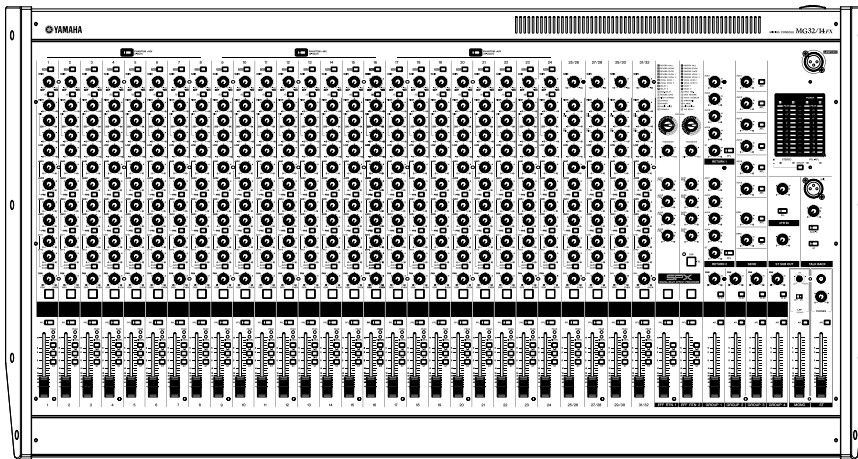




MIXING CONSOLE

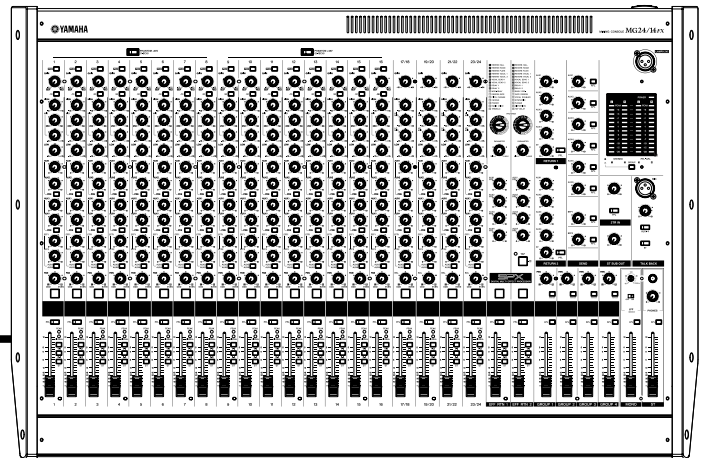
# MG32/14FX MG24/14FX

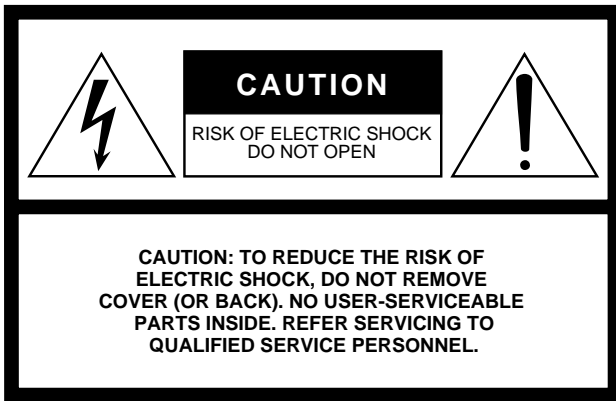
Owner's Manual



**MG32/14 FX**

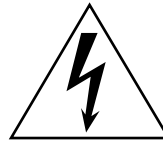
**MG24/14 FX**





The above warning is located on the rear of the unit

## • Explanation of Graphical Symbols



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

# IMPORTANT SAFETY INSTRUCTIONS

- 1 Read these instructions.
- 2 Keep these instructions.
- 3 Heed all warnings.
- 4 Follow all instructions.
- 5 Do not use this apparatus near water.
- 6 Clean only with dry cloth.
- 7 Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
- 8 Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9 Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10 Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11 Only use attachments/accessories specified by the manufacturer.
- 12 Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13 Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14 Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



### WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.

# PRECAUTIONS

## PLEASE READ CAREFULLY BEFORE PROCEEDING

\* Please keep this manual in a safe place for future reference.



### WARNING

Always follow the basic precautions listed below to avoid the possibility of serious injury or even death from electrical shock, short-circuiting, damages, fire or other hazards. These precautions include, but are not limited to, the following:

#### Power supply/Power cord

- Only use the voltage specified as correct for the device. The required voltage is printed on the name plate of the device.
- Use only the included power cord.
- Do not place the power cord near heat sources such as heaters or radiators, and do not excessively bend or otherwise damage the cord, place heavy objects on it, or place it in a position where anyone could walk on, trip over, or roll anything over it.
- Be sure to connect to an appropriate outlet with a protective grounding connection. Improper grounding can result in electrical shock.

#### Do not open

- Do not open the device or attempt to disassemble the internal parts or modify them in any way. The device contains no user-serviceable parts. If it should appear to be malfunctioning, discontinue use immediately and have it inspected by qualified Yamaha service personnel.

#### Water warning

- Do not expose the device to rain, use it near water or in damp or wet conditions, or place containers on it containing liquids which might spill into any openings.
- Never insert or remove an electric plug with wet hands.

#### If you notice any abnormality

- If the power cord or plug becomes frayed or damaged, or if there is a sudden loss of sound during use of the device, or if any unusual smells or smoke should appear to be caused by it, immediately turn off the power switch, disconnect the electric plug from the outlet, and have the device inspected by qualified Yamaha service personnel.
- If this device should be dropped or damaged, immediately turn off the power switch, disconnect the electric plug from the outlet, and have the device inspected by qualified Yamaha service personnel.



### CAUTION

Always follow the basic precautions listed below to avoid the possibility of physical injury to you or others, or damage to the device or other property. These precautions include, but are not limited to, the following:

#### Power supply/Power cord

- Remove the electric plug from the outlet when the device is not to be used for extended periods of time, or during electrical storms.
- When removing the electric plug from the device or an outlet, always hold the plug itself and not the cord. Pulling by the cord can damage it.

#### Location

- When transporting or moving the device, always use two or more people.
- Before moving the device, remove all connected cables.
- When setting up the product, make sure that the AC outlet you are using is easily accessible. If some trouble or malfunction occurs, immediately turn off the power switch and disconnect the plug from the outlet. Even when the power switch is turned off, electricity is still flowing to the product at the minimum level. When you are not using the product for a long time, make sure to unplug the power cord from the wall AC outlet.
- Avoid setting all equalizer controls and faders to their maximum. Depending on the condition of the connected devices, doing so may cause feedback and may damage the speakers.
- Do not expose the device to excessive dust or vibrations, or extreme cold or heat (such as in direct sunlight, near a heater, or in a car during the day) to prevent the possibility of panel discoloration or damage to the internal components.
- Do not place the device in an unstable position where it might accidentally fall over.
- Never block the vent holes during use. Vent holes are located on the top, bottom, front, rear, and sides of this machine. All vent holes must remain unblocked to prevent overheating. To further ensure adequate ventilation, never use this device...

- Upside down or on its side
- In a poorly ventilated location (in a closet, inside a bookcase, etc.)
- With its rubber footpads removed
- On a thick carpet or other such surface
- While it is inside an unventilated touring case

Failure to observe the above precautions may cause the device to overheat, resulting in equipment damage and fire hazard.

- Do not use the device in the vicinity of a TV, radio, stereo equipment, mobile phone, or other electric devices. Otherwise, the device, TV, or radio may generate noise.

#### Connections

- Before connecting the device to other devices, turn off the power for all devices. Before turning the power on or off for all devices, set all volume levels to minimum.

#### Handling caution

- Do not insert your finger or hand in any gaps or openings on the device (vents, etc.).
- Avoid inserting or dropping foreign objects (paper, plastic, metal, etc.) into any gaps or openings on the device (vents, etc.). If this happens, turn off the power immediately and unplug the power cord from the AC outlet. Then have the device inspected by qualified Yamaha service personnel.
- Do not use the device or headphones for a long period of time at a high or uncomfortable volume level, since this can cause permanent hearing loss. If you experience any hearing loss or ringing in the ears, consult a physician.
- Do not rest your weight on the device or place heavy objects on it, and avoid use excessive force on the buttons, switches or connectors.

XLR-type connectors are wired as follows (IEC60268 standard): 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.

Yamaha cannot be held responsible for damage caused by improper use or modifications to the device, or data that is lost or destroyed.

Always turn the power off when the device is not in use.

The performance of components with moving contacts, such as switches, volume controls, and connectors, deteriorates over time. Consult qualified Yamaha service personnel about replacing defective components.

Copying of commercially available music data and/or digital audio files, except for personal use, is strictly prohibited.

Illustrations in this manual are for explanatory purposes only, and may not match the actual appearance of the product during operation.

Company names and product names used in this Owner's Manual are trademarks or registered trademarks of their respective owners.

## 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 co-axial 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, CA90620

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

\* This applies only to products distributed by YAMAHA CORPORATION OF AMERICA. (class B)

## IMPORTANT NOTICE FOR THE UNITED KINGDOM


### Connecting the Plug and Cord

#### WARNING: THIS APPARATUS MUST BE EARTHED

IMPORTANT. The wires in this mains lead are coloured in accordance with the following code:

GREEN-AND-YELLOW	: EARTH
BLUE	: NEUTRAL
BROWN	: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured GREEN-and-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol  or coloured GREEN or GREEN-and-YELLOW.

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

• This applies only to products distributed by Yamaha-Kemble Music (U.K.) Ltd. (3 wires).



# Introduction

Thank you for your purchase of the YAMAHA MG32/14FX or MG24/14FX mixing console. This console offers excellent cost-performance and is ideal for use as the main mixer in an SR setup or as part of an installed system.

Please read through this Owner's Manual carefully before beginning use, so that you will be able to take full advantage of the mixer's superlative features and enjoy trouble-free operation for years to come. Be sure to retain this manual in a safe place.

## Features

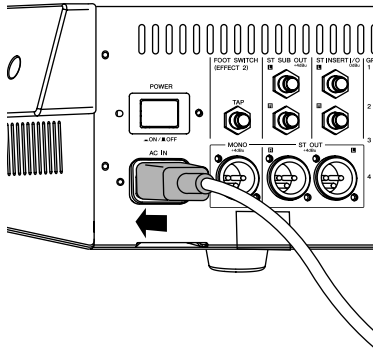
- Provides 24 (MG32/14FX) or 16 (MG24/14FX) monaural input channels suitable for connection to both microphones and line-level devices. Also provides four line-level stereo inputs.
- Built-in dual digital effector, based on Yamaha's acclaimed SPX multi-effector technology, can apply a variety of internal effects to both vocal and instrumental inputs.
- Convenient "tap delay" feature lets you set the internal effect's delay time by tapping on a button (or by stepping on a separately-sold foot switch).
- Provides dual stereo outputs, two effect outputs, six AUX outputs, and four group outputs—for a total of 14 outputs. You can use the AUX and GROUP outputs both to connect to external devices (such as effectors and MTRs) and to create custom mixes for targeted speakers or amps for stage monitoring.
- An independently controlled MONO output jack feeds out a mix of the main ST output signal, ideal for connection to a subwoofer or other SR system extension.
- All monaural channels are equipped with an INSERT I/O jack for independent connection to an external effector.
- Includes independent PFL switches for each input channel, for each AUX return, and for the 2TR IN bus, together with independent AFL switches for each AUX and GROUP output and for the main ST output. These switches make it easy to selectively monitor the input and output signals through headphones connected to the PHONES jack.
- Phantom power supply can provide DC +48 power to all XLR input jacks, allowing you to connect phantom-powered condenser mics and direct boxes to any combination of monaural channels. The phantom power can be independently switched on and off in eight-channel blocks.
- Dual RETURN jacks can feed AUX return signals not only into the ST bus but also into four of the AUX buses. These jacks can also serve as an auxiliary stereo input.

## Contents

Introduction .....	6
Features.....	6
Connecting to Power.....	7
Setting Up.....	7
Front & Rear Panels .....	8
Channel Control Block.....	10
Master Control Block .....	13
Rear Input/Output Block .....	19
Appendix .....	22
Specifications .....	22
Dimensional Diagrams.....	25
Block and Level Diagram .....	26

## Connecting to Power

- (1) Be sure that the mixer's power switch is off (■).
- (2) Connect the socket end of the power cord to the AC IN connector on the rear of the mixer.



- (3) Plug the other end of the power cord into a standard household power outlet.



Be sure to unplug the power cord from the outlet if you are not going to use the mixer again for an extended period, and whenever there are lightning storms in the area.

## Setting Up

- (1) Before connecting to microphones and instruments, be sure that all devices are turned off. Also be sure that all of the mixer's channel faders and master control faders are set all the way down.
- (2) For each connection, connect one end of the cable to the relevant microphone or instrument and connect the other end to the appropriate input jack on the mixer.

### NOTE

On each monaural channel, you may use either INPUT A or INPUT B, but not both. On stereo channels that provide both a phone input jack and an RCA-pin input jack, you may use either of these but not both. Please connect to only one of these jacks on each channel.

- (3) Power up the devices in the following order: Peripheral devices → mixer → power amps (or powered speakers).

### NOTE

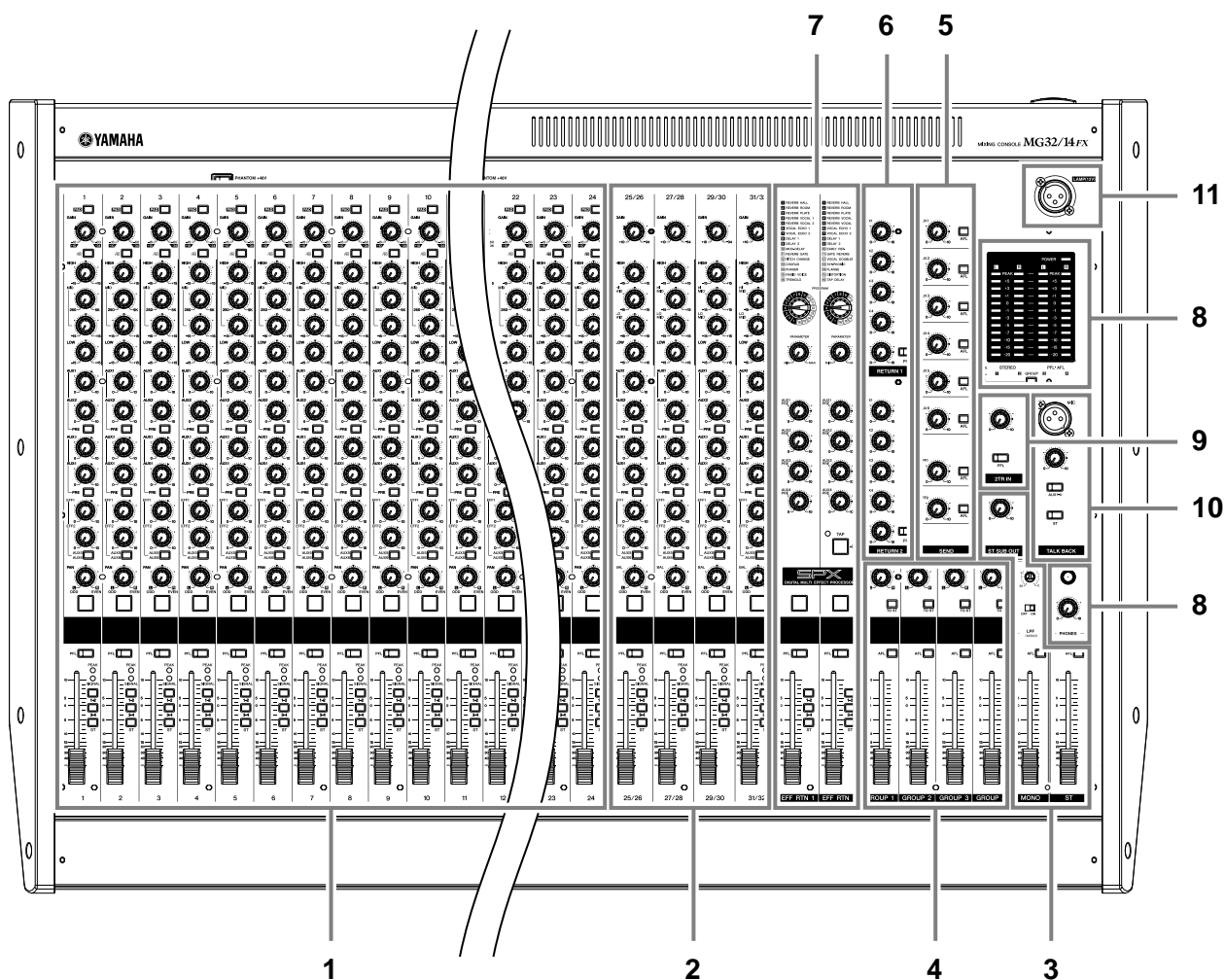
When shutting the system down, turn off the power in the opposite order: Power amps (powered speakers) → mixer → peripheral devices.



Do not block the vents. Vent holes are located on the top, bottom, front, rear, and sides of this machine. All vent holes must remain unblocked to prevent overheating.

# Front & Rear Panels

## Front Panel



Note: Within this manual, all panel illustrations show the MG32/14FX panel.

### Channel Control Block

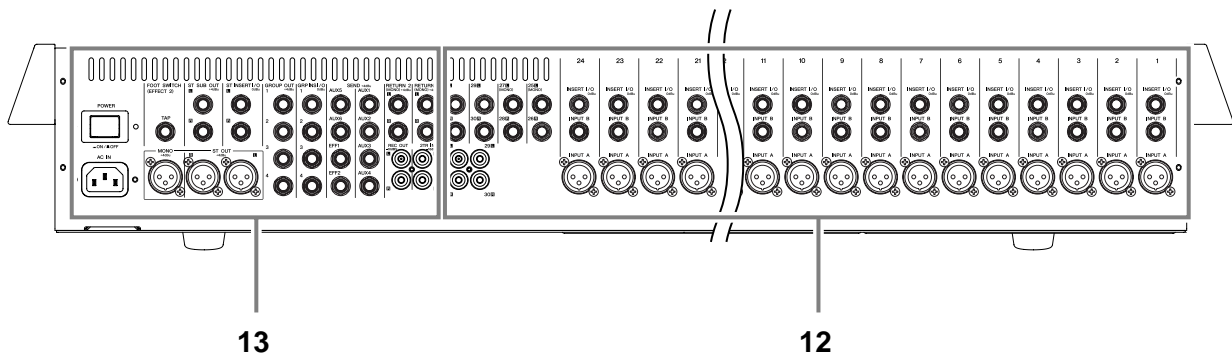
- 1 MONAURAL CHANNELS Section (p. 10)
- 2 STEREO CHANNELS Section (p. 10)

### Master Control Block

- 3 STEREO/MONO Section (p. 13)
- 4 GROUP Section (p. 14)
- 5 SEND Section (p. 14)
- 6 RETURN Section (p. 15)
- 7 INTERNAL DIGITAL EFFECTS Section (p. 16)
- 8 METER/PHONES Section (p. 17)
- 9 2TR INPUT Section (p. 17)
- 10 TALKBACK Section (p. 18)
- 11 LAMP Jack (p. 18)



## Rear Panel



*Note: Within this manual, all panel illustrations show the MG32/14FX panel.*

### Rear Input/Output Block

**12** CHANNEL I/O Section (p. 19)

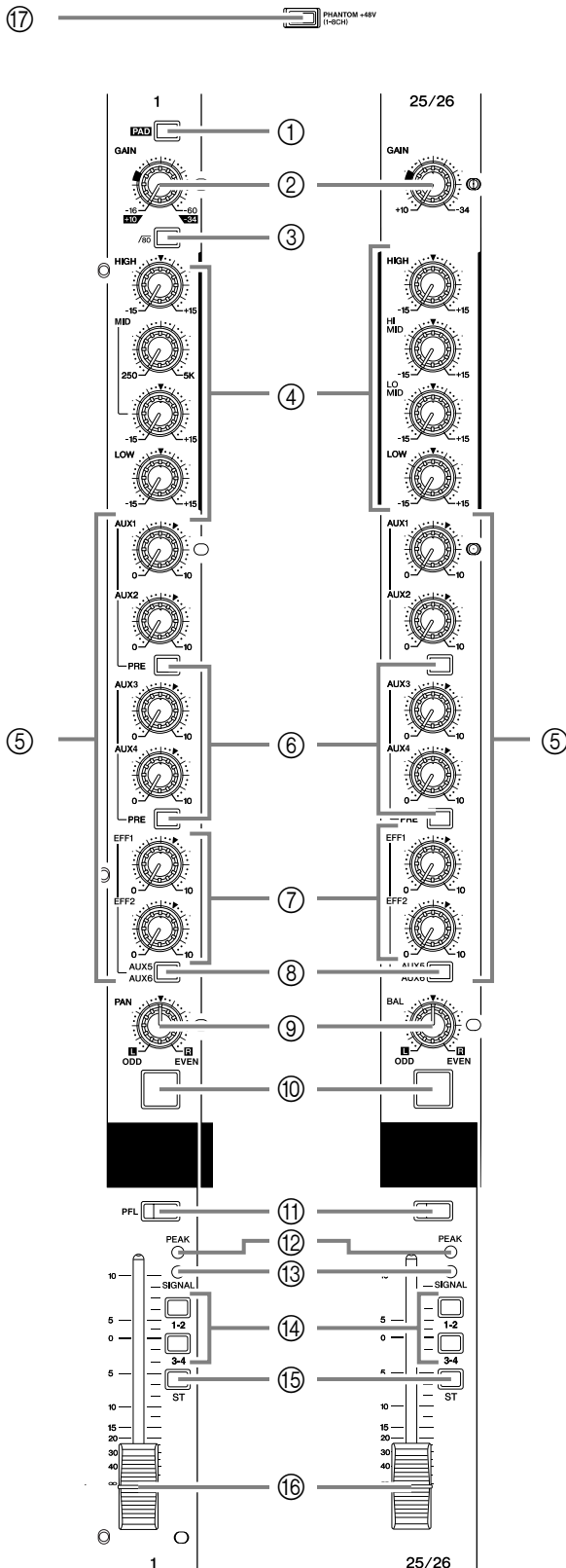
**13** MASTER I/O Section (p. 20)

## Channel Control Block

### MONAURAL CHANNELS Section

### STEREO CHANNELS Section

Monaural Channels: 1 to 24 (MG32/14FX), 1 to 16 (MG24/14FX)  
 Stereo Channels: 25/26 to 31/32 (MG32/14FX), 17/18 to 23/24 (MG24/14FX)



#### ① PAD Switch

When this switch is on (■), the mixer attenuates the input signal by 26 dB.

#### ② GAIN Control

Adjusts the gain applied to the input signal level. To get the best balance between the S/N ratio and the dynamic range, adjust the gain so that the PEAK indicator (⑫) comes on just as the signal approaches its maximum level.

*On monaural channels:* When the PAD switch (①) is off (□), the GAIN control adjusts for input levels from -60 dBu to -16 dBu. When the PAD switch is on (■), the GAIN control adjusts for input levels from -34 dBu to +10 dBu.

*On stereo channels:* The GAIN control adjusts for input levels from -34 dBu to +10 dBu.

#### ③ $\sqrt{80}$ Switch (High-Pass Filter)

This switch toggles the HPF on or off. To turn the HPF on, press the switch in (■). The HPF cuts frequencies below 80 Hz.

#### ④ Equalizer Controls

##### • On monaural channels

A three-band equalizer adjusts the channel's high, mid, and low frequency bands. For each band, setting the knob to the ▼ position produces a flat frequency response. Turning the knob to the right boosts the corresponding frequency band, while turning to the left cuts the band. The following table shows the EQ type, base frequency, and maximum cut/boost for each of the three bands.

Band	Type	Base Frequency	Maximum Cut/Boost
HIGH	Shelving	10 kHz	±15 dB
MID	Peaking	250 Hz to 5 kHz (variable)	
LOW	Shelving	100 Hz	

##### • On stereo channels

A four-band equalizer adjusts the channel's high, hi-mid, lo-mid, and low frequency bands. For each band, setting the knob to the ▼ position produces a flat frequency response. Turning the knob to the right boosts the corresponding frequency band, while turning to the left cuts the band. The following table shows the EQ type, base frequency, and maximum cut/boost for each of the four bands.

Band	Type	Base Frequency	Maximum Cut/Boost
HIGH	Shelving	10 kHz	±15 dB
HI-MID	Peaking	3 kHz	
LO-MID	Peaking	800 Hz	
LOW	Shelving	100 Hz	

## ⑤ AUX Controls (AUX1 to AUX6)

These knobs adjust the channel's signal levels into AUX buses 1 to 6. Each knob controls the signal into the corresponding AUX bus.

For AUX1 to AUX4, you use the PRE switch (⑥) to select whether the pre-fader or post-fader signal is fed to the bus. For AUX5 and AUX6, only the post-fader signal can be fed.

These knobs should generally be set close to the ▼ position.

On stereo channels, the L (odd) and R (even) input signals are mixed before moving into the AUX bus.

**NOTE** To enable use of AUX5 and AUX6, you must turn on the AUX5/AUX6 switch (⑧).

## ⑥ PRE Switch

Selects whether the pre-fader or the post-fader signal is fed to the corresponding pair of AUX buses. The upper PRE switch controls the signal to AUX1 and AUX2; the lower switch controls the signal to AUX3 and AUX4. If the switch is on (■), the mixer feeds the pre-fader signal to the corresponding buses. If off (■), the mixer feeds the post-fader signal.

**NOTE** There is no PRE switch for AUX5 and AUX6. For these buses only the post-fader signal is available.

## ⑦ EFFECT Controls

These knobs adjust the channel's signal levels into EFFECT buses 1 and 2. Since the signal to the EFFECT buses is post-fader, the level is always determined by the combination of the EFFECT control and the channel fader.

On stereo channels, the L (odd) and R (even) input signals are mixed before moving into the EFFECT bus.

**NOTE** These knobs operate as EFFECT controls only if the AUX5/AUX6 switch is in off position (■). If the switch is on, these knobs adjust the output to the AUX5 and AUX6 buses. (See ⑧ below.)

## ⑧ AUX5, AUX6 Switch

Selects whether the channel signal is sent to AUX buses 5 and 6 or EFFECT buses 1 and 2. If the switch is on (■), the signal goes to AUX5 and 6 buses; if off (■), the signal goes to the EFFECT buses. Note that the signal to these buses is always post-fader.

## ⑨ PAN Control (Monaural Channels) BAL Control (Stereo Channels)

The PAN control adjusts the signal's pan positioning into the Group 1-2 bus pair, into the Group 3-4 bus pair, and into the Stereo bus's L and R lines.

The BAL control knob sets the balance between left and right channels. Signals into the L input (odd channel) feed to the Group 1 and Group 3 buses and to the L line of the Stereo bus. Signals into the R input (even channel) feed to the Group 2 and Group 4 buses and to the R line of the Stereo bus.

**NOTE** If you are inputting to a stereo channel through the L (MONO) jack only, the BAL knob operates as a PAN knob.

## ⑩ ON Switch

Sets the channel on or off. To turn the channel on, press the switch in (■) so that it lights up orange. Be sure to turn on all the channels that you wish to use. If you set the channel off (■), you cut off all of its signal feed into the ST, GROUP, AUX, and EFFECT buses.

**NOTE**

- The ON switch does not affect the operation of the PFL switch (⑪). You can monitor the channel's pre-fader signal through the PHONES jack even when the ON switch is set off.
- To reduce noise, turn all unused channels off (■).

## ⑪ PFL (Pre-Fader Listen) Switch

Use this switch to feed the channel's pre-channel-fader signal into the PFL bus, so that you can monitor the signal from the PHONES jack. To turn PFL feed on, press the switch in (■) so that it lights up.

**NOTE**

- If you switch on output to both the PFL and AFL buses, the mixer outputs only the PFL signal.
- If you set PFL on for multiple channels, the mixer feeds the mixed signal from the channels into the PFL bus.

## ⑫ PEAK indicator

Lights up when the channel's post-equalizer signal level comes within 3 dB of the clipping level.

## ⑬ SIGNAL indicator

Lights up when a signal is being input into the channel.

## ⑭ GROUP Switches

Use these switches to feed the channel's signal to the GROUP 1-2 and/or GROUP 3-4 buses. Setting the switch on (■) causes the signal to feed into the corresponding GROUP buses.

**NOTE** These switches allow you to independently assign the signal to groups regardless of the setting of the ST switch (⑮).

## ⑮ ST Switch

Set this switch on (■) to feed the channel's signal to the ST bus.

## ⑯ Channel Fader

Adjusts the output level of the channel's signal. Use these faders to adjust the volume balance among the various channels.

**NOTE** To reduce noise, set the fader sliders for unused channels all the way down.

# Front & Rear Panels

## 17 PHANTOM +48 V Switch

Toggles phantom power on or off to a set of eight adjacent channels. The MG32/14FX has three of these switches: for CHs 1 to 8, for CHs 9 to 16, and for CHs 17 to 24. The MG24/14FX has two: for CHs 1 to 8 and for CHs 9 to 16. If using condenser microphones, set the switch on ( **■** ) for all channels to which these microphones are connected.

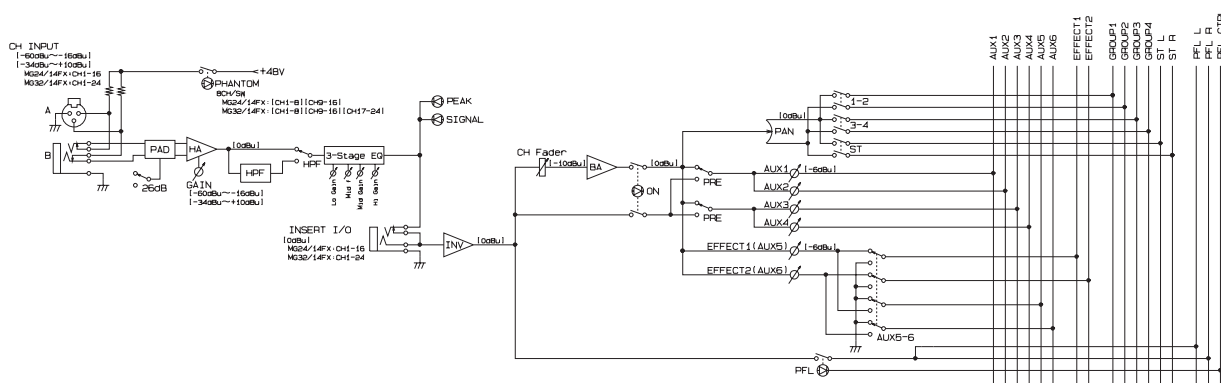
### NOTE

If this switch is on ( **■** ), the mixer supplies DC +48 V power to pins 2 and 3 of all XLR-type jacks in the corresponding channels.

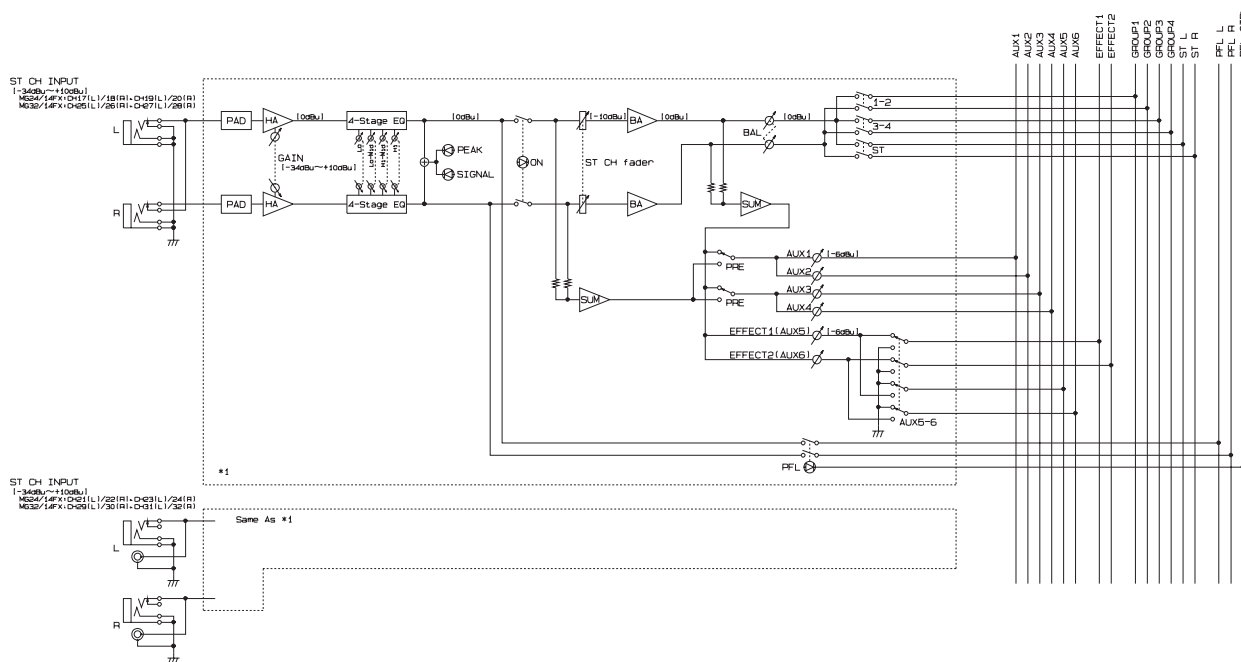


- Be sure to leave these switches off ( **■** ) if you do not need phantom power. Humming or damage may result if you connect to an unbalanced device or to an ungrounded transformer while this switch is on ( **■** ). But note that the switch may be left on without problem when connecting to balanced dynamic microphones.
- To avoid damage to speakers, be sure to turn off amplifiers (or powered speakers) before turning these switches on or off.

## Monaural channels



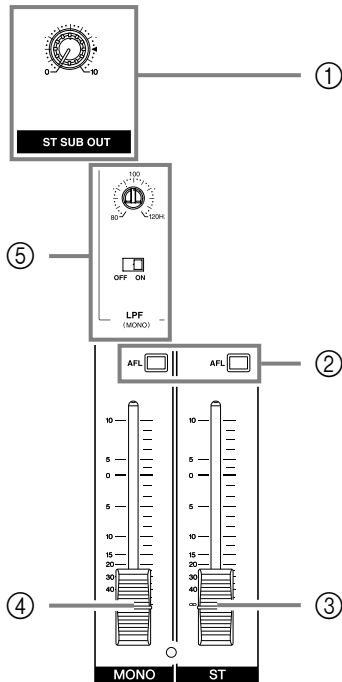
## Stereo channels



## Master Control Block

### STEREO/MONO Section

You use this section to independently adjust the levels of the outputs from the ST bus. You can independently adjust the main stereo output, the sub stereo output, and the mixed monaural output.



#### 1 ST SUB OUT Control

Adjusts the level of the signal that feeds from the ST bus into the ST SUB OUT jack (8 on page 20).

**NOTE** This control has no effect on the output level to the ST OUT jacks.

#### 2 AFL (After-Fader Listen) Switch

Feeds the signal that is going to the ST OUT and MONO jacks into the AFL bus, so that this signal can be monitored at the PHONES jack.

#### 3 ST Master Fader

Adjusts the level of the signal that feeds from the ST bus into the ST OUT jacks (9 on page 20).

#### 4 MONO Fader

Adjusts the level of the signal that feeds from the ST bus into the MONO output jack (10 on page 20).

#### 5 LPF (MONO)

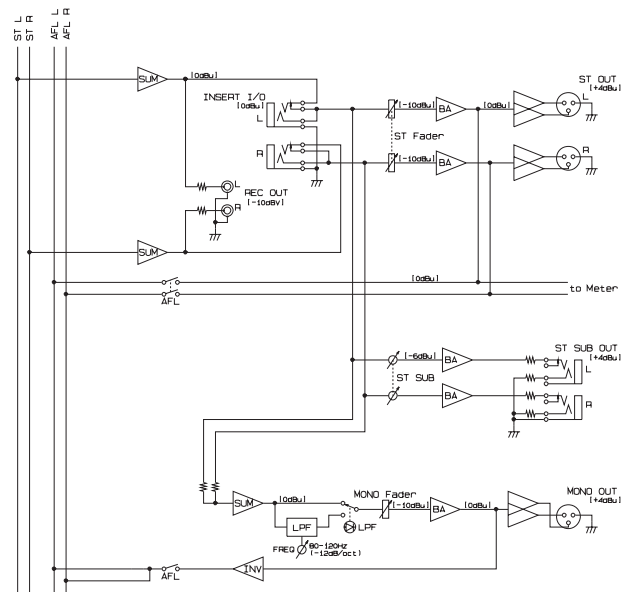
##### • LPF Switch

Set this switch ON to apply a low-pass filter to the signal output from the MONO output jack, or OFF to turn this LPF off. If the switch is ON, the LPF will cut frequencies that are above the cutoff set by the Frequency Adjustment dial.

##### • Frequency Adjustment Dial

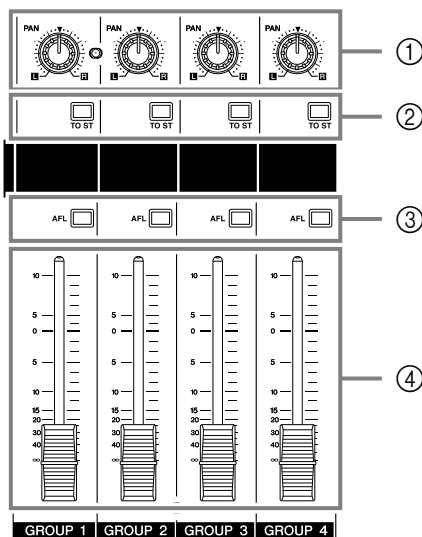
Adjusts the cutoff frequency for the LPF. The adjustment range is 80 Hz to 120 Hz. This dial is effective only if the LPF switch is set to ON.

**NOTE** Use a straight screwdriver or something similar to turn the dial.



## GROUP Section

This section adjusts the level and controls the flow of the signals from the four GROUP buses. While the signal from each GROUP bus is always fed into the corresponding GROUP OUT jack (see page 20), you are also free to use the TO ST and AFL switches to selectively feed these groups into the ST and AFL buses.



### 1 PAN Control

If you are feeding the signal from the GROUP bus into the ST bus (that is, if the corresponding TO ST switch (2) is on), this knob controls how the signal is positioned on the ST L/R lines.

### 2 TO ST Switches

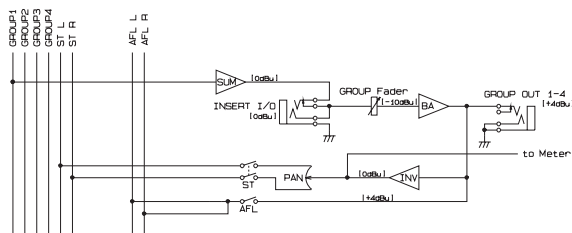
For each group: If the switch is on (▲), the mixer feeds the signal from the GROUP bus into the ST bus, after first passing the signal through the GROUP fader (4) and the PAN control (1).

### 3 AFL (After-Fader Listen) Switches

Feeds the corresponding GROUP OUT signal into the AFL bus, so that this signal can be monitored at the PHONES jack.

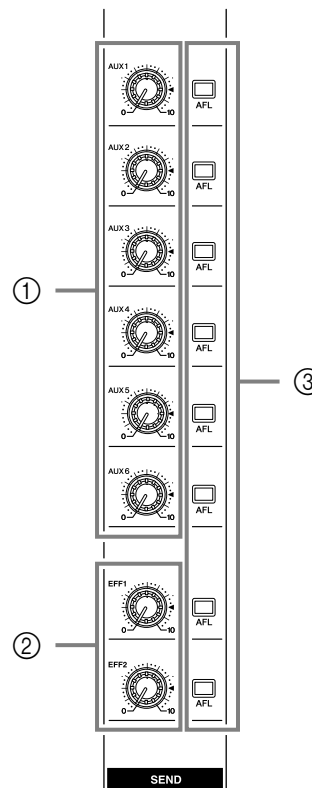
### 4 Group Faders

Each fader adjusts the level of the signal that is fed to the corresponding GROUP OUT jack.



## SEND Section

This section adjusts the levels and controls the flow of the signals from the six AUX buses and the two EFFECT buses. Each of these signals flows to the corresponding SEND output jack (to AUX1–AUX6, EFF1, and EFF2, respectively).



### 1 AUX Controls (AUX1 to AUX6)

Each knob adjusts the level of the signal from the indicated AUX bus into the corresponding AUX SEND jack.

### 2 Effect Controls (EFF1, EFF2)

Each knob adjusts the level of the signal from the indicated EFFECT bus into the corresponding EFFECT SEND jack and also into the corresponding internal digital effect.

#### NOTE

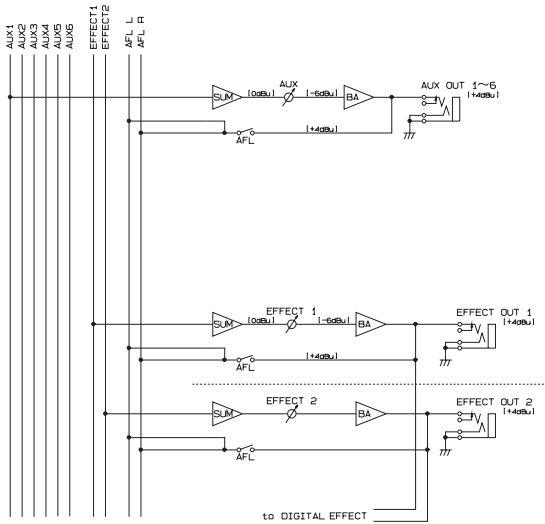
For each channel, you use the channel's AUX5/6 switch (see page 11) to select between feed into the AUX5 and 6 buses or feed into the EFFECT 1 and 2 buses. If the switch is on (▲), the signal goes to the AUX5 and AUX6 SEND jacks. If the switch is off (■), the signal goes to the EFF1 and EFF2 SEND jacks.

### 3 AFL (After-Fader Listen) Switches

For each AUX and EFFECT bus: Use this switch to feed the corresponding AUX SEND or EFF SEND signal into the AFL bus. Feeds the corresponding AUX SEND or EFF SEND signal into the AFL bus, so that this signal can be monitored at the PHONES jack.

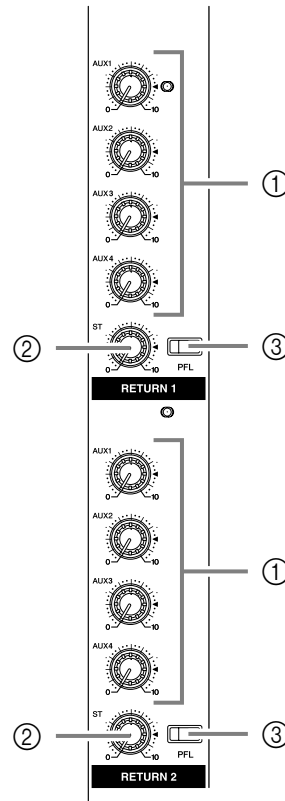
#### NOTE

If you set this switch on for EFF1 or EFF2, you can use the PHONES jack to monitor the signal to the corresponding internal digital effect.



## RETURN Section

This section adjusts the levels of the input from the RETURN 1 and RETURN 2 jacks (see page 20). For each RETURN, you can set independent levels for feeds into the ST bus and AUX buses 1 to 4.




### ① AUX Mix Controls (1 to 4)

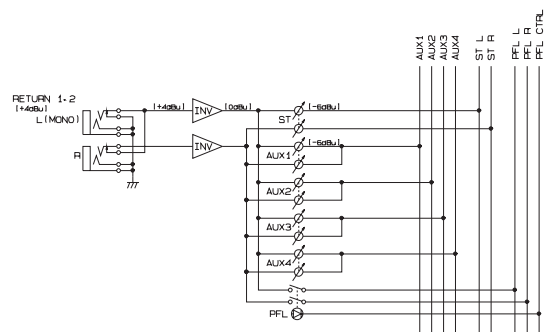
Each knob adjusts the level of the signal from the corresponding RETURN jack into the corresponding AUX bus (AUX1 to AUX4). If you are inputting a stereo signal, the L and R signals are mixed before moving to the AUX buses.

### ② ST Control

Adjusts the level of the signal from the corresponding RETURN jack into the ST bus. If you are inputting a stereo signal, the L signal goes into the ST L line and the R signal goes into ST R line. If you are inputting a mono signal, the same signal is fed to both ST L and ST R.

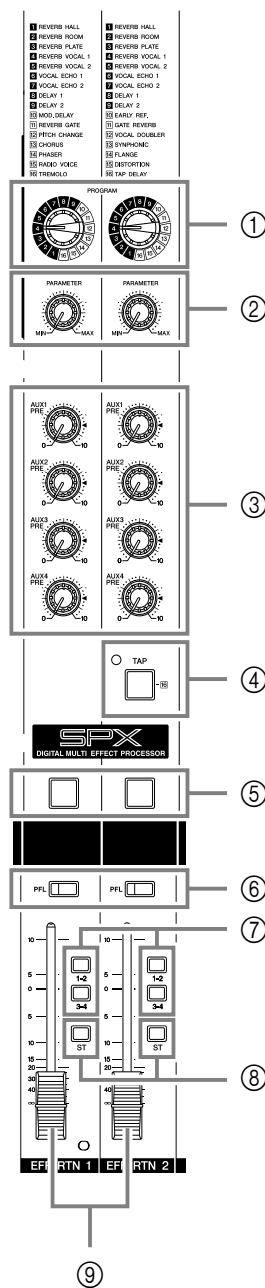
### ③ PFL (Pre-Fader Listen) Switch

Use this switch to feed the corresponding RETURN signal, taken from before the ST and AUX Mix controls, into the PFL bus, so that you can monitor the signal at the PHONES jack. To turn the PFL feed on, press the switch in (  ).



## INTERNAL DIGITAL EFFECTS Section

You use this section to control the dual internal effects processor: to select the two effect types, to set the effects on or off, and to adjust the related signal levels and flows.



### 1 PROGRAM Dials

This dial sets the effect type for the corresponding internal digital effect. For information about the effect types, see page 24.

### 2 PARAMETER Controls

This knob sets the parameter value for the corresponding internal digital effect. The setting applies to the currently selected effect type.

#### NOTE

The mixer saves the last value used with each effect type. When you change to a different effect type, the mixer automatically restores the value that was previously used with the newly selected effect (regardless of the current position of the Parameter Control knob). These parameter values are retained even after power-off.

### 3 AUX PRE Controls (1 to 4)

Each knob adjusts the level of the effected sound into the corresponding AUX bus (AUX1 to AUX4).

### 4 TAP Button and Indicator

This feature lets you set the delay time for internal EFFECT 2 by tapping on the button. The feature only works if you have set the effect type for EFFECT 2 to [16] TAP DELAY. To set the delay time, tap on the button at the appropriate interval. The mixer measures the interval between the last two taps and sets this as the delay time. Continue tapping as necessary until you get the timing right.

The mixer retains the last time setting even after power goes off, and restores this setting the next time you set the effect type to TAP DELAY. The indicator next to the button flashes in sync with the delay time.

### 5 ON Switches

This switch turns the corresponding internal digital effect on (■) or off (■).

### 6 PFL (Pre-Fader Listen) Switches

Use this switch to feed the corresponding digital effect signal, taken from before the EFFECT RTN fader, into the PFL bus, so that you can monitor the signal from the PHONES jack. To turn the PFL feed on, press the switch in (■).

#### NOTE

The signal will not feed into the PFL bus if the effect's ON switch (5) is turned off.

### 7 GROUP Switches

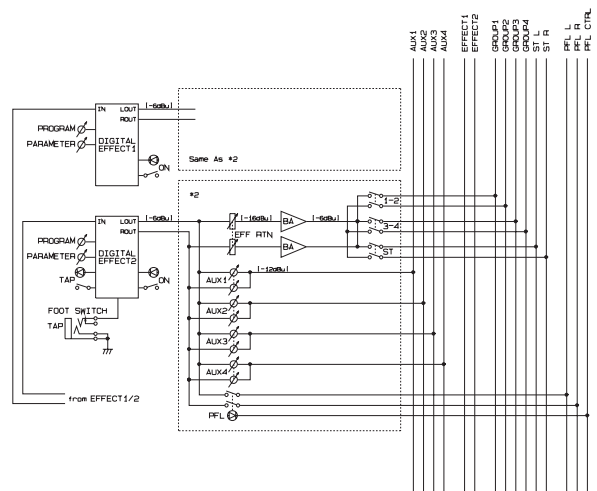
Set the switch on (■) to feed the corresponding internal digital effect signal into the corresponding GROUP buses. The top button feeds the signal to Groups 1 and 2; the lower button feeds it to Groups 3 and 4.

### 8 ST Switches

Set this switch on to feed the corresponding internal digital effect signal into the ST bus.

### 9 EFFECT RTN faders (1, 2)

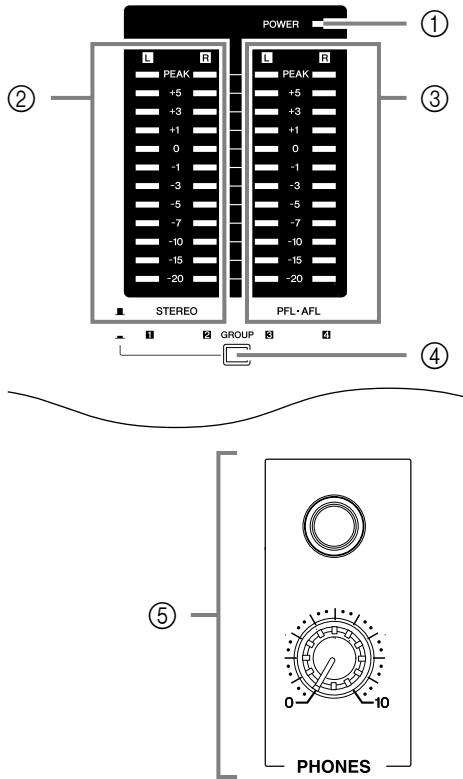
This fader adjusts the level of the effected sound into the ST and GROUP buses.





## METER/PHONES Section

You use these meters to view various signal levels: the levels to the ST OUT jacks, the PFL and AFL levels, and the levels to the GROUP OUT jacks. The PFL or AFL signals indicated by these meters can be monitored through the PHONES jack.



### 1 POWER Indicator

Lights up when the mixer's power is on.

### 2 STEREO Level Meters

If the GROUP switch (4) is off, the left and right meters show the level to the ST OUT L and R jacks, respectively. If the GROUP switch is on, the left and right meters show the level to GROUP OUT jacks 1 and 2, respectively. The "0" position corresponds to the standard level. The PEAK indicator lights up red when the level hits the clipping point.

### 3 PFL-AFL Level Meters

If the GROUP switch (4) is off, these meters show the levels to the PHONES jack. If the GROUP switch is on, the left meter shows the level to GROUP OUT jack 3 and the right meter shows the level to GROUP OUT jack 4. The "0" position corresponds to the standard level. The PEAK indicator comes on red when the level hits the clipping point.

#### NOTE

If signals are present on both the PFL and AFL buses, the PHONES jack will output the PFL signal only. Accordingly, these meters will indicate only the PFL level.

### 4 GROUP Switch

Selects whether the meters show the GROUP levels or the ST and PFL/AFL levels. If the switch is on (■), the four meters show the levels to GROUP OUT jacks 1 to 4, in order. If the switch is off (□), the meters operate as described above.

### 5 PHONES Jack and Control

#### • PHONES Jack

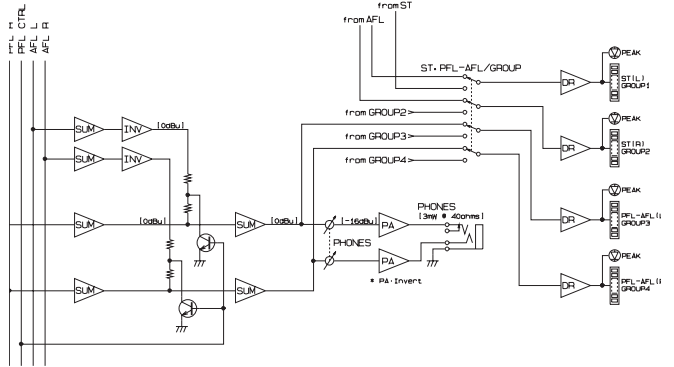
An unbalanced stereo phone output jack, for connection to headphones.

#### • PHONES Control

Controls the level of the signal output to the PHONES jack for monitoring.

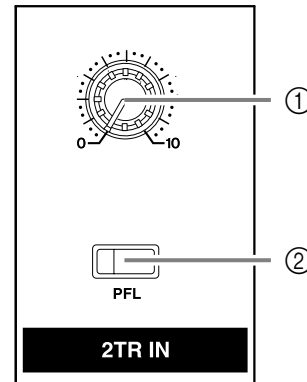
#### NOTE

The PFL-AFL level meter (3) shows the level of the signal monitored through the PHONES jack.



## 2TR INPUT Section

This section adjusts the signal that is input from the 2TR IN jack (see page 20).

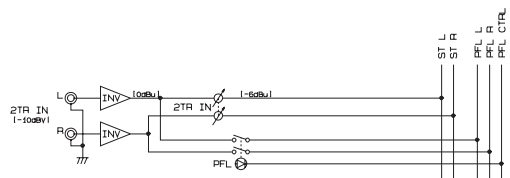


### 1 2TR IN Control

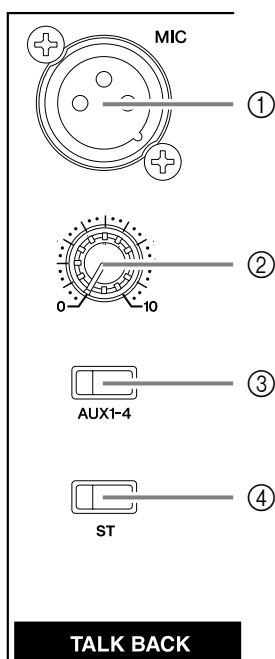
Adjusts the level of the signal from the 2TR IN jack into the ST bus.

### 2 PFL (Pre-Fader Listen) Switch

Use this switch to feed the signal from the 2TR IN jack, taken from before the 2TR IN control, into the PFL bus, so that you can monitor the signal from the PHONES jack. To turn the PFL feed on, press the switch in (■).



## ■ TALK BACK Section



### ① MIC Jack

An unbalanced XLR input jack, for connection to a talkback microphone.

**NOTE** This jack does not supply phantom power.

### ② Talkback Control

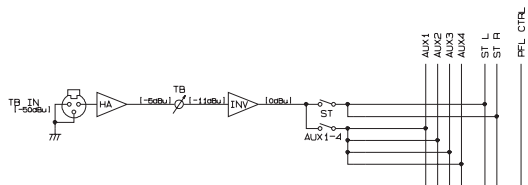
Adjusts the talkback level.

### ③ AUX1-4 Switch

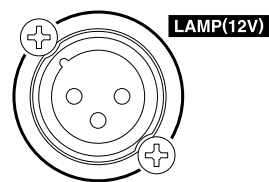
If this switch is on ( — ), the mixer feeds the signal from the MIC jack into AUX buses 1 to 4.

### ④ ST Switch

If this switch is on ( — ), the mixer feeds the signal from the MIC jack to the ST bus.



## ■ LAMP Jack



### LAMP Jack

An XLR3 pin-type output jack, for connection to a lamp.

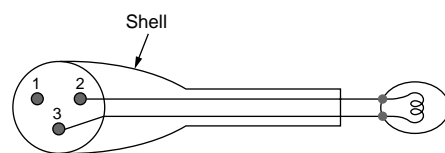
**NOTE** Supported lamps: 12V (AC or DC), max. 5W. Supplies 12V to Pins 2 and 3. Pin 1 is not connected.

**IMPORTANT: Please read carefully before connecting a lamp.**

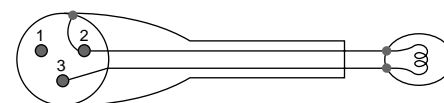
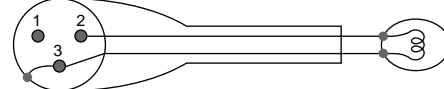


- Do not use a lamp that grounds Pin 2 or Pin 3 to the shell (body). Use of the wrong lamp type may result in damage to the mixer. Recommended lamps: Littlite's X-HI series of goose-neck lamps.

#### Correct lamp type



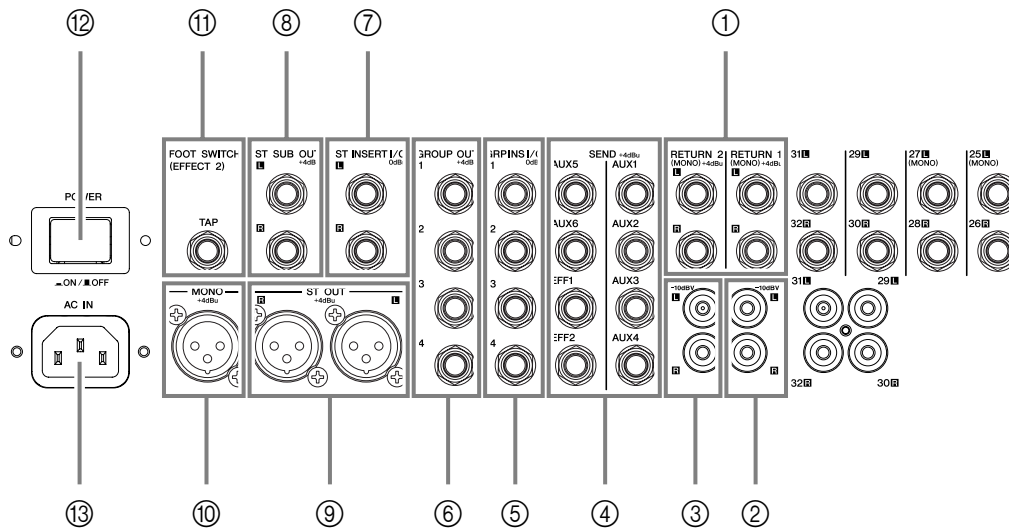
#### Wrong lamp type



- Do not inadvertently connect a talkback microphone to the LAMP jack. A microphone may sustain damage if connected to this jack.



## ■ MASTER I/O Section



### ① RETURN Jacks (1, 2)

These are unbalanced phone input jacks. The signal into each of these jacks feeds into the ST bus and into AUX buses 1 to 4. These jacks are typically used to receive a return signal from an external effector (reverb, delay, etc.).

#### NOTE

These jacks can also be used as an auxiliary stereo input. If you connect to the L (MONO) jack only, the mixer will recognize the signal as monaural and will propagate the identical signal from both L and R jacks.

### ② 2TR IN Jacks

These unbalanced RCA-pin input jacks can be used to input a stereo sound source. The signal into each of these jacks feeds into the ST bus. Use these jacks when you want to connect a stereo sound source (such as a CD player or DAT deck) directly to the mixer for monitoring.

### ③ REC OUT (L, R) Jacks

These are unbalanced RCA-pin output jacks. By connecting these jacks to an external recorder, you can record the same signal that is being output from the ST OUT jacks.

#### NOTE

The signal from these jacks is not adjusted by the ST master fader and is not affected by input or output at the INSERT I/O jacks. When using these jacks to record, adjust the level as necessary at the external recording device.

### ④ SEND Jacks

#### • AUX Jacks (1 to 6)

These are impedance-balanced phone jacks. These jacks output the signals from AUX1 to AUX6, respectively. You use these jacks, for example, to connect to a monitoring system, effector, or other such equipment.

#### • EFFECT Jacks (1, 2)

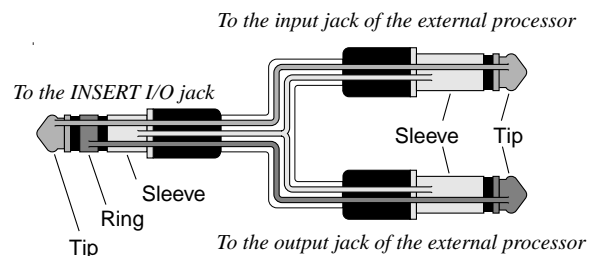
These impedance-balanced phone jacks output the signals from the EFFECT buses. You would typically use these jacks to connect to an external effector.

### ⑤ GROUP INS I/O Jacks (1 to 4)

These are unbalanced TRS (tip, ring, sleeve) phone-type bidirectional jacks. You can use these jacks to connect individual groups to devices such as graphic equalizers, compressors, and noise filters.

#### NOTE

Connection to an INSERT I/O jack requires a special separately-sold insertion cable such as illustrated below.



### ⑥ GROUP OUT Jacks (1 to 4)

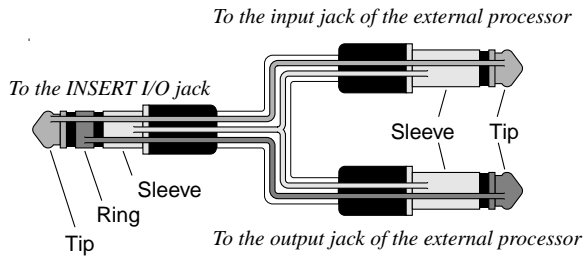
These are impedance-balanced phone output jacks. These jacks output the signals from GROUP buses 1 to 4. Use these jacks to connect to the input jacks of MTRs, external mixers, and other such devices.

## ⑦ ST INSERT I/O (L, R) Jacks

These are balanced TRS (tip, ring, sleeve) phone-type bidirectional jacks. You use these jacks, for example, to connect to an external effector, submixer, or other such device.

### NOTE

Connection to an INSERT I/O jack requires a special separately-sold insertion cable such as illustrated below.



## ⑧ ST SUB OUT Jacks (L and R)

These are impedance-balanced phone output jacks. These jacks output a clone of the mixed stereo signal from the ST bus. The level for this output is adjusted by the ST SUB OUT control in the Master Control block (see page 13). You would typically use these jacks to connect to an external mixer or a supplementary SR system.

### NOTE

The ST master fader does not operate on the signals from these jacks.

## ⑨ ST OUT Jacks (L, R)

These are balanced XLR output jacks. These jacks output the mixed stereo signal from the mixer's ST bus. The level for this output is adjusted by the ST master fader in the Master Control block (see page 13). You typically use the jacks to connect to your main output, such as to the power amplifiers driving your main speakers.

## ⑩ MONO Jack

This balanced XLR input jack outputs a monaural mix of the stereo signal from the ST bus. The level for this output is controlled by the MONO fader in the Master Control block (see page 13). The output is a mix of the ST bus's L and R signals.

## ⑪ FOOT SWITCH TAP Jack

This phone input jack is for connection to a foot switch, for use with the TAP DELAY feature. If you connect the (separately sold) YAMAHA FC5 foot switch to this jack and then set internal EFFECT 2 to [16] TAP DELAY, you can use the foot switch (as an alternative to the TAP button) to set the delay. The mixer will automatically set the delay to the interval between the last two taps.

## ⑫ POWER Switch

Use this switch to turn the mixer's power ON and OFF. Press the switch in to set the power on (■), and press again to set the power off (■).

## ⑬ AC IN Connector

Connects to the socket end of the AC power cord included with the mixer.

## Connector Polarities

INPUT A, ST OUT, MONO	Pin 1: Ground Pin 2: Hot (+) Pin 3: Cold (-)	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>INPUT</p> </div> <div style="text-align: center;"> <p>OUTPUT</p> </div> </div>
MIC (Talkback)	Pin 1: Ground Pin 2: Hot (+) Pin 3: Ground	<p>INPUT</p>
INPUT B, GROUP OUT, AUX SEND (1 to 6), EFFECT SEND (1, 2), ST SUB OUT*	Tip: Hot (+) Ring: Cold (-) Sleeve: Ground	<p>Ring</p>
INSERT I/O, GROUP INS I/O, ST INSERT I/O	Tip: Output Ring: Input Sleeve: Ground	
PHONES	Tip: L Ring: R Sleeve: Ground	
Stereo channel input jacks, RETURN (1, 2)	Tip: Hot Sleeve: Ground	
Stereo channel input jacks, 2TR IN, REC OUT		

\*These jacks also accept connection to monaural phone plugs. If you use monaural plugs, the connection will be unbalanced.

# Appendix

## Specifications

### General Specifications

Frequency Characteristics (Master Output)	20 Hz–20 kHz +1 dB, –3 dB @+4 dBu, 600 $\Omega$ (with gain control at minimum level)	
Total Harmonic Distortion (Master Output)	$\leq 0.1\%$ (THD+N) @+14 dBu, 20 Hz–20 kHz, 600 $\Omega$ (with gain control at maximum level)	
Hum and Noise (20 Hz - 20 kHz) <sup>1</sup> Input GAIN = Maximum Input PAD = OFF Input sensitivity = –60 dBu	–128 dBu	Equivalent input noise (CHs 1 to 24 (MG32/14FX)/CHs 1 to 16 (MG24/14FX))
	–99 dBu	Residual output noise (ST, MONO OUT, AUX, EFFECT, GROUP OUT)
	–83 dBu (87 dB S/N)	ST, MONO, GROUP Master fader at nominal level; all Ch assign switches off.
	–78 dBu (82 dB S/N)	AUX master control at nominal level; all channel mix controls at minimum level.
	–64 dBu (68 dB S/N)	ST, GROUP Master fader and one Ch fader at nominal level. (CHs 1 to 24 (MG32/14FX)/CHs 1 to 16 (MG24/14FX))
Maximum Voltage Gain <sup>2</sup>	60 dB CH IN → CH INSERT OUT 84 dB CH IN → GROUP OUT/ST OUT (CH to ST) 94 dB CH IN → ST OUT (GROUP to ST) 70 dB CH IN → GROUP INSERT OUT, ST INSERT OUT (CH to ST) 62.2 dB CH IN → REC OUT (CH to ST) 76 dB CH IN → AUX SEND (PRE) 86 dB CH IN → AUX SEND (POST)/EFF SEND 80 dB CH IN → ST SUB OUT (CH to ST) 58 dB ST CH IN → GROUP OUT/ST OUT (ST CH to ST) 47 dB ST CH IN → AUX SEND (PRE) 57 dB ST CH IN → AUX SEND (POST)/EFF SEND 16 dB RETURN → ST OUT 9 dB RETURN → AUX SEND 27.8 dB 2TR INPUT → ST OUT	
Monaural/Stereo Input Gain Control	44 dB variable	
Monaural High Pass Filter	80 Hz 12 dB/octave	
Channel Input PAD	0 dB/26 dB	
Crosstalk (1 kHz)	–70 dB between input channels –70 dB between input/output channels (CH INPUT)	
Monaural Input Channel Equalization: Max. Variation <sup>3</sup>	$\pm 15$ dB	HIGH 10 kHz shelving MID 0.25–5 kHz peaking LOW 100 Hz shelving
Stereo Input Channel Equalization: Max. Variation <sup>3</sup>	$\pm 15$ dB	HIGH 10 kHz shelving HI-MID 3 kHz peaking LO-MID 800 Hz peaking LOW 100 Hz shelving
Internal Digital Effects	Effect 1: 16 programs, parameter control Effect 2: 16 programs, parameter control TAP DELAY Control, Foot Switch (TAP)	
MONO Low Pass Filter	80 - 120 Hz 12 dB/octave	
Monaural/Stereo Input Peak Indicator	One red LED per channel. Comes on when post-EQ signal level reaches +17 dBu.	
Monaural/Stereo Input Signal Indicator	One green LED per channel. Comes on when post-EQ signal level reaches –10 dBu.	
Level Meters	Four 12-point LED meters [Stereo (L, R), PFL/AFL, GROUP (1 - 4)] Peak point: red indicator +5, +3, +1, and 0 points: yellow indicators –1, –3, –5, –7, –10, –15, –20: green indicators	
Phantom +48 VDC Power (Balanced input)	+48 V DC supply to balanced inputs. Can be switched ON/OFF in groups of eight channels. (One switch for every eight channels.)	
Included Accessory	Power cord, Owner's Manual	
Option	FC5 (Foot Switch)	
Lamp	XLR-3-31 type (12 V AC between pins 2 and 3; 5 W max.) Refer to page 18 for details.	
Power Supply	USA and Canada: 120 V AC, 60 Hz Korea: 220 V AC, 60 Hz Others: 230 V AC, 50 Hz	
Power Consumption	MG32/14FX: 120 W, MG24/14FX: 100 W	
Max. Dimensions (W × H × D)	MG32/14FX: 1027 × 140 × 551 mm, MG24/14FX: 819 × 140 × 551 mm	
Weight	MG32/14FX: 22 kg, MG24/14FX: 18.5 kg	

Where 0 dBu = 0.775 V and 0 dBV = 1 V

<sup>1</sup> R<sub>s</sub> = 150 ohms  
Measured with 12.7 kHz, –6 dB/oct. low pass filter (equivalent to 20 kHz, –∞ filter).

<sup>2</sup> Turning PAN/BAL to left or right.

<sup>3</sup> Shelving turnover/rolloff frequency: 3 dB before maximum cut or boost.

## Input Specifications

Input Connector	PAD	Gain	Input Impedance	Appropriate Impedance	Sensitivity <sup>1</sup>	Rated Level	Max. Before Clipping	Connector Specifications
CH INPUT (A, B) (MG32/14FX: CHs 1 to 24) (MG24/14FX: CHs 1 to 16)	0	-60	3 k $\Omega$	50–600 $\Omega$ mic 600 $\Omega$ line	-80 dBu (0.078 mV)	-60 dBu (0.775 mV)	-40 dBu (7.75 mV)	A: XLR-3-31 type (balanced) B: Phone jack (TRS) (balanced [T: hot; R: cold; S: ground])
	26				-54 dBu (1.55 mV)	-34 dBu (15.5 mV)	-14 dBu (155 mV)	
	0	-16			-36 dBu (12.3 mV)	-16 dBu (123 mV)	+4 dBu (1.23 V)	
	26				-10 dBu (245 mV)	+10 dBu (2.45 V)	+30 dBu (24.5 V)	
ST CH INPUT (MG32/14FX: CHs 25(L)/26(R) to 31(L)/32(R)) (MG24/14FX: CHs 17(L)/18(R) to 23(L)/24(R))	-34	+10	10 k $\Omega$	600 $\Omega$ line	-54 dBu (1.55 mV)	-34 dBu (15.5 mV)	-14 dBu (155 mV)	Phone jack (unbalanced), RCA pin jack <sup>2</sup>
	+10				-10 dBu (245 mV)	+10 dBu (2.45 V)	+30 dBu (24.5 V)	
ST INSERT IN [L, R] GROUP INSERT IN (1 - 4)			10 k $\Omega$	600 $\Omega$ line	-10 dBu (245 mV)	0 dBu (0.775 V)	+20 dBu (7.75 V)	Phone jack (TRS) (unbalanced [T: out; R: in; S: ground])
CH INSERT IN (MG32/14FX: CHs 1 to 24) (MG24/14FX: CHs 1 to 16)			10 k $\Omega$	600 $\Omega$ line	-20 dBu (77.5 mV)	0 dBu (0.775 V)	+20 dBu (7.75 V)	
RETURN (1, 2) (L, R)			10 k $\Omega$	600 $\Omega$ line	-12 dBu (195 mV)	+4 dBu (1.23 V)	+24 dBu (12.3 V)	Phone jack (TRS) (unbalanced)
TALK BACK			10 k $\Omega$	50 - 600 $\Omega$ mic	-66 dBu (0.388 mV)	-50 dBu (2.45 mV)	-30 dBu (24.5 mV)	XLR-3-31 type (unbalanced)
2TR IN (L, R)			10 k $\Omega$	600 $\Omega$ line	-26 dBV (50.1 mV)	-10 dBV (316 mV)	+10 dBV (3.16 V)	RCA pin jack

Where 0 dBu = 0.775 V and 0 dBV = 1 V

<sup>1</sup> Input sensitivity: the lowest level that will produce the nominal output level when the unit is set to maximum gain.

<sup>2</sup> MG32/14FX: CH29(L)/30(R), CH31(L)/32(R), MG24/14FX: CH21(L)/22(R), CH23(L)/24(R)

## Output Specifications

Output Connectors	Output Impedance	Appropriate Impedance	Rated Level	Max. Before Clipping	Connector Specifications
ST OUT (L, R) MONO	75 $\Omega$	600 $\Omega$ line	+4 dBu (1.23 V)	+24 dBu (12.3 V)	XLR-3-32 type (balanced)
GROUP OUT (1-4) AUX SEND (1-6)	150 $\Omega$	600 $\Omega$ line	+4 dBu (1.23 V)	+20 dBu (7.75 V)	Phone jack (TRS) (impedance balanced [T: hot; R: cold; S: ground])
ST SUB OUT (L, R) EFFECT SNED (1, 2)	150 $\Omega$	10 k $\Omega$ line	+4 dBu (1.23 V)	+20 dBu (7.75 V)	Phone jack (TRS) (impedance balanced [T: hot; R: cold; S: ground])
REC OUT (L, R)	600 $\Omega$	10 k $\Omega$ line	-10 dBV (316 mV)	+10 dBV (3.16 V)	RCA pin jack
CH INSERT OUT (MG32/14FX: CH 1- 24) (MG24/14FX: CH 1- 16)	150 $\Omega$	10 k $\Omega$ line	0 dBu (0.775 V)	+20 dBu (7.75 V)	Phone jack (TRS) (unbalanced [T: out; R: in; S: ground])
GROUP INSERT OUT (1-4) ST INSERT OUT (L, R)					
PHONES	100 $\Omega$	40 $\Omega$ phone	3 mW	75 mW	Stereo phone jack

Where 0 dBu = 0.775 V and 0 dBV = 1 V

Specifications and descriptions in this owner's manual are for information purposes only. Yamaha Corp. reserves the right to change or modify products or specifications at any time without prior notice. Since specifications, equipment or options may not be the same in every locale, please check with your Yamaha dealer.

European Models

Purchaser/User Information specified in EN55103-1 and EN55103-2.

Inrush Current: 14A

Conforms to Environments: E1, E2, E3 and E4

## ■ Digital effect type list

- Common to EFFECT 1 and 2

No.	Type	Description	Controllable parameter	
			Parameter	Variable range
1	REVERB HALL	Reverberation simulating a spacious expanse such as a concert hall.	Reverb time	0.3–10.0 s
2	REVERB ROOM	Reverberation simulating the acoustics of a small room.	Reverb time	0.3–3.2 s
3	REVERB PLATE	Simulation of a plate reverb device. Produces a hard-sounding reverberation.	Reverb time	0.3–10.0 s
4	REVERB VOCAL 1	Ideal reverb for vocals.	Reverb time	0.3–10.0 s
5	REVERB VOCAL 2			
6	VOCAL ECHO 1	Ideal echo for vocals.	Delay time	0–800 ms
7	VOCAL ECHO 2			
8	DELAY 1	Delay effect that delays the signal.	Delay time	0–800 ms
9	DELAY 2			

- EFFECT 1

10	MOD. DELAY	Monaural delay with modulation.	Delay time	0–800 ms
11	REVERB GATE	An effect that simulates reversed early reflections.	Room size	0.1–10.0
12	PITCH CHANGE	An effect that changes the pitch of the input signal.	Pitch	–12→+12
13	CHORUS	Modulates the delay time of the signal to add depth to the sound.	Depth	0–100%
14	PHASER	An effect that changes the phase of the sound to create modulation.	Modulation frequency	0.05–4.00 Hz
15	RADIO VOICE	An effect that produces a lo-fi sound like that of an AM radio.	Drive	0–100
16	TREMOLO	An effect that adds modulation to the sound.	Modulation frequency	0.05–10.00 Hz

- EFFECT 2

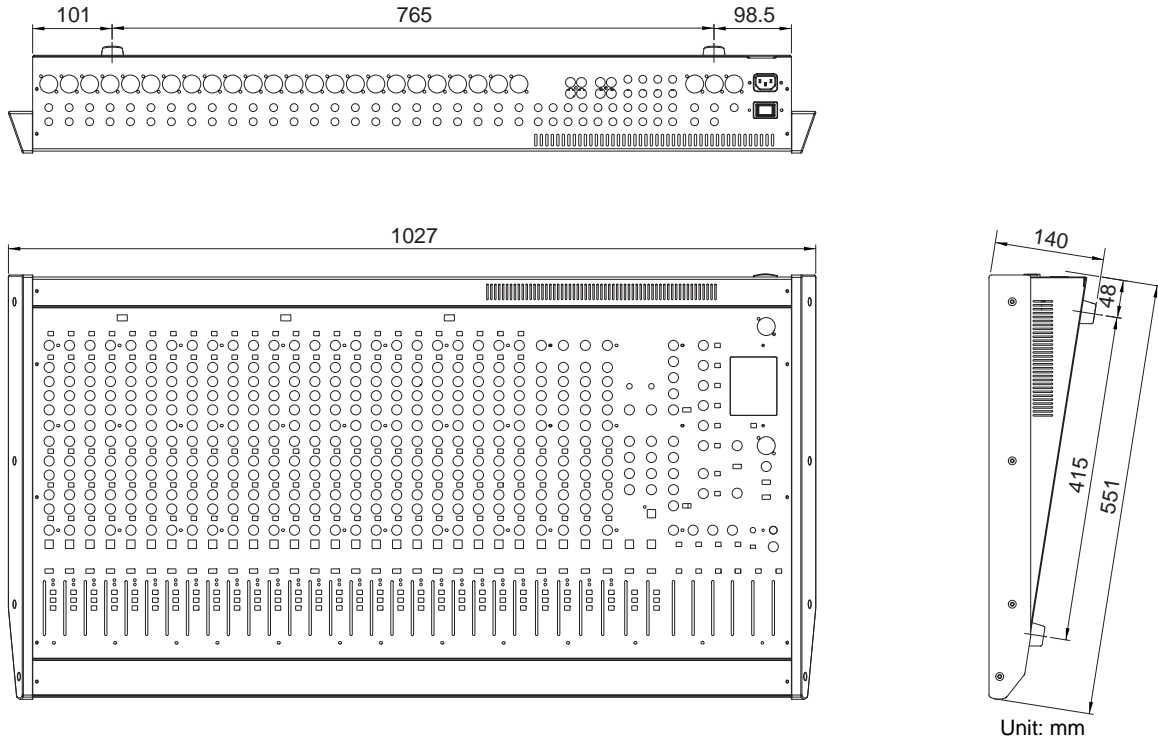
10	EARLY REF.	An effect produced by modifying the early reflections. It lets you add depth to the sound, or create echo-like effects.	Room size	0.1–10.0
11	GATE REVERB	An effect produced by cutting the reverberation.	Room size	0.1–5.0
12	VOCAL DOUBLER	Produces an effect as though two people were singing.	Pitch fine	0–50
13	SYMPHONIC	Gives a richly layered depth to the sound.	Depth	0–100%
14	FLANGE	Adds a sense of pitch to the tone. Effective on sounds that contain numerous overtones.	Modulation frequency	0.05–4.00 Hz
15	DISTORTION	The well-known effect used to distort the sound.	Drive	0–100
16	TAP DELAY	This effect sets the delay time to the interval at which you actually press the switch. The amount of feedback can be adjusted by the PARAMETER control. The LED will blink in synchronization with the delay time.	Feedback gain	0–99%
			Delay time	100 ms (600 bpm) –2690 ms (22.3 bpm)*

\* The LED can not blink any faster than an interval of 256 ms (234.3 bpm).

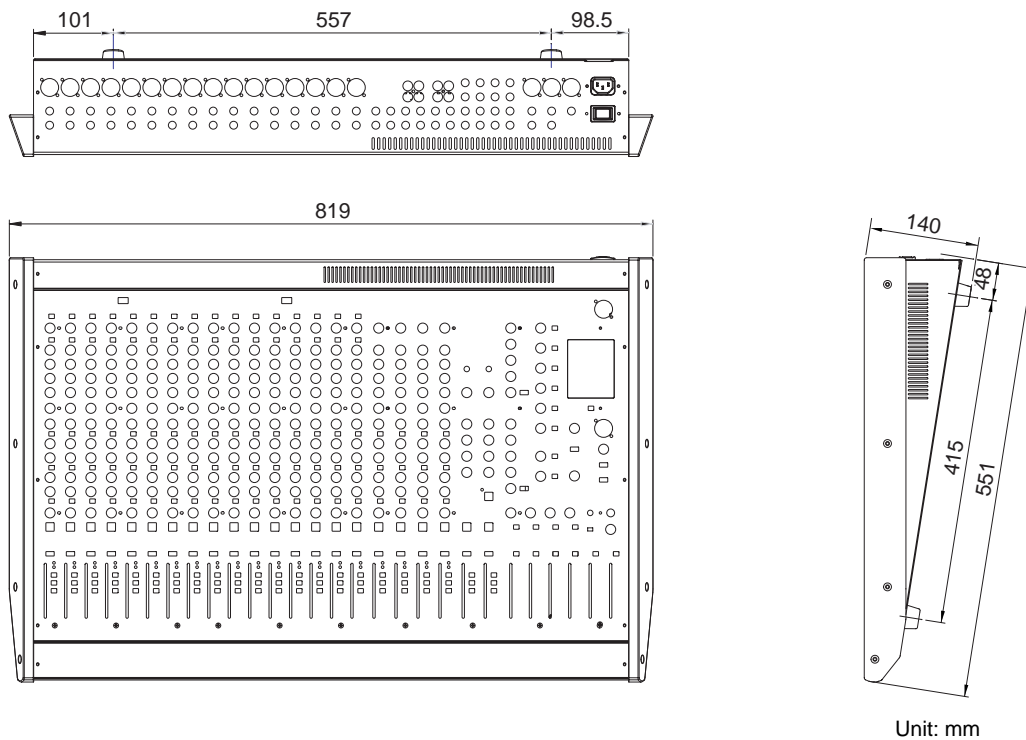


## Dimensional Diagrams

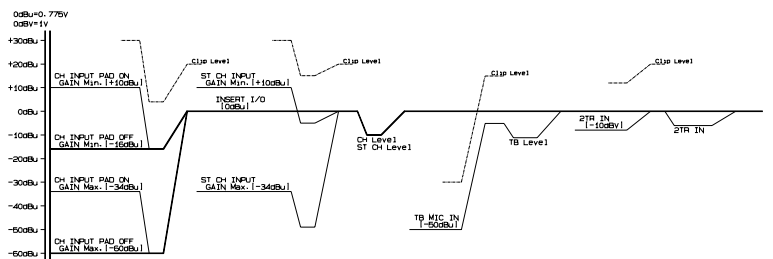
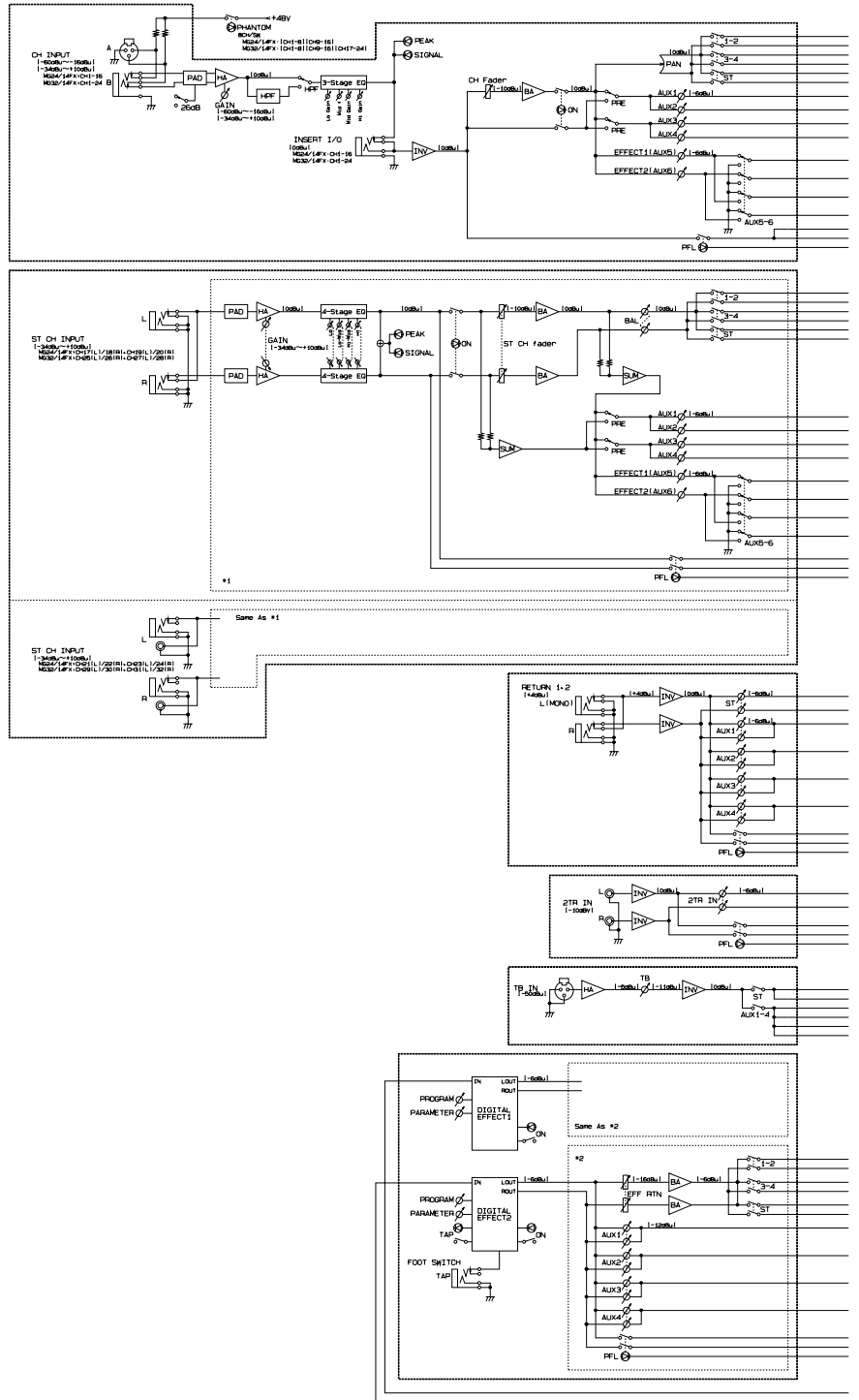
### ■ MG32/14FX

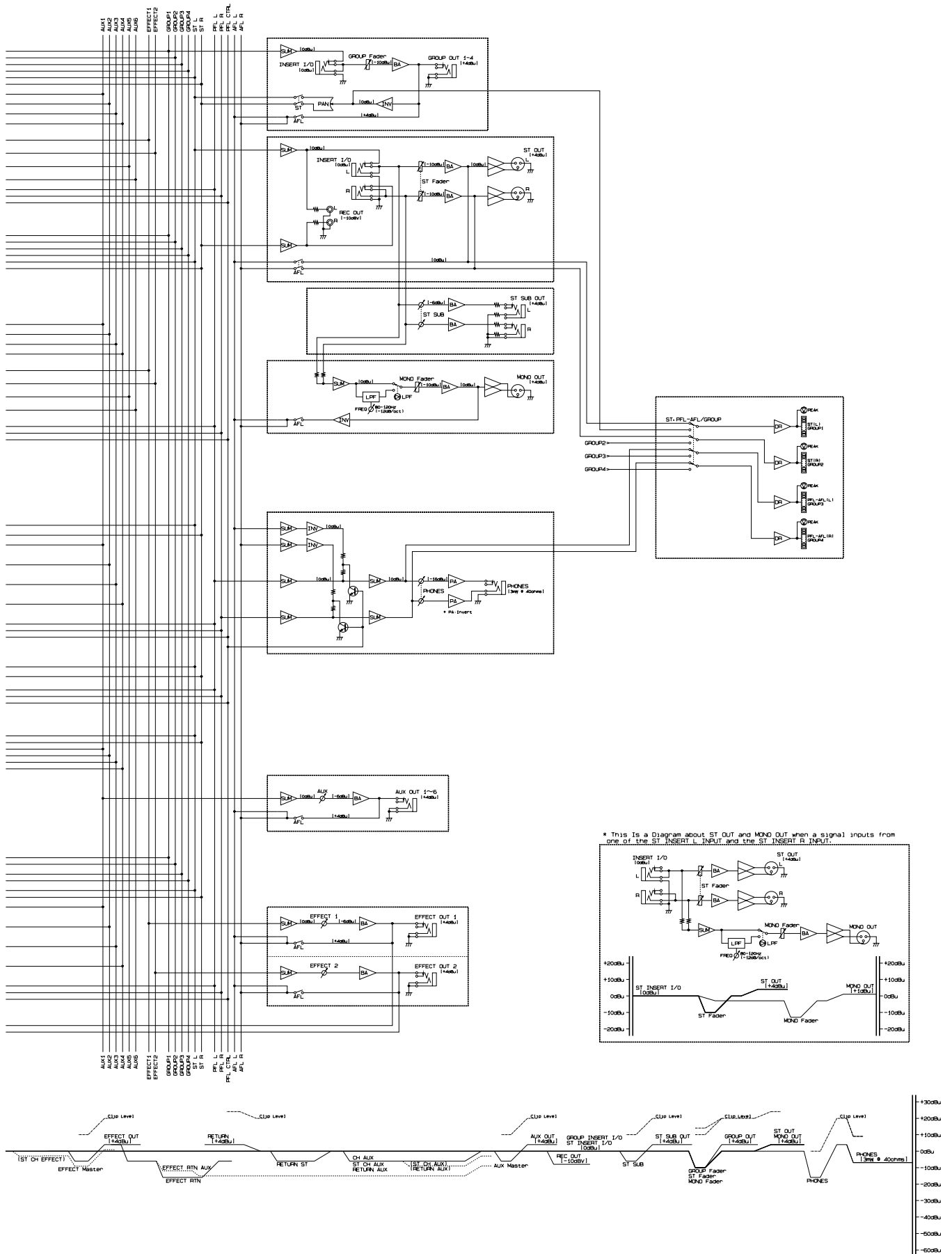


### ■ MG24/14FX



## Block and Level Diagram





For details of products, please contact your nearest Yamaha representative or the authorized distributor listed below.

Pour plus de détails sur les produits, veuillez-vous adresser à Yamaha ou au distributeur le plus proche de vous figurant dans la liste suivante.

Die Einzelheiten zu Produkten sind bei Ihrer unten aufgeführten Niederlassung und bei Yamaha Vertragshändlern in den jeweiligen Bestimmungsländern erhältlich.

Para detalles sobre productos, contacte su tienda Yamaha más cercana o el distribuidor autorizado que se lista debajo.

## NORTH AMERICA

### CANADA

**Yamaha Canada Music Ltd.**  
135 Milner Avenue, Scarborough, Ontario,  
M1S 3R1, Canada  
Tel: 416-298-1311

### U.S.A.

**Yamaha Corporation of America**  
6600 Orangethorpe Ave., Buena Park, Calif. 90620,  
U.S.A.  
Tel: 714-522-9011

## CENTRAL & SOUTH AMERICA

### MEXICO

**Yamaha de México S.A. de C.V.**  
Calz. Javier Rojo Gómez #1149,  
Col. Guadalupe del Moral  
C.P. 09300, México, D.F., México  
Tel: 55-5804-0600

### BRAZIL

**Yamaha Musical do Brasil Ltda.**  
Rua Joaquim Floriano, 913 - 4º andar, Itaim Bibi,  
CEP 04534-013 Sao Paulo, SP. BRAZIL  
Tel: 011-3704-1377

### ARGENTINA

**Yamaha Music Latin America, S.A.**  
**Sucursal de Argentina**  
Olga Cossettini 1553, Piso 4 Norte  
Madero Este-C1107CEK  
Buenos Aires, Argentina  
Tel: 011-4119-7000

### PANAMA AND OTHER LATIN AMERICAN COUNTRIES/ CARIBBEAN COUNTRIES

**Yamaha Music Latin America, S.A.**  
Torre Banco General, Piso 7, Urbanización Marbella,  
Calle 47 y Aquilino de la Guardia,  
Ciudad de Panamá, Panamá  
Tel: +507-269-5311

## EUROPE

### THE UNITED KINGDOM

**Yamaha Music U.K. Ltd.**  
Sherbourne Drive, Tilbrook, Milton Keynes,  
MK7 8BL, England  
Tel: 01908-366700

### GERMANY

**Yamaha Music Europe GmbH**  
Siemensstraße 22-34, 25462 Rellingen, Germany  
Tel: 04101-3030

### SWITZERLAND/LIECHTENSTEIN

**Yamaha Music Europe GmbH**  
**Branch Switzerland in Zürich**  
Seefeldstrasse 94, 8008 Zürich, Switzerland  
Tel: 01-383 3990

### AUSTRIA

**Yamaha Music Europe GmbH Branch Austria**  
Schleiergasse 20, A-1100 Wien, Austria  
Tel: 01-60203900

### CZECH REPUBLIC/SLOVAKIA/ HUNGARY/SLOVENIA

**Yamaha Music Europe GmbH Branch Austria**  
Schleiergasse 20, A-1100 Wien, Austria  
Tel: 01-602039025

### POLAND

**Yamaha Music Europe GmbH**  
**Branch Sp.z o.o. Oddział w Polsce**  
ul. 17 Stycznia 56, PL-02-146 Warszawa, Poland  
Tel: 022-868-07-57

### THE NETHERLANDS/ BELGIUM/LUXEMBOURG

**Yamaha Music Europe Branch Benelux**  
Clarissenhof 5-b, 4133 AB Vianen, The Netherlands  
Tel: 0347-358 040

### FRANCE

**Yamaha Musique France**  
BP 70-77312 Marne-la-Vallée Cedex 2, France  
Tel: 01-64-61-4000

### ITALY

**Yamaha Musica Italia S.P.A.**  
**Combo Division**  
Viale Italia 88, 20020 Lainate (Milano), Italy  
Tel: 02-935-771

### SPAIN/PORTUGAL

**Yamaha Música Ibérica, S.A.**  
Ctra. de la Coruna km. 17, 200, 28230  
Las Rozas (Madrid), Spain  
Tel: 91-639-8888

### SWEDEN

**Yamaha Scandinavia AB**  
J. A. Wettergrens Gata 1, Box 30053  
S-400 43 Göteborg, Sweden  
Tel: 031 89 34 00

### DENMARK

**YS Copenhagen Liaison Office**  
Generatorvej 6A, DK-2730 Herlev, Denmark  
Tel: 44 92 49 00

### NORWAY

**Norsk filial av Yamaha Scandinavia AB**  
Grini Næringspark 1, N-1345 Østerås, Norway  
Tel: 67 16 77 70

### RUSSIA

**Yamaha Music (Russia)**  
Office 4015, entrance 2, 21/5 Kuznetskii  
Most street, Moscow, 107996, Russia  
Tel: 495 626 0660

### OTHER EUROPEAN COUNTRIES

**Yamaha Music Europe GmbH**  
Siemensstraße 22-34, 25462 Rellingen, Germany  
Tel: +49-4101-3030

## AFRICA

**Yamaha Corporation,**  
**Asia-Pacific Music Marketing Group**  
Nakazawa-cho 10-1, Naka-ku, Hamamatsu,  
Japan 430-8650  
Tel: +81-53-460-2313

## MIDDLE EAST

### TURKEY/CYPRUS

**Yamaha Music Europe GmbH**  
Siemensstraße 22-34, 25462 Rellingen, Germany  
Tel: 04101-3030

### OTHER COUNTRIES

**Yamaha Music Gulf FZE**  
LOB 16-513, P.O.Box 17328, Jubel Ali,  
Dubai, United Arab Emirates  
Tel: +971-4-881-5868

## ASIA

### THE PEOPLE'S REPUBLIC OF CHINA

**Yamaha Music & Electronics (China) Co.,Ltd.**  
2F, Yunhedasha, 1818 Xinzha-lu, Jingan-qu,  
Shanghai, China  
Tel: 021-6247-2211

### INDIA

**Yamaha Music India Pvt. Ltd.**  
5F Ambience Corporate Tower Ambience Mall Complex  
Ambience Island, NH-8, Gurgaon-122001, Haryana, India  
Tel: 0124-466-5551

### INDONESIA

**PT. Yamaha Music Indonesia (Distributor)**  
**PT. Nusantik**  
Gedung Yamaha Music Center, Jalan Jend. Gatot  
Subroto Kav. 4, Jakarta 12930, Indonesia  
Tel: 21-520-2577

### KOREA

**Yamaha Music Korea Ltd.**  
8F, 9F, Dongsung Bldg. 158-9 Samsung-Dong,  
Kangnam-Gu, Seoul, Korea  
Tel: 080-004-0022

### MALAYSIA

**Yamaha Music Malaysia, Sdn., Bhd.**  
Lot 8, Jalan Perbandaran, 47301 Kelana Jaya,  
Petaling Jaya, Selangor, Malaysia  
Tel: 3-78030900

### SINGAPORE

**Yamaha Music Asia Pte., Ltd.**  
#03-11 A-Z Building  
140 Paya Lebar Road, Singapore 409015  
Tel: 747-4374

### TAIWAN

**Yamaha KHS Music Co., Ltd.**  
3F, #6, Sec.2, Nan Jing E. Rd. Taipei.  
Taiwan 104, R.O.C.  
Tel: 02-2511-8688

### THAILAND

**Siam Music Yamaha Co., Ltd.**  
4, 6, 15 and 16<sup>th</sup> floor, Siam Motors Building,  
891/1 Rama 1 Road, Wangmai,  
Pathumwan, Bangkok 10330, Thailand  
Tel: 02-215-2626

### OTHER ASIAN COUNTRIES

**Yamaha Corporation,**  
**Asia-Pacific Music Marketing Group**  
Nakazawa-cho 10-1, Naka-ku, Hamamatsu,  
Japan 430-8650  
Tel: +81-53-460-2317

## OCEANIA

### AUSTRALIA

**Yamaha Music Australia Pty. Ltd.**  
Level 1, 99 Queensbridge Street, Southbank,  
Victoria 3006, Australia  
Tel: 3-9693-5111

### COUNTRIES AND TRUST TERRITORIES IN PACIFIC OCEAN

**Yamaha Corporation,**  
**Asia-Pacific Music Marketing Group**  
Nakazawa-cho 10-1, Naka-ku, Hamamatsu,  
Japan 430-8650  
Tel: +81-53-460-2313

**HEAD OFFICE** Yamaha Corporation, Pro Audio & Digital Musical Instrument Division  
Nakazawa-cho 10-1, Naka-ku, Hamamatsu, Japan 430-8650  
Tel: +81-53-460-2441