 4** Touch the circle mark on the window.
- 5** Touch the EXIT button to terminate the calibration.
The calibration of the touch panel is terminated.

⑥ DIM LEVEL section

Adjusts the dimmer level of the monitor signals.

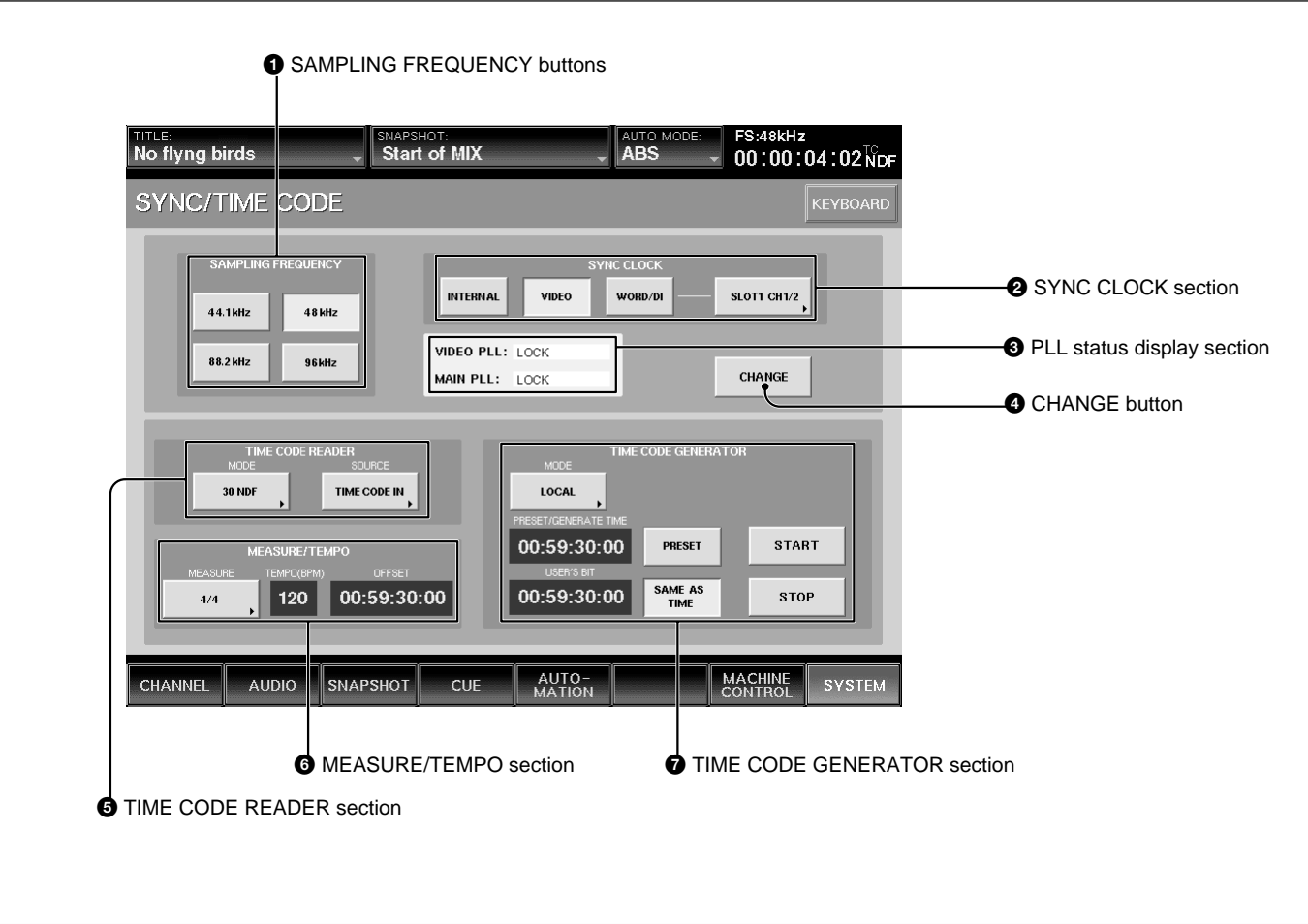
▼/▲ buttons: Increases or decreases the dimmer level of the CR MON (control room monitors) or STUDIO LS (studio monitors). The adjusted values are displayed on the display windows.

SET button: Touch this button to set the level displayed on the display window as the dimmer level.

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 perform settings of the synchronous signals and the timecodes to be used for automation.



Synchronous signal section

1 SAMPLING FREQUENCY buttons
 Touch this button corresponding to the desired sampling frequency from among 44.1 kHz, 48 kHz, 88.2 kHz or 96 kHz.

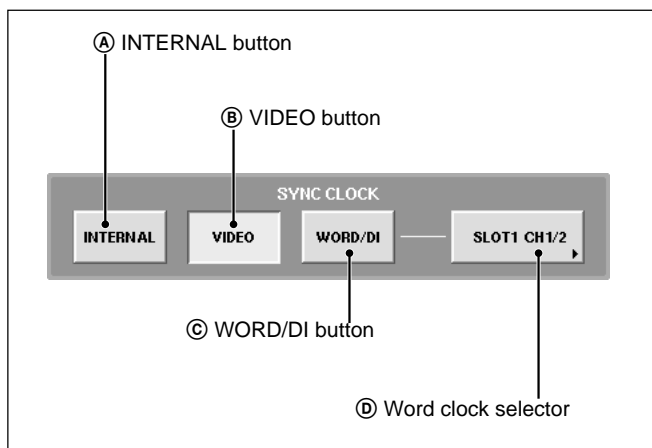
Note

When 88.2 kHz or 96 kHz is selected as the sampling frequency, the frequency range expands to 40 kHz. However, the following functions are limited. Buttons corresponding to the limited functions become disabled even if you touch them.

- Input channel: The channel number is reduced from 48 to 24.
- AUX Send/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.
- Option 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 output to both the L and R channels.
- The maximum value of the delay amount becomes one half.

2 SYNC CLOCK section



The unit synchronizes with the external digital audio equipment using the signal selected by touching one of these buttons.

A INTERNAL button

Touch this button to use the signal generated by the built-in word clock generator as the reference signal. When this button is selected, the external digital audio equipment must be synchronized with the unit by setting the unit as the 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, the external digital audio equipment must be synchronized by setting the same reference video signal or the unit as the master.

C WORD/DI (digital input) button

The unit synchronizes using the word clock signal connected to the REF WORD connector on the unit or the digital audio signal input to the digital input connectors as the reference signal. You can select which signal you use as the reference signal using the word clock selector D.

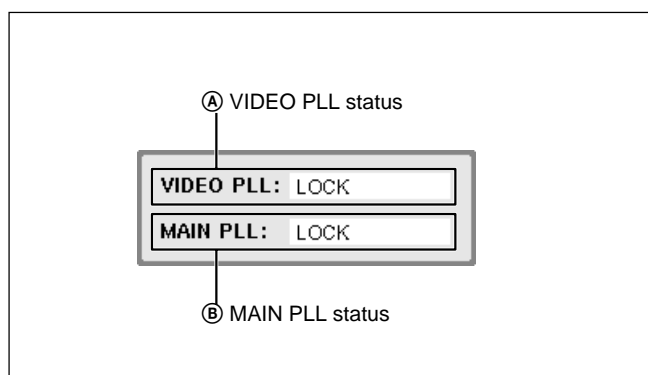
When this button is selected, the unit and external digital audio equipment must synchronize by setting either of the two as the master or setting the unit as the master.

D Word clock selector

Displays the source of the effective 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 of the word clock signal.

- 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, ignore the status displayed here.

LOCK: Operating correctly.

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

NO VIDEO: The video signal is not being input.

Check the setting of the terminated resistor or whether the correct video signal is being input.

B MAIN PLL status

Displays the status of PLL which generates clock signals to be 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 whether the word clock selector is set correctly. Or check whether the device which supplies the clock signal works 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 whether the word clock selector is set correctly. Or check whether the device which supplies the clock signal works correctly.

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

④ CHANGE button

Touch this button to execute the change of the setting of the SYNC CLOCK section.

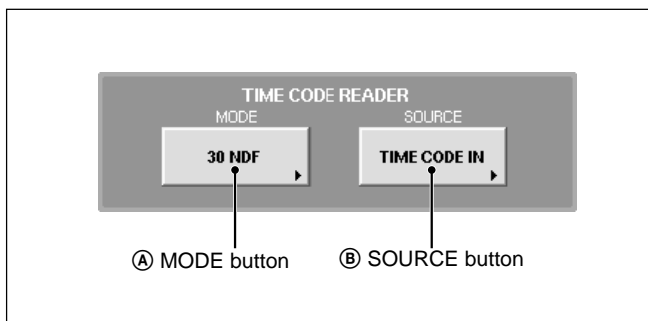
A dialog box appears. After confirming, touch [OK]. The unit restarts and the changes of settings are executed.

Notes

- When restarting, snapshot operation and dynamic automation operation after the last keeping will be lost.
- If the sampling frequency is changed between 44.1 kHz (or 48 kHz) and 88.2 kHz (or 96 kHz) and CHANGE is executed, the snapshot data and dynamic automation data of the current title will be lost and a new title will be created since the settings of the channels and bus are changed.

TIME CODE section

⑤ TIME CODE READER section



Ⓐ MODE button

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

The timecode generator works according to the timecode selected here.

Touching this button results in opening the list containing the following items:

- 29.9F/s DF
A timecode of 29.97 frames/second and drop frame is used.
- 30NDF
A timecode of 30 frames/second and non drop frame is used.
- 29.9F/s NDF
A timecode of 29.97 frames/second and non drop frame is used.
- 30DF
A timecode of 30 frames/second and drop frame is used.
- 25F/s
A timecode of 25 frames/second is used.

Note

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

Ⓑ SOURCE button

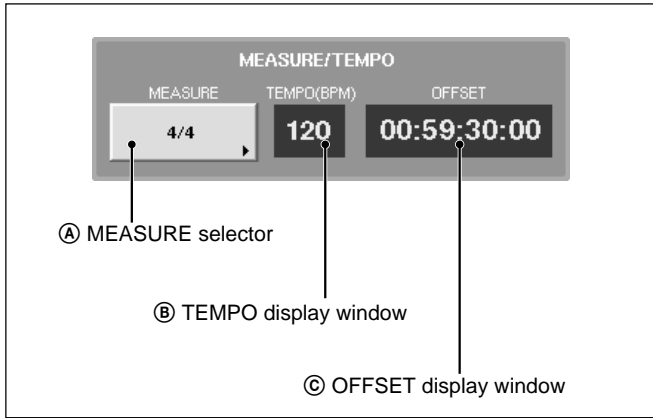
Displays and selects the source of the timecode to be used for automation operation.

- TIMECODE IN
The timecode of the source signal input to the TIME CODE IN connector is used as the reference of the time.
- TC GENERATOR
The signal generated by the built-in timecode generator is used as the reference of the time.
- MTC (PC PORT)
The MTC (MIDI timecode) signal input to the PC PORT connector is used as the reference of the time.
- MTC IN
The MTC (MIDI timecode) signal input to the MTC IN connector is used as the reference of the time.

Menu Windows

6 MEASURE/TEMPO section

The timecode of the value obtained when the BARS button is pressed on the Automation panel on the unit is calculated based on the settings performed 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 of a tune. Enter the number of beats of a quarter note for one minute as a tempo.

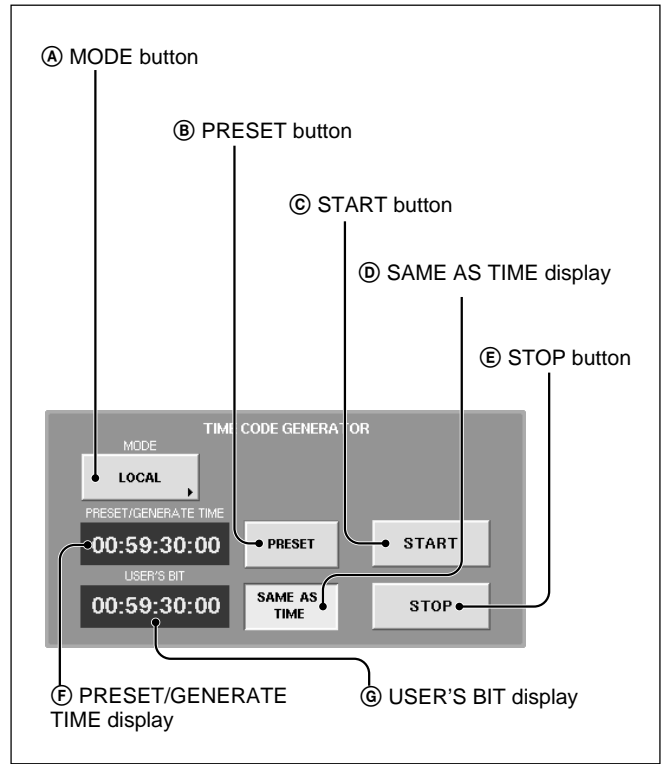
C OFFSET display window

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 unit are rough values obtained by converting the timecode value based on the information set by MEASURE/TEMP section. The larger the difference from the timecode set on the OFFSET display window is, the larger the error is.
- The automation operation on the unit 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 in the unit.

• SLAVE LOCK (AUTO RUN)

Once the timecode read by the built-in reader runs correctly, the timecode is generated as running automatically until the STOP button is pressed.

• EMULATE MTR

Controls using the machine control functions of the unit as the emulation machine.

B 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 START button is touched under the condition where the timecode generator is used in LOCAL mode, the timecode runs 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.

Ⓒ START button

Touch this button so that the timecode runs from the preset time when the operation mode of the generator is in **LOCAL** mode.

Ⓓ SAME AS TIME display window

Touch this button to use the same information as that of the timecode generated as a user bit.

Ⓔ STOP button

Touch this button to stop the running of the timecode in **LOCAL** mode or **SLAVE LOCK (AUTO RUN)** mode.

Ⓕ PRESET/GENERATE TIME display window

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

Ⓖ USER'S BIT display window

Displays and enters the data to be used as the user bit of the timecode. Enter the user bit using the keyboard or on the **KEYBOARD** window after touching this display window. The values that can be entered are 0 to 9, A, B, C, D, E and F.

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 display and perform settings of the slots for option boards.

The screenshot shows the **I/O STATUS** window with the following layout:

- Top Bar:** TITLE: No flying birds | SNAPSHOT: Start of MIX | AUTO MODE: ABS | FS:48kHz | 00:00:04:02 TO NDF
- Buttons:** KEYBOARD (top right), KEYBOARD window button (pointing to the KEYBOARD button)
- SLOT 1 to 4 section:**
 - SLOT 1: DMBK-R104 DI WITH SRC**

	1	2	3	4	5	6	7	8
IN	OK	OK	OK	OK	OK	OK	OK	OK
OUT	NA	NA	NA	NA	NA	NA	NA	NA
 - SLOT 2: DMBK-R102 ANALOG LINE OUTPUT**

	1	2	3	4	5	6	7	8
IN	NA	NA	NA	NA	NA	NA	NA	NA
OUT	RDY	RDY	RDY	RDY	RDY	RDY	RDY	RDY
 - SLOT 3: DMBK-R107 TDIF INTERFACE**

	1	2	3	4	5	6	7	8
IN	OK	OK	OK	OK	OK	OK	OK	OK
OUT	RDY	RDY	RDY	RDY	RDY	RDY	RDY	RDY
 - SLOT 4: DMBK-R103 AES/EBU DIO**

	1	2	3	4	5	6	7	8
IN	OK	OK	OK	OK	OK	OK	OK	OK
OUT	RDY	RDY	RDY	RDY	RDY	RDY	RDY	RDY
- BUILD-IN DIGITAL I/O section:**

	2TR-2L	2TR-2R	AUX-5	AUX-6	AUX-7	AUX-8	PGM-L	PGM-R
IN	OK	OK	OK	OK	OK	OK		
OUT			RDY	RDY	RDY	RDY	RDY	RDY
- INFORMATION section:**

DIPLL LOCK	CH MODE 2CH	DE EMP
DATA NORMAL	EMPHASIS OFF	AUTO
VARIDITY NORMAL	FS 44.1kHz	SRC
CRC NORMAL	ORIGIN	ON
AUDIO CONSUMER	DESTINATION	
- Bottom Menu Bar:** CHANNEL | AUDIO | SNAPSHOT | CUE | AUTO-MATION | MACHINE CONTROL | SYSTEM

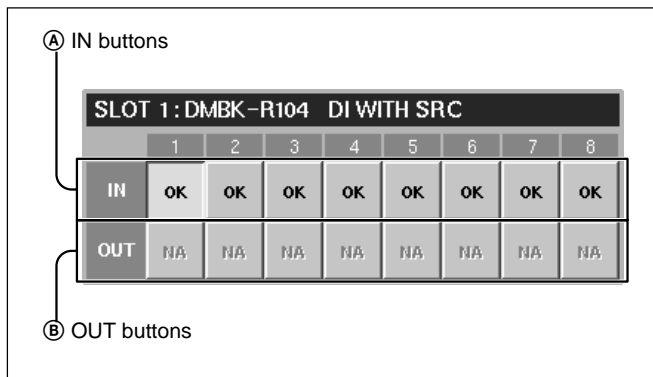
Callouts in the image:

- 1 SLOT 1 to 4 section (points to the four slot tables)
- 2 BUILD-IN DIGITAL I/O section (points to the built-in I/O table)
- 3 INFORMATION section (points to the information table)

Menu Windows

① SLOT 1 to 4 section

Displays the name and function of the board inserted into the slot for option boards on the unit. Also displays the status of the input/output signals.



① 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 ③.

The content of the display is as follows:

- OK
Indicates that the signal is input correctly.
- NA (Not Available)
Indicates that this channel cannot be used as the input signal.
- !xxx
Indicates that there is trouble in the input signal or attention is required.
In such a 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 PLL to read the input signal cannot be locked.
When !SLP (SLP) is displayed, the unit does not synchronize with the input signal.

② OUT buttons

On these buttons, RDY or NA is displayed as the status of the output signal of the channel.

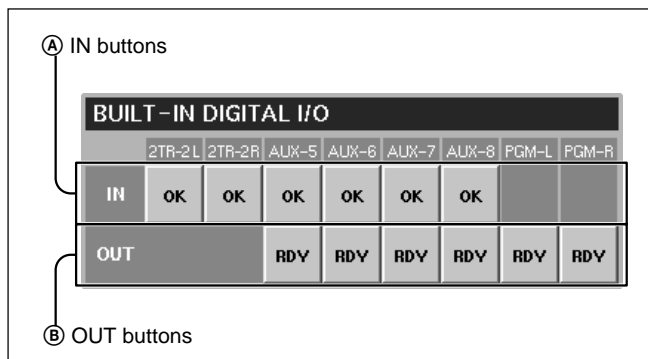
By touching this button, the details of the output signal of the channel are displayed on the INFORMATION section ③.

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.

② BUILT-IN DIGITAL I/O section

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



① 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 ③.

The content of the display is as follows:

- OK
Indicates that the signal is input 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 such a 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 PLL to read the input signal cannot be locked. The signal is not input or the wrong signal is input.
When !SLP (SLP) is displayed, the unit does not synchronize with the input signal. However, when the sampling converter is effective on the DMBK-R104, there is no problem.

② 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 ③.

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.

③ 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: Since asynchronization occurs, interpolation of data or cropping of data are done. 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. There is a case where 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.

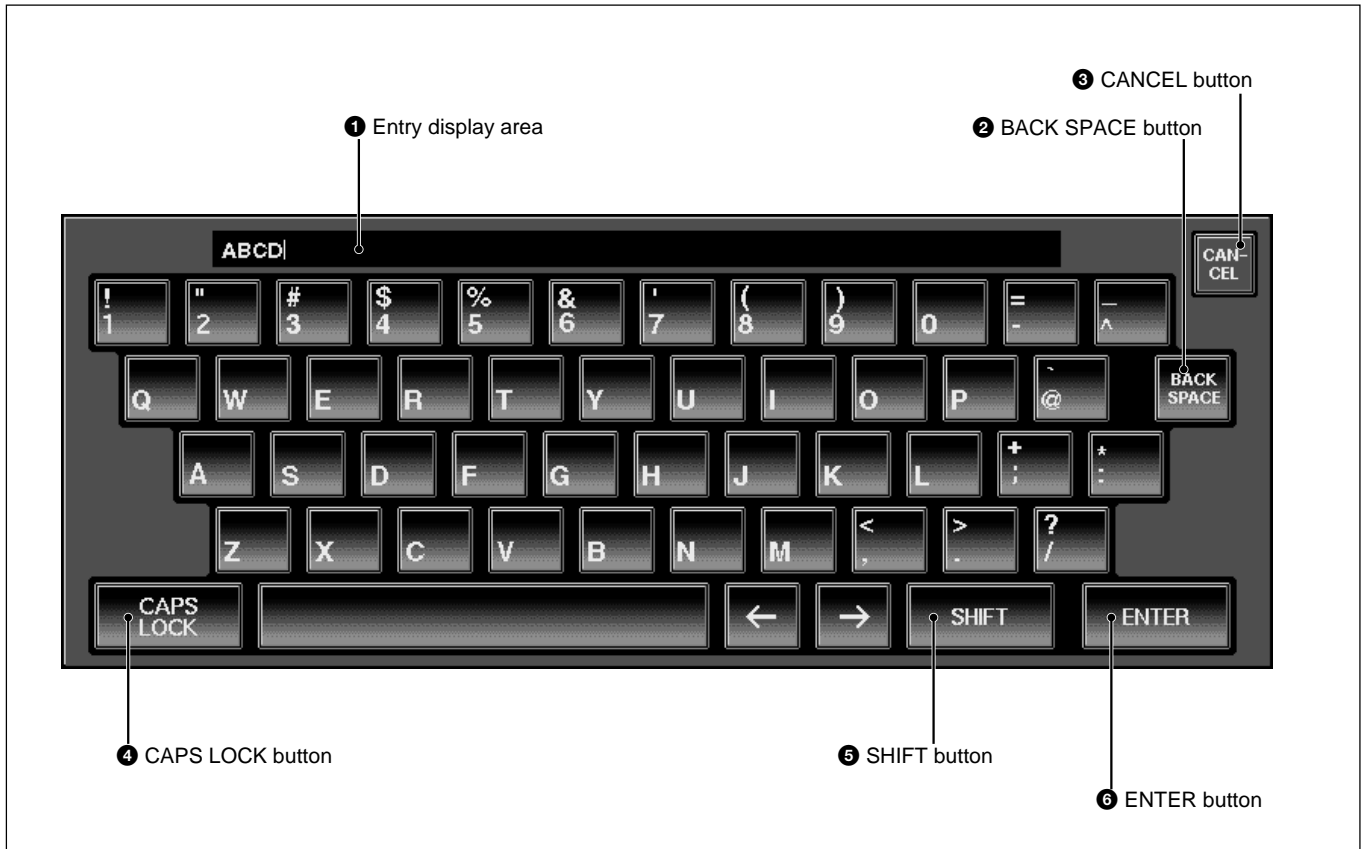
- **CH MODE**
Displays the mode of the digital audio signal. 2 CH or STEREO is displayed depending on the definition of the channel status.
- **EMPHASIS**
Displays the status of emphasis of the digital audio signal.
ON: Indicates that the signal is a preemphasised digital audio signal.
OFF: Indicates 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 by 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 by 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 to off at the effector side.

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.

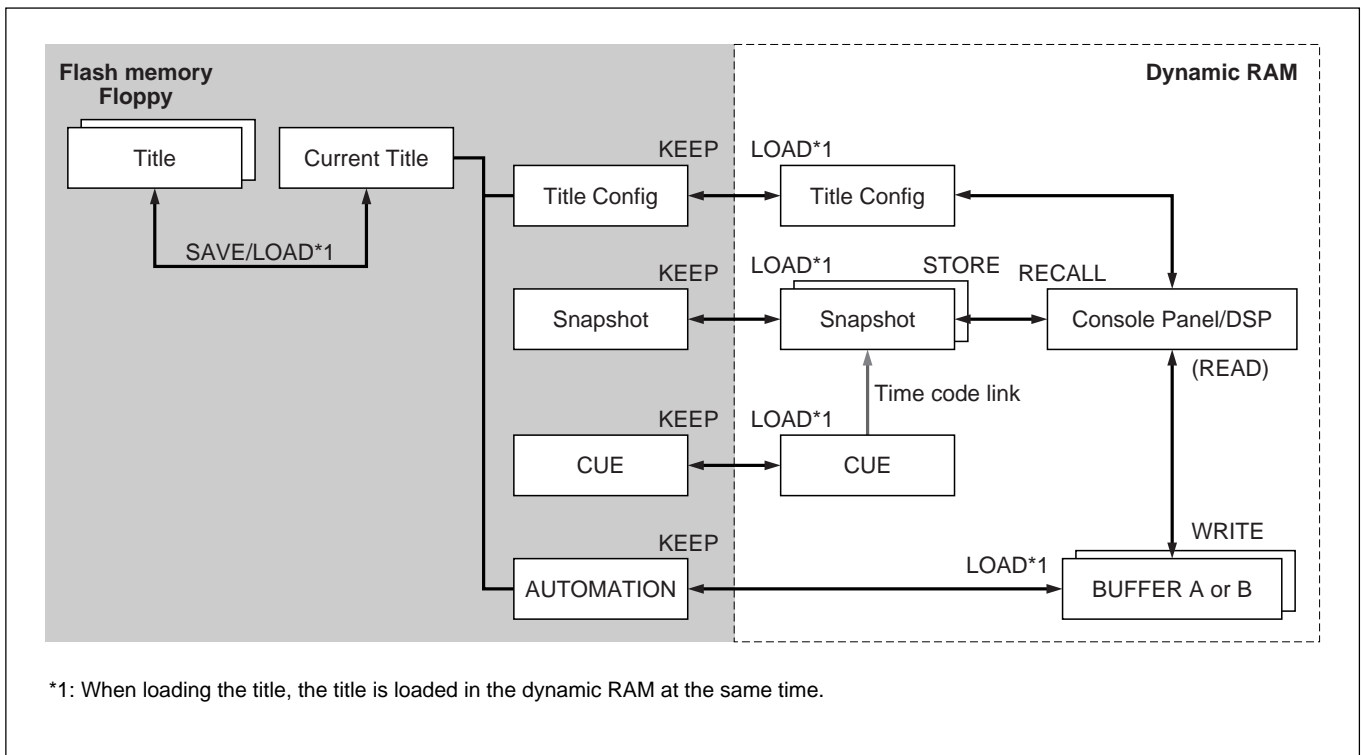
The **SHIFT** button is reset to OFF when you have entered one character.

6 ENTER button

Enters the characters entered in the entry display area, replaces the name on the window opened before the **KEYBOARD** window opens and closes the **KEYBOARD** window.

Memory Structure and Title

Memory Structure



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, those data are cleared. 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. 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, they are not cleared 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 create a new title on the **TITLE MANAGER** window. In this case, the new title is created based on the timecode and the sampling frequency of the title that are being operated. Remaining data that are being operated on the unit (such as automation data, snapshot data and cue data) are cleared.

About Titles

In the automation operation of the unit, setting data such as snapshot data, dynamic automation data, sampling frequencies and timecode required for the mixing operation for one tune is treated as “Title”.

There are two types of titles: One is the “current title” automatically created in the flash memory that is the work area for storing/recalling at loading. The other is the title saved as a file.

For detailed information on how to create a title, see “TITLE MANAGER Window” on page 62.

Creating a new title (NEW)

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 flash memory used for mixing operations.

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.

The setting for Fs (sampling frequency) is different between the loaded title and current title, the unit restarts after giving a confirmation message.

Changing the sampling frequency and timecode

You can change the sampling frequency and timecode freely. However, when you change them, the contents of the current title are 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.

When you use the unit for first time 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 69.

- Sampling frequency: 44.1 kHz
- Sync-lock (reference synchronous signal): INTERNAL
- Timecode mode: NTSC29.97NDF

Create the initial cue and snapshot with the following settings:

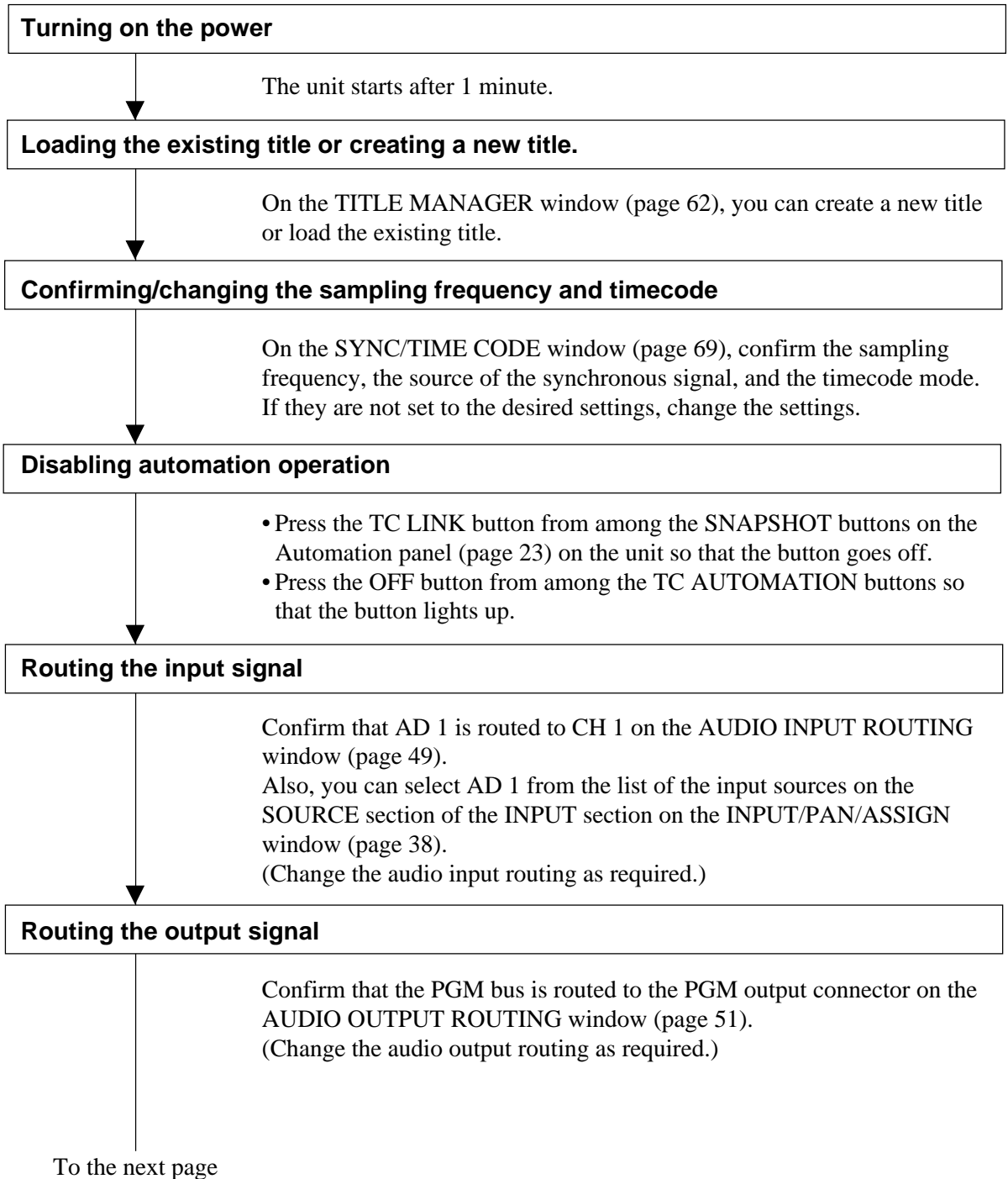
- Initial cue: 00:59:30:00
- Snapshot: 0 (default snapshot data)

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	Center
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 introduced using the operation flow chart. Example: In the following flow chart, the audio of 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 the CR MONITOR tab on the MONITOR window (page 53) 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 21) 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 67).
- 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 microphones may be damaged.

Setting the channel

- Press the ACCESS button on the channel strip (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 16) 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 20), adjust the level using the channel fader (page 12).
- Adjust the monitor sound volume using the controls on the Control room monitor section (page 21).

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 57).
- 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

- 1 Display “STEREO LINK” on the MODE button by touching it on the INPUT/PAN/ASSIGN window (page 38).
- 2 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 settings for the PROGRAM L/R bus on the ASSIGN section on the INPUT/PAN/ASSIGN window.
 - Manipulate the REVERSE button, the L + R button and the MS DECODE button on the INPUT/PAN/ASSIGN window, as required.

Note

For the channels set in stereo link, you have to perform surround panning settings for L and R independently. Perform the 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 explained below.

Since the snapshot data is stored in the work 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. Save the data in the title file by selecting KEEP on the TITLE menu which opens by touching the TITLE button.

To perform operations on the unit, use the buttons, the SNAPSHOT buttons and the ten key pad on the Automation panel.

For buttons used for snapshot automation, see “Automation Panel” on page 22 and “SNAPSHOT Window” on page 57.

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.
Control settings when the NEW button are selected is stored as new snapshot data. 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.

Basic Operation Procedure

- 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 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 file by selecting KEEP on the TITLE menu which opens by touching the TITLE button.

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, see “Automation panel” on page 22, and for operations on the window, see “CUE window” on page 59.

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 after the system recalls CUE 1.
- 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, dynamic 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.

Notes

- The initial cue is the start point of the automation. For six hours before this initial cue point, any cue points and automation data can not exist.
- 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 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.

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.

Dynamic Automation Procedure

Do not set the items to both snapshot automation and dynamic automation. For example, if you want to control the fader in dynamic automation, set the faders for the snapshot in local mode. Even though you can set the same item to both snapshot automation and dynamic automation, the unit may perform unexpected operations.

The unit has two modes for dynamic automation: ABS (absolute) mode and TRIM (fine adjustment) mode.

To perform dynamic automation operation, use the TC AUTOMATION buttons on the Automation panel on the unit or on the AUTOMATION window.

For details of buttons, see “Automation Panel” on page 22, and for operations on the window, see “Automation Window” on page 61.

Since the dynamic automation data that is being operated is stored in the current tile 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 title file by selecting KEEP on the TITLE menu which opens by touching the TITLE button.

Creating automation data (in ABS mode)

To store a new automation data item or update automation data, use ABS mode.

- 1** Confirm that the initial cue (CUE 01) exists.
- 2** Press the ABS button so that the button lights up.
It is located among the TC AUTOMATION buttons on the unit.
- 3** Press the SAFE button so that the button is not lit.
It is located among the TC AUTOMATION buttons on the unit.
It is allowed to update automation data.
- 4** Select the desired item to be controlled by dynamic automation on the AUTOMATION window.
 - ① Touch all the CHANNEL LOCAL buttons.
All channels are removed from dynamic automation.
 - ② Touch the FUNCTION LOCAL button corresponding to the function that is to be removed from the automation operation.
- 5** Set the return time on the AUTO RETURN TIME section on the AUTOMATION window as required.
- 6** Start the tape recorder.

- 7 Manipulate the faders, controls and buttons.
At this time, set controls to WRITE mode.
When the range you want to store terminates, release the WRITE mode of controls or stop the tape recorder.
- 8 Touch the CHANNEL LOCAL button of the channel whose mixing balance has been set so that automation is enabled.
If the channel set in local mode is set in write mode, the dynamic automation operation for that channel can be stored.

For detailed information on the write mode, see page 35.

- 9 Repeat operations of steps 5 to 8.

When the settings have been completed and it is ready to save them as automation data, select KEEP by touching the TITLE button on the window, as required.

Updating automation data (in TRIM mode)

In TRIM mode, you can adjust the level, keeping the automation data stored. This is convenient for changing the mixing balance of the automation data already stored.

To set the unit in TRIM mode, press the TRIM button on the TC AUTOMATION section in the Automation panel so that it lights up. Other operations are the same as those in ABS mode.

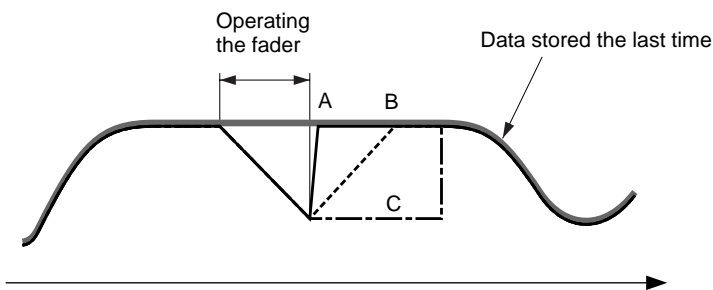
Fader operations and its results

The following figures show the fader operation and results of the fader operation.

In the figures, the fader operations indicate using the following lines:

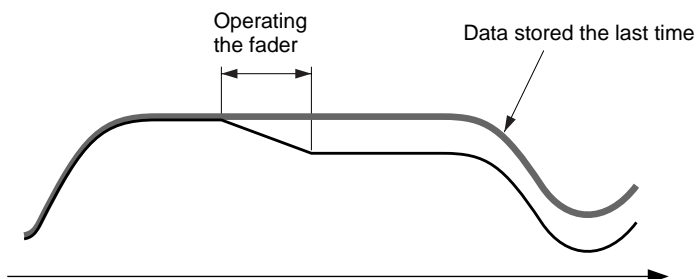
- : Indicates the data stored last time
- : Indicates the actual results of the fader operation (new data).

When operating the faders in ABS mode



- A: Maximum return speed (0 seconds)
The fader is reset to the position stored the last time at the instant you release the fader.
- B: Medium return speed
The fader is reset to the stored position at the specified speed, when you release the fader.
- .-.- C: Return speed "-.-"
After you release the fader, the fader's position remains as it is up to the next event.

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.

Punching In/Punching Out

Punching in/punching out using the automation function

You can store the automation data by specifying the time of punch in/punch out. This is convenient to cut the popping noise using the faders when you know the time when popping noise occurs on the tape.

To perform dynamic automation operation, use the AUTOMATION buttons sections on the Automation panel on the unit and the AUTOMATION window.

For details of buttons, see “Automation Panel” on page 22, and for operations on the window, see “AUTOMATION Window” on page 61.

- 1** Select the AUTO button on the PUNCH IN/OUT section on the AUTOMATION window.
- 2** Set the punch in time and punch out time on the AUTOMATION window.
The automation data is stored during the duration displayed on the display windows.
- 3** Press the ABS button on the Automation panel on the unit so that it lights up.
Set the return time, as required.
- 4** Press the SAFE button on the TC AUTOMATION section on the Automation panel on the unit so that it goes off.
- 5** Locate the tape recorder at a time a little before the PUNCH IN time and start to play the tape recorder.
- 6** Touch the fader corresponding to the channel and bring it to $-\infty$ just before the time reaches the PUNCH IN time.
- 7** Keep touching the fader until the time progresses past the PUNCH OUT time.
- 8** Stop the tape recorder when the time passes over the PUNCH OUT time.
The fader level is set to $-\infty$ during the duration between the PUNCH IN time and the PUNCH OUT time. Automation data other than that of faders are not changed.

When the settings have been completed and it 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 simultaneously cut in or cut out signals of faders at the desired timing.

To perform cut operation, use the AUTOMATION buttons sections on the Automation panel on the unit and the AUTOMATION window.

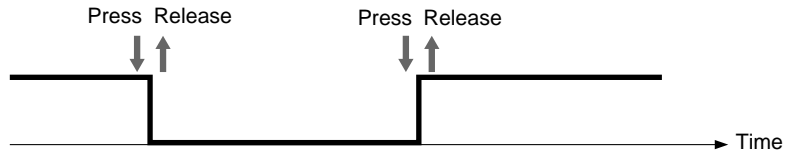
For details of buttons, see “Automation Panel” on page 22, and for operations on the window, see “AUTOMATION Window” on page 61.

- 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 on the unit so that it lights up.
- 3** Press the SAFE button on the TC AUTOMATION section on the Automation panel on the unit so that it goes off.
- 4** Locate the tape recorder at a time a little before the PUNCH IN time and start to play the tape recorder.
- 5** Slide the faders up to the desired level.
- 6** Set the foot switch to on at the desired time.
- 7** Stop the tape recorder at the proper time.

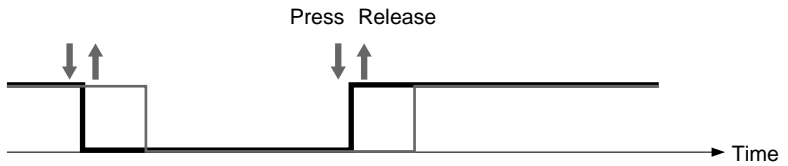
Performing the Fine Adjustment of the Cut Point

The CUT button on the channel strip panel (page 12) on the unit allows you to perform the fine adjustment of the cut point as illustrated below.

ON/OFF of the CUT button:

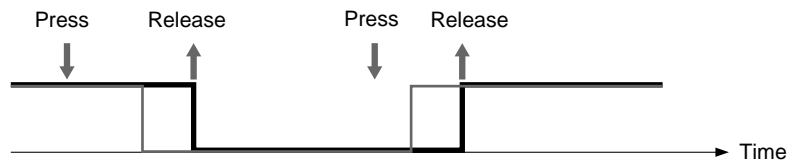


When shifting the stored Cut ON/OFF timing backwards:



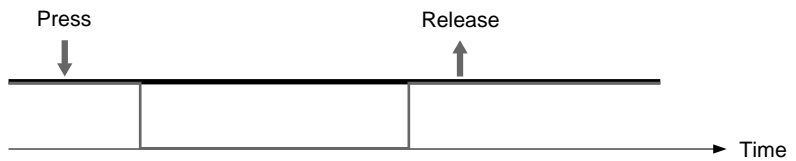
When shifting the stored Cut ON/OFF time forwards:

Press the button before the change and release the button after taking a timing.



When cancelling the stored Cut ON/OFF:

Press the button before the change, then release the button after the change has completed.



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: 10kΩ

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 ±0.2Vp-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

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

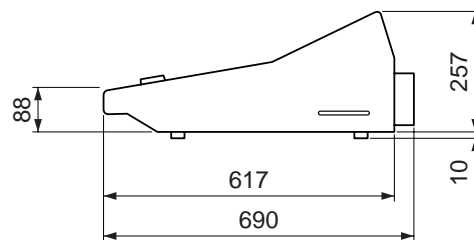
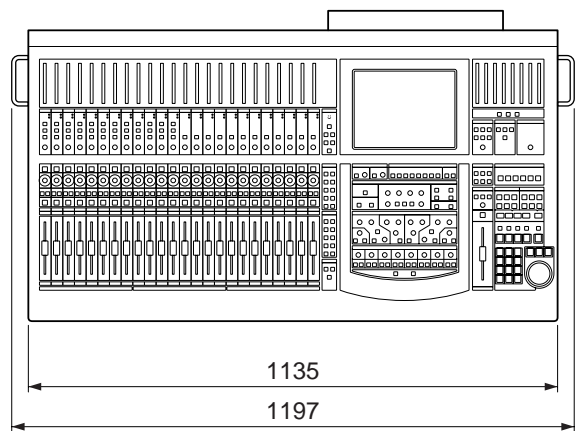
Item	Contents	
Title	Contents of title	Title configuration, snapshot automation, mix (saved dynamic automation)
	Number of title configuration	$\times 1$
	Number of snapshot automation	$\times 1$
	Storage	Built-in flush memory or floppy disk
Title configuration	Contents of title configuration	FS, Initial 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	± 1 frame
	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	± 1 frame
	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 \sim 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

A	
Analog head amplifier	
Analog head amplifier panel	11
Setting operation flow	81
Analog signal	
Analog signal connectors	27
Analog head amplifier panel	11
Selecting the input connectors	11
Assigning the input source	50
Assigning the bus	52
Automation	
Automation panel	22
Automation status display ...	34
AUTOMATION window	61
Creating automation data (in ABS mode)	87
Dynamic automation	61
Seeing the level of the automation data stored ...	45
Snapshot automation	57
Updating automation data (in TRIM mode)	88
Writing data in the dynamic automation	35
AUX bus	
AUX SEND section	19
AUX SEND window	43
Connectors	28, 29
Seeing the AUX Send level	44
B, C	
Basic operation flow	80
Channel	
Assigning the channel	35
CHANNEL window	37
Seeing the channel status	37
Setting	81
Connection examples	7
Live recording	9
Music production	8
Video post production	7
Controlling the external devices	
MACHINE CONTROL window	64
Transport control keys	23
Control signal connectors	25
Control room monitor	
Confirming	81
CR (control room) MONITOR section	21
MONITOR window	53
Settings	53
Cue	
Changing a cue point	86
Changing a name	86
CUE window	59
Deleting	86
Initial cue	60, 79, 84
Setting	84
Storing a cue point	85
Cut	
AUDIO FADER GROUPING window	46
Clearing the group	48
CUT button	12
Fine adjustment of the cut point	91
Setting the cut group	48
D	
Default setting of the unit	79
Digital signal	
Adjusting the digital input signal	16
Digital signal connectors	29
INPUT section on the unit ...	16
I/O STATUS window	73
Dynamic automation	
AUTOMATION window	61
Writing data	35
Dynamics	
Dynamics characteristics display	41
DYNAMICS section in the unit	16
DYNAMICS window	41
E, F, G, I, K	
Equalizer	
EQUALIZER/FILTER window	40
Equalizer section	18
Setting the equalizer	40
Fader	
AUDIO FADER window	45
AUDIO FADER GROUPING window	46
Channel fader	13
Clearing the group	48
Fader grouping	46
Fader operations and its results	88
FADERS section	14
GANG group	47
Master fader	47
Seeing the fader level	37, 44, 45
VCA group	47
Initial cue	60, 79, 84
Input routing	50
KEEP	33, 77
M	
MASTERS button	15
Master meter buttons	20
Master panel	19
Memory	
Dynamic RAM	77
Flash memory	77
Memory structure	77
Menu	
Bottom menu bar	34
Menu structure	32
Menu windows	
AUDIO FADER window	45
AUDIO INPUT ROUTING window	49
AUDIO OUTPUT ROUTING window	51
AUDIO OVERVIEW window	44
AUTOMATION window	61
AUX SEND window	43
CHANNEL window	37
CUE window	59
DYNAMICS window	41

Appendix

EQUALIZER/FILTER	
window	40
INPUT/PAN/ASSIGN	
window	38
I/O STATUS window	73
KEYBOARD window	76
MACHINE CONTROL	
window	64
MIDI window	66
MISC SETUP window	67
MONITOR window	53
OSC/TALKBACK	
window	55
SNAPSHOT window	57
SYNC/TIME CODE	
window	69
TITLE MANAGER	
window	62
MIDI	
Control change table	98
MIDI connectors	25
MIDI implement chart	97
MIDI window	66
Monitoring	
Control room monitor	
CR (control room) MONITOR	
section	21
MONITOR window	53
Settings	53
Studio monitor	
MONITOR window	53
Setting	53
STUDIO LS (studio speaker)	
section	20

O

Optional boards	
DMBK-R101 8CH Analog	
Line In Board	30
DMBK-R102 8CH Analog	
Line Out Board	30
DMBK-R103 8CH AES/EBU	
DIO Board	30
DMBK-R104 8CH Sampling	
Rate Converter DI	
Board	31
DMBK-R105 8CH Insertion	
Board	31
DMBK-F106 Interface Board	
for ADAT	31
DMBK-R107 Interface Board	
for TDIF	31
I/O STATUS window	73
Setting the optional slots	73
Slots for optional boards	29
Oscillator	
OSC/TALKBACK	
window	55
Setting on the window	55
Output routing	52

P

Pan	
INPUT/PAN/ASSIGN	
window	38
Pan control	12
PANS section on the unit	14
PAN section on the	
window	39
Pan position	44
Surround	39, 67
PAGEs section	15
Pages selectable buttons	15
PAGE button on the	
window	44
Parameter	
Parameter display section	41
Parameter setting panel	15
Setting	15
PGM	
PGM bus section	
in the unit	21

Punch in/punch out	
AUTOMATION window	90
Using the automation	
function	89
Using the foot switch	90

R, S

Resetting the input matrix to the	
default setting	50
Resetting the output matrix to the	
default setting	50
Routing input	50
Routing output	52
Sampling frequency	
Changing	78
Confirming/changing	80
Limitations when setting	
88.2 kHz or 96 kHz fs	69
Selecting	69
SYNC/TIME CODE	
window	69
Seeing the settings	
on the unit	44
Signal flow	103
Snapshot	
Automation panel	22
Changing a snapshot data	
linked with a cue point ...	86
Changing a snapshot name ..	83
Deleting a snapshot	84
Recalling a snapshot	83
Setting	82
SNAPSHOT buttons	23
SNAPSHOT window	57
Storing/updating a snapshot	
data	82
Solo	
Inserting the solo signal into	
the monitor signal on the	
window	54
SOLO button	13
Solo mode section	20

Index

Source

AUDIO INPUT ROUTING

window 49

Changing/selecting

the source 38

INPUT/PAN/ASSIGN

window 38

Routing a source signal to a

channel 49

Specifications

Analog audio input/output ... 92

Automation function 95

Audio characteristics 94

Control signal input/output .. 93

Digital audio input/output ... 92

Signal processing

characteristics 94

Stereo

Using the stereo signal 82

STEREO LINK 38

Storing data 81

Studio monitor

Confirming/monitoring 81

MONITOR window 53

Setting 53

STUDIO LS (studio speaker)

section 20

Surround mode

INPUT/PAN/ASSIGN

window 38

MSC SETUP window 67

SURROUND PAN section .. 39

T, V, W

Talk-back

OSC/TALKBACK

window 55

TALKBACK panel 13

Timecode

Changing 78

Confirming/changing 80

Selecting the timecode 71

SYNC/TIMECODE

window 69

TC AUTOMATION

buttons 22

Timecode display window ... 23

Timecode input section 23

Title

About title 78

Current title 63

KEEP 33, 77

Loading 78

New title 78

TITLE menu 33

TITLE button 33

TITLE MANAGER

window 62

Saving 78

When turning on the unit 78

Touch panel

Calibrating 68

Operating the touch panel ... 35

VCA group 46

Window operation

Changing the channel 35

Operating the touch panel ... 35

Selecting the item 35

Selecting the channel

or source 36

Setting the write mode 35

Setting the function on/off ... 36

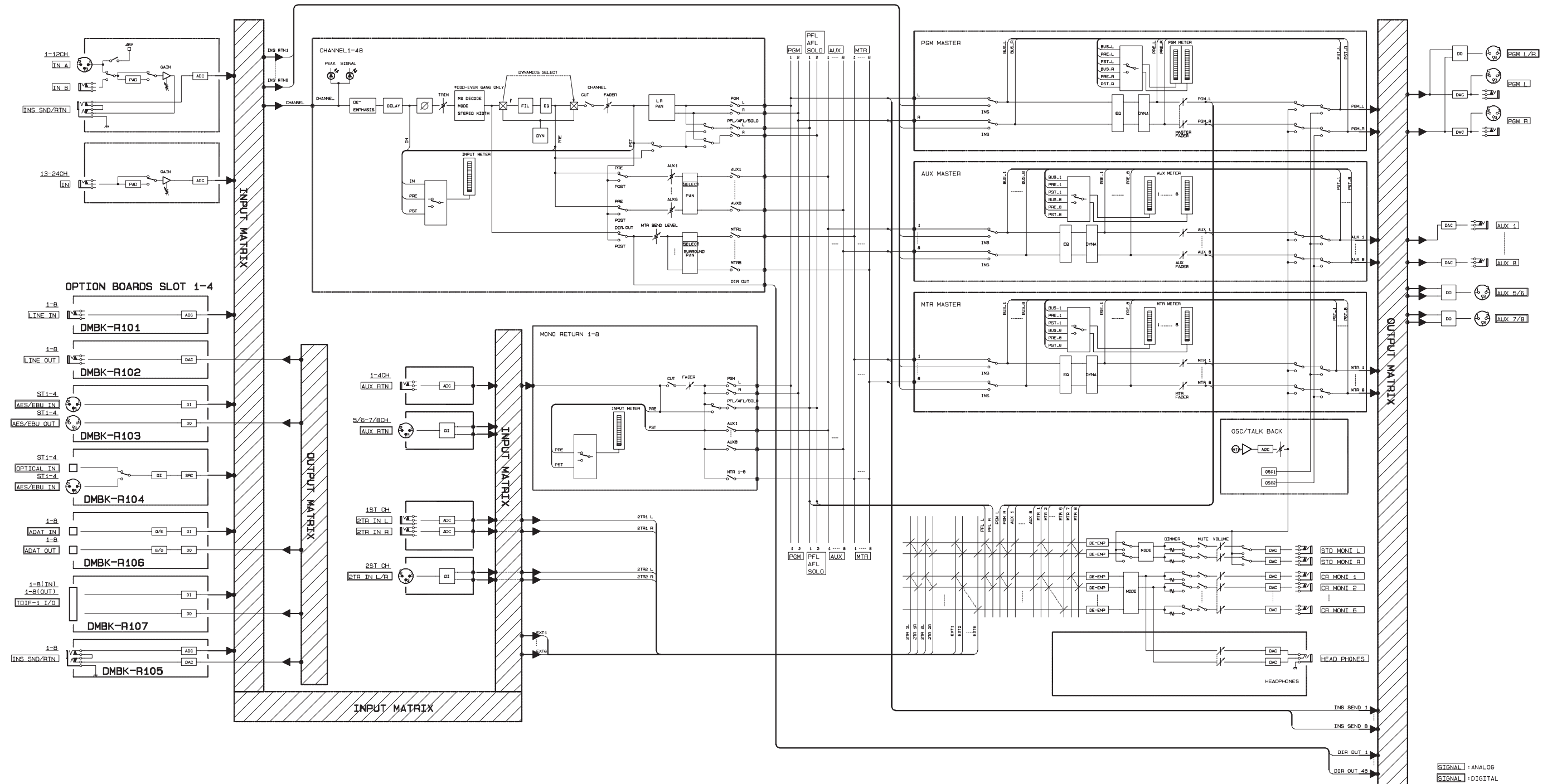
Write

Write button 12

Write mode 35

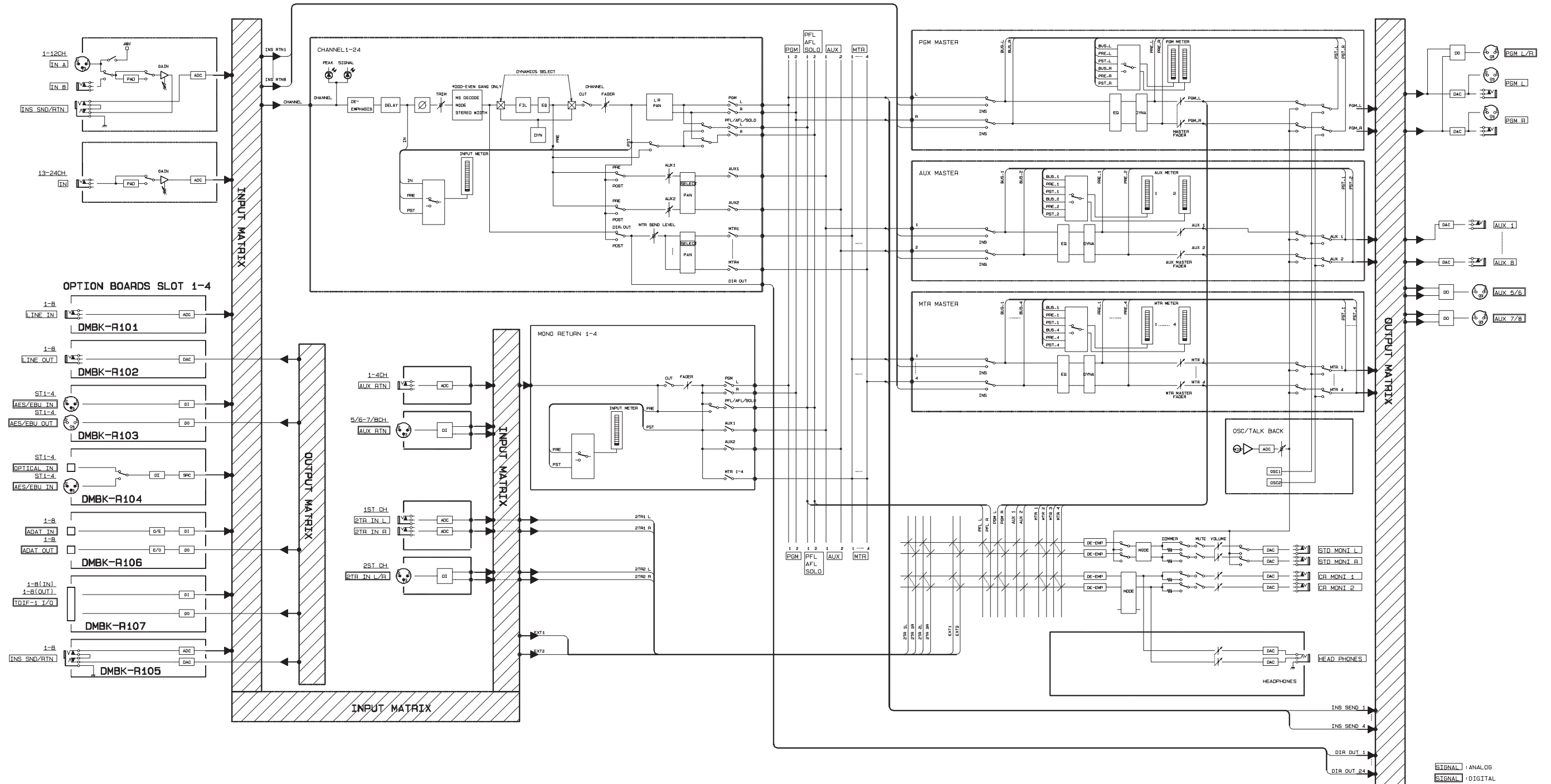
Block Diagram

Fs = 44.1/48 kHz (1 fs)



Block Diagram

Fs = 88.2/96 kHz (2 fs)



Appendix

Sony  line <http://www.world.sony.com/>

Printed on recycled paper