YAMAHA

MIXING CONSOLE

M2500

Owner's Manual
Mode d'emploi
Bedienungsanleitung

M

FCC INFORMATION (U.S.A.)

1. IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT! This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.
2. IMPORTANT: When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.
3. NOTE: This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures: Relocate either this product or the device that is being affected by the interference. Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s. In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to coaxial type cable. If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Corporation of America, Electronic Service Division, 6600 Orangethorpe Ave, Buena Park, CA 90620

   The above statements apply ONLY to those products distributed by Yamaha Corporation of America or its subsidiaries.

ADVARSEL!
Lithiumbatteri—Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandoren.

VARNING
Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

VAROITUS
Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

NEDERLAND

- Dit apparaat bevat een lithium batterij voor geheugen back-up.
- Raadpleeg uw leverancier over de verwijdering van de batterij op het moment dat u het apparaat ann het einde van de levensduur afdankt of de volgende Yamaha Service Afdeiing:
  Yamaha Music Nederland Service Afdeiing
  Kanaalweg 18-G, 3526 KL UTRECHT
  Tel. 030-2828425
- Gooi de batterij niet weg, maar lever hem in als KCA.

THE NETHERLANDS

- This apparatus contains a lithium battery for memory back-up.
- For the removal of the battery at the moment of the disposal at the end of the service life please consult your retailer or Yamaha Service Center as follows:
  Yamaha Music Nederland Service Center
  Address: Kanaalweg 18-G, 3526 KL
  UTRECHT
  Tel: 030-2828425
- Do not throw away the battery. Instead, hand it in as small chemical waste.

Important Information

Read the Following Before Operating M2500

Warnings

- Do not allow water to enter this unit or allow the unit to become wet. Fire or electrical shock may result.
- Connect this unit's power cord only to the power supply unit, and connect the power supply unit to an AC outlet of the type stated in this Owner's Manual or as marked on the power supply unit. Failure to do so is a fire and electrical shock hazard.
- Do not scratch, bend, twist, pull, or heat the power cord. A damaged power cord is a fire and electrical shock hazard.
- Do not place heavy objects, including this unit, on top of the power cord. A damaged power cord is a fire and electrical shock hazard. In particular, be careful not to place heavy objects on a power cord covered by a carpet.
- If you notice any abnormality, such as smoke, odor, or noise, or if a foreign object or liquid gets inside the unit, turn it off immediately. Remove the power cord from the AC outlet. Consult your dealer for repair. Using the unit in this condition is a fire and electrical shock hazard.
- Should this power supply be dropped or the cabinet be damaged, turn the power switch off, remove the power plug from the AC outlet, and contact your dealer. If you continue using the unit without heeding this instruction, fire or electrical shock may result.
- If the power cord is damaged (i.e., cut or a bare wire is exposed), ask your dealer for a replacement. Using the unit with a damaged power cord is a fire and electrical shock hazard.
- Do not modify the unit. Doing so is a fire and electrical shock hazard.

Cautions

- This unit is heavy. Use two or more people to carry it.
- Hold the power cord plug when disconnecting it from an AC outlet. Never pull the cord. A damaged power cord is a potential fire and electrical shock hazard.
- Do not touch the power plug with wet hands. Doing so is a potential electrical shock hazard.
- Use only the included power supply for this unit. Using other types may be a fire hazard.

Operating Notes

- The digital circuits of this unit may induce a slight noise into nearby radios and TVs. If noise occurs, relocate the affected equipment.
- Using a mobile telephone near this unit may induce noise. If noise occurs, use the telephone away from the unit.
- XLR-type connectors are wired as follows: pin 1: ground, pin 2: hot (+), and pin 3: cold (–).
- Insert TRS phone jacks are wired as follows: sleeve: ground, tip: send, and ring: return.
- The performance of components with moving contacts, such switches, rotary controls, faders, and connectors, deteriorates over time. The rate of deterioration depends on the operating environment and is unavoidable. Consult your dealer about replacing defective components.

Keep This Manual For Future Reference.

Introduction

Thank you for purchasing the Yamaha M2500 mixing console. The M2500 is a highly cost-effective mixing console that features functionality such as scene memory, PAN control that is switchable between LR/LCR, and GROUP/AUX FADER FLIP switches. In order to take full advantage of the M2500's functionality and ensure trouble-free use, please read this manual carefully.

Note:

- This manual assumes that you have an understanding of basic mixing console operation and terminology.
- The M2500 series includes five models: M2500-24, M2500-32, M2500-40C, M2500-48C, and M2500-56C. This manual bases its explanation on the M2500-24. Differences in the specifications of each models are given in curly brackets { }.

Contents

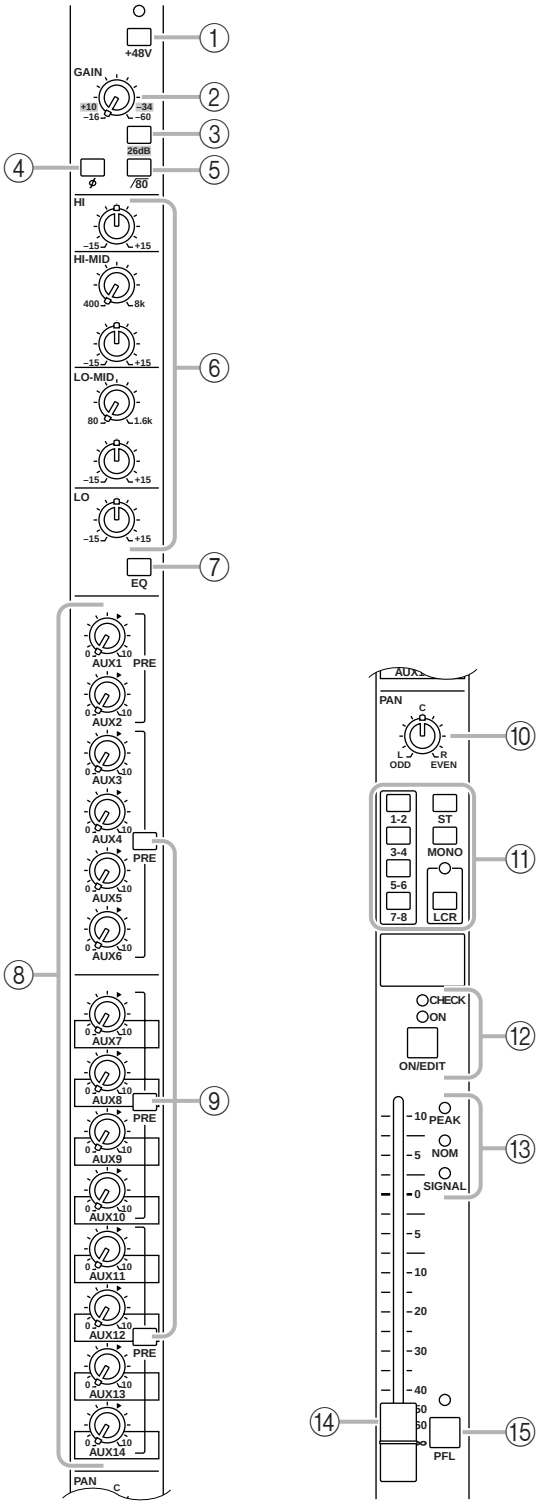
Features of the system

- The M2500-24 {32/40C/48C/56C} provides 24 {32/40/48/56} monaural input modules and four stereo input modules. It also provides 14 AUX outputs, eight group outputs, stereo output, and monaural output, for a generous total of 25 output buses. The M2500 is ideal for a wide range of applications from use as a main PA mixer to use in installed systems.
- Eight independent matrix outputs are provided. The GRP/AUX, STEREO, and MONO/C channel output signals and the input signals from dedicated inputs can be mixed freely, and output from the eight MATRIX OUT jacks. This is convenient for foldback, or for creating individual mixes for monitor speakers or amps.
- Monaural input channels and GRP/AUX output channels allow you to select not only conventional LR (stereo) output or monaural output, but also LCR (stereo+center) output. When LCR output is selected, the level of the center output signal is also controlled by the PAN control, for accurate spatial positioning when a three-channel stereo+center playback system is used.
- Monaural input channels provide a 26 dB pad, high pass filter switch, phase switch, four-band EQ, and 100 mm full-stroke faders. +48 V phantom power that can be switched on/off individually for each channel is also provided.
- An INSERT I/O jack is provided on each monaural input channel as well as on the AUX 1–6, GRP/AUX, STEREO, and MONO/C output channels. This allows you to insert external effect units as necessary.
- The GROUP/AUX FLIP switch allows the eight 100 mm fader output channels to be used either for the GROUP or AUX buses. When used for the AUX buses, all 14 AUX buses can be controlled by 100 mm faders, which is convenient when using the M2500 as a stage monitor console.
- The Scene Memory function allows you to store the on/off status of each mono/stereo input channel and GRP/AUX 1–8, STEREO, and MONO/C output channels as one of 128 scenes. Scenes can be recalled at any time from the front panel or via MIDI. In addition, control change messages can be used to individually switch these channels on/off from an external device.
- Eight DIRECT RECALL switches are provided to allow scene memories 1–8 to be recalled at the touch of a single button. This allows multiple channels to be switched on/off quickly.
- By changing a setting, the DIRECT RECALL switches can be used as mute group switches. Mute group switch settings allow the DIRECT RECALL switches to individually add/remove eight sets of mute settings.
- PFL switches are provided on all input channels, and AFL switches are provided on all master outputs. In addition, a MASTER PFL switch allows the master output monitor signal to be switched between pre/post fader. You can rapidly check the input/output signal sources at a variety of points.
- The talkback signal and the test tone oscillator (PINK/10 kHz/1 kHz/100 Hz) can be sent to any of the AUX 1-2, 2-6, 7-10, 11-14, STEREO, or MONO/C buses.

Input channel section

Monaural input channels

The M2500-24 {32/40C/48C/56C} provides 24 {32/40/48/56} input channels. The specifications of each input channel are the same for all models of the series.



① **+48 V** (phantom power) switch

This switches the +48 V phantom power supply on/off for the corresponding channel. When the switch is pressed in (▬), phantom power is on. At this time the indicator above the switch will light.

> **Note:** If you wish to use phantom power, make sure that the rear panel PHANTOM MASTER switch (page 29) is turned on. (The PHANTOM MASTER indicator on the meter bridge will light.)

② **GAIN** control

This adjusts the input sensitivity. This control has a range of –16 dB to –60 dB when the 26 dB pad switch (③) is off, and a range of +10 dB to –34 dB when the pad is on.

③ **26 dB** pad switch

This attenuates the input signal by 26 dB. When the switch is pressed in (▬), the pad is on.

④ ø (phase) switch

This reverses the phase of the input signal. When the switch is pressed in (▬), the phase is reversed.

⑤ /80 (high pass filter) switch

This switches the high pass filter on/off. When the switch is pressed in (▬), the high pass filter is on, and the frequency range below 80 Hz will be attenuated by an 18 dB/oct curve.

⑥ **EQ** controls

This is a four-band equalizer. The type, center frequency, and gain range of each band is shown below.

Band	Type	Center frequency	Gain
HIGH	Shelving	10 kHz	±15 dB
HIGH-MID	Peaking	400 Hz to 8 kHz	
LOW-MID	Peaking	80 Hz to 1.6 kHz	
LOW	Shelving	100 Hz	

⑦ **EQ** switch

This switches the equalizer on/off. When the switch is pressed in (▬), the equalizer will be on.

⑧ **AUX 1**–**AUX 14** controls

These adjust the level at which the signal of the monaural input channel is set to AUX buses 1 to 14. Nominal level (0 dB) is when the control is at the "▲" position. The pre-fader signal will be sent to AUX buses 1/2. For AUX buses 3 to 14, you can use the PRE switch (⑨) to switch between pre/post fader.

⑨ **PRE** switches

If these switches are turned on (▬), the post-EQ pre-fader signal will be sent to the corresponding AUX buses. If these switches are turned off (▬), the post-fader signal will be sent. Switches are provided to independently switch three groups of AUX buses: 3–6, 7–10, and 11–14.

⑩ **PAN** control

This adjusts the pan or balance of the signal that is sent from the monaural input channel to the STEREO, MONO/C, or GROUP buses. The function of the PAN control will change as follows, depending on the setting of the channel assign switch (⑪).

● When the ST switch is on

PAN will adjust the pan of the signal that is sent from the monaural input channel to the STEREO L/R bus.

● When the LCR switch is on

PAN will adjust the pan of the signal that is sent from the monaural input channel to the STEREO L/R bus and MONO/C bus.

● When a 1-2/3-4/5-6/7-8 switch is on

PAN will adjust the balance of the signal that is sent from the monaural input channel to the odd-numbered (1/3/5/7) and even-numbered (2/4/6/8) channels of the corresponding GROUP bus (1-2/3-4/5-6/7-8).

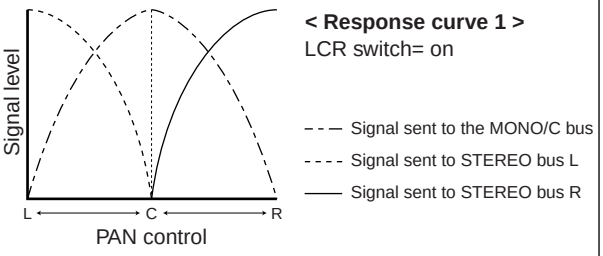
⑪ Channel assign switches

These switches assign the post-fader post-PAN signal to the desired bus.

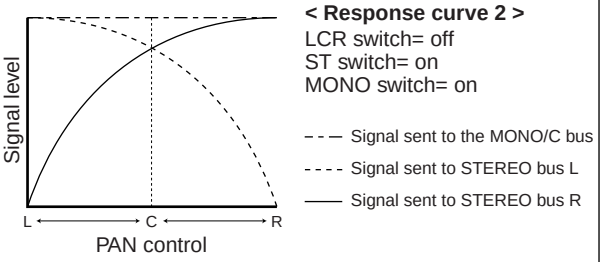
- **1-2/3-4/5-6/7-8** switches
  When these switches are on (▬), the signal of the monaural input channel will be sent to the corresponding GROUP bus (1-2/3-4/5-6/7-8).
- **ST** (stereo) switch
  When this switch is on (▬), the post-PAN signal of the monaural input channel will be sent to the STEREO bus.
- **MONO** (monaural) switch
  When this switch is on (▬), the signal of the monaural input channel will be sent to the MONO/C bus.
- **LCR** switch
  When this switch is on, the indicator above the switch will light, and the post-PAN signal of the monaural input channel will be sent to the STEREO bus and the MONO/C bus.

Note:

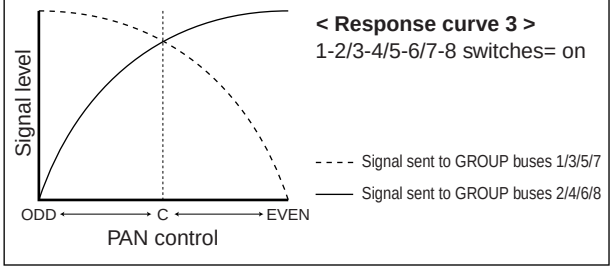
- The LCR switch takes priority over the ST/MONO switch. When the **LCR switch is on**, the post-PAN signal of the monaural input channel will be sent to the STEREO bus (L/R) and the MONO/C bus regardless of the on/off status of the ST/MONO switch. When the LCR switch is on, the level of the signals that are sent to the STEREO bus (L/R) and MONO/C bus will change in response to movement of the PAN control as shown in the following diagram.



- When the **LCR switch is off**, the ST/MONO switch will function as a conventional channel assign switch. If **ST is on**, the post-PAN signal of the monaural input channel will be sent to the ST bus. If the **MONO switch is on**, the signal of the monaural input channel will be sent directly to the MONO/C bus. (The signal sent to the MONO/C bus will not be affected by the PAN control.) If the LCR switch is off and the ST/MONO switch is on, movements of the PAN control will affect the signal levels sent to the STEREO bus (L/R) and MONO/C bus as shown in the following diagram.



- The 1-2/3-4/5-6/7-8 switches can always be used, regardless of the on/off status of the LCR switch. When the **1-2/3-4/5-6/7-8 switches are on**, the post-PAN signal of the monaural input channel will be sent to the corresponding GROUP bus 1–8. When the 1-2/3-4/5-6/7-8 switches are on, movements of the PAN control will affect the signal levels sent to GROUP buses 1–8 as shown in the following diagram.



⑫ **ON/EDIT** switch / **ON**, **CHECK** indicators

The function of this switch and these indicators will change depending on the mode of the M2500.

● In normal mode

You can use the ON/EDIT switch to turn the monaural input channel on/off. When the channel is switched on/off, the ON indicator will be lit/dark to indicate the status. Channels that are switched off will not send any signals to the GROUP, STEREO, MONO/C, or AUX buses, but you can still use the PFL switch (⑮) to monitor the signal from the MONITOR OUT jacks or the PHONES jack.

● In check mode

When a scene (which contains the on/off state of the ON/EDIT switches) is selected, the on/off status memorized in that scene will be indicated by the lit/dark status of the CHECK indicator. In check mode, you can also use the ON/EDIT switch to switch the CHECK indicator between lit/dark. (The current on/off setting will not be affected.) For details on check mode, refer to page 32.

⑬ **PEAK/NOM/SIGNAL** indicators

These three indicators allow you to check the pre-fader signal level of the monaural input channel.

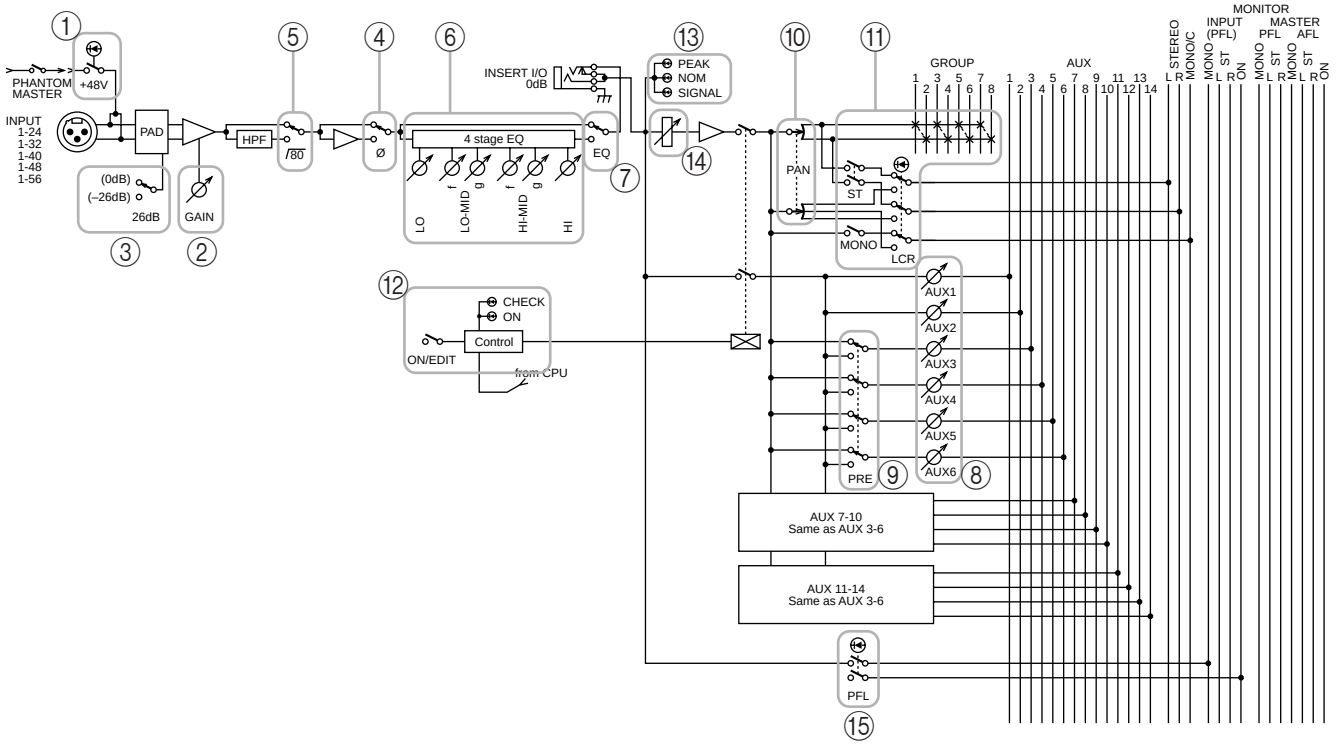
- **PEAK** indicator
  This will light when the signal exceeds nominal level by 17 dB.
- **NOM** (nominal) indicator
  This will light when the signal reaches nominal level (0 dB).
- **SIGNAL** indicator
  This will light when the signal reaches a level 13 dB below nominal.

⑭ Channel fader

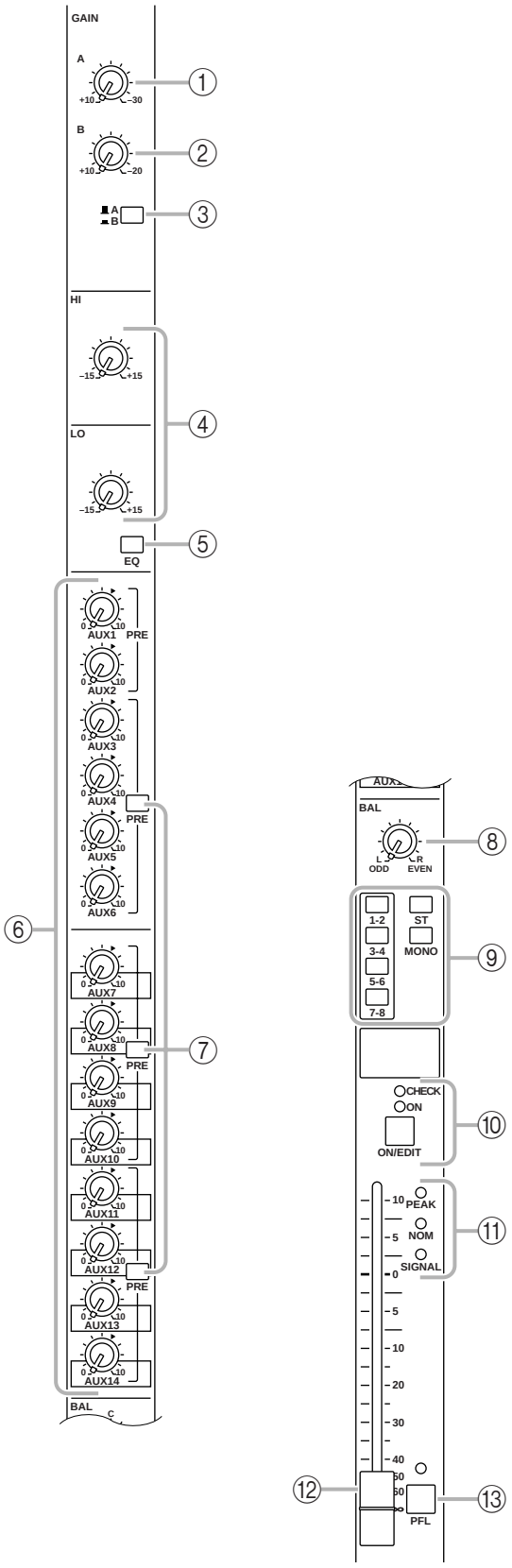
This adjusts the output level of the monaural input channel signal. This fader affects the level of the signal that is sent to the GROUP, STEREO, MONO/C, and AUX (if the PRE switch is off) buses.

⑮ **PFL** (pre-fader listen) switch

When this switch is on (▬), the pre-fader signal will be sent to the MONITOR INPUT PFL bus, and can be monitored from the MONITOR OUT and PHONES jacks.



Stereo input channels



The M2500 provides four stereo input channels, allowing line-level stereo sources such as sub-mixers, effect processors, and CD players to be input. Of the stereo input channels 1–4, channel 1 provides both XLR and RCA phono input jacks, and you can select and use one of these. Channels 2–4 provide a pair of TRS phone input jacks. For this reason, there are slight differences between the controllers of channel 1 and channels 2–4. Our explanation here will be based on stereo input channel 1, and any differences for stereo input channels 2–4 will be explained later.

① **GAIN A** control

This adjusts the input sensitivity of the signal that is input from the XLR connectors of the ST CH 1 INPUT A jacks (page 26). Levels of +10 dB to –30 dB are supported. If the A/B select switch (③) is in the B (▂) position, this control will have no effect.

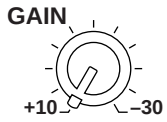
② **GAIN B** control

This adjusts the input sensitivity of the signal that is input from the RCA phono connectors of the ST CH 1 INPUT B jacks (page 26). Levels of +10 dB to –20 dB are supported. If the A/B select switch (③) is in the A (▀) position, this control will have no effect.

③ **A/B** switch

This selects the input jacks that will be used for stereo input channel 1. When the switch is in the upward position (▀), the ST CH 1 INPUT A jacks can be used. When the switch is in the downward position (▂), the ST CH 1 INPUT B jacks can be used.

> **Note:** Since stereo input channels 2–4 have only one set of inputs, only one GAIN control is provided. (Nor is there an A/B select switch.) This control will adjust the input sensitivity of the signal that is input from the TRS phone connectors for the ST CH 2–4 INPUT jacks (page 26). Levels of +10 dB to –30 dB are supported.



④ **EQ** controls

This is a two-band equalizer. The equalizer type, center frequency, and gain range of each band is shown below.

Band	Type	Center frequency	Gain
HIGH	Shelving	10 kHz	±15 dB
LOW		100 Hz	

⑤ **EQ** switch

This turns the equalizer on/off. When the switch is pressed in (▬), the equalizer is on.

⑥ **AUX 1**–**AUX 14** controls

These adjust the level at which the signal of the stereo input channel (the L/R input signals mixed to a monaural signal) is sent to the AUX buses 1–14. Placing the control at the "▲" position will produce nominal level (0 dB). For AUX buses 1/2, the pre-fader signal will be output. For AUX buses 3–14, the PRE switch (⑦) can be used to switch the signal pre or post fader.

⑦ **PRE** switches

If these switches are turned on (▬), the pre-fader signal will be sent to the corresponding AUX buses. If these switches are turned off (■), the post-fader signal will be sent. Switches are provided to independently switch three groups of AUX buses: 3–6, 7–10, and 11–14.

⑧ **BAL** control

This adjusts the level balance of the signal that is sent to the STEREO or GROUP buses.

● If the ST switch is on

The BAL control will adjust the L/R balance at which the signal of the stereo input channel is sent to the STEREO bus.

● If a 1-2/3-4/5-6/7-8 switch is on

The BAL control will adjust the balance of the stereo input channel that is sent to the odd-numbered channels (1/3/5/7) and even-numbered channels (2/4/6/8) of the corresponding GROUP bus (1-2/3-4/5-6/7-8). The L ch of the input signal will be sent to the odd-numbered channel of the group bus, and the R channel of the input signal will be sent to the even-numbered channel of the group bus.

⑨ Channel assign switches

These switches assign the signal that has passed through the fader and BAL control to the desired bus(es). Any or all of the channel assign switches can be used simultaneously.

- **1-2/3-4/5-6/7-8** switches
  When these switches are on (▬), the signal of the stereo input channel will be sent to the corresponding GROUP bus (1-2/3-4/5-6/7-8).
- **ST** (stereo) switch
  When this switch is on (▬), the signal of the stereo input channel will be sent to the STEREO bus.
- **MONO** (monaural) switch
  When this switch is on (▬), the L and R channels of the input signal will be mixed to monaural, and sent to the MONO/C bus. The signal that is sent to the MONO/C bus is not affected by the BAL control.

⑩ **ON/EDIT** switch / **ON**, **CHECK** indicators

The function of this switch and these indicators will change depending on the mode of the M2500.

● In normal mode

You can use the ON/EDIT switch to turn the stereo input channel on/off. When the channel is switched on/off, the ON indicator will be lit/dark to indicate the status. Channels that are switched off will not send any signals to the GROUP, STEREO. MONO/C, or AUX buses, but you can still use the PFL switch (⑬) to monitor the signal from the MONITOR OUT jacks or the PHONES jack.

● In check mode

When a scene is selected, the on/off status memorized in that scene will be indicated by the lit/dark status of the CHECK indicator. In check mode, you can also use the ON/EDIT switch to switch the CHECK indicator between lit/dark. For details on check mode, refer to page 32.

⑪ **PEAK**/**NOM**/**SIGNAL** indicators

These three indicators allow you to check the pre-fader signal level of the stereo input channel.

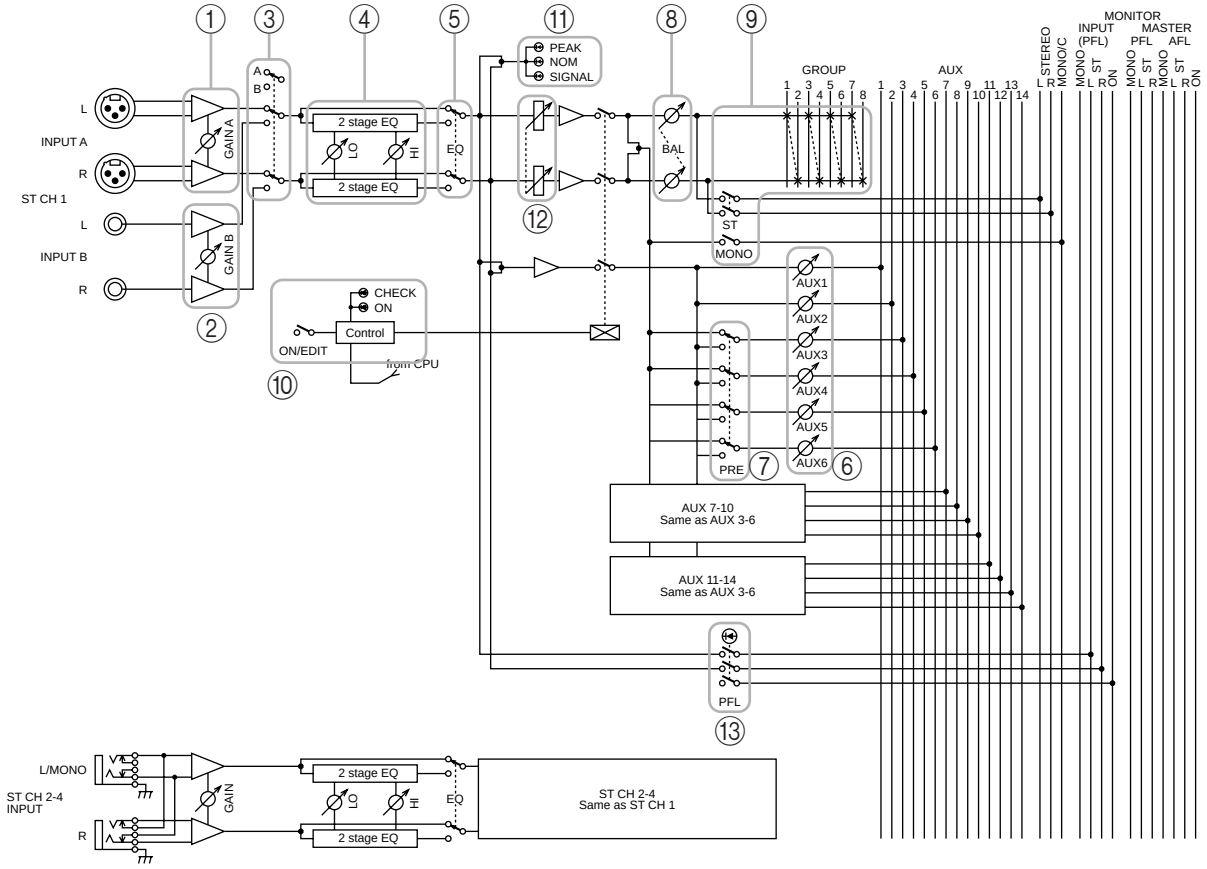
- **PEAK** indicator
  This will light when the signal mixed to monaural exceeds nominal level by 17 dB.
- **NOM** (nominal) indicator
  This will light when the signal mixed to monaural reaches nominal level (0 dB).
- **SIGNAL** indicator
  This will light when the signal mixed to monaural reaches a level 13 dB below nominal.

⑫ Channel fader

This adjusts the output level of the stereo input channel signal. This fader affects the level of the signal that is sent to the GROUP, STEREO, MONO/C, and AUX (if the PRE switch is off) buses.

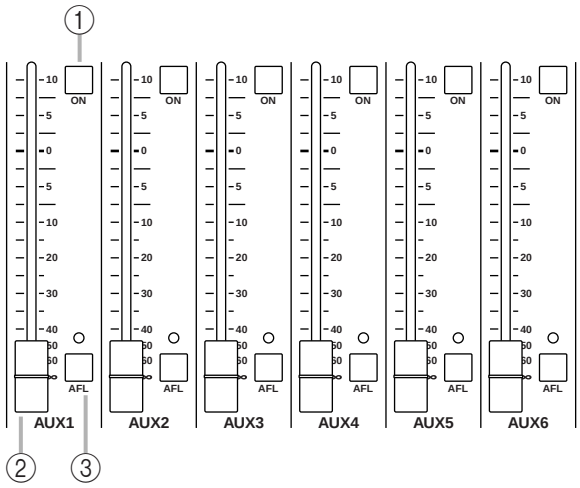
⑬ **PFL** (pre-fader listen) switch

When this switch is on (▬), the pre-fader signal will be sent to the MONITOR INPUT PFL bus, and can be monitored from the MONITOR OUT and PHONES jacks.


1
3
4
5
11
8
9
PEAK
NOM
SIGNAL
MONITOR
INPUT (PFL)
MASTER
PFL AFL
GROUP
AUX
STEREO
MONO/C
MONO
ST
ON
L
R
INPUT A
ST CH 1
INPUT B
GAIN A
GAIN B
A
B
2 stage EQ
LO
HI
EQ
BAL
ST
MONO
AUX1
AUX2
AUX3
AUX4
AUX5
AUX6
PRE
7
6
2
12
CHECK
ON
Control
ON/EDIT
from CPU
10
AUX 7-10
Same as AUX 3-6
AUX 11-14
Same as AUX 3-6
PFL
13
L/MONO
ST CH 2-4
INPUT
GAIN
ST CH 2-4
Same as ST CH 1

GROUP/AUX master section

AUX 1–6 section



These are the output channels that control the signals of AUX buses 1–6. The signals that have passed through these output channels will be output individually from the AUX OUT 1–6 jacks (page 27). In addition, they pass through the MONITOR MASTER PFL/AFL buses and can be monitored from the MONITOR OUT L/R and the PHONES jacks.

① **ON** switches

These turn AUX OUT 1–6 on/off. When a switch is on (▬), the signal of the corresponding AUX bus will be output to the AUX OUT jack.

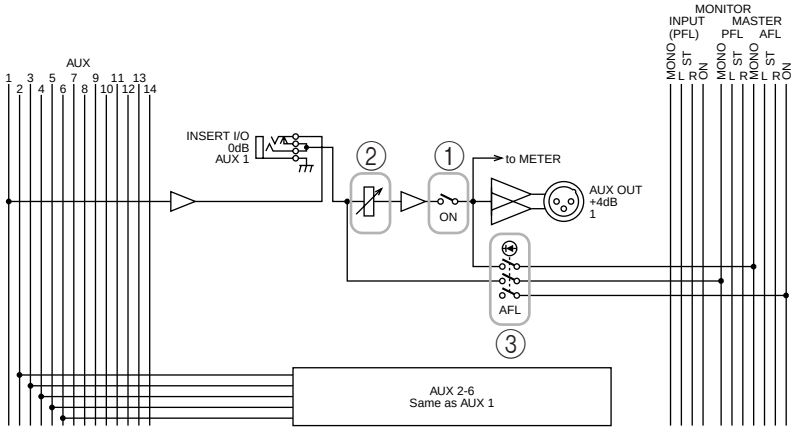
② **AUX 1–6** master faders

These adjust the output levels of AUX OUT 1–6.

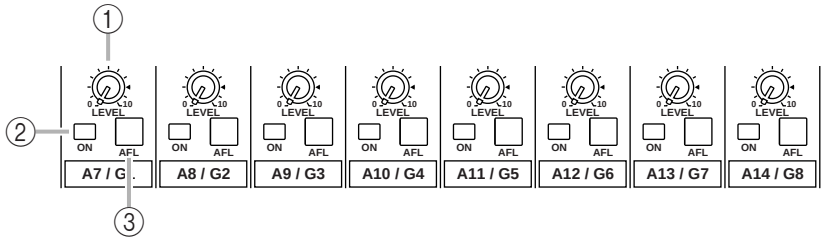
③ **AFL** (after fader listen) switches

These switches are used to monitor the signal of the AUX OUT 1–6 section from the MONITOR OUT/PHONES jacks. When an AFL switch is on (the switch above the indicator will light), the pre/after-fader signals of the AUX 1–6 section will be sent to the MONITOR MASTER PFL/AFL buses respectively, and can be monitored via the MONITOR OUT/PHONES jacks. At this time, you can use the MASTER PFL switch (page 19) in the monitor section to select whether you will monitor the pre- or after-fader signal.

Note: If the PFL switch of even one input channel is turned on, the signal of the MONITOR INPUT bus will take priority for monitoring. In this case, be aware that even if the AFL switch is turned on, the MONITOR MASTER bus cannot be monitored.



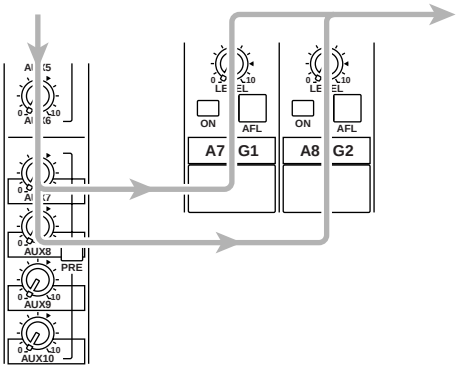
A7/G1–A14/G8 section



These output channels control the signals of AUX buses 7–14 or GROUP buses 1–8. You can use the GROUP/AUX FLIP switch (page 14) to select the signals that will be controlled.

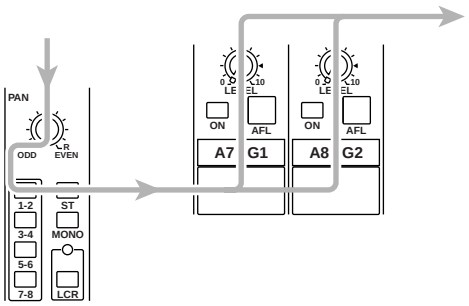
■ GROUP/AUX FLIP switch= GROUP (▬)

The signals of AUX buses 7–14 will be sent to channels A7/G1–A14/G8 respectively, and will be output individually from the AUX/GRP OUT A7/G1–A14/G8 jacks.



■ GROUP/AUX FLIP switch= AUX (▂)

The signals of GROUP buses 1–8 will be sent to channels A7/G1–A14/G8 respectively, and output individually from the AUX/GRP OUT A7/G1–A14/G8 jacks.



① **LEVEL** control

This adjusts the output level of AUX/GRP OUT A7/G1–A14/G8. The "▲" position is nominal level.

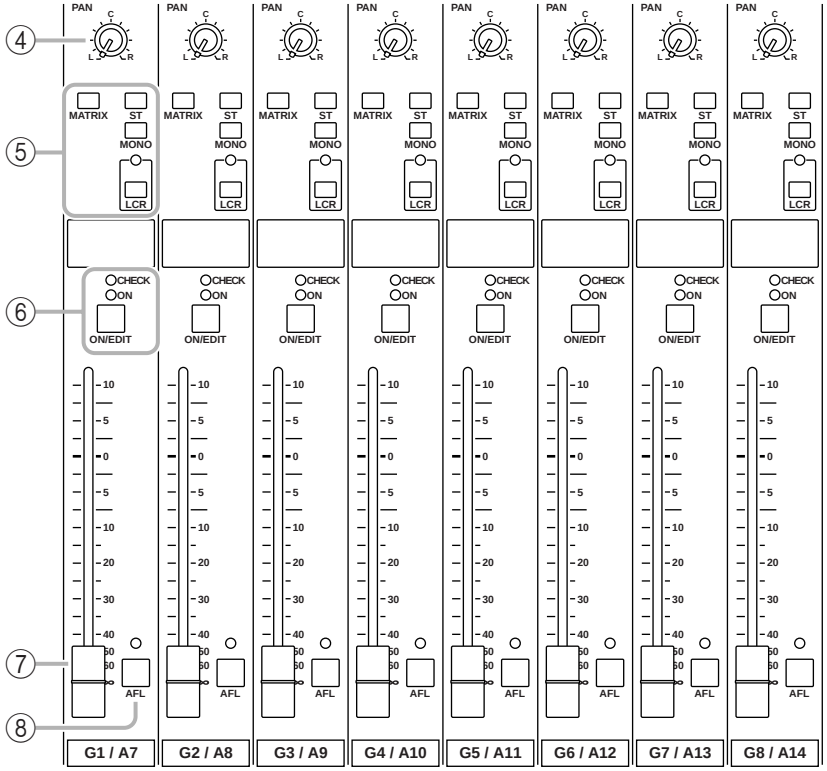
② **ON** switch

This turns AUX/GRP OUT A7/G1–A14/G8 on/off. When the switch is on (▂), the signals from the A7/G1–A14/G8 section will be output from the AUX OUT A7/G1–A14/G8 jacks respectively.

③ **AFL** switch

This switch is used to monitor the signal from the AUX/GRP OUT A7/G1–A14/G8 section via the MONITOR OUT/PHONES jacks. If all the input channel PFL switches are off, you can turn on this AFL switch to monitor the corresponding signal of the A7/G1–A14/G8 section from the MONITOR OUT/PHONES jacks. You can use the MASTER PFL switch of the monitor section to switch the monitor signal between pre/post-fader (LEVEL control).

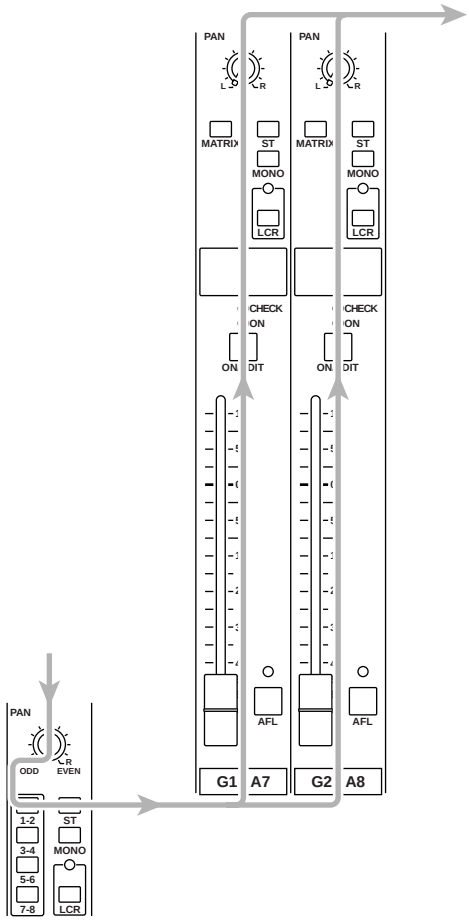
G1/A7–G8/A14 section



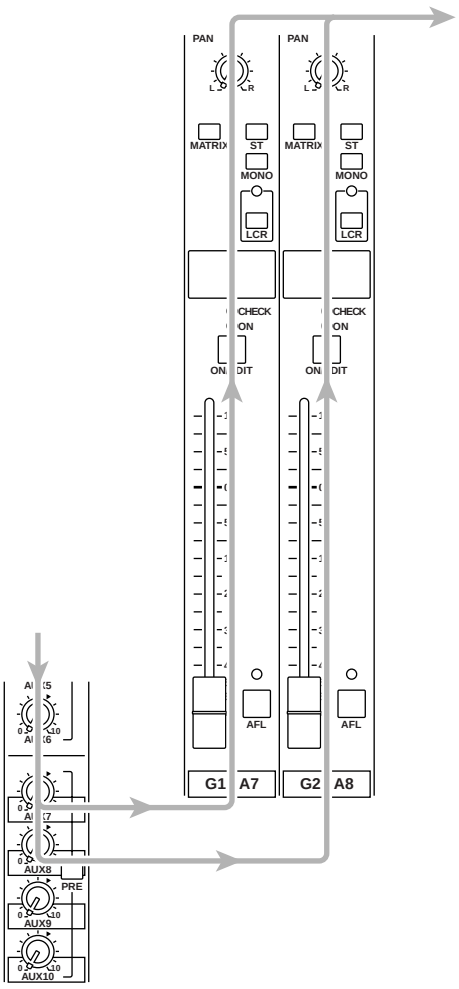
These are the output channels that control GROUP buses 1–8 or AUX buses 7–14. Use the GROUP/AUX FLIP switch (page 14) to select which signals will be controlled.

■ GROUP/AUX FLIP switch= GROUP (▟)

The signals of GROUP buses 1–8 will be sent to channels G1/A7–G8/A14 respectively, and will be output individually from the GRP/AUX OUT G1/A7–G8/A14 jacks.



■ **GROUP/AUX FLIP switch= AUX (▬)**
The signals of AUX buses 7–14 will be sent to channels G1/A7–G8/A14 respectively, and will be output individually from the GRP/AUX OUT G1/A7–G8/A14 jacks.



④ **PAN** control
This adjusts the pan of the signal that is sent from the G1/A7–G8/A14 section to the STEREO or MONO/C bus. The function of the PAN control will change as follows, depending on the setting of the channel assign switch (⑤).

● **When the ST switch is on**
PAN will adjust the pan of the signal that is sent from each channel to the STEREO L/R bus.

● **When the LCR switch is on**
PAN will adjust the pan of the signal that is sent from each channel to the STEREO L/R bus and MONO/C bus.

⑤ Channel assign switches
These switches assign the post-fader post-PAN signal to the desired bus.

- **ST** (stereo) switch
  If this switch is on (▬), the post-PAN signal of the output channel will be sent to the STEREO bus.
- **MONO** (monaural) switch
  If this switch is on (▬), the signal of the output channel will be sent to the MONO/C bus.
- **LCR** switch
  If this switch is on, the indicator above the switch will light, and the post-PAN signal of the output channel will be sent to the STEREO bus and the MONO/C bus.
- **MATRIX** switch
  IF this switch is on (▬), the signal of the output channel will be sent to the corresponding MATRIX bus.

Note:
- The LCR switch takes priority over the ST/MONO switch. If the **LCR switch is on**, the post-PAN signal of the G1/A7–G8/A14 section will be sent to the STEREO bus (L/R) and MONO/C bus regardless of the on/off status of the ST/MONO switch. (Refer to response curve diagram 1 on page 4.)
- If the **LCR switch is off**, the ST/MONO switch will function as a conventional channel assign switch. If ST is on, the post-PAN signal of the G1/A7–G8/A14 section will be sent to the ST bus. If the MONO switch is on, the signal of the G1/A7–G8/A14 section will be sent directly to the MONO/C bus. (Refer to response curve diagram 2 on page 4.)

⑥ **ON/EDIT** switch / **ON**, **CHECK** indicators

The function of this switch and these indicators will change depending on the mode of the M2500.

● In normal mode

You can use the ON/EDIT switch to turn each G1/A7–G8/A14 channel on/off. When the channel is switched on/off, the ON indicator will be lit/dark to indicate the status. Channels that are switched off will not send any signals to the STEREO, MONO/C, or MATRIX buses.

● In check mode

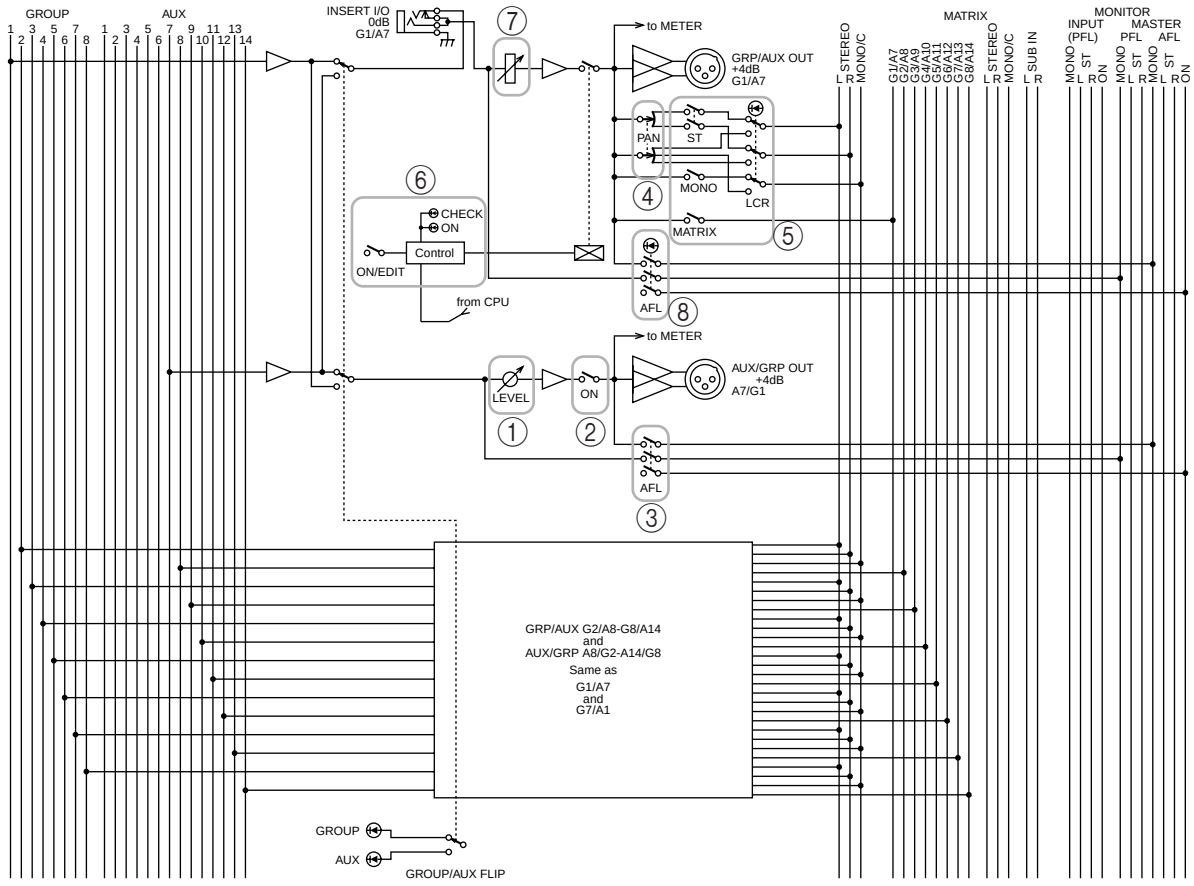
When a scene (which contains the on/off state of the ON/EDIT switches) is selected, the on/off status memorized in that scene will be indicated by the lit/dark status of the CHECK indicator. In check mode, you can also use the ON/EDIT switch to switch the CHECK indicator between lit/dark. (The current on/off setting will not be affected.) For details on check mode, refer to page 32.

⑦ Fader

This adjusts the output level of the GRP/AUX OUT.

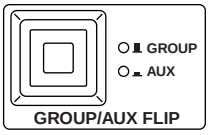
⑧ **AFL** (after fader listen) switch

This switch allows you to monitor the signal of the G1/A7–G8/A14 section from the MONITOR OUT/PHONES jacks. If the input channel PFL switches are all off, turning this AFL switch on (the indicator above the switch will light) will allow you to monitor the corresponding G1/A7–G8/A14 section signal from the MONITOR OUT/PHONES jacks. The monitor signal can be switched between pre/post-fader using the MASTER PFL switch of the monitor section.



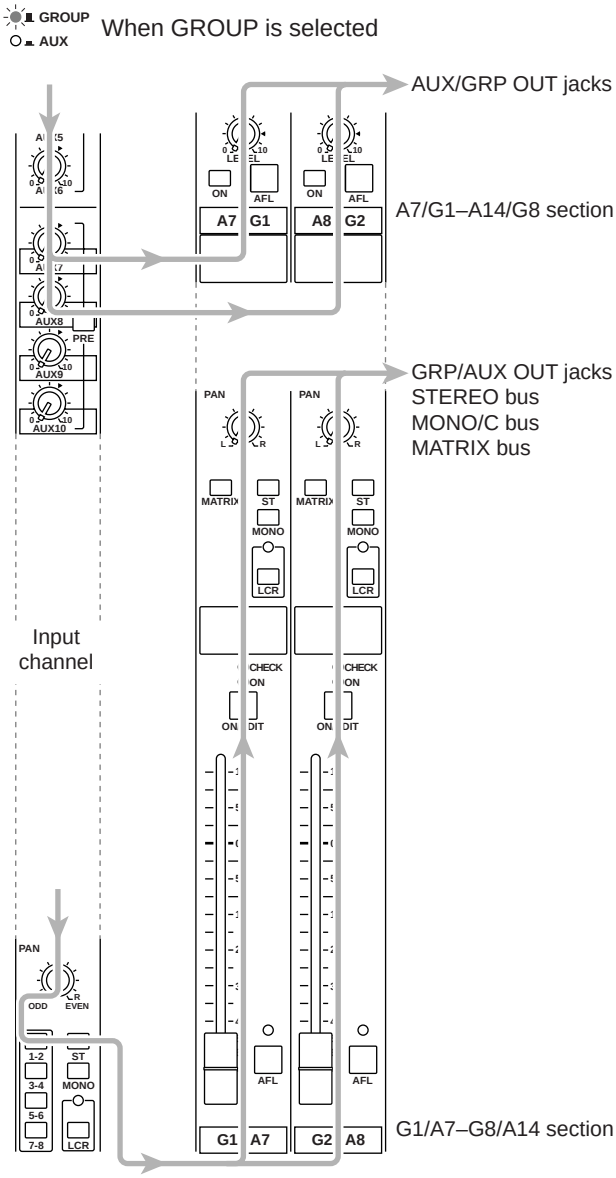
GROUP/AUX FLIP switch

The M2500 provides a GROUP/AUX FLIP switch that exchanges the output destinations of GROUP buses 1–8 and AUX buses 7–14.



● When GROUP ( ) is selected

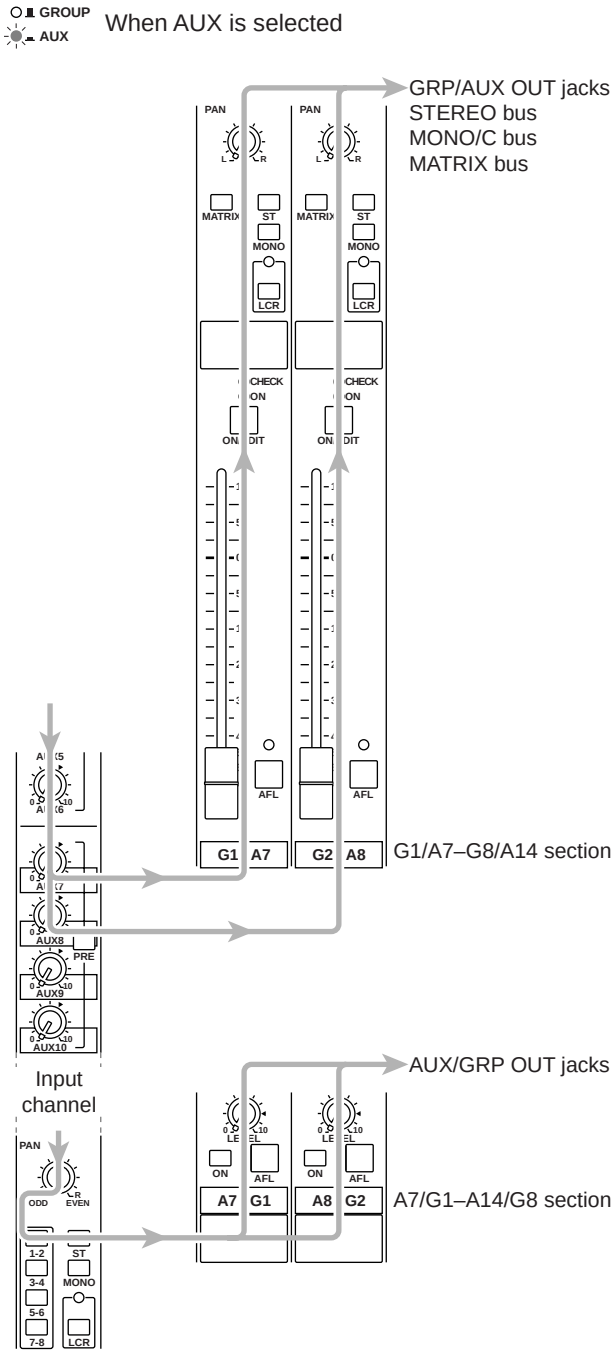
The signals of GROUP buses 1–8 will be routed through the G1/A7–G8/A14 section, and sent to the GROUP/AUX OUT jacks, the STEREO bus, MONO/C, and MATRIX buses. The signals of AUX buses 7–14 will be routed through the A7/G1–A14/G8 section, and sent to the AUX GRP OUT jacks. With this setting, AUX buses 7–14 can be used as conventional AUX buses, and GROUP buses 1–8 can be used as group buses. This setting is more convenient when you are using the M2500 as a main console, since you will be able to use the 100 mm faders to control the group buses.



● When AUX ( ) is selected

The signals of GROUP buses 1–8 will be routed through the A7/G1–A14/G8 section and sent to the AUX/GRP OUT jacks. The signals of AUX buses 7–14 will be routed through the G1/A7–G8/A14 section, and sent to the GROUP/AUX OUT jacks, the STEREO bus, MONO/C, and MATRIX buses.

This setting is more convenient when you are using the M2500 as a "monitor console" to control individual monitor levels on stage, since you will be able to use the 100 mm faders to control each of the AUX buses (1–14).



When you change the setting of the GROUP/AUX FLIP switch, numerous functions of the output channels of GROUP buses 1–8 and AUX buses 7–14 will change in addition to the faders. The functions available for the output channels of each bus are shown below for each setting (GROUP/AUX) of the GROUP/AUX FLIP switch.

- GROUP/AUX FLIP switch= GROUP (principal application: main console)

Output channel	GROUP buses 1–8	AUX buses 1–6	AUX buses 7–14
Master control	100 mm faders	100 mm faders	Rotary faders
Channel assign switch (MATRIX/ST/MONO/LCR)	❍	×	×
PAN control	❍	×	×
Mute switch	ON/EDIT	ON	ON
INSERT I/O	❍	❍	×

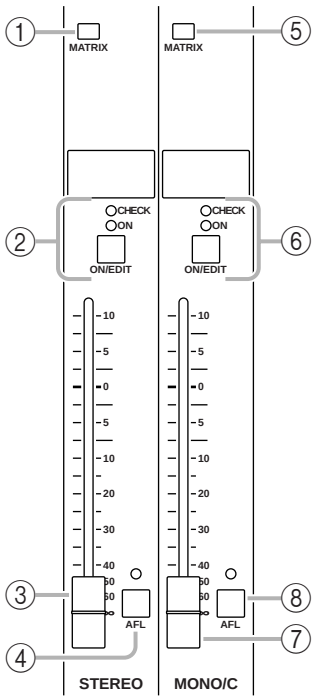
- GROUP/AUX FLIP switch= AUX (principal application: monitor console)

Output channel	GROUP buses 1–8	AUX buses 1–6	AUX buses 7–14
Master control	Rotary faders	100 mm faders	100 mm faders
Channel assign switch (MATRIX/ST/MONO/LCR)	×	×	❍
PAN control	×	×	❍
Mute switch	ON	ON	ON/EDIT
INSERT I/O	×	❍	❍

Note: The output channels of AUX buses 1–6 are not affected by the GROUP/AUX FLIP switch.

Stereo/monaural master section

This section controls the signals that are output from the rear panel ST OUT L/R and MONO/C OUT jacks (page 28).



STEREO section

① **MATRIX** switch

If this switch is on (▬), the post-fader ST OUT L/R signal will be sent to the matrix (page 18).

② **ON/EDIT** switch / **ON**, **CHECK** indicators

The function of this switch and these indicators will change depending on the mode of the M2500.

● In normal mode

You can use the ON/EDIT switch to turn ST OUT L/R on/off. When this is switched on/off, the ON indicator will be lit/dark to indicate the status. Channels that are switched off will not send any signals to the ST OUT L/R jacks or to the matrix.

● In check mode

When a scene (which contains the on/off state of the ON/EDIT switches) is selected, the on/off status memorized in that scene will be indicated by the lit/dark status of the CHECK indicator. In check mode, you can also use the ON/EDIT switch to switch the CHECK indicator between lit/dark. (The current on/off setting will not be affected.) For details on check mode, refer to page 32.

③ Fader

This adjusts the ST OUT L/R output level.

④ **AFL** switch

Using this switch, the signal sent to the ST OUT L/R jacks can be monitored from the MONITOR OUT/PHONES jacks. If the PFL switches of all input channels are off, turning this AFL switch on (the indicator above the switch will light) will allow you to monitor the output signal of the STEREO section from the MONITOR OUT/PHONES jacks. Use the MASTER PFL switch of the monitor section to switch the monitor signal between pre/post-fader.

MONO/C section

⑤ **MATRIX** switch

If this switch is on (▬), the post-fader MONO/C signal will be sent to the matrix (page 18).

⑥ **ON/EDIT** switch / **ON**, **CHECK** indicators

The function of this switch and these indicators will change depending on the mode of the M2500.

● In normal mode

You can use the ON/EDIT switch to turn MONO/C OUT on/off. When this is switched on/off, the ON indicator will be lit/dark to indicate the status. Channels that are switched off will not send any signals to the MONO/C jack or to the matrix.

● In check mode

When a scene (which contains the on/off state of the ON/EDIT switches) is selected, the on/off status memorized in that scene will be indicated by the lit/dark status of the CHECK indicator. In check mode, you can also use the ON/EDIT switch to switch the CHECK indicator between lit/dark. (The current on/off setting will not be affected.) For details on check mode, refer to page 32.

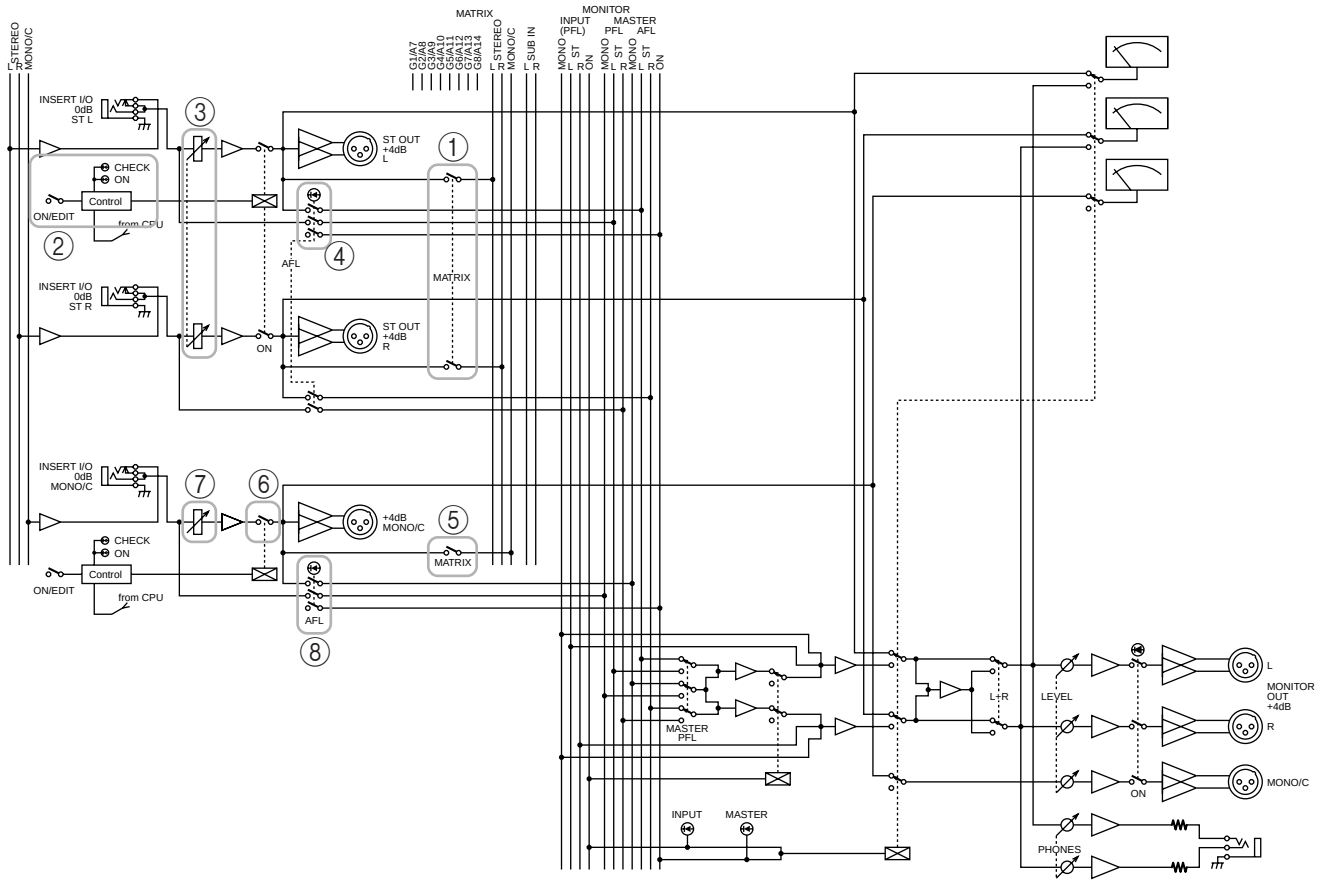
⑦ Fader

This adjusts the output level of MONO/C.

⑧ **AFL** switch

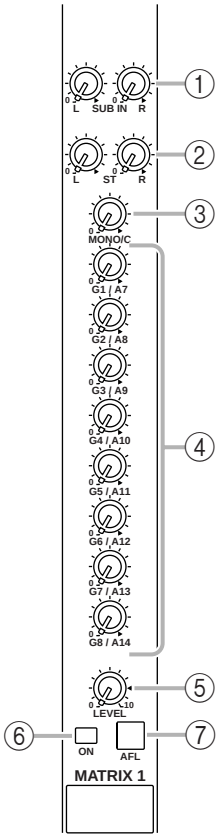
Using this switch, the signal sent to the MONO/C OUT jack can be monitored from the MONITOR OUT/PHONES jacks. If the PFL switches of all input channels are off, turning this AFL switch on (the indicator above the switch will light) will allow you to monitor the output signal of the MONO/C section from the MONITOR OUT/PHONES jacks. Use the MASTER PFL switch of the monitor section to switch the monitor signal between pre/post-fader.

> **Note:** When using the AFL switch to monitor the signal of the MONO/C section from the MONITOR OUT jacks, be aware that the monitor signal will not be output from the MONITOR OUT MONO/C jack, but will be output monaurally from the MONITOR OUT L/R jacks.



Matrix section

The M2500 provides an eight channel matrix section that allows the output signals from the G1/A7–G8/A14 section, the output signals from the stereo/monaural master section, and the input signals from the SUB IN MATRIX jacks to be mixed at a desired level. Matrix 1–8 are output individually from MATRIX OUT jacks 1–8 (page 27), and can be used as mixes for foldback or individual monitor systems.



① **SUB IN L/R** control

These adjust the signal levels that are input to the matrix from the rear panel SUB IN MATRIX jacks (page 28). The "▲" position is nominal level (0 dB).

② **ST L/R** controls

When the MATRIX switch of the STEREO section (page 16) is on, these controls adjust the level of the signal that is sent from the STEREO section to the matrix. The "▲" position is nominal level.

③ **MONO/C** control

When the MATRIX switch of the MONO/C section (page 16) is on, this control adjusts the level of the signal that is sent from the MONO/C section to the matrix. The "▲" position is nominal level.

④ **G1/A7–G8/A14** controls

When the MATRIX switches of the G1/A7–G8/A14 section (page 11) are on, these controls adjust the level of the signal that is sent from the corresponding GRP/AUX OUT to the matrix. The "▲" position is nominal level.

⑤ **LEVEL** control

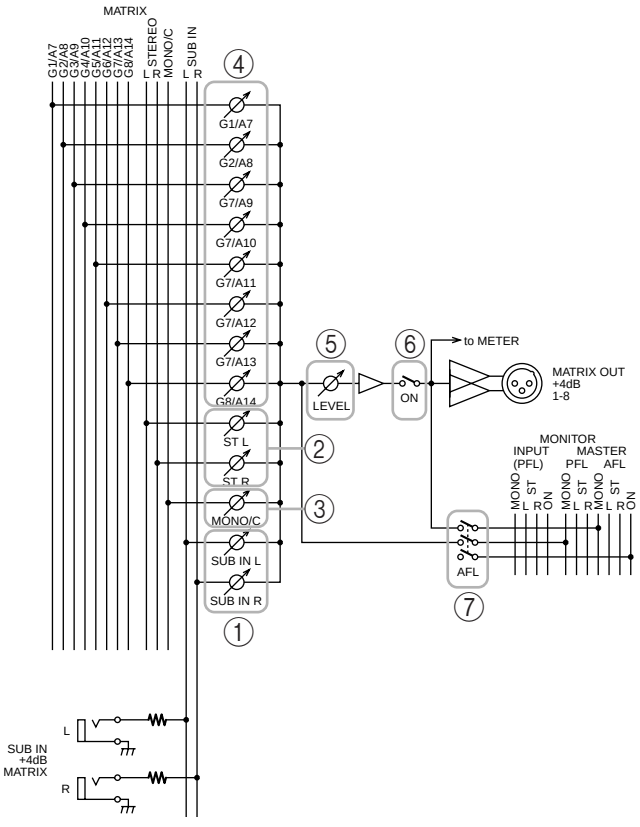
This adjusts the final output level of the matrix. The "▲" position is nominal level.

⑥ **ON** switch

This switches the output of the matrix on/off.

⑦ **AFL** switch

Using this switch, the signal of the matrix can be monitored from the MONITOR OUT/PHONES jacks. If the PFL switches of all input channels are off, turning this AFL switch on will allow you to monitor the output signal of the corresponding matrix from the MONITOR OUT/PHONES jacks. Use the MASTER PFL switch of the monitor section to switch the monitor signal between pre/post-fader (LEVEL control).



Monitor section

In this section you can select the signal that will be monitored from the MONITOR OUT jacks and the PHONES jacks.

Monitor signal priority order

There is a priority order for the signals that can be selected as monitor sources. While a higher priority signal is being monitored, it is not possible to monitor signals of a lower priority. Multiple monitor sources can be selected simultaneously if they are all of the same priority level.

The priority order of the various monitor sources is shown below.

Priority order 1

- Pre-fader signal of a monaural input channel (PFL switch)
- Pre-fader signal of a stereo input channel (PFL switch)

When a PFL switch is turned on, the pre-fader signal of that input channel can be monitored from the MONITOR OUT/PHONES jacks.

Priority order 2

- Pre/post-fader signals of the AUX 1–6 section (AFL switch)
- Pre/post-fader signals of the A7/G1–A14/G8 section (AFL switch)
- Pre/post-fader signals of the G1/A7–G8/A14 section (AFL switch)
- Pre/post-fader signals of the STEREO section (AFL switch)
- Pre/post-fader signals of the MONO/C section (AFL switch)
- Pre/post-fader signals of the matrix section (AFL switch)

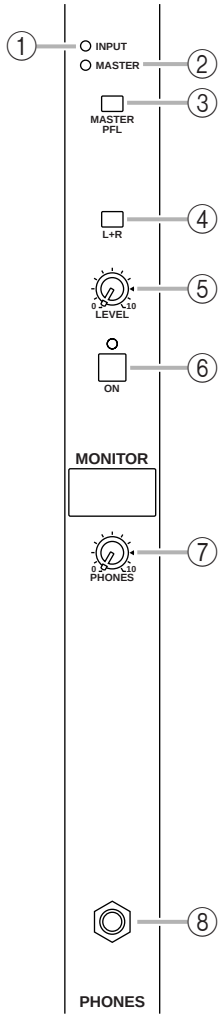
When a AFL switch of one of these sections is turned on, the pre/post-fader signal of the corresponding section can be monitored from the MONITOR OUT/PHONES jacks.

Priority order 3

- ST OUT (L, R, MONO/C) output signals

If all PFL and AFL switches of priority orders 1 and 2 are off, the ST OUT (L, R, MONO/C) output signal can be monitored from MONITOR OUT L, R, and MONO/C.

The PHONES jack will monitor the ST OUT (L/R) output signal.



① **INPUT** indicator

If even one of the input channel PFL switches are on, this indicator will light. When this indicator is lit, you are monitoring a signal of priority order 1.

② **MASTER** indicator

If even one of the AFL switches of the GROUP/AUX master section, the stereo/monaural master section, or the matrix section are on, this indicator will light. In this case if the INPUT indicator (①) is dark, you are monitoring the pre/post-fader signal from one of the sections (priority order 2).

③ **MASTER PFL** switch

If this switch is on (▬), the MONITOR MASTER PFL signals (pre-fader signals of priority order 2) can be monitored from the MONITOR OUT/PHONES jacks. If this switch is off (■), the MONITOR MASTER AFL signals (after-fader signals of priority order 2) can be monitored from the MONITOR OUT/PHONES jacks.

④ **L+R** switch

If this switch is on (▬), the monitor signal sent to the MONITOR OUT/PHONES jacks will be mixed to monaural.

⑤ **LEVEL** control

This adjusts the final output level from the MONITOR OUT jacks (L, R, MONO/C). It does not affect the signal that is output from the PHONES jack. The "▲" position is nominal level.

⑥ **ON** switch

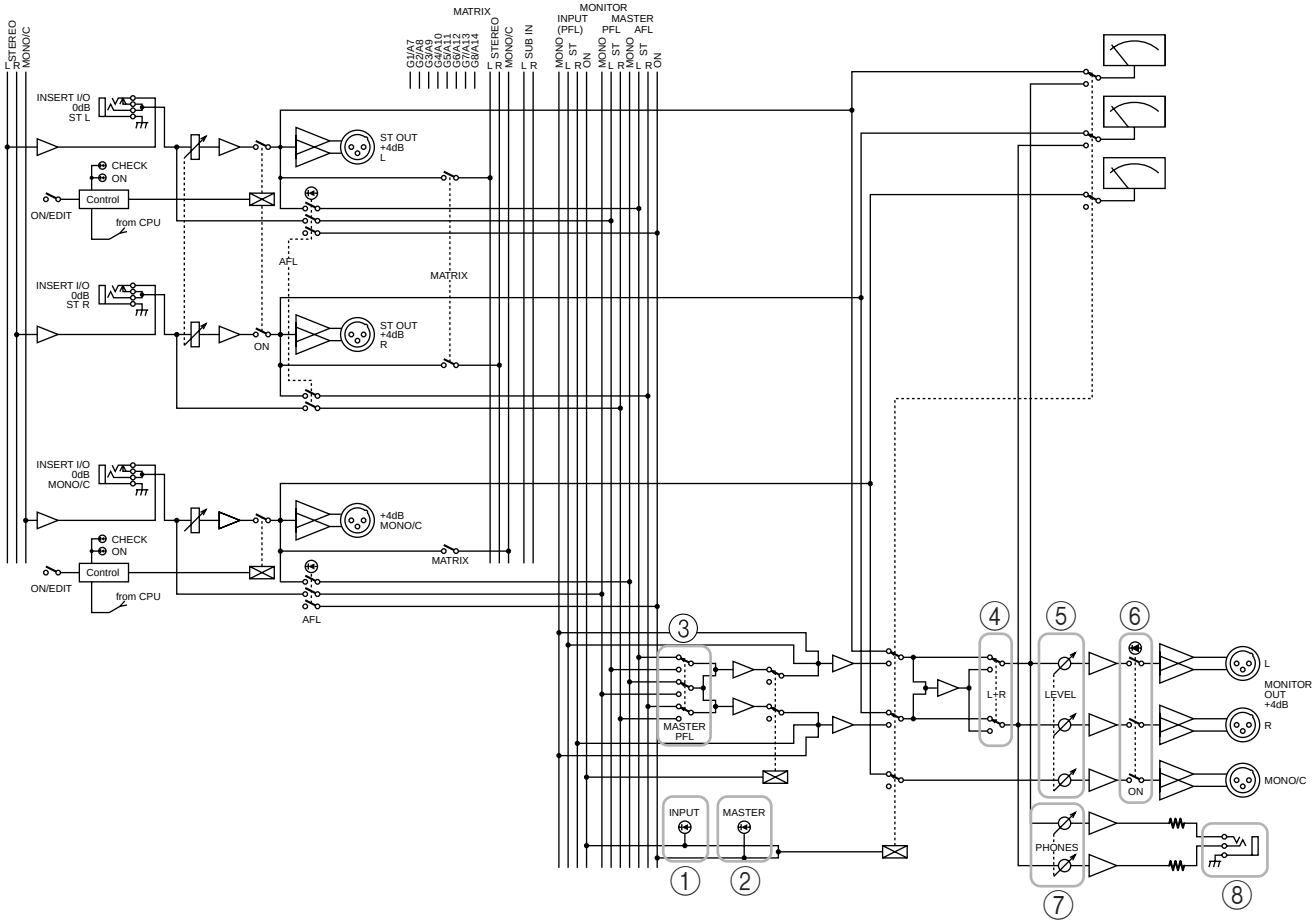
This is an on/off switch for the signal that is output from the MONITOR OUT jacks (L, R, MONO/C). If this is on, the indicator above the switch will light. This switch does not affect the signal that is output from the PHONES jack.

⑦ **PHONES** (headphone) control

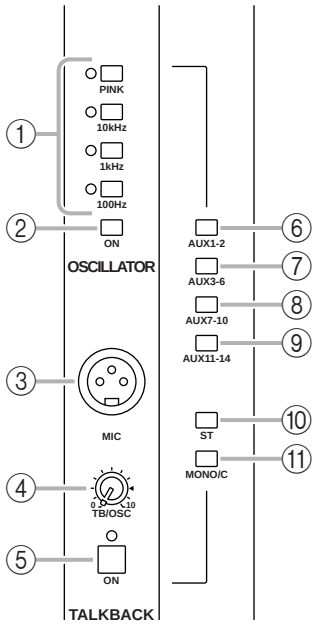
This adjusts the level of the signal that is output from the PHONES jack. It does not affect the signal that is output from the MONITOR OUT jacks. The "▲" position is nominal level.

⑧ **PHONES** jack

A set of monitoring headphones can be connected here.



Talkback/oscillator section



① **OSCILLATOR** select switches

These switches select a test tone oscillator, and start oscillation. Only one switch at a time can be selected. The corresponding indicator will light to show the switch that is turned on.

- **PINK** switch
  This generates pink noise.
- **10 kHz/1 kHz/100 Hz** switches
  These generate a sine wave of the corresponding frequency.

> **Note:** The oscillator cannot be used together with talkback. If you wish to use the oscillator, you must turn off the talkback ON switch (⑤).

② **OSCILLATOR ON** switch

This switch turns the oscillator on/off.

③ **MIC** jack

This is an XLR-3-31 input jack (unbalanced) for connecting a talkback mic. Mics of 50–600Ω impedance are supported.

④ **TB/OSC** control

This adjusts the level of the talkback or oscillator.

⑤ **ON** switch

This is an on/off switch for the talkback. If this is on, the indicator above the switch will light. If you wish to use the oscillator, you must turn off this switch.

⑥ **AUX 1-2** switch

⑦ **AUX 3-6** switch

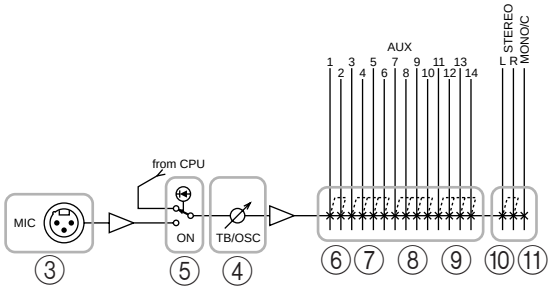
⑧ **AUX 7-10** switch

⑨ **AUX 11-14** switch

⑩ **ST** switch

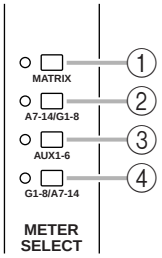
⑪ **MONO/C** switch

These switches send the talkback or oscillator signal to AUX buses 1–2, AUX buses 3–6, AUX buses 7–10, AUX buses 11–14, the STEREO bus, and/or the MONO/C bus. Each switch can be turned on/off independently.



Meter select section

In this section you can select the source whose level will be displayed by the meter bridge section. Only one of the sources ①–④ can be selected.



① **MATRIX** switch

If this switch is pressed, meters 1/7–8/14 (page 24) will display the output levels of MATRIX OUT 1–8. At this time, the indicator located at the left of the switch will light.

② **A7-14/G1-8** switch

If this switch is pressed, meters 1/7–8/14 (page 24) will display the output levels of AUX/GROUP OUT A7/G1–A14/G8. At this time, the indicator located at the left of the switch will light.

③ **AUX 1-6** switch

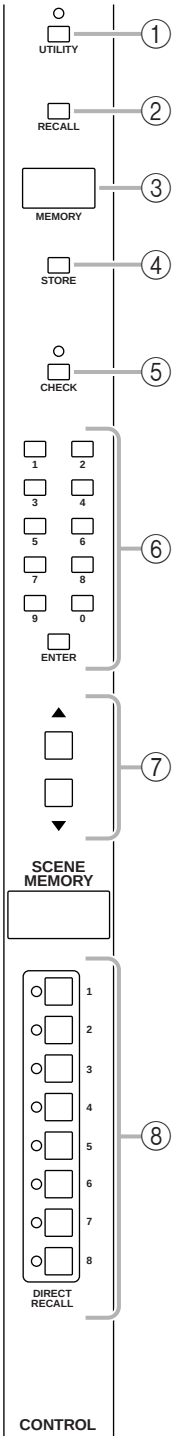
If this switch is pressed, meters 1/7–6/12 (page 24) will display the output levels of AUX OUT 1–6. (Meters 7/13 and 8/14 will not function.) At this time, the indicator located at the left of the switch will light.

④ **G1-8/A7-14** switch

When this switch is pressed, meters 1/7–8/14 (page 24) will display the output levels of GRP/AUX OUT G1/A7–G8/A14. At this time, the indicator located at the left of the switch will light.

Control section

The M2500 is able to save "scenes" that contain the on/off status for each monaural/stereo input channel, the G1/A7–G8/A14 section, the STEREO section, and the MONO/C section. (This functionality is referred to as "scene memory.") In the Control section you can save scenes, and recall a previously-saved scene. (For details on scene memory procedure, refer to page 30.)



① **UTILITY** switch

Pressing this switch will access Utility mode (page 34), in which you can make settings for scene memory and MIDI. When Utility mode is selected, the indicator above the switch will light.

② **RECALL** switch

Use this switch to recall a previously-stored scene. If you select a scene number that has not been stored and attempt to recall it, the scene will not change, but the MEMORY display (③) will indicate "nod" (No data) for approximately two seconds.

③ **MEMORY** display

This is a three-digit LED display. In Normal mode and Check mode (page 32), it displays a scene memory number in the range of 1–130. In Utility mode, it indicates the utility item or its value.

This will light if the display shows a scene memory number in which no scene has been stored. If not even one scene has been stored in scene memory, this dot will light when the power is turned on.

This will light while bulk data is being received at the MIDI IN connector.

This will light when the settings of the last-recalled scene are modified in Normal mode, or when the settings of the scene selected in Check mode are modified.

④ **STORE** switch

Use this to store a scene. When you press this switch once, the display will indicate "Str," indicating that the M2500 is ready to store the scene. If you press the STORE switch once again, the scene will be stored. If you decide to cancel without storing, press any other switch. Before storing a scene in scene memory, make sure that memory protect (page 34) is turned off.

⑤ **CHECK** switch

Use this to change from Normal mode to Check mode. In Check mode, the indicator located above the switch will light.

⑥ **0–9/ENTER** switches

In Normal mode or Check mode, these switches are used to numerically specify a scene memory number. Use the 0–9 switches to enter a number, and press the ENTER switch to finalize that number. The 0–9 switches cannot be used in Utility mode.

⑦ ▲/▼ switches

The function of the ▲/▼ switches will vary depending on the mode of the M2500.

● Normal mode/Check mode

Use these switches to increment or decrement the scene memory number. However, scene memory numbers 129 and 130, and scene memory numbers 1–8 when using mute groups (page 37) can be selected only by using the 0–9/ENTER switches.

● Utility mode

Use the switches to change the value of the selected utility item.

Hint: In Normal mode and Check mode, holding either of the ▲/▼ switches for one second or more will cause the scene memory number to change more rapidly.

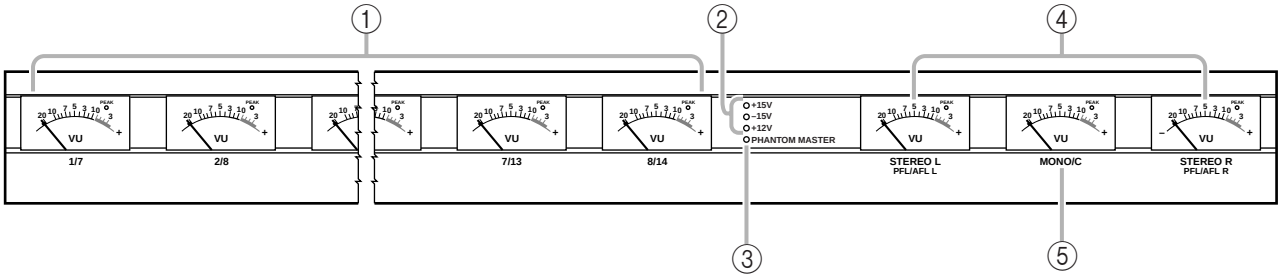
⑧ **DIRECT RECALL 1–8** switches

The DIRECT RECALL 1–8 switches can be used in one of two ways, depending on the Utility mode setting. With the factory settings, these switches will function as "direct recall" switches that recall scene memory numbers 1–8 at a touch. By changing the setting in Utility mode, you can use these switches to simultaneously select or cancel the mute (off) settings that have been saved in scene memory numbers 1–8. (For details on direct recall and mute groups, refer to page 31 and page 37.)

Note: Pressing a DIRECT RECALL switch will not change the scene if no scene has been saved in the corresponding scene memory number. If this occurs, the MEMORY display will indicate "nod" (No data) for approximately two seconds.

Note: Be aware that in Check mode, pressing a DIRECT RECALL switch will forcibly cancel Check mode and recall the scene.

Meter bridge



① **1/7–8/14** level meters

According to the setting of the meter select switches (page 22), these indicate the output levels of MATRIX OUT 1–8, AUX/GRP OUT A7/G1–A14/G8, AUX OUT 1–6, or GRP/AUX OUT G1/A7–G8/A14. (If the AUX 1–6 switch has been selected in the meter select section, meters 7/13 and 8/14 will not function.) Each meter has a PEAK indicator that lights 3 dB before peak level.

② **+15V/–15V/+12V** indicators

The respective indicator will light when +15V/–15V/+12V power is being supplied correctly from the rear panel DC POWER INPUT connector (page 29) to the M2500 mixer.

③ **PHANTOM MASTER** indicator

This will light when the rear panel PHANTOM MASTER switch (page 29) is on.

④ **STEREO**, **PFL/AFL** level meters

The signal shown by each level meter will change depending on the settings of the input channel PFL switches and the AFL switches of the GROUP/AUX master section etc.

- **PFL/AFL** switches= all off
  The meters will show the output level of the signals that are output from the ST OUT L/R jacks (page 28).
- **PFL** switch= on
  The meters will show the signal level that is output from the MONITOR INPUT PFL bus.
- **AFL** switch= on (**PFL** switches= all off)
  The meters will show the signal level that is output from the MONITOR MASTER AFL bus.

  Each meter has a PEAK indicator that lights 3 dB before peak level.

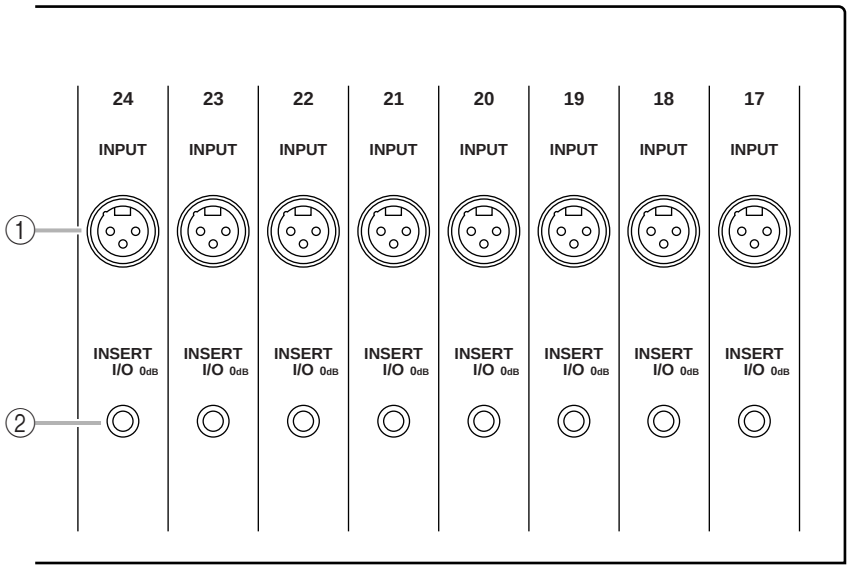
⑤ **MONO/C** level meter

The signal shown by this level meter will change depending on the settings of the input channel PFL switches and the AFL switches of the GROUP/AUX master section etc.

- **PFL/AFL** switches= all off
  The meter will show the output level of the signal that is output from the MONO/C OUT jack (page 28).
- **PFL** switch= on
- **AFL** switch= on
  The MONO/C level meter will not function.

  This meter has a PEAK indicator that lights 3 dB before peak level.

Monaural input channel input/output jacks

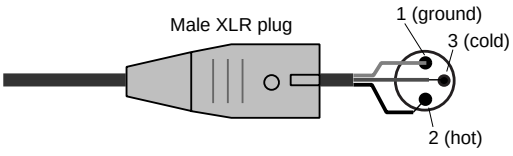


① **INPUT** jacks

These are XLR-3-31 type input jacks (balanced). If the rear panel PHANTOM MASTER switch and the +48 V switch of the corresponding monaural input channel are on, phantom power will be supplied. The nominal input levels and pin wiring are as follows.

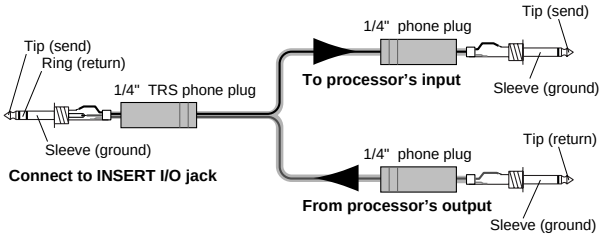
■ Nominal input

- –26 dB pad switch= on / +10 dB to –34 dB
- –26 dB pad switch= off / –16 dB to –60 dB

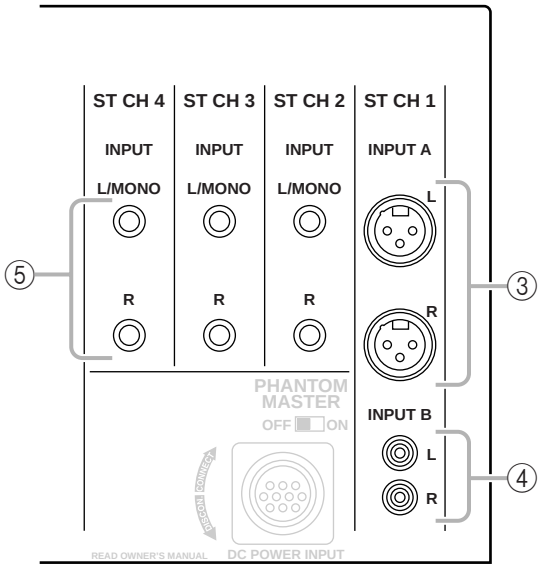


② **INSERT I/O** jacks

These are TRS phone jacks for inserting external effect units into each monaural input channel. The nominal level is 0 dB. The pin wiring is as follows.

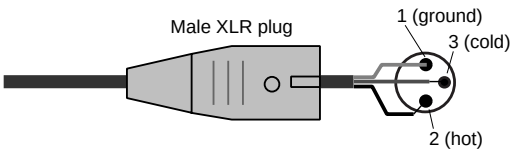


Stereo input channel input/ output jacks



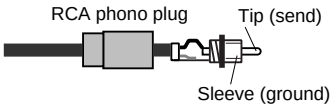
③ **INPUT A** jacks

These are XLR-3-31 type input jacks (balanced) for stereo input channel 1. Nominal input level is +10 dB to –30 dB. In order to use these jacks, you must set the A/B select switch of stereo input channel 1 to the A position. The pin wiring is as follows.



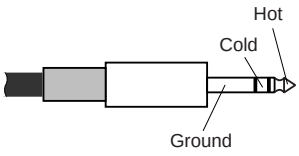
④ **INPUT B** jacks

These are RCA phono input jacks (unbalanced) for stereo input channel 1. Nominal input level is +10 dB to –20 dB. In order to use these jacks, you must set the A/B select switch of stereo input channel 1 to the B position. The pin wiring is as follows.



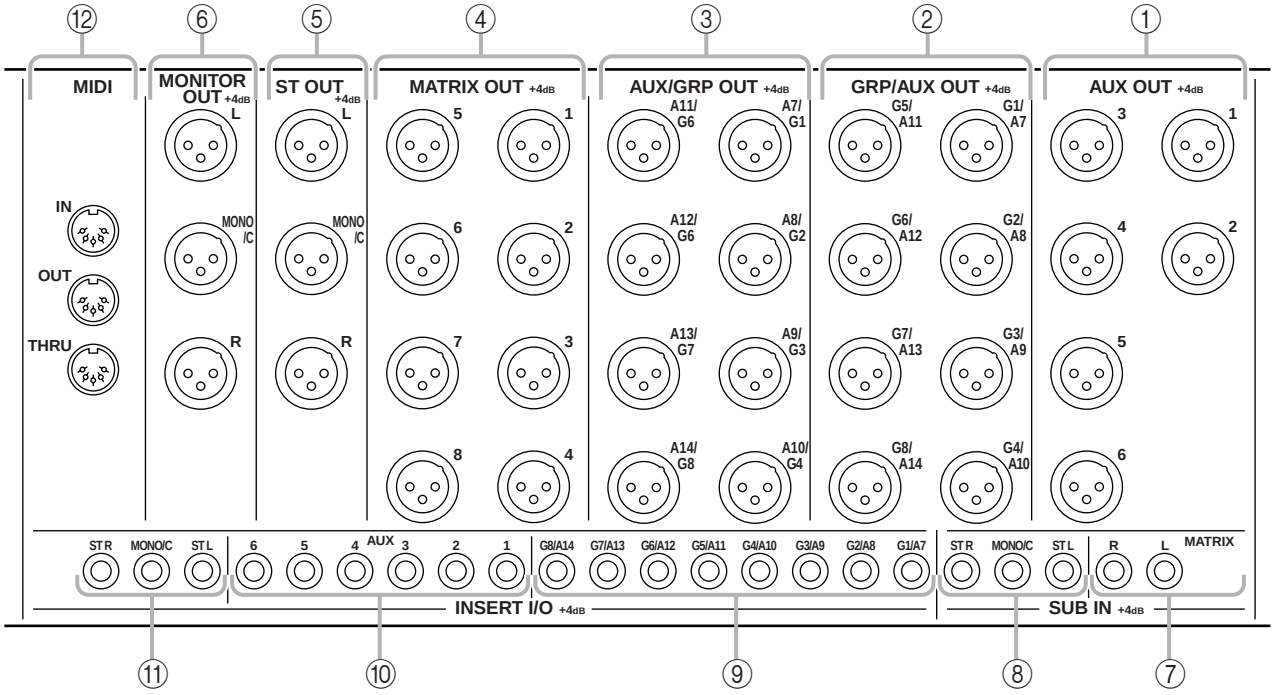
⑤ **INPUT** jacks

These are TRS phone input jacks (balanced) for stereo input channels 2–4. Nominal input level is +10 dB to –30 dB. The pin wiring is as follows.



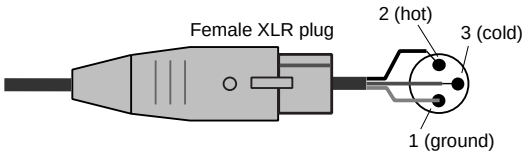
If you wish to input a monaural signal to stereo input channels 2–4, insert a plug only into the L/MONO jack. In this case, the signal that is input to the L/MONO jack will be sent to both L and R of the stereo input channel.

Master section input/output jacks



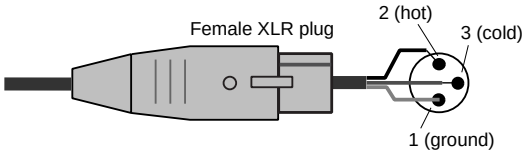
① **AUX OUT** jacks

These are XLR-3-32 output jacks (balanced) that individually output the signals of each channel of the AUX 1–6 section. Nominal output level is +4 dB. The pin wiring is as follows.



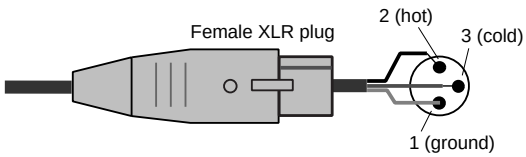
② **GRP/AUX OUT** jacks

These are XLR-3-32 output jacks (balanced) that individually output the signals of each channel of the G1/A7–G8/A14 section. Nominal output level is +4 dB. The pin wiring is as follows.



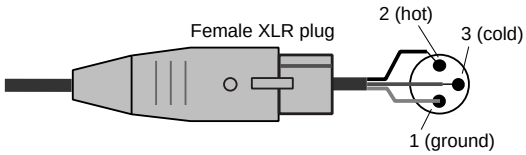
③ **AUX/GRP OUT** jacks

These are XLR-3-32 output jacks (balanced) that individually output the signals of each channel of the A7/G1–A14/G8 section. Nominal output level is +4 dB. The pin wiring is as follows.



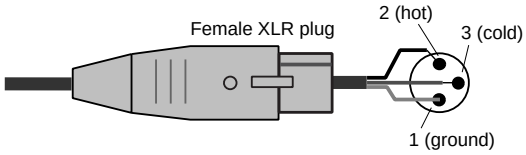
④ **MATRIX OUT** jacks

These are XLR-3-32 output jacks (balanced) that individually output the matrix 1–8 signals. Nominal output level is +4 dB. The pin wiring is as follows.



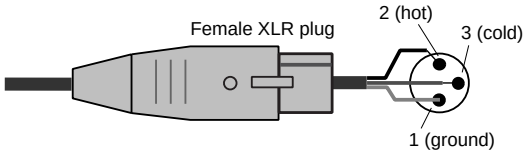
⑤ **ST OUT**, **MONO/C OUT** jacks

These are XLR-3-32 output jacks (balanced) that output the signal of the stereo/monaural master section. Nominal output level of each jack is +4 dB. The pin wiring is as follows.



⑥ **MONITOR OUT** jacks

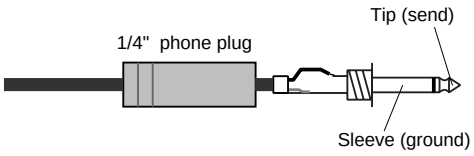
These are XLR-3-32 output jacks (balanced) that output the signal of the stereo/monaural master section, or the monitor source that is selected by the control panel. Nominal output level of each jack is +4 dB. The pin wiring is as follows.



Note: When outputting the monitor source selected by the control panel, only the MONITOR OUT L/R jacks are used.

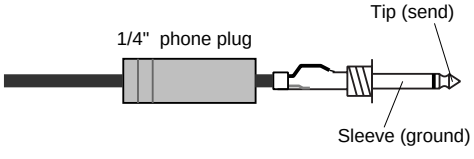
⑦ **SUB IN MATRIX** jacks

These are 1/4" phone jacks (unbalanced) for mixing a line level signal from an external device into the MATRIX bus. Nominal input level is +4 dB. The pin wiring is as follows.



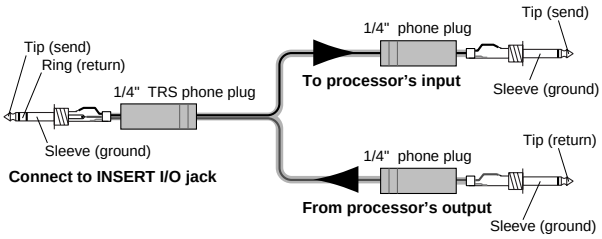
⑧ **SUB IN ST L/R**, **MONO/C** jack

These are 1/4" phone jacks (unbalanced) for mixing a line level signal from an external device into the STEREO bus L/R and MONO/C bus respectively. Nominal input level is +4 dB. The pin wiring is as follows.



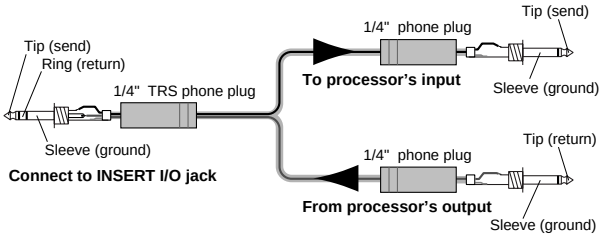
⑨ **INSERT I/O G1/A7–G8/A14** jacks

These are TRS phone jacks for inserting an external effect processor into each output channel of the G1/A7–G8/A14 section. Nominal input level is 0 dB. The pin wiring is as follows.



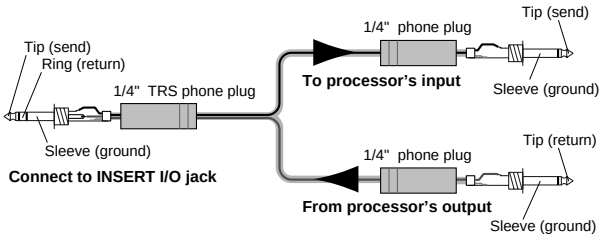
⑩ **INSERT I/O AUX** jacks

These are TRS phone jacks for inserting an external effect processor into each output channel of the AUX 1–6 section. Nominal input level is 0 dB. The pin wiring is as follows.



⑪ **INSERT I/O ST L/R**, **MONO** jacks

These are TRS phone jacks for inserting an external effect processor into each output channel of the stereo/monaural master section. Nominal input level is 0 dB. The pin wiring is as follows.



⑫ **MIDI** connectors

These are standard five-pin MIDI connectors. By connecting these to a sequencer or to the MIDI interface of a computer, scenes can be selected from an external device, or scene memories can be backed up.

● MIDI IN connector

MIDI data is received at this connector. Use a MIDI cable to connect this to the MIDI OUT connector of your external MIDI device.

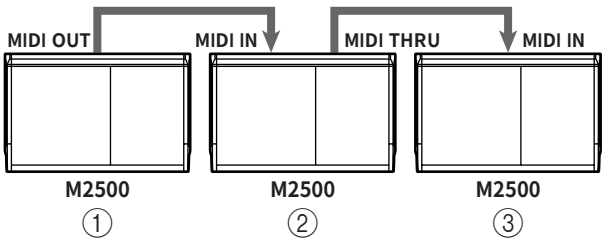
● MIDI OUT connector

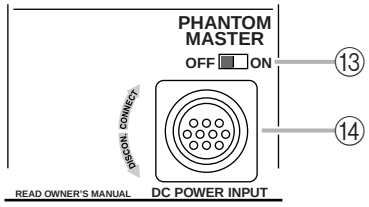
MIDI data is transmitted from this connector. Use a MIDI cable to connect this to the MIDI IN connector of your external MIDI device.

● MIDI THRU connector

Data received at the MIDI IN connector is re-transmitted without change from this connector.

For example if you have connected three M2500 units via MIDI as shown below, switching scenes on the master M2500 (①) can cause the slave M2500 units (②/③) to switch scenes in the same way.





⑬ **PHANTOM MASTER** switch

This is the master switch for the +48 V phantom power supply.

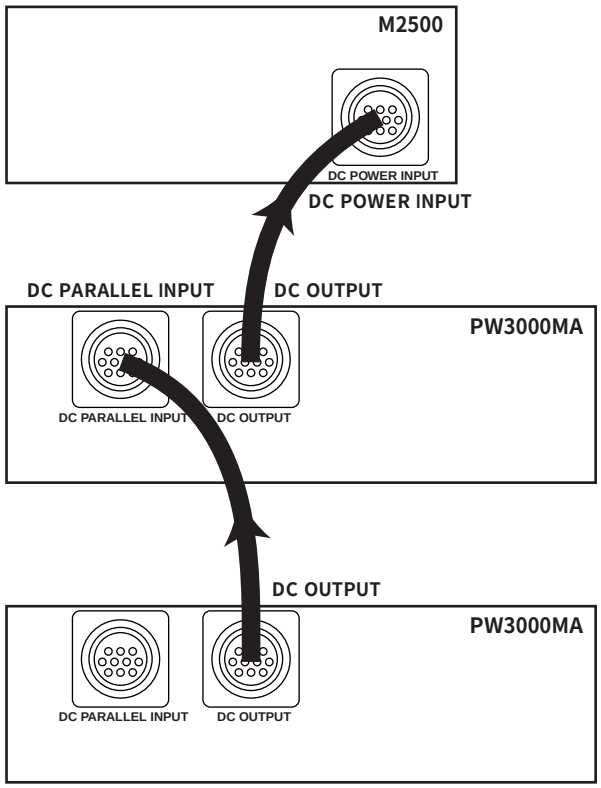
⑭ **DC POWER INPUT** connector

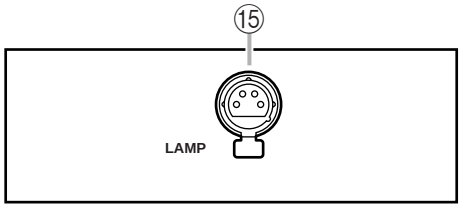
Connect the supplied PW3000MA power supply to this connector to supply power to the M2500.

Note: The PW3000M power supply cannot be used with the M2500 mixer.

Note: Before connecting or disconnecting the power supply cable, make sure that the power of the PW3000MA is turned off.

By connecting two PW3000MA units to the M2500 as shown in the following diagram, you can ensure a stable supply of power. In this case, each PW3000MA will supply 50% of the power to the M2500. In the unlikely event that one of the PW3000MA units fail, the other PW3000MA will automatically supply 100% of the power to the M2500.





⑮ **LAMP** connector

This is an XLR-4-31 (four-pin female) output connector that supplies power to the optional lamp. The M2500-24/32 have two LAMP connectors, and the M2500-40C/48C/56C have three LAMP connectors.

What is scene memory?

Scene memory is a function that stores the on/off status of the monaural/stereo input channels, the G1/A7–G8/14 section, the STEREO section, and the MONO/C section as one of 128 "scenes." A scene that has been stored can be easily recalled at any time. Program change messages received at the MIDI IN connector can also recall scenes, and when a scene is recalled, a corresponding program change message can be transmitted from the MIDI OUT connector.

With the factory settings, the scenes stored in the M2500 are set as follows. Of these, scene memory numbers 1–128 can be rewritten, and 129 and 130 are for recall only.

Scene memory number	Contents
1	All on
2	All off
3	All on
4	All off
5	All on
6	All off
7	All on
8	All off
9–128	No data
129	All on
130	All off

Scene memory operations are performed in the Control section. For details on the parts of the control section and their function, refer to page 22.

Note: With the factory settings, the M2500 will start up with scene memory number 1 recalled.

Modes of the scene memory function

The Scene Memory function has the following three modes.

● Normal mode

This is the normal operating mode in which scenes are recalled and stored. When the M2500 is in Normal mode, the indicators of the CHECK switch and UTILITY switch in the control section will be dark. For details on operation in Normal mode, refer to page 31.

● Check mode

In this mode you can check the contents of a scene before you recall it, or edit the on/off settings of a saved scene without changing the current on/off status. In Check mode, the indicator of the CHECK switch will be lit. For details on operation in Check mode, refer to page 32.

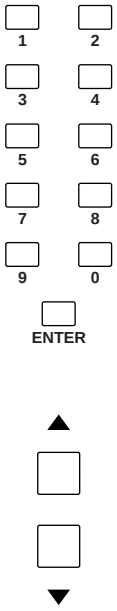
● Utility mode

In this mode you can make various settings related to scene memory and MIDI. In Utility mode, the indicator of the UTILITY switch will be lit. For details on operation in Utility mode, refer to page 34.

Operation in Normal mode

Recalling a scene

1. Use the ▲/▼ switches or the 0–9/ENTER switches of the control section to make the MEMORY display show the scene memory number that you wish to recall.



The selected scene memory number will blink.

Note:

- Scene memory numbers 129 and 130 can be selected only by the 0–9/ENTER switches.
- If the mute groups (page 37) are being used, scene memory numbers 1–8 can be selected only by the 0–9/ENTER switches.

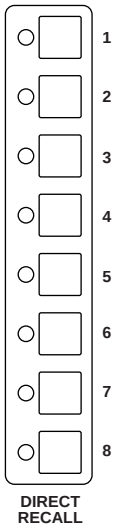
2. Press the RECALL switch.

The scene of the selected scene memory number will be recalled.

Note: If a scene has not been saved in the selected scene memory number, the MEMORY display will indicate "nod" (No data), and the scene will not be recalled.

Using Direct Recall to recall a scene

With the factory settings, you can use the DIRECT RECALL of the control section to directly recall scene memory numbers 1–8. (This is called the Direct Recall function.) When you use direct recall, scene memory numbers 1–8 will be recalled the instant you press a DIRECT RECALL switch 1–8, without your having to press the RECALL switch.



Hint: If you press the ▲/▼ switches after using direct recall, the scene memory number that had been selected prior to the direct recall operation will be selected.

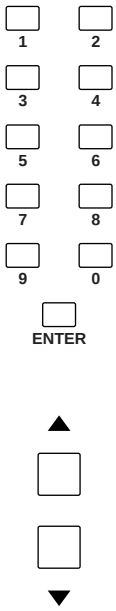
Note: If you are using the mute groups (page 37), the DIRECT RECALL switches will function as mute group switches, and direct recall will not be available.

Storing a scene

1. With the M2500 in Normal mode, use the ON/EDIT switches of the monaural/stereo input channels, the G1/A7–G8/A14 section, the STEREO section, and the MONO/C section to make the desired on/off settings.

Note: Operating the ON/EDIT switches in Normal mode will affect the signals that are output from the M2500. If you wish to make on/off settings for a scene without affecting the current signal output, such as during a rehearsal or an actual performance, use Check mode (page 32).

2. Use the ▲/▼ switches or the 0–9/EDIT switches to make the MEMORY display indicate the scene memory number into which you wish to store the scene. (Scene memory numbers 129 and 130 are recall-only, and cannot be selected.)



The selected scene memory number will blink in the display.

> **Hint:** The scenes stored in scene memory numbers 1–8 can be recalled instantly using Direct Recall. You will find it convenient to store frequently-used scenes in these scene memory numbers.

3. Press the STORE switch.
The MEMORY display will blink "StR," indicating that it is ready to store. If you decide to cancel without storing, press any key other than STORE.

4. Press the STORE key once again to store the scene.

> **Note:** When you store a scene, the contents of the store destination scene memory number will be overwritten, and it will not be possible to recover the previous contents.

> **Note:** If memory protect is on, the MEMORY display will indicate "Pro," and the scene will not be stored. (With the factory settings, this is turned off.) To turn memory protect off, refer to page 34.

Check mode operation

In Check mode, you can check the settings of a scene before recalling it, or edit the on/off settings of a scene without affecting the current on/off statuses.

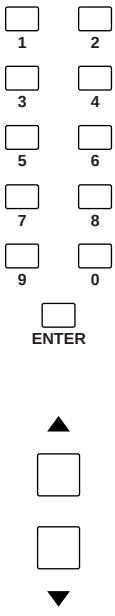
Checking the contents of a scene you wish to recall

1. In Normal mode, press the CHECK switch of the control section.

The indicator of the CHECK switch will light, and you will enter Check mode.

2. Use the ▲/▼ switches or the 0–9/ENTER switches to make the MEMORY display indicate the scene memory number whose settings you wish to check.

> **Note:** If you use the 0–9 switches, the scene memory number will not be finalized until you press the ENTER switch.



The on/off settings of the selected scene will be indicated by the lit/dark states of the CHECK indicators for the monaural/stereo input channels, the G1/A7–G8/A14 section, the STEREO section, and the MONO/C section. This allows you to check the on/off settings of the selected scene before you actually recall it.

3. If you wish to actually recall the selected scene, press the RECALL switch.

The scene whose on/off settings you checked will be recalled, and the M2500 will automatically return to Normal mode. If you wish to return to Normal mode without recalling the scene, press the CHECK switch once again.

> **Note:** If you press a DIRECT RECALL 1–8 switch while in Check mode, the corresponding scene memory number 1–8 will be forcibly recalled, and Check mode will also be cancelled.

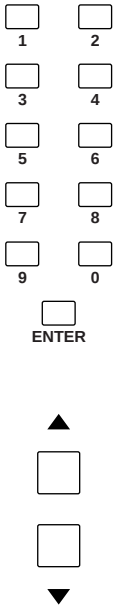
Editing and storing the scene you are checking

In Check mode, you can edit the scene whose on/off settings you are checking with the CHECK indicators, and then store it once again. This is convenient when you wish to modify the contents of the scene that you will recall next, without changing the current on/off settings.

1. In Normal mode, press the CHECK switch to enter Check mode.

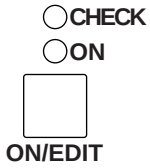
2. Use the ▲/▼ switches or the 0–9/ENTER switches to select the scene memory number that you wish to edit.

> **Note:** If you use the 0–9 switches, the scene memory number will not be finalized until you press the ENTER switch.



The lit/dark status of the CHECK indicators for each monaural/stereo input channel, the G1/A7–G8/A14 section, the STEREO section, and the MONO/C section will indicate the on/off settings of the selected scene.

3. Use the ON/EDIT switches of each monaural/stereo input channel, the G1/A7–G8/A14 section, the STEREO section, and the MONO/C section to edit the on/off settings.



In Check mode, pressing an ON/EDIT switch will switch the lit/dark status of the CHECK indicator. The actual on/off setting (the setting of the ON indicator) will not be affected.

4. To store the edited on/off settings in the scene once again, press the STORE switch twice.

When you press the STORE key the first time, the MEMORY display will blink "StR," indicating that it is ready to store. If at this point you decide to cancel without storing, press any key other than STORE. When you press the STORE key the second time, the scene will be stored.

5. Press the CHECK key once again to return to Normal mode.
Instead of pressing the CHECK switch once again, you can press the RECALL switch to recall the scene you stored and return to Normal mode.

> **Note:** If a MIDI program change is received while in Check mode, Check mode will be cancelled.

Utility mode procedures

In Utility mode you can make various settings related to scene memory and MIDI. In this mode you can also transmit a bulk dump to backup the entire contents of scene memory on your sequencer or computer.

Basic procedure in Utility mode

1. From Normal mode, press the UTILITY switch in the control section and immediately release it. (If you press and hold the UTILITY switch for one second or more, you will exit Utility mode and return to Normal mode.)

The indicator above the UTILITY switch will light, and you will enter Utility mode. At this time, the MEMORY display will alternately indicate the currently selected utility item and its value.

2. Repeatedly press the UTILITY switch so that the desired item appears in the MEMORY display.

> **Note:** If the "bR" (bulk dump request) item is displayed, pressing the UTILITY switch once again will return you to Normal mode.

3. Use the ▲/▼ switches to modify the value of the selected item.

For details on the selectable items and their values, refer to the following section "Utility items." For some items, other switches are also used to execute the function.

4. To exit Utility mode, press and hold the UTILITY switch for one second or longer. The M2500 will return to Normal mode.

> **Note:** If a MIDI program change is received while in Utility mode, the M2500 will return to Normal mode.

Utility items

The items that can be selected in Utility mode and their values are as follows.

Utility items	Values

bt (battery check) ..... *.*
(*.* is the voltage value)

This shows the voltage of the internal battery. If one of the following displays appears, please contact your dealer to have the battery replaced or service performed.

- If instead of "bt" the display alternately shows "Lo" and the voltage value
  This indicates that the voltage of the internal battery is lower than 2.5 V.
- If instead of "bt" the display alternately shows "Lo" and "-.-"
  An abnormal voltage has occurred.

Pr (memory protect).....on/oFF
(factory setting: "oFF")

This is a function that prevents important scene memories from being erased accidentally. If this is on (on), it will not be possible to store scenes. Also, the contents of scene memory will not be rewritten even if a bulk dump is received from the MIDI IN connector.

oP (recall operation) ..... dir/GrP
(factory setting: "dir")

Specify the function of the DIRECT RECALL 1–8 switches.

- If "dir" is selected
  These switches will function as direct recall switches to directly recall scene memory numbers 1–8.
- If "GrP" is selected
  These switches will function as mute group switches to add/cancel mute groups 1–8. (For details on mute groups, refer to page 37.)

in (memory initialize).....ALL/1–128

This function erases scene memories. Specify the value and press the STORE key to erase the scene memory.

- If "ALL" is selected
  All scene memories (1–128) will be erased.
- If "1"–"128" is selected
  The scene memory of the corresponding number (1–128) will be erased.

> **Note:**
> - It is not possible to recover a scene memory that has been erased.
> - If the "Pr" (memory protect) item is on, the memory initialize function cannot be executed.

CH (MIDI channel) 1–16
(factory setting: "1")
Select the MIDI channel that will be used when MIDI data is transmitted/received via the MIDI IN/OUT connectors.

PC (program change transmission/reception) ... .oFF/on/LoC
(factory setting: "on")
This specifies whether or not program change messages will be transmitted/received via the MIDI IN/OUT connectors.

- If "oFF" is selected
  Program changes will not be transmitted or received.
- If "on" is selected
  Program changes will be transmitted and received.
  – When program changes 0–127 are received at the MIDI IN connector, scene memory numbers 1–128 will be recalled. (However if the utility item "Recall operation" is set to "GrP," program changes 0–7 will be ignored.)
  – When you recall a scene memory number 1–128 in which a scene has been stored, a program change 0–127 will be transmitted from the MIDI OUT connector. (Even if the Utility item "Recall Operation" is set to "GrP," you can use the 0–9/ENTER and RECALL switches to transmit program changes 0–7 from the MIDI OUT connector.)
- If "LoC" is selected
  Program changes will be transmitted and received.
  – Program changes will be received in the same way as for the "on" setting.
  – Even when you recall a scene memory number 1–128 in which no scene has been stored, a program change 0–127 will be transmitted from the MIDI OUT connector.

CC (control change transmission/reception)..... ....oFF/GrP/on
(factory setting: "on")
Specify whether control change messages will be transmitted/received via the MIDI IN/OUT connectors.

- If "oFF" is selected
  Control change messages will not be transmitted or received.
- If "on" is selected
  Control change messages will be transmitted and received.
  – When control change numbers 1–70 are received, the corresponding channel will be switched on/off. When mute groups are used, control change numbers 105–112 will switch mute groups 1–8 on/off. (For details refer to the following section "Control change table.")
- If "GrP" is selected
  Only the control change numbers (105–112) that correspond to mute groups 1–8 will be transmitted and received.

Po (program change reception omni on/off)..... .....on/oFF
(factory setting: "on")
Specify whether or not the MIDI channel specified by the Utility item CH will be used when receiving program change messages.

- If "on" is selected
  Program change messages will be received on all MIDI channels (1–16).
- If "oFF" is selected
  Program change messages will be received only on the MIDI channel specified by the Utility item CH.

Eb (echo back) .....on/oFF
(factory setting: "oFF")
Specify whether messages received at the MIDI IN connector will be echoed back from the MIDI OUT connector. If this is turned "on," messages will be echoed back. However if a bulk dump request is received, that message itself will not be echoed; rather, the bulk dump data will be transmitted.

bo (bulk out) ALL/1–128
Transmit the contents of scene memory from the MIDI OUT connector as MIDI bulk dump data. Specify the desired value and press the STORE switch, and the bulk data dump will begin. While the data is being transmitted, the MEMORY display will indicate "---."

- If "ALL" is selected
  Bulk dump data for all scene memory numbers (1–128) will be transmitted.
- If "1"–"128" is selected
  Bulk dump data for the corresponding scene memory number (1–128) will be transmitted.

br (bulk dump request) ALL/1–128
Transmit a message (bulk dump request) from the MIDI OUT connector to request transmission of bulk dump data. If another M2500 unit is connected via its MIDI IN/OUT connectors, the scene memory contents of the other M2500 will be copied to the first M2500. Specify the value and press the STORE key to transmit the bulk dump request.

- If "ALL" is selected
  A bulk dump request for all scene memories will be transmitted.
- If "1"–"128" is selected
  A bulk dump request for the scene memory of the corresponding number (1–128) will be transmitted.

Control change table

The M2500 is able to receive control change messages from the MIDI IN connector to switch on/off the ON/EDIT switches of the input channels, G1/A7–G8/A14 section, and stereo/monaural master section. When a control change number with a value in the range of "0–63" is received, the ON/EDIT switch of the corresponding channel will be turned "off," and when a value in the range of "64–127" is received the switch will be turned "on." Also, when you press an ON/EDIT switch on the M2500 to turn it on/off, the corresponding control change number will be transmitted from the MIDI OUT connector with a value of 127/0.

When mute groups (page 37) are being used, control change numbers 105–112 can be received and transmitted to turn mute groups on/off. The same values are used to indicate the on/off status as when turning the ON/EDIT switches on/off.

Note: If you wish to use control change messages to switch M2500 channels or mute groups on/off, make sure that the Utility mode item CC (control change transmission/reception) is turned "on" (this is the factory setting).

The following table shows the M2500 channels (and mute groups) that correspond to each control change number.

Control No.	Channel	Control No.	Channel
1	CH INPUT 1	36	CH INPUT 36
2	CH INPUT 2	37	CH INPUT 37
3	CH INPUT 3	38	CH INPUT 38
4	CH INPUT 4	39	CH INPUT 39
5	CH INPUT 5	40	CH INPUT 40
6	CH INPUT 6	41	CH INPUT 41
7	CH INPUT 7	42	CH INPUT 42
8	CH INPUT 8	43	CH INPUT 43
9	CH INPUT 9	44	CH INPUT 44
10	CH INPUT 10	45	CH INPUT 45
11	CH INPUT 11	46	CH INPUT 46
12	CH INPUT 12	47	CH INPUT 47
13	CH INPUT 13	48	CH INPUT 48
14	CH INPUT 14	49	ST CH INPUT 1
15	CH INPUT 15	50	ST CH INPUT 2
16	CH INPUT 16	51	ST CH INPUT 3
17	CH INPUT 17	52	ST CH INPUT 4
18	CH INPUT 18	53	CH INPUT 49
19	CH INPUT 19	54	CH INPUT 50
20	CH INPUT 20	55	CH INPUT 51
21	CH INPUT 21	56	CH INPUT 52
22	CH INPUT 22	57	CH INPUT 53
23	CH INPUT 23	58	CH INPUT 54
24	CH INPUT 24	59	CH INPUT 55
25	CH INPUT 25	60	CH INPUT 56
26	CH INPUT 26	61	G1/A7 OUT
27	CH INPUT 27	62	G2/A8 OUT
28	CH INPUT 28	63	G3/A9 OUT
29	CH INPUT 29	64	G4/A10 OUT
30	CH INPUT 30	65	G5/A11 OUT
31	CH INPUT 31	66	G6/A12 OUT
32	CH INPUT 32	67	G7/A13 OUT
33	CH INPUT 33	68	G8/A14 OUT
34	CH INPUT 34	69	STEREO OUT
35	CH INPUT 35	70	MONO/C OUT

Control No.	Mute group
105	MUTE GROUP 1
106	MUTE GROUP 2
107	MUTE GROUP 3
108	MUTE GROUP 4
109	MUTE GROUP 5
110	MUTE GROUP 6
111	MUTE GROUP 7
112	MUTE GROUP 8

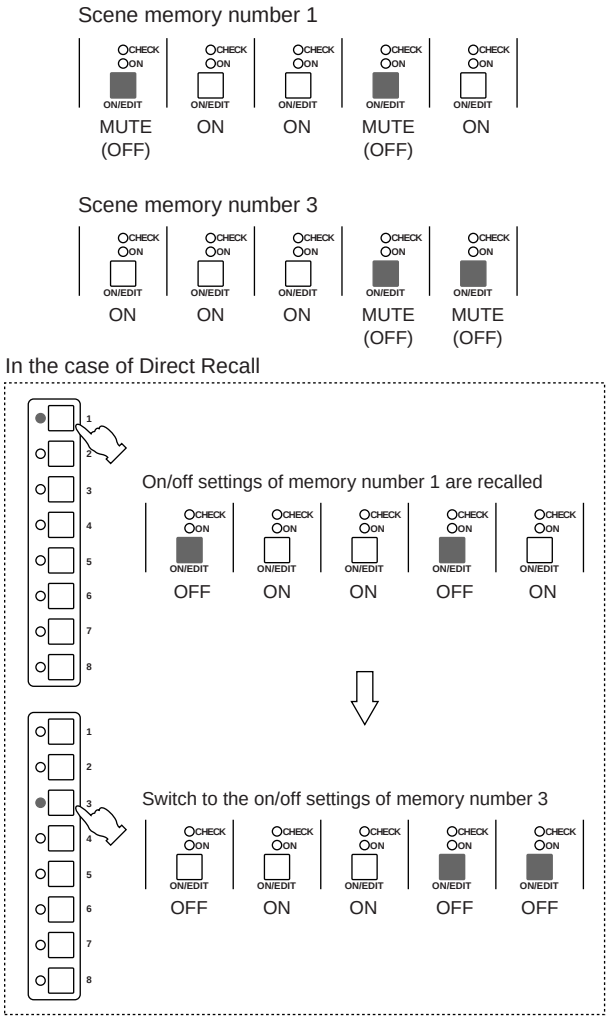
Mute groups

By setting the Utility mode item oP (recall operation) to "GrP," you can use the on/off settings of scene memory numbers 1–8 as "mute groups." In this case, the DIRECT RECALL 1–8 switches will function as "mute group switches" that control mute groups.

The differences in operation between the "dir" (direct recall) and "GrP" (mute group) settings of the oP (recall operation) item are explained below.

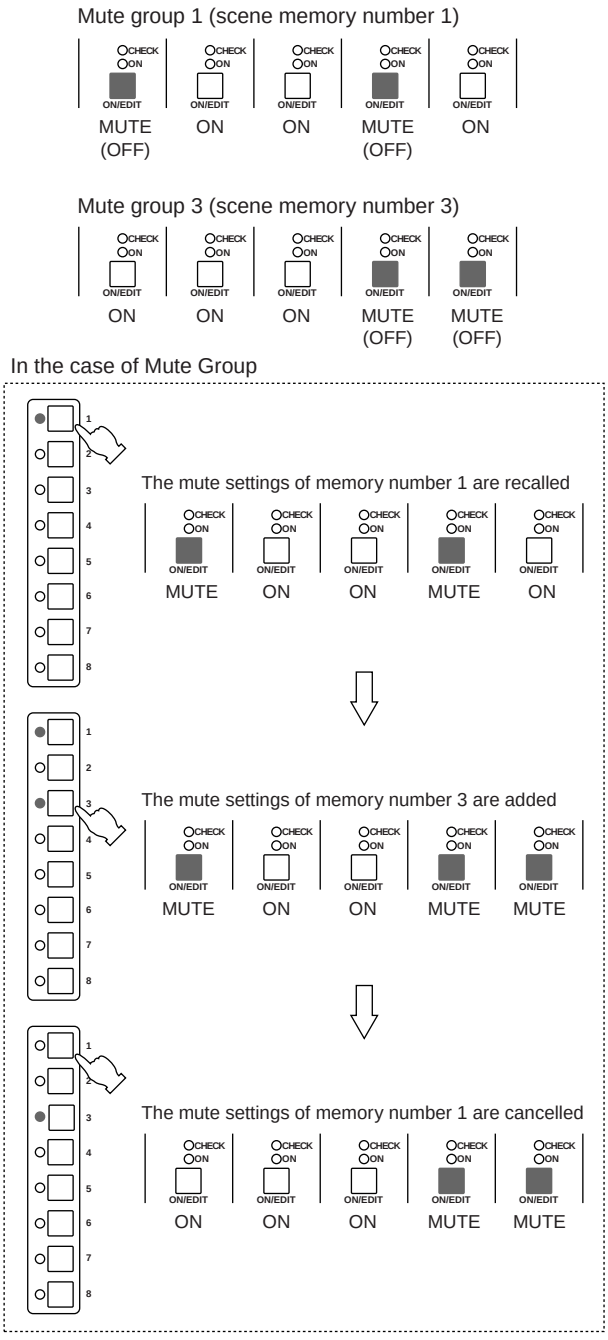
■ Direct recall

If you press the DIRECT RECALL 1 switch to recall scene memory 1, and then press the DIRECT RECALL 3 switch to recall scene memory number 3, the on/off settings of scene memory number 1 will be cancelled, and replaced by the on/off settings of scene memory number 3.



■ Mute group

If you press the DIRECT RECALL 1 switch to recall scene memory number 1, and then press the DIRECT RECALL 3 switch to recall scene memory number 3, the mute (off) settings of scene memory number 1 will remain, and only the mute settings of scene memory number 3 will be added. (At this time, both DIRECT RECALL switches 1 and 3 will be on.) If you then press the DIRECT RECALL 1 switch once again, the mute settings of scene memory number 3 will remain, and the mute settings of scene memory number 1 will be cancelled.



Using mute groups

1. In a scene memory number 1–8, store the mute (off) settings of the channels that you wish to use as a mute group.
2. Press the UTILITY switch to move to Utility mode, select the oP (recall operation) item, and set its value to "GrP." (For details on procedure in Utility mode, refer to page 34.)
   Now scene memory numbers 1–8 can be used as mute groups, and the DIRECT RECALL 1–8 switches will function as mute group switches.
3. Press and hold the UTILITY switch for one second or more, or repeatedly press the UTILITY switch to return to Normal mode
4. To turn on a mute group 1–8 (the mute settings of scene memory numbers 1–8), press the corresponding DIRECT RECALL 1–8 switch.
   Mute groups 1–8 that are turned on will be shown by the indicator of the corresponding DIRECT RECALL 1–8 switch.
5. As desired, press other DIRECT RECALL switches to add mute groups.
6. To defeat a mute group that is on, press the corresponding DIRECT RECALL switch once again.
   The indicator of the DIRECT RECALL switch will go dark, and the mute group will be cancelled.

Note:

- Even while using mute groups, you can use the ▲/▼ (or 0–9/ENTER) and RECALL switches to recall scene memory numbers 9–128. However, the mute settings of mute groups turned on by the DIRECT RECALL switches will not be cancelled.
- If you use the 0–9/ENTER and RECALL switches to recall scene memory numbers 129 (all on) or 130 (all off), the mute settings of the mute groups selected by the DIRECT RECALL switches will be cancelled.

About the local control circuit

In the unlikely event that the system of the M2500 experiences a malfunction so that the scene memory circuit cannot be used, it will automatically switch to the local control circuit. When the local control circuit is operating, the MEMORY display will go dark, and it will not be possible to operate the scene memory switches. However, the ON/EDIT switches of the input channels and output channels will function as conventional on/off switches, so that you can continue to use the M2500 as a conventional analog mixer.

Note: If the cause for the malfunction is in the power supply, it may not be possible to use the local control circuit either.

Error messages

While the M2500 is being operated or when the power is turned on, the MEMORY display may show one of the following error messages. If this occurs, refer to the corresponding explanation and take appropriate action.

rEr	An error occurred while receiving MIDI data. If an error occurs while receiving MIDI data, this error message will be displayed for several seconds.
bFL	The memory buffer became full while transmitting/receiving MIDI data. If the memory buffer becomes full while transmitting/receiving MIDI data, this error message will be displayed for several seconds. If this message appeared while transmitting MIDI data, turn the Utility item Eb (MIDI echo back) "oFF."
Pro	A scene memory store operation was executed or bulk dump data was received when memory protect was on. If you attempt to store a scene memory or if bulk dump data is received when memory protect was on, this error message will be displayed for several seconds. For details on memory protect, refer to page 34.
CHE	A check sum error occurred while receiving bulk dump data. If a check sum error occurs while MIDI data is being received as a bulk dump, this error message will be displayed for several seconds. Check that the MIDI cable connections and the state of the transmitting device are appropriate.

Lo	The voltage of the internal battery has fallen below the nominal level (2.5 V), or has become abnormal. If the voltage of the internal battery falls below the nominal value of 2.5 V or if the battery malfunctions, this error message will be displayed when the power is turned on. (When this message is displayed, you can press any switch to return to the normal state.) If this message appears, immediately contact your dealer or a Yamaha service center to have the battery replaced. The voltage of the internal battery can also be checked using the Utility mode "bt" item (see page 34).
nod	You attempted to recall a scene memory in which no scene had been stored. If you attempt to recall a scene memory in which no scene has been stored, this error message will be displayed for several seconds.
non	All scene memories contain no data. This error message will be displayed for several seconds if, after all scene memories have been erased in Utility mode, you attempt to store without specifying a scene memory number.
E*	A system error has occurred. (* is the error number) If this error message appears, the M2500 will not operate correctly. Please contact a Yamaha service center to have the unit serviced.

General specifications

0 dB is referenced to 0.775 Vrms.

Total Harmonic Distortion (Master output)	Less than 0.1% (THD+N) 20 Hz–20 kHz @ +14 dB 600 Ω
Frequency Response (Master Output)	0+1, –3 dB 20 Hz–20 kHz @ +4 dB 600 Ω Gain control at minimum level
Hum & Noise (20 Hz–20 kHz)*1 Rs= 150 Ω	–128 dB Equivalent Input Noise. –99 dB Residual Output Noise. (STEREO OUT, MONO/C OUT, GROUP/AUX OUT, AUX OUT, AUX/GROUP OUT)
Input Gain= Max. Input Pad= OFF || Input sensitivity= –60 dB	
–64 dB(68 dB S/N)	STEREO OUT Master Level control and one Ch fader at nominal level.
–80 dB(84 dB S/N)	STEREO OUT, MONO/C OUT Master fader at nominal level and all Ch assign SW's off and all GROUP to ST SW's off.
–81 dB(85 dB S/N)	GROUP1/AUX7–GROUP8/AUX14 OUT Master Level control at nominal level and all Ch assign SW's off. GROUP/AUX FLIP SW off.
–75 dB(79 dB S/N)	AUX1–6, AUX7/GROUP1–AUX14/GROUP8 OUT Master Level control at nominal level and all Ch send controls at minimum. GROUP/AUX FLIP SW off.
–90 dB(94 dB S/N)	MATRIX OUT Master level control at nominal level and all Matrix Mix controls at minimum level.

Crosstalk	–70 dB @	1 kHz	adjacent inputs.
	–70 dB @	1 kH	input to output. (CH INPUT)
	–50 dB @	1 kHz	input to output. (ST CH INPUT)

Maximum Voltage Gain GROUP/AUX FLIP SW= off		
	60 dB	CH INPUT to CH INSERT OUT
	84 dB	CH INPUT to GROUP1/AUX7–GROUP8/ AUX14 OUT
	80 dB	CH INPUT to AUX1, 2 OUT(Pre Fader)
	90 dB	CH INPUT to AUX3–6, AUX7/GROUP1–AUX14/GROUP8 OUT(Post Fader)
	84 dB	CH INPUT to STEREO OUT(CH to ST)
	70 dB	CH INPUT to MONITOR OUT(PFL)

CH INPUT PAD SW	26 dB	
CH INPUT GAIN control	44 dB	variable
ST CH 1A, 2–4 INPUT GAIN control	40 dB	variable
ST CH 1B INPUT GAIN control	30 dB	variable

CH INPUT High Pass Filter	18 dB/octave roll-off below 80 Hz at –3 dB point.
CH INPUT Equalization +15, –15 dB maximum	
HIGH	10 kHz (shelving)
HIGH-MID	400– 8 kHz (peaking)
LOW-MID	80–1.6 kHz (peaking)
LOW	100 Hz (shelving)

ST CH INPUT Equalization +15, –15 dB maximum	
HIGH	10 kHz (shelving)
LOW	100 Hz (shelving)
Phantom Power	+48 VDC is applied to balanced inputs (via 6.8 kΩ current-limiting/isolation resistors) for powering condenser microphones; may be turned ON or OFF via rear-panel phantom Master switch. When Master is ON, individual channels may be turned ON or OFF via +48V switches (with red LED) on each input channel.
CH LED Indicators	
PEAK	LED(red) built into each CH INPUT turns on when pre-Fader level reaches +17 dB.
NOM	LED(yellow) built into each CH INPUT turns on when pre-Fader level reaches 0 dB.
SIGNAL	LED(green) built into each CH INPUT turns on when pre-Fader level reaches –13 dB.
ST CH LED Indicators	
PEAK	LED(red) built into each ST CH INPUT turns on when pre-Fader [L+R] level reaches +17 dB.
NOM	LED(yellow) built into each ST CH INPUT turns on when pre-Fader [L+R] level reaches 0 dB.
SIGNAL	LED(green) built into each ST CH INPUT turns on when pre-Fader [L+R] level reaches –13 dB.
Oscillator/Noise	Switchable sine wave @ 100 Hz, 1 kHz or 10 kHz, or pink noise.
Scene Memory	Direct Scene Memory recall switches (1–8) Switchable Scene Memory recall (1–128)
VU Meters	11 illuminated meters (0VU= +4 dB output @ 600Ω load) #1 ; GROUP1/AUX7•AUX1•AUX7/GROUP1•MATRIX1 #2 ; GROUP2/AUX8•AUX2•AUX8/GROUP2•MATRIX2 #3 ; GROUP3/AUX9•AUX3•AUX9/GROUP3•MATRIX3 #4 ; GROUP4/AUX10•AUX4•AUX10/GROUP4•MATRIX4 #5 ; GROUP5/AUX11•AUX5•AUX11/GROUP5•MATRIX5 #6 ; GROUP6/AUX12•AUX6•AUX12/GROUP6•MATRIX6 #7 ; GROUP7/AUX13•NONE•AUX13/GROUP7•MATRIX7 #8 ; GROUP8/AUX14•NONE•AUX14/GROUP8•MATRIX8 #9 ; STEREO L•PFL/AFL L #10 ; MONO/C #11 ; STEREO R•PFL/AFL R
VU Meter Peak Indicators	LED(red) built into each VU meter turns on when output signal is above the level 3 dB lower than clipping level.
Dimension	Heigt 265 mm Depth 875 mm (except rear connectors) Width 2385 mm(56C), 2142 mm(48C), 1899 mm(40C), 1642 mm(32), 1400 mm(24)
Weight	102kg(56C), 93kg(48C), 84kg(40C), 71kg(32), 62kg(24)

*1 Hum & Noise are measured with a 6 dB/octave filter @ 12.7 kHz; equivalent to a 20 kHz filter with infinite dB/octave attenuation.

For European Model
Purchaser/User information specified in EN55103-1 and EN55103-2.
Conformed Enviroment: E1, E2, E3 and E4.

Input/output characteristics

Input specifications

Connection	PAD	Gain Trim	Actual Load Impedance	For Use With Nominal	Input Level *1			Connector In Mixer
					Sensitivity *9	Nominal	Max before Clip	
CH INPUT (1–n) *8	0	–60	3 kΩ	50–600 Ω Mics & 600 Ω Lines	–80 dB(0.078 mV)	–60 dB(0.775 mV)	–40 dB(7.75 mV)	XLR-3-31 type *2
	26				–54 dB(1.55 mV)	–34 dB(15.5 mV)	–14 dB(155 mV)	
	0	–16			–36 dB(12.3 mV)	–16 dB(123 mV)	+4 dB(1.23 V)	
	26				–10 dB(245 mV)	+10 dB(2.45 V)	+30 dB(24.5 V)	
ST CH 1A INPUT [L, R]		–30	5 kΩ	600 Ω Lines	–50 dB(2.45 mV)	–30 dB(24.5 mV)	–10 dB(245 mV)	
		+10			–10 dB(245 mV)	+10 dB(2.45 V)	+30 dB(24.5 V)	
ST CH 1B INPUT [L, R]		–20	10 kΩ	600 Ω Lines	–40 dB(7.75 mV)	–20 dB(77.5 mV)	0 dB(0.775 V)	Phono Jack *3
		+10			–10 dB(245 mV)	+10 dB(2.45 V)	+30 dB(24.5 V)	
ST CH INPUT [L, R] (2–4)		–30	5 kΩ	600 Ω Lines	–50 dB(2.45 mV)	–30 dB(24.5 mV)	–10 dB(245 mV)	Phone Jack(TRS) *4
		+10			–10 dB(245 mV)	+10 dB(2.45 V)	+30 dB(24.5 V)	
TALKBACK IN			10 kΩ	50–600 Ω Mics	–66 dB(0.388 mV)	–50 dB(2.45 mV)	–20 dB(77.5 mV)	XLR-3-31 type *5
MATRIX SUB IN [L, R]			10 kΩ	600 Ω Lines	–2 dB(0.616 V)	+4 dB(1.23 V)	+24 dB(12.3 V)	Phone Jack(TRS) *6
STEREO [L, R] MONO/C SUB IN					–6 dB(388 mV)			
CH INSERT IN (1–n) *8			10 kΩ	600 Ω Lines	–26 dB(38.8 mV)	0 dB(0.775 V)	+20 dB(7.75 V)	Phone Jack(TRS) *7
STEREO [L, R] MONO/C INSERT IN GRP/AUX INSERT IN (1/7–8/14) AUX INSERT IN (1–6)					–10 dB(245 mV)			

*1 0 dB=0.775 Vrms.
*2 Balanced.
*3 Unbalanced.
*4 Balanced (T=HOT, R=COLD, S=GND).
*5 Unbalanced.
*6 Unbalanced (T=SIGNAL, R=GND, S=GND).
*7 Unbalanced (T=OUTPUT, R=INPUT, S=GND).
*8 n=56, 48, 40, 32 or 24
*9 Sensitivity is the lowest level that will produce an output of +4 dB(1.23 V), or the nominal output level when the unit is set to maximum level.

Output specifications

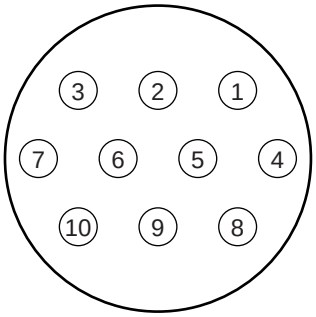
Connection	Actual Source Impedance	For Use With Nominal	Output Level *1		Connector In Mixer
			Nominal	Max before Clip	
STEREO OUT [L, R] MONO/C OUT GRP/AUX OUT (1/7–8/14) AUX/GRP OUT (7/1–14/8) AUX OUT (1–6) MONITOR OUT [L, R, MONO/C] MATRIX OUT (1–8)	150 Ω	600 Ω Lines	+4 dB(1.23 V)	+24 dB(12.3 V)	XLR-3-32 type *2
CH INSERT OUT (1–n) *5 STEREO INSERT OUT [L, R] MONO/C INSERT OUT GRP/AUX INSERT OUT (1/7–8/14) AUX INSERT IN (1–6)	600 Ω	10 kΩ Lines	0 dB(0.775 V)	+20 dB(7.75 V)	Phone Jack(TRS) *3
PHONES OUT [L, R]	100 Ω	8 Ω Phones	10 mW	20 mW	Stereo Phone Jack *4
		40 Ω Phones	30 mW	75 mW	

*1 0 dB=0.775 Vrms.
*2 Balanced.
*3 Unbalanced (T=OUTPUT, R=INPUT, S=GND).
*4 Unbalanced.
*5 n=56, 48, 40, 32 or 24

Other

Connector wiring

Pin No.	Signal name
1	Power supply remote
2	+15 V
3	±15 V GND
4	+48 V GND
5	–15 V
6	+12 V
7	+12 V GND / power supply remote
8	Power supply remote
9	+48 V
10	FRAME GND

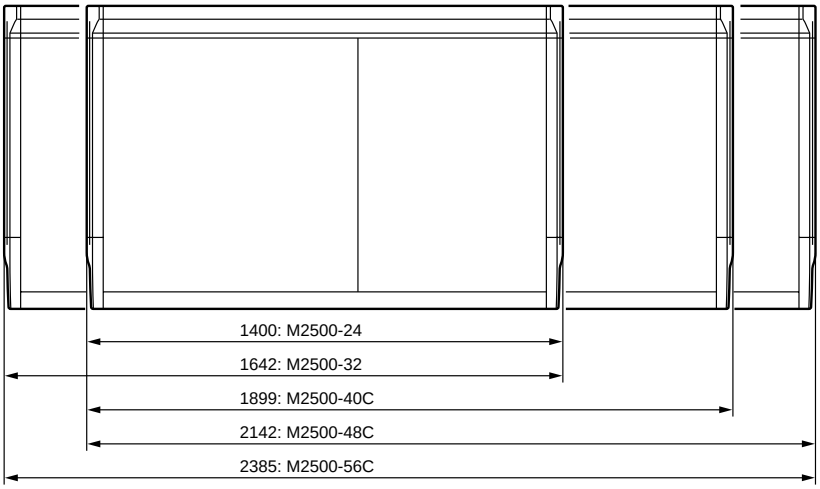


Included items

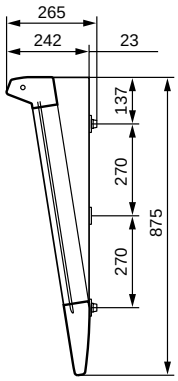
Power supply connection cable (3 m, 10 pin)

Dimensions

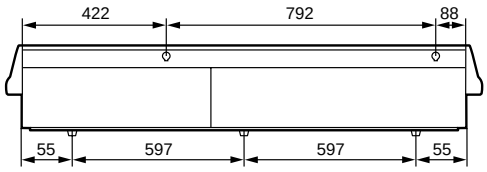
Front



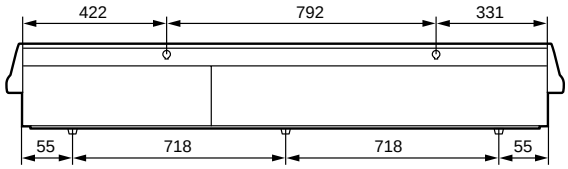
Side



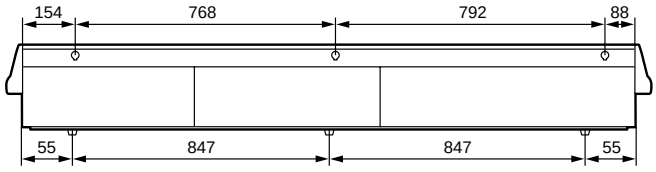
Rear



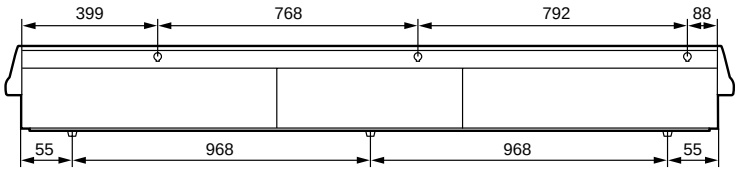
M2500-24



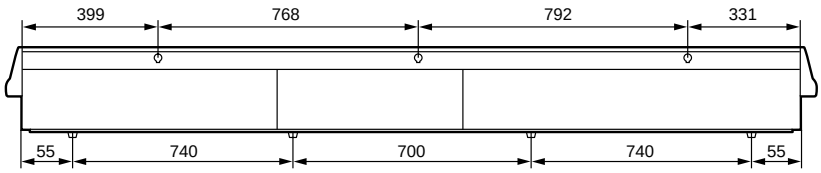
M2500-32



M2500-40C



M2500-48C



M2500-56C

Units: mm

MIDI data format

1. MIDI Channel

The same channel is used for transmission and reception. Select from channel numbers 1–16.

2. MIDI Program Change

Program change numbers (0–127) correspond to scene memory numbers 1–128. This correspondence cannot be changed. However, when Mute Groups are used, program change numbers 0–7 cannot be transmitted or received. (Since memory numbers 1–8 ≠ program change numbers 0–7.)

In the case of Omni [on], program changes of all MIDI channels are received.

Transmission and reception are switchable [LoC/on/oFF]. When [LoC/on] are selected, program changes can be received/transmitted. When [LoC] is selected, program change messages can be transmitted to control an external MIDI device even when a <no data> recall operation occurs.

3. MIDI Control Change

Control changes correspond to the ON/EDIT switch and the DIRECT RECALL switches. This correspondence cannot be changed. However, control change numbers 105–112 correspond to DIRECT RECALL 1–8 switches only when Mute Groups are being used.

Transmission and reception are switchable [on/GrP/oFF]. When [GrP] is selected, only those control change messages that correspond to mute groups are transmitted or received..

MIDI Control Change No.	ON/EDIT switch Assign
1–48	CH INPUT(1–48)
49–52	ST CH INPUT(1–4)
53–60	CH INPUT(49–56)
61–68	GROUP/AUX(1–8) OUT
69	STEREO OUT
70	MONO/C OUT
105–112	DIRECT RECALL(1–8) = MUTE GROUP(1–8)

4. MIDI Echo Back

The Echo Back function is switchable [on/oFF]. However if the internal transmission buffer becomes full while echoing back a long exclusive messages, echo back will be halted, and the internal data will be transmitted.

5. Bulk Out, Bulk Dump Request

The following bulk data can be transmitted and received.

(1) SCENE MEMORY No. BULK OUT FORMAT

```
STATUS          11110000 F0h System Exclusive Message
ID No.          01000011 43h Manufacturer's ID No.(YAMAHA)
SUB STATUS      0000xxxx 0nh n=0~15(MIDI Channel)
FORMAT No.      01111110 7Eh Universal Bulk Dump
BYTE COUNT(HIGH) 00000000 00h 39(29+10)bytes
BYTE COUNT(LOW)  00100111 27h
                01001100 4Ch 'L'
                01001101 4Dh 'M'
                00100000 20h ' '
                00100000 20h ' '
                00111000 38h '8'
                01000010 42h 'B'
                00110011 33h '3'
                00110001 31h '1'
DATA NAME       01001101 4Dh 'M'
                0xxxxxxx mmh mm=0~127(MEMORY No.)
DATA STATUS     0000xxxx 0nh n=0:no data, n=f:valid data.
DATA            0000xxxx d01 ON/OFF DATA assigned Control
                             Change 4~1
                    :  :
                0000xxxx d28 ON/OFF DATA assigned Control
                             Change 112~109
CHECK SUM       0xxxxxxx eeh
                             ee=(INVERT('L'+'M'+...+d01+...+d28)+1)
                             AND 7Fh
EOX             11110111 F7h End Of Exclusive
```

(2) SCENE MEMORY No. BULK REQUEST FORMAT

```
STATUS          11110000 F0h System Exclusive Message
ID No.          01000011 43h Manufacturer's ID No.(YAMAHA)
SUB STATUS      0010xxxx 2nh n=0~15(MIDI Channel)
FORMAT No.      01111110 7Eh Universal Bulk Dump
                01001100 4Ch 'L'
                01001101 4Dh 'M'
                00100000 20h ' '
                00100000 20h ' '
                00111000 38h '8'
                01000010 42h 'B'
                00110011 33h '3'
                00110001 31h '1'
DATA NAME       01001101 4Dh 'M'
                0xxxxxxx mmh mm=0~127(MEMORY No.)
EOX             11110111 F7h End Of Exclusive
```

YAMAHA [MIXING CONSOLE] Date:July/20, 1999
Model : M2500 MIDI Implementation Chart Version : 1.0

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1 - 16 1 - 16	1 - 16 1 - 16	Memorized
Mode	Default Messages Altered	x x **********	OMNI off/OMNI on x x	Memorized
Note Number :	True voice	x **********	x x	
Velocity	Note ON Note OFF	x x	x x	
After Touch	Key's Ch's	x x	x x	
Pitch Bend		x	x	
Control Change	1-70, 105-112	o o o o	o o o o	*1
Prog Change :	True #	o 0 - 127 **********	o 0 - 127 1 - 128	
System Exclusive		o	o	*2
System : Common : :	Song Pos Song Sel Tune	x x x	x x x	
System : Real Time :	Clock Commands	x x	x x	
: Aux : Messages : :	Local ON/OFF All Notes OFF Active Sense Reset	x x x x	x x o x	
Notes		*1 : See Control Change chart. *2 : Bulk Dump/Request		

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO o : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO x : No

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