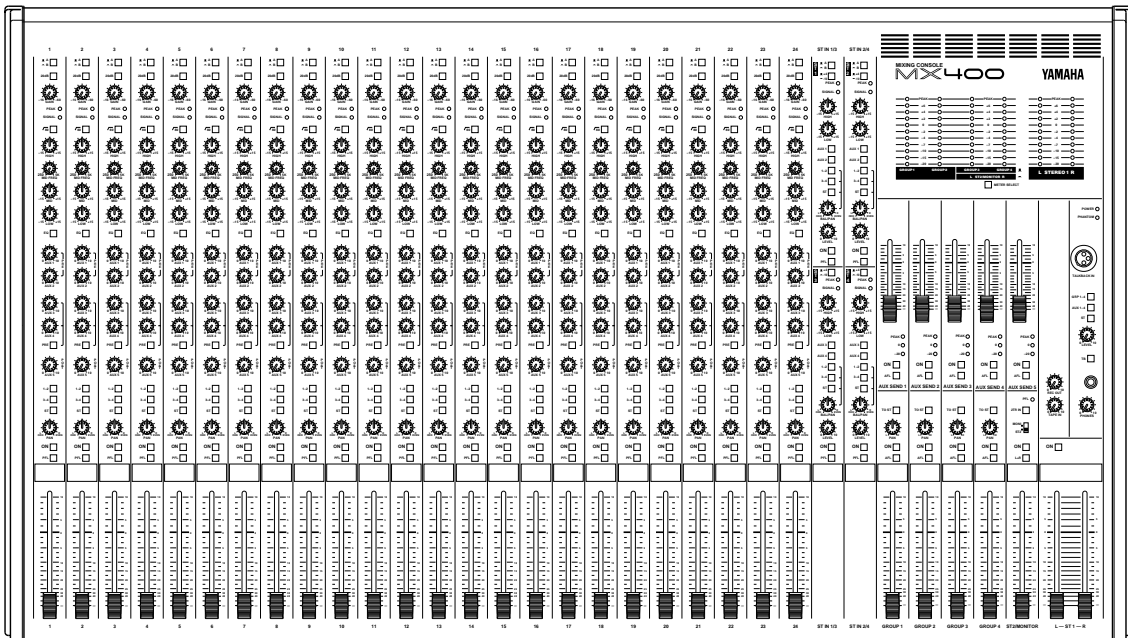


# YAMAHA

## MIXING CONSOLE CONSOLES DE MIXAGE MISCHPULTE CONSOLA DE MEZCLA

# MX400

*User's Guide  
Manuel d'utilisation  
Bedienungsanleitung  
Manual de uso*



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**IMPORTANT NOTICE FOR  
THE UNITED KINGDOM**

**Connecting the Plug and Cord**

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

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 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.

Making sure that neither core is connected to the earth terminal of the three pin plug.

\* This applies only to products distributed by YAMAHA - KEMBLE MUSIC (U.K.) LTD. 5-2 BS2 01 2/5

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MUSIC (U.K.) LTD. 5-2 BS2 01 2/5

# Precautions

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## 1. Location

Keep the unit away from locations where it is likely to be exposed to high temperatures or humidity — such as near radiators, stoves, etc. Also avoid locations which are subject to excessive dust accumulation or vibration which could cause mechanical damage and locations subject to strong electromagnetic fields, such as close to broadcast equipment.

## 2. Ventilation

The unit has ventilation slots on the bottom panel. Do not block these vents.

## 3. Avoid Physical Shocks

Strong physical shocks to the unit can cause damage. Handle it with care.

## 4. Do Not Open the Case or Attempt Repairs or Modifications Yourself

This product contains no user-serviceable parts. Refer all maintenance to qualified Yamaha service personnel. Opening the case and/or tampering with the internal circuitry voids the warranty.

## 5. Always power off before making connections

Always turn the power OFF before connecting or disconnecting cables. This is important to prevent damage to the unit itself as well as other connected equipment.

## 6. Handle Cables Carefully

Always plug and unplug cables — including the AC power cord — by gripping the connector, not the cord.

## 7. Clean With a Soft Dry Cloth

Never use solvents such as benzine or thinner to clean the unit. Wipe clean with a soft, dry cloth.

## 8. Always Use the Correct Power Supply

Make sure that the power supply voltage specified on the rear panel matches your local AC mains supply. Also make sure that the AC mains supply can deliver more than enough current to handle all equipment used in your system.

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# Introduction

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Thank you for purchasing the Yamaha MX400. The MX400 series is designed for easy operation and versatility in a wide range of applications, including PA and installed systems. The MX400 series includes three models; 8 channel, 12 channel, 16 channel, and 24 channel mixers.

In order to take full advantage of the MX400's functionality, please read this manual carefully.

## Features of the MX400

Each of the mono input channels provides the following functions.

- XLR/phone input jacks
- 20dB pad switch / continuously variable gain control
- 3 band EQ (with variable mid-range frequency) / EQ on/off switch / high pass filter switch
- TRS insert jack / direct output
- A total of 5 AUX SEND systems (pre  $\times$  2, post/pre  $\times$  2 (switchable), post  $\times$  1)
- ODD/EVEN group and stereo assign switch / pan control
- Channel ON switch
- PFL switch
- Level meter for accurate level control

In addition to the mono input channels, 4 sets of stereo input channels are provided, with the following functions.

- Four stereo inputs with 2 band EQ
- GROUP/AUX/STEREO assign switches
- Balance/pan control
- TRS 1/4" phone jack and RCA input jack select switch (only for stereo input 1/2)

The master section provides the following features.

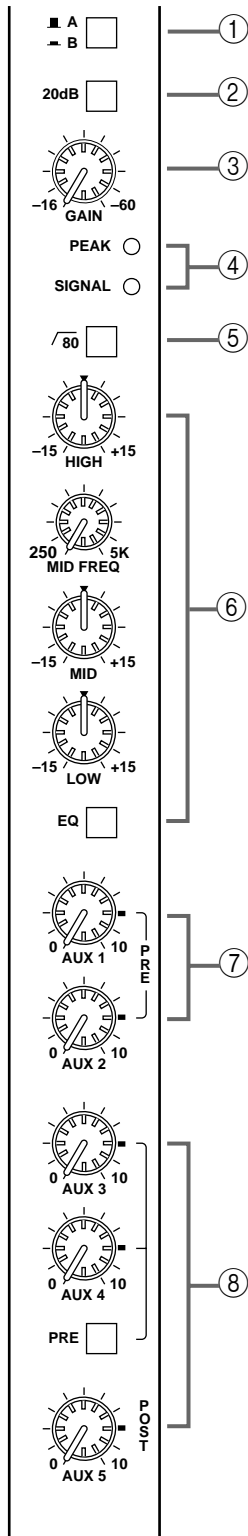
- Five fader-style AUX SEND controls
- Independent 3 point level meter for each AUX SEND control
- TO ST switch and pan control for each GROUP
- GROUP ON switch, AFL switch, and 100 mm fader for each GROUP
- The MONI/ST2 switch allows the ST2/MONI OUT output signal to be switched in the following two ways;
  - 1) One of the signals from an external source input to the stereo bus, the PFL bus, or the 2TR IN.
  - 2) The same signal as the ST1 OUT output signal.
- ON switch, L+R switch, and fader are provided for the ST2/MONI OUT output signal.

In addition, the following functions are provided.

- XLR mic inputs
- Talkback level control
- Assign switch

The TAPE IN jacks and REC OUT jacks have level controls, for convenience when you need additional margin for monitoring or recording. The level meters with peak indicators allow accurate monitoring.

# Front and rear panels



## Input modules

### ① A/B switch

This switch selects the signal source of the input module. Select INPUT A (XLR type) or INPUT B (1/4" phone type).

### ② 20dB pad switch

This is a 20dB input pad (attenuator) that affects INPUT A and INPUT B. If the level of the input signal is too high for adjustments to be made using the GAIN control alone, use the pad to attenuate the signal to an appropriate level. The pad is on when this switch is pressed in.

### ③ GAIN control

This controls the gain of the preamp for INPUT A and INPUT B. Gain is variable to a maximum of 44dB.

The GAIN control is always used in conjunction with the SIGNAL indicator and the PEAK indicator. Adjust the GAIN control so that the SIGNAL indicator is always lit when an input signal is present, and the PEAK indicator lights occasionally. If the PEAK indicator lights frequently, lower the GAIN control to prevent the signal from distorting. The following table shows usual settings for the GAIN control.

Signal source	GAIN control position		20dB pad switch
Dynamic mic (low level)	-60 ~ -50		off
Condenser mic (high level)	-35		off
Audio device, electronic musical instrument (low level)	-20		off
Audio device, electronic musical instrument (high level)	+4		on

### ④ SIGNAL indicator and PEAK indicator

When the post EQ signal level (nominal level 0dB) reaches -10dB, the SIGNAL indicator will light. This indicator indicates that a signal is being input.

When the post EQ signal level reaches 3dB before clipping level, the PEAK indicator will light. This indicator indicates that the signal has approached clipping level. Set the signal level based on the status of the PEAK indicator. For the procedure, see the explanation for ③ GAIN control.

### ⑤ $\sqrt{80}$ high pass filter switch

This switch cuts the input signal below 80 Hz at 12dB/octave. The filter is turned on when the switch is pressed in.

By using the high pass filter, you can reduce or eliminate wind noise, mic pop noise, and power supply hum etc.

### ⑥ EQ controls (HIGH, MID FREQ, MID, LOW)

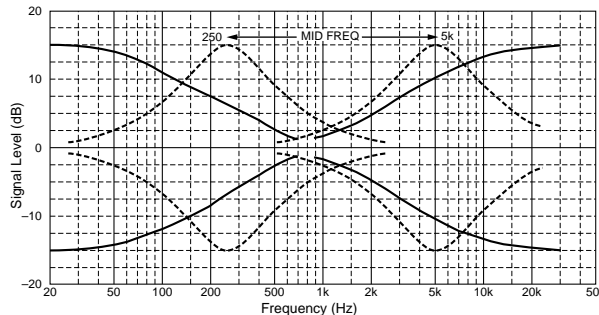
This is a 3-band equalizer with center frequencies, range, and type as shown below.

HIGH: 12 kHz +/-15dB shelving type

MID: 250 Hz ~ 5 kHz (variable) +/-15dB peaking type

LOW: 80 Hz +/-15dB shelving type

The frequency response is flat when the knob is in the center position.



### EQ switch

This switch turns the EQ on/off. When the switch is pressed in the EQ is on. In addition to bypassing the EQ when it is not being used, this switch provides a convenient way to compare the equalized and unequalized signals.

### ⑦ AUX 1 / AUX 2 controls

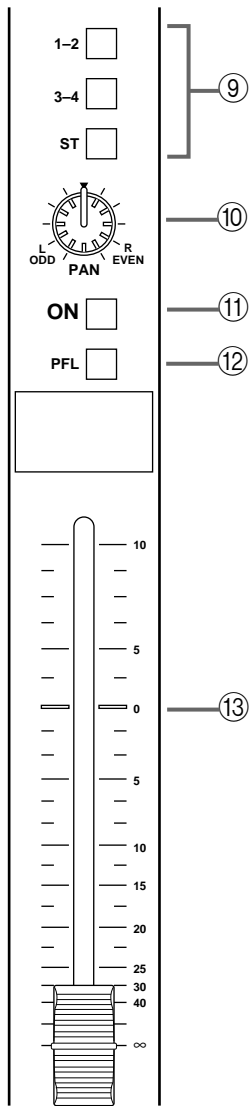
These adjust the signal level that is sent to each output AUX SEND 1 and AUX SEND 2. These signals are pre-fader (i.e., they are taken from before the fader adjustment). Nominal level is at 3 o'clock position.

### ⑧ AUX 3 / AUX 4 / AUX 5 controls

These adjust the signal level that is sent to each output AUX SEND 3, AUX SEND 4 and AUX SEND 5.

The signals controlled by AUX 3 and AUX 4 will depend on the setting of the PRE switch.

- **When the PRE switch is not pressed**  
They control the post-fader signal.
- **When the PRE switch is pressed**  
They control the pre-fader signal.  
AUX 5 controls the post-fader signal.  
Nominal level is at 3 o'clock position.



⑨ **Assign switches (1-2, 3-4, ST)**

These switches assign the signal of the input module to the group outputs and the ST output. The PAN control located below adjusts the stereo position of the signal between the odd (ODD) group and left (L) outputs and the even (EVEN) group and right (R) outputs.

⑩ **PAN control**

This knob adjusts the stereo position of the signal between the stereo L and R, and between the odd/even groups. For example if this knob is turned all the way to the left, the signal will be sent only to the L and odd (ODD) groups whose assign switches are pressed. If it is turned all the way to the right, the signal will be sent only to the R and even (EVEN) groups. If the knob is set to the center position, the same amount of signal will be sent to the stereo L and R, and the odd/even groups.

⑪ **ON switch**

This switch turns the input module on/off. When the switch is pressed in the input module is on. Be sure to turn off input modules that are not in use. Even when a module is off, the SIGNAL and PEAK indicators will light if a signal is being input. You can also use the PFL switch to monitor the signal even if a module is off.

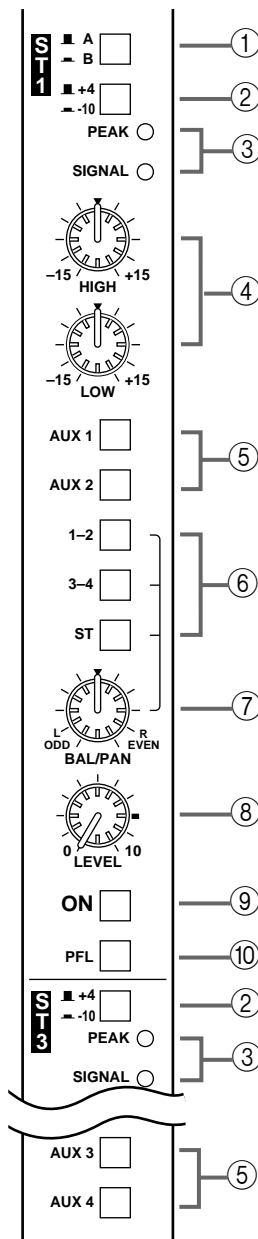
⑫ **PFL switch**

PFL is an acronym for Pre-Fader Listen. This switch allows you to monitor the signal of the input module regardless of the fader position, the settings of the ON switch, the group assign switches, or the AUX settings. As the name suggests, the signal is taken pre-fader (post EQ). You may listen to an individual module, or to two or more modules simultaneously. The PFL indicator located at the top of the STEREO module will light when a PFL switch is on.

⑬ **Fader**

This adjusts the signal level that is sent to the various outputs. Faders are used individually or in conjunction with the faders of the other input modules to create the desired mix balance. A position at the zero (0) marking is the nominal level. Raising the fader above 0 provides up to 10dB of gain.

## Stereo module



### ① A/B switch

This switch selects the signal source for the stereo module.

Select either ST INPUT A (unbalanced 1/4" phone type) or ST INPUT B (RCA pin) input. This switch is not provided for [ST3] or [ST4].

### ② Sensitivity select (+4/-10) switch

This switch selects the gain appropriate for the input signal level. The sensitivity is -10dB when the switch is pressed in, and +4dB when the switch is not pressed in.

### ③ SIGNAL and PEAK indicators

When the post EQ signal level (nominal level 0dB) reaches -20dB, the SIGNAL indicator will light. This indicator indicates that a signal is being input.

When the post EQ signal level reaches 3dB before clipping level, the PEAK indicator will light. This indicator indicates that the signal has approached clipping level. Set the signal level based on the status of the PEAK indicator.

### ④ EQ controls (HIGH, LOW)

This is a 2-band equalizer with center frequencies, range, and type as shown below.

HIGH: 12 kHz          +/-15dB shelving type

LOW: 80 Hz            +/-15dB shelving type

The frequency response is flat when the knob is in the center position.

### ⑤ AUX 1 / AUX 2 / AUX 3 / AUX 4 switches

These switches send the mono signal to the AUX buses. They are on when pressed in.

[ST1] and [ST2] select the AUX 1 and AUX 2 buses.

[ST3] and [ST4] select the AUX 3 and AUX 4 buses.

### ⑥ Assign switches (1-2, 3-4, ST)

These switches assign the signal of the stereo module to the group outputs and the ST output. The PAN control located below adjusts the stereo position of the signal between the odd (ODD) group and left (L) outputs and the even (EVEN) group and right (R) outputs.

### ⑦ BAL/PAN control

The BAL/PAN knob adjusts the balance or the L/R position of the stereo module signal. For example if this knob is turned all the way to the left, the signal will be sent only to the L and odd (ODD) groups whose assign switches are pressed. If it is turned all the way to the right, the signal will be sent only to the R and even (EVEN) groups. If the knob is set to the center position, the same amount of signal will be sent to the stereo L and R, and the odd/even groups.

### ⑧ LEVEL control

This adjusts the output level of the stereo module.

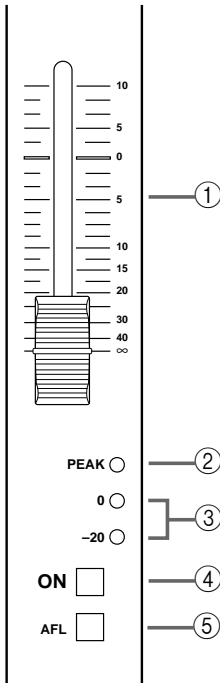
⑨ **ON switch**

This switch turns the stereo module on/off. When the switch is pressed the stereo module is on. Be sure to turn off input modules that are not in use. Even when a module is off, the SIGNAL and PEAK indicators will light if a signal is being input. You can also use the PFL switch to monitor the signal even if a module is off.

⑩ **PFL switch**

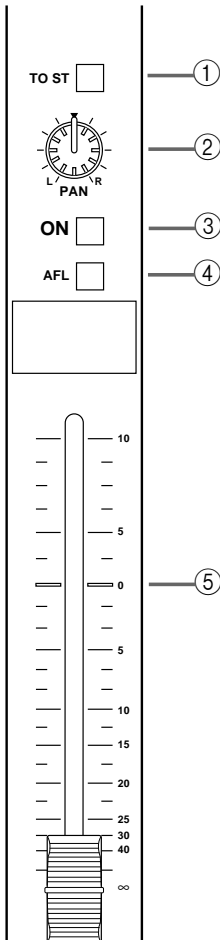
PFL is an acronym for Pre-Fader Listen. This switch allows you to monitor the signal of the stereo module regardless of the fader position, the settings of the ON switch, the group assign switches, or the AUX settings. As the name suggests, the signal is taken pre-fader (post EQ). You may listen to an individual module, or to two or more modules simultaneously.

## AUX SEND module



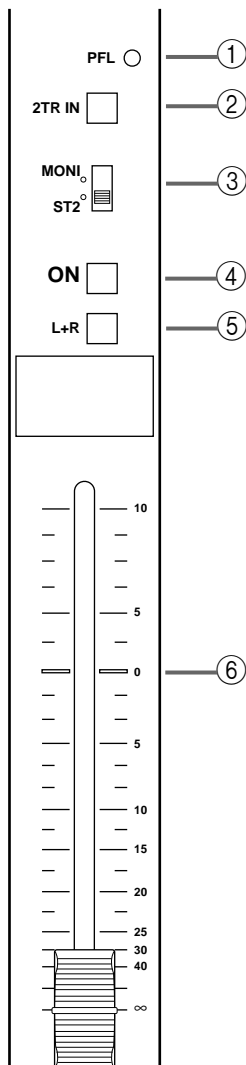
- ① **AUX SEND fader**  
This adjusts the signal level of the AUX SEND output. A position at the zero (0) marking is the nominal level. Raising the fader above 0 provides up to 10dB of gain.
- ② **PEAK indicator**  
This indicator lights when the level of the input signal reaches 3dB before clipping.
- ③ **Signal (0/-20) indicator**  
The 0dB indicator (yellow) lights when the output signal level reaches +4dB. The -20dB indicator (green) lights when the output signal reaches -16dB.
- ④ **ON switch**  
This switch turns the AUX SEND on/off. When the switch is pressed in it is turned on. When off, no signal will be output from the corresponding AUX SEND jack.
- ⑤ **AFL (After Fader Listen) switch**  
This monitors the AUX SEND signal. This is on when the switch is pressed in.

## GROUP module



- ① **TO ST switch**  
This sends the GROUP signal to the stereo bus.
- ② **PAN control**  
This adjusts the panning of the signal sent to the stereo bus.
- ③ **ON switch**  
This switch turns the GROUP on/off. The group is on when the switch is pressed in. When off, no signal will be output from the corresponding GROUP OUT jack.
- ④ **AFL (After Fader Listen) switch**  
This monitors the GROUP signal. This is on when the switch is pressed in.
- ⑤ **Group fader**  
This fader adjusts the signal level of the GROUP output.

## ST2/MONITOR module



### ① PFL indicator

This indicator (yellow) will light when the PFL switch of one or more modules is turned on.

### ② 2TR IN switch

This switch selects the 2TR IN input signal. This signal will be sent to the headphone jack and to the ST2/MONI OUT jack. When this switch is on, the 2TR IN input signal will be sent regardless of each module's PFL and AFL switch settings.

### ③ MONI/ST2 switch

This switch selects the signal that is output to the ST2/MONI OUT jack. When the switch is in the "ST2" position, the signal will be the same as the signal that is sent to the ST1 OUT jack. When the switch is in the "MONI" position, the signal will be taken from the PFL bus, AFL bus, or the 2TR IN jack.

### ④ ON switch

This switch turns the ST2/MONITOR module on/off. When the switch is pressed in the module is on. When the module is off, no signal will be output from the ST2/MONI OUT jack.

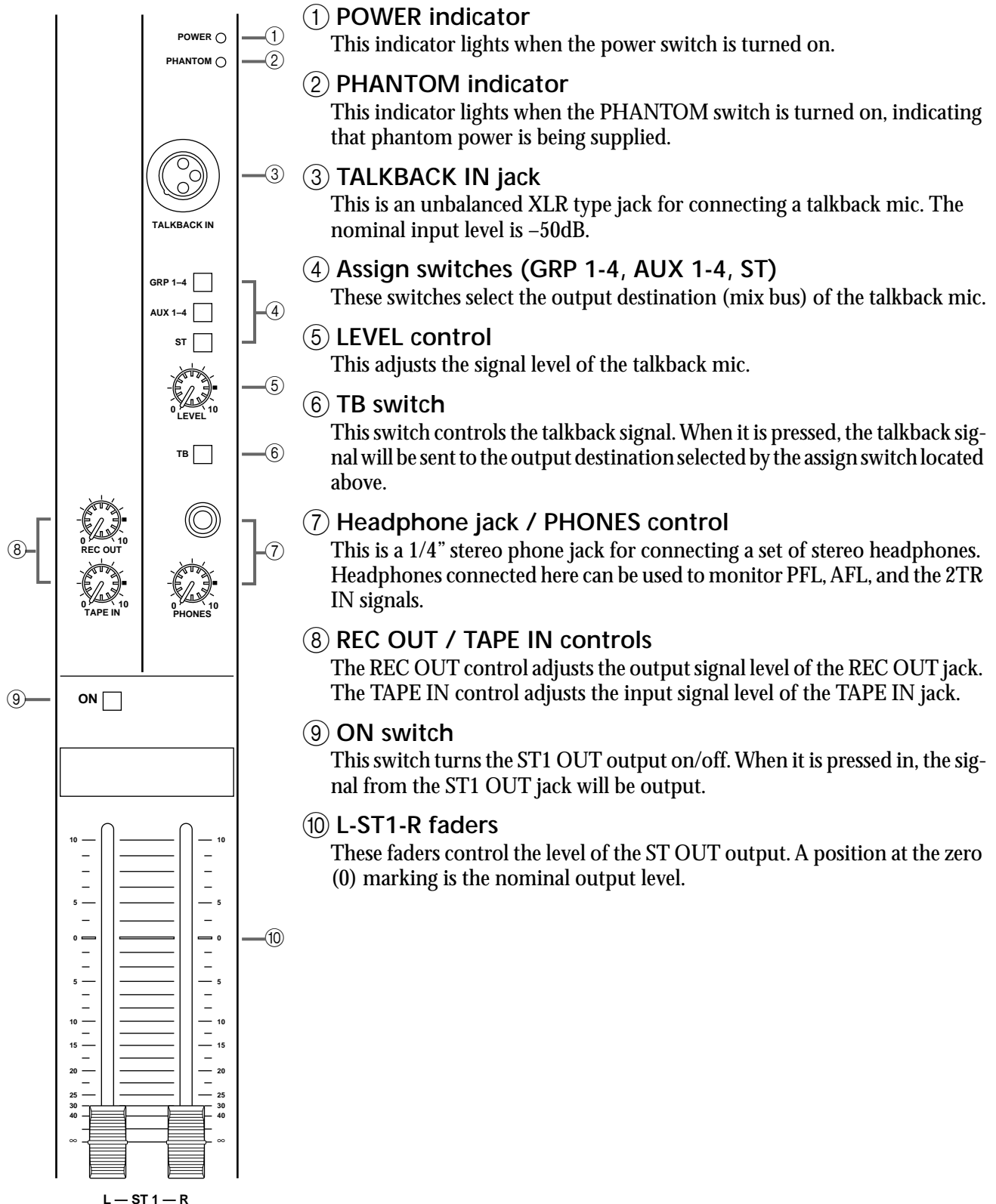
### ⑤ L+R switch

This switch causes a mono mixed signal to be output from the ST2/MONI OUT jack.

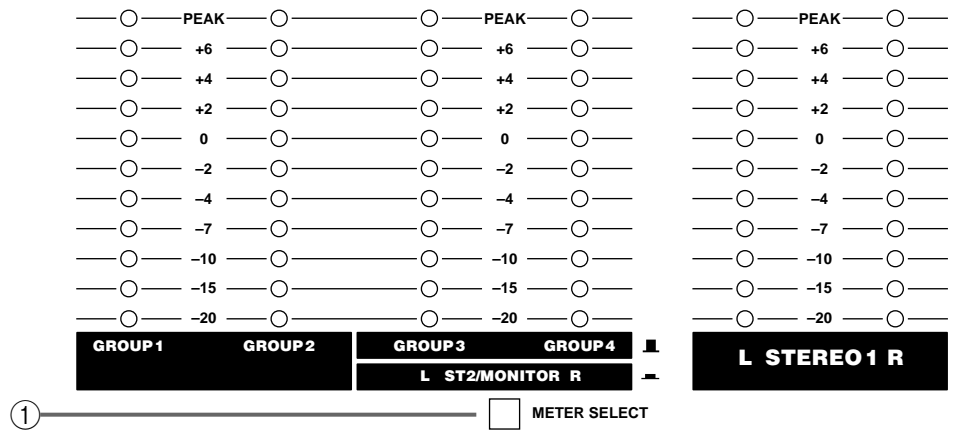
### ⑥ ST2/MONITOR fader

This fader controls the signal level of the ST2/MONITOR output.

## Master module (L-ST1-R)



## Meters



The MX400 provides six LED meters, and three types of output level can be viewed on the meters. 1) GROUP 1/2, 2) GROUP 3/4 or ST2/MONITOR L/R, 3) STEREO L/R.

The “0” position indicates the nominal output level.

The “PEAK” position indicates that the output level is 3dB before clipping.

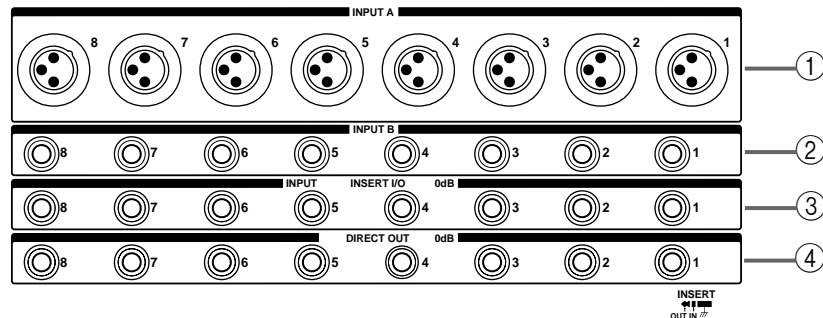
### ① METER SELECT switch

This switch selects whether GROUP 3/4 or ST2/MONITOR L/R will be monitored.

When the switch is not pressed in (  ), the central meter group will indicate the GROUP 3/4 signal level.

When the switch is pressed in (  ), the central meter group will indicate the ST2/MONITOR L/R signal level.

# Rear panel



## ① INPUT A jacks

These are unbalanced XLR3-31 type jacks which input the signal for each input module. Use the A/B switch to select these jacks.

- **Nominal input level: -60dB**

Phantom power (+48 V) can be supplied to these jacks. Phantom power is turned on/off using the PHANTOM switch.

When the PHANTOM switch is on, make sure that those devices which do not require phantom power are connected to the INPUT B jacks (②).

## ② INPUT B jacks

These are 1/4" phone jacks which input the signal for each input module. Use the A/B switch to select these jacks. These are balanced TRS jacks, with tip=hot, ring=cold, and sleeve=ground.

- **Nominal input level: -60dB**

## ③ INPUT INSERT I/O jacks (0dB)

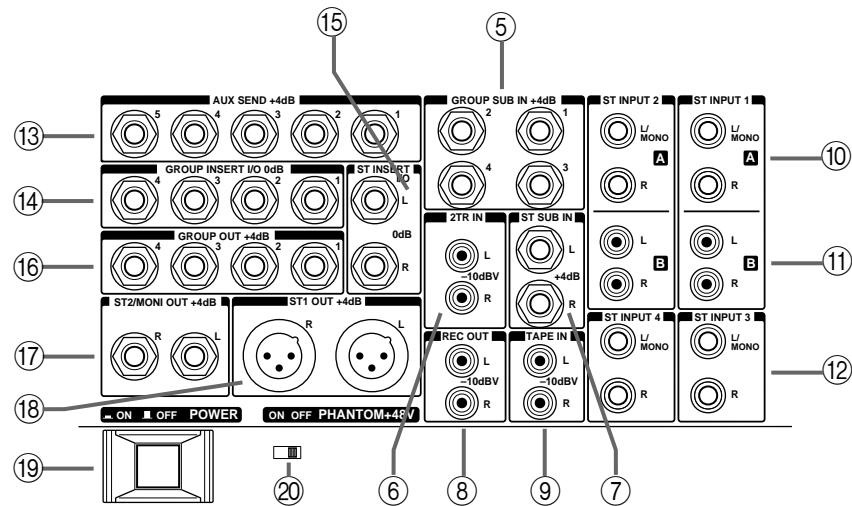
These are 1/4" phone jacks patched in front of the input module faders. These are unbalanced TRS jacks, with tip=out, ring=in, and sleeve=ground.

- **Nominal input level: 0dB**
- **Nominal output level: 0dB**

## ④ DIRECT OUT jacks (0dB)

These are unbalanced 1/4" phone jacks which output the post-fader signal independently from each input module.

- **Nominal output level: 0dB**

**Phantom Power Warning**

To prevent hazard or damage, connect only microphones and cables that conform to the IEC268-15A standard.

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⑤ **GROUP SUB IN jacks (+4dB)**

These are unbalanced 1/4" phone jacks which input signals from sub-mixers or other devices.

- **Nominal input level: +4dB**

⑥ **2TR IN jacks (-10dBV)**

These are RCA pin jacks used to input a stereo sound source.

- **Nominal input level: -10dBV**

⑦ **ST SUB IN jacks (+4dB)**

These are 1/4" unbalanced phone jacks which input a stereo signal from a sub-mixer or other source.

- **Nominal input level: +4dB**

⑧ **REC OUT jacks (-10dBV)**

These are RCA pin jacks which output a stereo signal to a DAT or cassette recorder. These jacks are positioned before the stereo master fader.

- **Nominal output level: -10dBV**

⑨ **TAPE IN jacks (-10dBV)**

These are RCA pin jacks which input a stereo source such as a DAT, stereo cassette deck, or CD player.

- **Nominal input level: -10dBV**

⑩ **ST INPUT 1/2 A jacks**

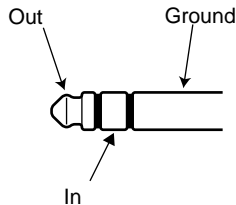
These are unbalanced 1/4" phone jacks which input a stereo source. These jacks are selected by the A/B switch.

- **Nominal input level: +4dB or -10dB**

⑪ **ST INPUT 1/2 B jacks**

These are RCA pin jacks which input a stereo source. These jacks are selected by the A/B switch.

- **Nominal input level: +4dB or -10dB**



⑫ **ST INPUT 3/4 jacks**

These are unbalanced 1/4" phone jacks which input a stereo source.

- **Nominal input level: +4dB or -10dB**

⑬ **AUX SEND jacks (+4dB)**

These are unbalanced 1/4" phone jacks which output the signals of the AUX SEND buses.

- **Nominal output level: +4dB**

⑭ **GROUP INSERT I/O jacks (0dB)**

These are 1/4" phone jacks patched in front of the GROUP faders. These TRS jacks are unbalanced.

- **Nominal output level: 0dB**
- **Nominal input level: 0dB**

Tip=out, Ring=in, Sleeve=ground

⑮ **ST INSERT I/O jacks (0dB)**

These are 1/4" phone jacks patched in front of the L-ST1-R fader of the master module. These TRS jacks are unbalanced, with Tip=out, Ring=in, and Sleeve=ground.

- **Nominal output level: 0dB**
- **Nominal input level: 0dB**

⑯ **GROUP OUT jacks (+4dB)**

These are unbalanced 1/4" jacks which output the signals of the GROUP buses.

- **Nominal output level: +4dB**

⑰ **ST2/MONI OUT jacks (+4dB)**

These are unbalanced 1/4" jacks which output the signal of the STEREO L,R bus or the signal of the MONITOR bus.

- **Nominal output level: +4dB**

⑱ **ST1 OUT jacks (+4dB)**

These are balanced XLR3-32 type jacks which output the signal of the stereo L,R bus.

- **Nominal output level: +4dB**

⑲ **POWER switch**

This switch turns the power on/off. When in the "ON" position, the POWER indicator will light.

⑳ **PHANTOM power switch**

This switch turns the internal phantom power supply on/off. When in the "ON" position, the PHANTOM indicator will light, and 48 DC power will be provided between pin 2 and pin 3 of the INPUT A jacks.

If you do not need phantom power, be sure to turn this to the "OFF" position.

# Appendix

## General specifications.

Frequency response	20 Hz–20 kHz +1, –2dB (ST L/R, GROUP @ 600 Ω AUX SEND @ 600 Ω)
Total harmonic distortion	Less than 0.1% (20 Hz–20 kHz @ 14dB*) (ST L/R, GROUP @ 600 Ω AUX SEND @ 600 Ω)
Crosstalk (@1 kHz)	–70dB (between adjacent channels) –70dB (between outputs)
Hum & Noise (Average, Rs=150 Ω) (Measured with BPF 20 Hz–20 kHz)	–128dB* equivalent input noise (CH 1–24)
	–96dB* residual noise (STEREO 1,2, GROUP 1–4, AUX SEND 1–5)
	–87dB* (STEREO 1,2, GROUP 1–4) Measured with master faders at nominal level and all assign switches off
	–64dB* (SN ratio = 68dB) (STEREO 1,2, GROUP 1–4) Measured with master fader and input module 1 at nominal level position
	–78dB* (AUX SEND 1–5) Measured with AUX SEND master faders at nominal level and AUX controls of all modules at minimum position
	–64dB* (SN ratio = 68dB) (AUX SEND 1–5) Measured with AUX SEND faders and the AUX control of one module at nominal level position
	–82dB* (STEREO 2/MONITOR) Measured with the ST2/MONITOR master fader and PFL and AFL switched off for all modules. Measured with MONI/ST2 switch in the MONI position.
	–64dB* (SN ratio = 68dB) (STEREO 2/MONITOR) Measured with the ST2/MONITOR master fader and the PFL switch on for one module, and the MONI/ST2 switch in the MONI position
Maximum voltage gain	84dB INPUT A/B → STEREO OUT 1,2
	84dB INPUT A/B → GROUP OUT 1–4
	80dB INPUT A/B → AUX SEND 1,2
	90dB INPUT A/B → AUX SEND 3–5
	28dB TAPE IN → STEREO OUT 1,2
	30dB ST INPUT 1–4 → STEREO OUT 1,2, GROUP OUT 1–4
	30dB ST INPUT 1–4 → AUX SEND 1–4
	10dB GROUP SUB IN → GROUP OUT
	10dB ST SUB IN → STEREO OUT
	22dB 2TR IN → STEREO 2/MONITOR
70dB TALKBACK → STEREO OUT	
Input module EQ	Maximum variation +/-15dB
	HIGH 12 kHz shelving type
	MID 250 Hz–5 kHz peaking
	LOW 80 Hz shelving type
	* Turnover/roll-off frequency for shelving: 3dB before maximum variation
ST input module EQ	Maximum variation +/-15dB
	HIGH 12 kHz shelving
	LOW 80 Hz shelving
	* Turnover/roll-off frequency: 3dB before maximum variation
Input module HPF	80 Hz 12dB/oct
Input module GAIN control	44dB variable –60dB– –16dB
Meters (0 LED = +4dB* output level)	6 × 11 segment LED (–20, –15, –10, –7, –4, –2, 0, +2, +4, +6, PEAK), GROUP 1,2, GROUP 3,4 or ST2/MONITOR L,R, ST1 L,R
Input module, stereo input module indicators	PEAK Lights red when post EQ signal reaches 3dB before clipping
	SIGNAL Lights green when post EQ signal reaches 10dB before nominal level
AUX SEND indicators	PEAK Lights red when output signal reaches 3dB before clipping
	0 Lights yellow when output signal reaches +4dB
	–20 Lights green when output signal reaches –16dB

Power requirements	US&Canada model	120V AC, 60Hz
	General model	230V AC, 50Hz
Weight	MX400-8 17kg, MX400-12 19kg, MX400-16 22kg, MX400-24 28kg	
Power Consumption	80W	
Dimensions (W × H × D)	MX400-8 562×180.2×596mm	
	MX400-12 682×180.2×596mm	
	MX400-16 802×180.2×596mm	
	MX400-24 1042×180.2×596mm	

\* OdB=0.775V R.M.S

## Input Specifications

Input Connection	PAD Switch	GAIN Control	Actual Load Impedance	For Use with Nominal	Input level			Mixer Connector
					Sensitivity *1	Nominal	Max. Before Clip	
INPUT A/B	—	-60	4k Ω	50–600 Ω mics & 600 Ω lines	-80dB (77.5μV)	-60dB (775μV)	-40dB (7.75mV)	XLR-3-31 type (A), Phone jack (B) *2
	—	-16			-36dB (12.3mV)	-16dB (123mV)	+4dB (1.23V)	
	-20	-16			-16dB (123mV)	+4dB (1.23V)	+24dB (12.3V)	
STEREO INPUT 1, 2	+4	—	5k Ω	600 Ω lines	-12dB (195mV)	+4dB (1.23V)	+24dB (12.3V)	Phone jack *4 RCA (switchable)
	-10	—			-26dB (38.8mV)	-10dB (245mV)	+10dB (2.45V)	
STEREO INPUT 3, 4	+4	—	5k Ω	600 Ω lines	-12dB (195mV)	+4dB (1.23V)	+24dB (12.3V)	Phone jack *4
	-10	—			-26dB (38.8mV)	-10dB (245mV)	+10dB (2.45V)	
INPUT INSERT IN			10k Ω	600 Ω lines	-20dB (77.5mV)	0dB (775mV)	+20dB (7.75V)	Phone jack (TRS) *3
STEREO INSERT IN			10k Ω	600 Ω lines	-20dB (77.5mV)	0dB (775mV)	+20dB (7.75V)	Phone jack (TRS) *3
GROUP INSERT IN			10k Ω	600 Ω lines	-20dB (77.5mV)	0dB (775mV)	+20dB (7.75V)	Phone jack (TRS) *3
TAPE IN			10k Ω	600 Ω lines	-26dBV (50mV)	-10dBV (316mV)	—	RCA
STEREO SUB IN			10k Ω	600 Ω lines	-6dB (388mV)	+4dB (1.23V)	+24dB (12.3V)	Phone jack *4
GROUP SUB IN			10k Ω	600 Ω lines	-6dB (388mV)	+4dB (1.23V)	+24dB (12.3V)	Phone jack *4
2TR IN			10k Ω	600 Ω lines	-20dBV (100mV)	-10dBV (316mV)	+10dBV (3.16V)	RCA
TALKBACK			10k Ω	50–600 Ω mics	-66dB (388μV)	-50dB (2.45mV)	-30dB (24.5mV)	XLR-3-31 type *5

\*1. Sensitivity is the lowest input level that will produce an output of +4dB (1.23V) or the nominal output level when MX400 is set to maximum gain (i.e. all level controls and faders set to maximum).

\*2. XLR-type connectors and phone jacks (TRS) are balanced (Tip=HOT, Ring=COLD, Sleeve=shield).

\*3. Insert phone jacks (TRS) are unbalanced (Tip=out, Ring=in, Sleeve=GND).

\*4. Phone jacks are unbalanced.

\*5. The talkback jack is unbalanced.

\*6. In these specifications, when dB represents a specific voltage, 0dB is referenced to 775mV RMS, and when dBV represents a specific voltage, 0dBV is referenced to 1V RMS.

# Output Specifications

Output Connection	Actual Source Impedance	For Use with Nominal	Output Level		Mixer Connector
			Nominal	Max. Before Clip	
ST1 OUT L/R	150 Ω	600 Ω lines	+4dB (1.23V)	+24dB (12.3V)	XLR-3-32 type *1
STEREO INSERT OUT L/R	600 Ω	10k Ω lines	0dB (775mV)	+20dB (7.75V)	Phone jack (TRS)*2
ST2/MONI OUT L/R	75 Ω	600 Ω lines	+4dB (1.23V)	+20dB (7.75V)	Phone jack *3
REC OUT L/R	600 Ω	10k Ω lines	-10dBV (316mV)	+16dBV (6.31V)	RCA
GROUP 1-4	75 Ω	600 Ω lines	+4dB (1.23V)	+20dB (7.75V)	Phone jack *3
AUX SEND 1-5	75 Ω	600 Ω lines	+4dB (1.23V)	+20dB (7.75V)	Phone jack *3
INPUT INSERT OUT	600 Ω	10k Ω lines	0dB (775mV)	+20dB (7.75V)	Phone jack (TRS) *2
GROUP INSERT OUT	600 Ω	10k Ω lines	0dB (775mV)	+20dBV (7.75V)	Phone jack (TRS) *2
DIRECT OUT	600 Ω	10k Ω lines	0dB (775mV)	+20dB (7.75V)	Phone jack *3
PHONES OUT	100 Ω	40 Ω phones	3mW (346mV)	100mW (2.0V)	Stereo phone jack

\*1. XLR-type connectors and Phone jacks are balanced (Tip=HOT, Ring=COLD, Sleeve=GND).

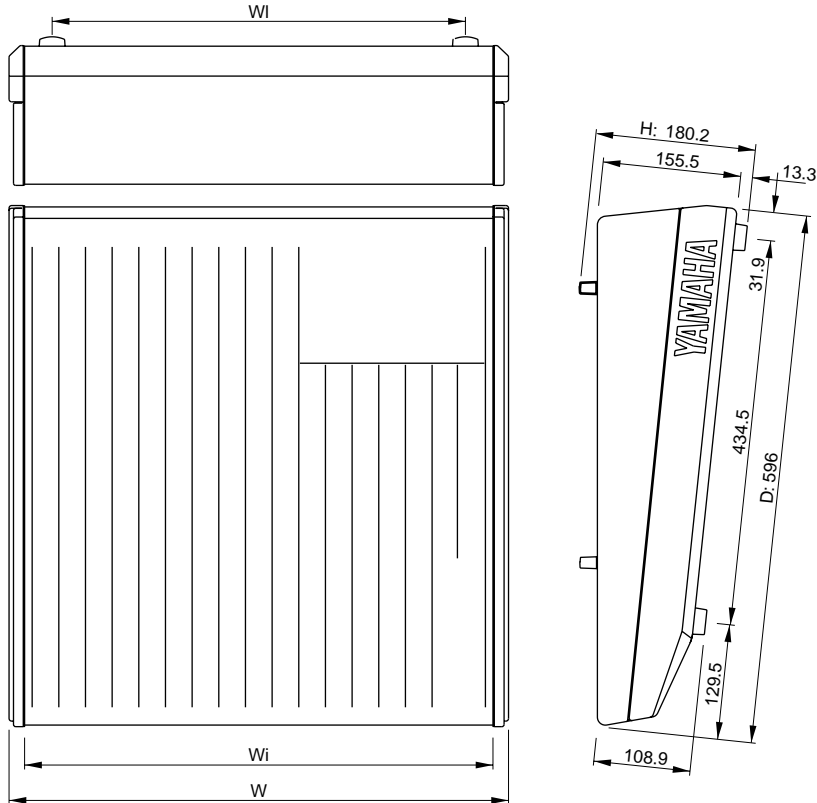
\*2. Insert phone jacks (TRS) are unbalanced (Tip=out, Ring=in, Sleeve=GND).

\*3. Phone jacks are unbalanced.

\*4. In these specifications, when dB represents a specific voltage, 0dB is referenced to 775mV RMS, for TAPE SEND dBV represents a specific voltage, 0dBV is referenced to 1V RMS.

• All specifications subject to change without notice.

# Dimensions



Model	Wi	Wi	W
MX400-8	465	527	562
MX400-12	585	647	682
MX400-16	705	767	802
MX400-24	945	1007	1042



**YAMAHA**