USER'S MANUAL

MX SERIES
PROFESSIONAL MIXER
MX-5
MX-6
MX-8

IMPORTANT SAFETY SYMBOLS

The symbol is used to indicate that some hazardous live terminals are involved within this apparatus, even under the normal operating conditions, which may be sufficient to constitute the risk of electric shock or death.

The symbol is used in the service documentation to indicate that specific component shall be replaced only by the component specified in that documentation for safety reasons.

⏚ Protective grounding terminal

~ Alternating current/voltage

ϟ Hazardous live terminal

ON: Denotes the apparatus is turned on

OFF: Denotes the apparatus is turned off.

WARNING: Describes precautions that should be observed to prevent the danger of injury or death to the operator.

CAUTION: Describes precautions that should be observed to prevent danger of the apparatus.

IMPORTANT SAFETY INSTRUCTIONS

- **Read these instructions.**
- **Keep these instructions.**
- **Heed all warning.**
- **Follow all instructions.**
- **Water & Moisture**
  The apparatus should be protected from moisture and rain, can not used near water, for example: near bath-tub, kitchen sink or a swimming pool, etc.
- **Heat**
  The apparatus should be located away from the heat source such as radiators, stoves or other appliances that produce heat.

Mains voltage

USA/Canada	120 V~, 60 Hz, MXUL5 adapter
U.K./Australia	240 V~, 50 Hz, MXUK5 adapter
Europe	230 V~, 50 Hz, MXEU5 adapter
Japan	240 V~, 60 Hz, MXJP5 adapter

Dimenstions

MX-5

Dimensions (H x W x D)	42mm / 32mm x 195mm x 120mm
weight (net)	approx. 0.7 kg

MX-6

Dimensions (H x W x D)	42mm / 32mm x 240mm x 184mm
weight (net)	approx. 1.2 kg

MX-8

Dimensions (H x W x D)	42mm / 32mm x 240mm x 237mm
weight (net)	approx. 1.5 kg

Measuring conditions:

1: 1kHz rel.to 0 dBu; 20 Hz - 20 kHz, line input; main output; unity gain.
2: 20Hz - 20kHz; measured at main output. Channels 1 - 4 unity gain: EQ flat; al channels on main mix; channels 1/3 as far left as possible, channels 2/4 as far right as possible. Reference = +6 dBu.

We are constantly striving to manintain the highest professional standards. As a result of these efforts, modifications may be made from time to existing products without prior notice. Specifications and appearance may differ from those listed or illustrated.

EQ mono channels	
Low	80 Hz / 15 dB
Mid	2.5 kHz / 15 dB
High	12 kHz / 15 dB
EQ stereo channels	
Low	80 Hz / 15 dB
Mid	2.5 kHz / 15 dB
High	12 kHz / 15 dB
Aux sends	
Type	1/4 " TS connector, unbalanced
Impedance	approx. 20 kΩ
Max.output level	+22 dBu
Stereo aux return	
Type	1/4 " TRS connector, electronically balanced
Impedance	approx. 20 kΩ bal. /10 kΩ unbal.
Max.input level	+22 dBu
Main outputs	
Type	XLR electronically balanced
Impedance	approx. 240Ω bal./ 120Ω unbal.
Max.output level	+28 dBu
Control room outputs	
Type	1/4 " TS connector, unbal.
Impedance	approx. 120 Ω
Max.output level	+22 dBu
Headphones output	
Type	1/4 " TRS connector, unbalanced
Max.output level	+19 dBu / 150Ω(+25 dBu)
Main mix system data[2]	
Noise	
Main mix @ -∞, Channel fader -∞	-106 dB / -109 dB A-weighted
Main mix @ 0 dB, Channel fader -∞	-95 dB / -98 dB A-weighted
Main mix @ 0 dB, Channel fader @ 0 dB	-84 dB / -87 dB A-weighted
Power supply	
Power consumption	MX-5: 13 W
	MX-6: 15 W
	MX-8: 17 W

- **Ventilation**
  Do not block areas of ventilation opening. Failure to do could result in fire. Always install accordance with the manufacturer's instructions.

- **Object and Liquid Entry**
  Objects do not fall into and liquids are not spilled into the inside of the apparatus for safety.

- **Power Cord and Plug**
  Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

  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 is provided for your safety. If the provided plug does not fit into your outlet, refer to electrician for replacement.

- **Power Supply**
  The apparatus should be connected to the power supply only of the type as marked on the apparatus or described in the manual. Failure to do could result in damage to the product and possibly the user.

  Unplug this apparatus during lightning storms or when unused for long periods of time.

- **Fuse**
  To prevent the risk of fire and damaging the unit, please use only of the recommended fuse type as described in the manual. Before replacing the fuse, make sure the unit turned off and disconnected from the AC outlet.

- **Electrical Connection**
  Improper electrical wiring may invalidate the product warranty.

- **Cleaning**
  Clean only with a dry cloth. Do not use any solvents such as benzol or alcohol.

- **Servicing**
  Do not implement any servicing other than those means described in the manual. Refer all servicing to qualified service personnel only.
- Only use accessories/attachments or parts recommended by the manufacturer.

- **Warning**
  Please remember the high sound pressure do not only temporarily damage your sense of hearing, but can also cause permanent damage. Be careful to select a suitable volume.

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4.SPECIFICATIONS

Mono inputs	
Microphone inputs (XENYX Mic Preamp)	
Type	XLR, electronically balanced, discrete input circuit
Mic E.I.N. (20 Hz - 20 kHz)	
@ 0 Ω source resistance	-134 dB / 135.7 dB A-weighted
@ 50 Ω source resistance	-131 dB / 133.3 dB A-weighted
@ 150 Ω source resistance	-129 dB / 130.5 dB A-weighted
Frequency response	<10 Hz -150 kHz (-1 dB), <10 Hz -200 kHz (-3 dB)
Gain range	+10 to +60 dB
Max. Input level	+12 dBu @ +10 dB gain
Impedance	approx. 2.6 kΩ balanced
Signal-to noise ratio	110 dB / 112 dB A-weighted (0 dBu In @ +22 dB gain)
Distortion (THD+ N)	0.005% / 0.004% A-weighted
Line input	
Type	1/4 " TRS connector, electronically balanced
Impedance	approx. 20Ω banlanced 10 kΩ unbanlanced
Gain range	-10 to +40 dB
Max. Input level	+22 dBu @ 0 dB Gain
Fade-out attenuation[1]	
(Crosstalk attenuation)	
Main fader closed	90 dB
Channel muted	89.5 dB
Channel fader closed	89 dB
Frequency response	
Microphone input to main out	
<10 Hz - 90 kHz	+0 dB / -1 dB
<10 Hz - 160 kHz	+0 dB / -3 dB
Stereo inputs	
Type	1/4 " TRS connector, electronically balanced
Impedance	approx. 20 kΩ
Max. Input level	+22 dBu

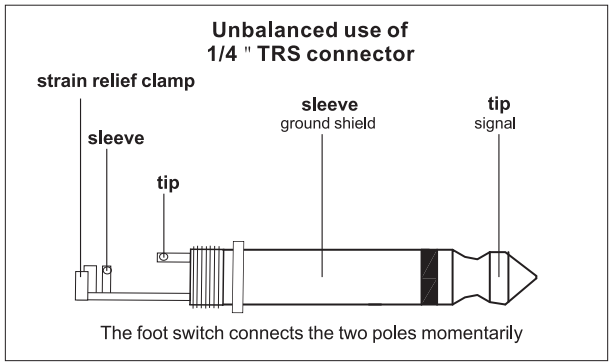

Fig. 3.2: 1/4 "mono plug

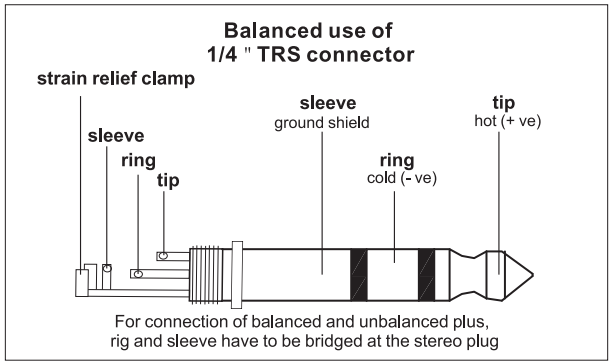

Fig. 3.3: 1/4 " stereo plug

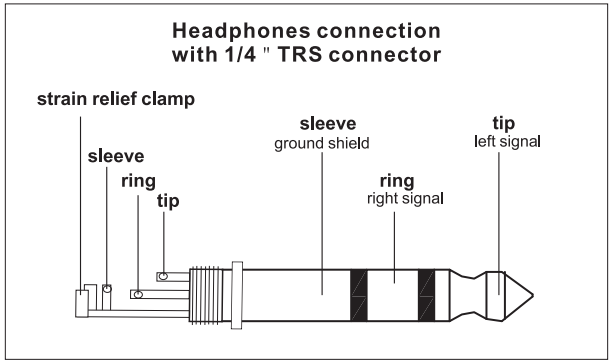

Fig. 3.4: Stereo plug for headphones connection

1.INTRODUCTION

Congratulations! In purchasing the MX-5 / MX-6 / MX-8 you have acquired a mixing console whose small size belies its incredible versatility and audio performance.

The MX Series represents a milestone in the development of mixing console technology . With the MX microphone preamps including phantom power as an option. Balanced line input and a powerful ef fects section. The mixing consoles in the MX Series are optimally equipped for live and studio applications. Owing to state-of-the-art circuitry your MX console produces a warm analog sound that is unrivalled. With the addition of the latest digital technology these base-in-class consoles combine the advantages of both analog and digital technology.

The microphone channels feature high-end MX Mic Preamps that compare well with costly outboard preamps in terms of sound quality and dynamics and boast the following features.

▲ 130dB dynamic range for an incredible amount of headroom

▲ A bandwidth ranging from below 10 Hz to over 200 KHz for crystal-clear reproduction of over the finest nuances

▲ The extremely low-niose and distortion-free circuitry guarantees absolution natural and transparent signal reproduction

▲ They are perfectly matched to every conceivable microphone with up to 60 dB gain and +48 volt phantom power supply

▲ They enable you to use the greatly extended dynamic range of your. 24-bit/192 kHz HD recorder to the full. Thereby maintaining optimal audio quality

"British EQ"

The equalizers used for the MX Series are based on the legendary circuitry of top-notch consoles made in Britain, which are renowned throughout the world for their incredibly warm and musical sound character. Even with extreme gain settings these equalizers ensure outstanding audio quality.

CAUTION!

☞ **We should like to draw your attention to the fact that extreme volumes may damage your hearing and/or your headphones or loudspeakers. Turn the MAIN MIX control and phones control in the main section fully down before you switch on the unit. Always be careful to set appropriate volume levels.**

1.1 general mixing console functions

A mixing console fulfils three main functions:

▲ **Signal processing**: Preamplification, level adjustment, mixing of effects. Frequency equalization.

▲ **Signal distribution**: Summing of signals to the aux sends for effects processing and monitor mix, distribution to one or several recording tracks, power amp(s), control room and 2-track outputs.

▲ **Mix:** Setting the volume level, frequency distribution and positioning of the individual signals in the stereo field, level control of the total mix to match the recording devices/crossover/power amplifier(s). All other mixer functions can be included in this main function.

The mixing consoles is optimized for these tasks enabling you to easily keep track of the signal path.

1.2 The user's manual

The user's manual is designed to give you both an overview of the controls, as well as detailed information on how to use them. In order to help you understand the links between the controls, we have arranged them in groups according to their function. The illustrations at the beginning of each chapter show the controls described in each respective chapter.

☞ **the block diagram supplied with the mixing console gives you an overview of the connections between the inputs and outputs, as well as the associated switches and controls.**

For the moment, just try and trace the signal path from the microphone input to the FX send connector, Do not be put off by the huge range of possibilities; it is easier than you thank! if you look at quickly familiarize yourself with your mixing console and you will soon be making the most of all its many possibilities.

1.3 Before you get started

1.3.1 Shipment

Your mixing console was carefully packed in the factory to guarantee safe transport. Nevertheless, we recommend that you careful examine the packing and its contents for any signs of physical damage. Which may have occurred during transit.

☞ **If the unit is damaged, please do NOT return it to us, but notify your dealer and the shipping company immediately, otherwise claims for damage or replacement may not be granted.**

1.3.2 Initial operation

Be sure that there is enough space around the unit for cooling purposes and to avoid over-heating please do not place your mixing console on high-temperature devices such as radiators or power amps. The console is connected to the mains via the supplied cable. The console meets the required safety standards. Blown fuses must only be replaced by fuses of the same type and rating.

☞ **never connect the MX to the power supply unit when the latter is connected to the mains! First connect the power supply unit to the console, then connect the power supply unit to the mains.**

☞ **Please note that all unit must be properly grounded. For your own safety, you should never remove any ground connectors from electrical devices or power cables, or render them inoperative.**

☞ **Please sure that only qualified people install and operate the mixing console.During installation and operation, the user must have sufficient electrical contact to earth, otherwise electrostatic discharges might affect the operation of the unit.**

3.INSTALLATION

3.1 Mains connection

AC POWER IN

Connect the power supply to the 3-pin mains connector on the rear of the console. Use the AC adapter supplied to connect the console to the mains. The adapter complies with all applicable safety standards.

☞ **Please use only the power supply unit provided with the console.**

☞ **Never connect the MX to the power supply unit while the latter is connected to the mains! First connect the console to the power supply unit, then connect the power supply unit to the mains.**

☞ **Please use only the power supply unit provided with the console.**

3.2 Audio connections

You will need a larger number of cable for the various connections to and from the console. The illustrations below show. The wing of these cables. Be sure to use only high-grade cable.

Please use commercial RCA cables to wire the 2-track inputs and outputs.

You can, of course, also connect unbalanced devices to the balanced input/outputs. Use either mono plugs, or ensure that ring and sleeve are bridged inside the stereo plug (or pins 1 & 3 in the case of XLR connectors).

☞ **Caution! Never use unbalanced XLR connectors (PIN 1 and 3 connected) on the MIC input connectors when using the phantom power supply.**

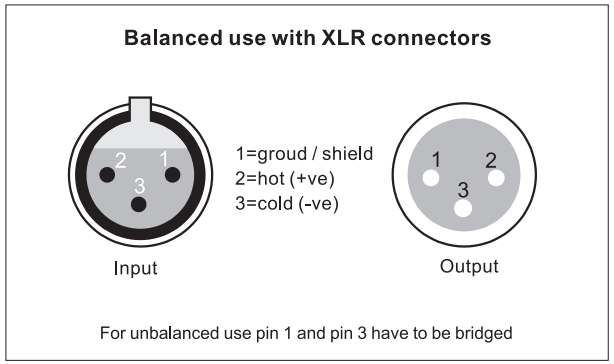

Fig. 3.1: XLR connections

+48 V (MX-6 / MX-8 ONLY)

The red +48 V LED lights up when phantom power is on. The PHANTOM switch activates the phantom power supply on the XLR connectors of all mono channels.

☞ **Please do not connect microphones to the mixer (or the stagebox/wallbox) as long as the phantom power supply in switched on. Connect the micro-Phones before you switch on the power supply. IN addition, the monitor/PA loudspeakers should be muted before you activate the phantom power supply. After switching on, wait approx. one minute in order to allow system stabilization.**

POWER

The blue POWER LED indicates that the console in powered on.

LEVEL INDICATOR

The high-precision 4-segment display accurately displays the relevant signal level.

LEVEL SETTING

To correctly set the gains of the channels, first set the LEVEL controls of the input channels to their center positions (0 dB) Then use the TRIM controls to increase the input amplification until signal peaks show 0 dB on the level meter.

When recording to digital recorders, the recorder s peak meter should not go into overload. While analog recorders can be overloaded to some extent, creating only a certain amount of distortion (which is common and often desirable), digital recorders distort quickly when overloaded. In addition, digital distortion is not only undesirable, but also renders your recording completely useless.

☞ **The peak meters of your MX display the level virtually independent of frequency. A recording level of 0 dB is recommended for all signal types.**

Registering your purchase and equipment with us helps us process your repair claims quicker and more efficiently.

2.CONTROL ELEMENTS AND CONNECTORS

This chapter describes the various control elements of your mixing console. All controls, switches and connectors will be discussed in detail.

2.1 Mono channels

2.1.1 Microphone and line inputs

Fig. 2.1: Connectors and controls of mic/line inputs

MIC

Each mono input channel offers a balanced microphone input via the XLR connector and also features switchable +48 V phantom power supply for condenser microphones. The MX preamps provide undistorted and noised-free gain as is typically known only from costly outboard preamps.

☞ **Please mute your play back system before you active the phantom power supply to prevent switch-on thump being directed to your loudspeakers. Please also note the instructions in chapter 2.3.5 "Phantom power and LED displays".**

LINEIN

Each mono input also features a balanced line input on a 1/4 connector. Unbalanced devices (mono jacks) can also be connected to these inputs.

☞ **please remember that you can only use either the microphone or the line input of a channel at any one time. You can never use both simultaneously!**

TRIM

Use the TRIM control to adjust the input gain. This control should always be turned fully counterclock -wise whenever you connect or disconnect a signal source to one of the inputs.

2.1.2 Equalizer

All mono input channels include a 3-band equalizer. except for the 502, All bands provide boost or cut of up to 15 dB. In the central position, the equalizer is inactive.

The circuitry of the British EQs is based on the technology used in the bast-known top-of-the-line consoles and providing a warm sound without any unwanted side effects. The result are extremely musical equalizes which, unlike simple equalizers, cause no side effects such as phase shifting or bandwidth limitation, even with extreme gain settings of +15 dB.

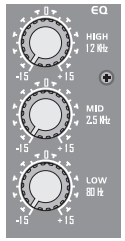

Fig. 2.2: Panorama and routing controls

EQ

The upper (HI) and the lower band (LO) are shelving filters that increase or decrease all frequencies above or below their cut-off frequency. The cut-off frequencies of the upper and lower band are 12 kHz and 80 Hz respectively. The mid band (MX-6 / MX-8) is configured as a peak filter with a center frequency of 2.5kHz

2.1.3 FX sends, panorama and level adjustment

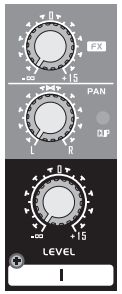

Fig. 2.3: The FX send/panoramall/level controls

2.3.4 Signal assignment

Fig: 2.3.4 Signal assignment

CD/TAPE TO MIX

When the TAPE TO MIX switch is depressed, the 2-track input is assigned to the main mix providing an additional input for tape machines, MIDI instruments or other signal sources that do not require any processing.

CD/TAPE TO CTRL ROOM (MX-5: D/TAPE TO PHONES)

Press the CD/TAPE TO CTRL ROOM/PHONES switch if you want to monitor the 2-track input via the CTRL ROOM OUT. This provides an easy way to monitor signals coming back from tape to ensure that they are recording correctly.

☞ **If you are recording a signal via the CD/TAPE OUTPUT and wish to listen to this simultaneously via the CD/TAPE INPUT, do not use the CD/TAPE TO MIX switch. Doing this would create a feedback loop, since the signal would be routed, via the main mix, back to tape via the CD/TAPE OUTPUT. To monitor the CD/TAPE INPUT, use the CD/TAPE TO CTRL ROOM switch to assign the tape signal to the monitor(s) or headphones. This will avoid the tape signal being routed to the CD/TAPE OUTPUT.**

2.3.5 Phantom power and LED displays

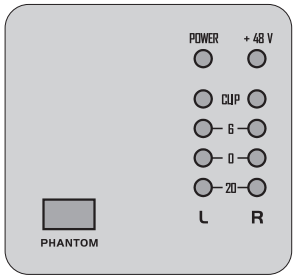

Fig. 2.13 Phantom power and LED displays

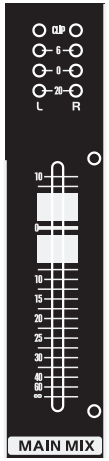

Fig. 2.9: Monitor control and main fader

PHONES/CONTROL ROOM

The stereo PHONES jack (at the top of the connector panel) is where you connect headphones. The unbalanced CTRL ROOM OUT jacks carry the summed effects and main mix signals, as well as soloed channel signals. The PHONE/CONTROL ROOM control adjusts the level of both headphones and main monitor outputs. The MX-5 is not equipped with control room outputs.

MAIN MIX

The MAIN OUT connectors are unbalanced mono jacks. The main mix signal appears here at a level of 0 dBu. The MAIN MIX fader adjusts the volume of these outputs.

CD/TAPE INPUT

The CD/TAPE INPUTS are used to bring an external signal source (e.g. CD player, tape deck, etc.) into the console. They can also be used as a standard stereo line input, so the output of a second ME.

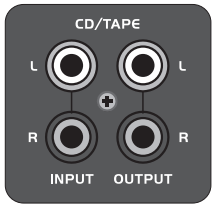

Fig. 2.11:CD/Tape input/output

Alternatively the line or tape output of a hi-fi amplifier with source selection switch could also be hooked up here, allowing you to easily listen to additional sources.

CD/TAPE OUTPUT

These connectors are wired in parallel with the MAIN OUT and carry the main mix signal (unbalanced). Connect the CD/TAPE OUTPUT to the inputs of your recording device. The output level is adjusted via the high-precision MAIN MIX fader or rotary control (MX-6 / MX-8).

FX (MX-6 / MX-8 ONLY).

FX sends (or AUX sends) enable you to feed signals via a variable control from one or more channels and sum these signals to bus. The bus appears at the console's FX send output and can be fed from there to an external effects device. The return from the effects unit is then brought back into the console on the aux return connectors (MX-6 / MX-8) or normal channel inputs. Each FX send is mono and features up to +15 dB gain.

As the name suggests, the FX sends of the ME mixing consoles are intended to drive effects devices (reverb, delay, etc.) and are therefore configured post-fader. This means that the mix between dry signal and effect remains at the level determined by the channel's aux send, irrespective of the level fader setting. If this were not the case, the effects signal of the channel would remain audible even when the fader is lowered to zero.

PAN

The PAN control determines the position of channel signal within the stereo image. This control features a constant-power characteristic, which means the signal is always maintained at a constant level, irrespective of position in the stereo panorama.

LEVEL

The LEVEL control determines the level of the channel signal in the main mix

CLIP

The CLIP LED"s of the mono channels illuminate when the input signal is driven too high, which could cause distortion. If this happens, use the TRIM control to reduce the preamp level until the LED does not light anymore.

2.2 Stereo channels

2.2.1 Stereo line inputs

Fig. 2.4: Stereo line inputs

LINE IN

Each stereo channel has two balanced line level input on 1/4" connectors for left and right channels. If only the connector marked "L"(left) is used, the channel operates in mono. Stereo channels are designed to handle typical line level signals. Both inputs will also accept unbalanced jacks.

2.2.2 Equalizer stereo channels (MX-6 / MX-8)

The MX-6 /MX-8'features a stereo 3-band EQ in each stereo channel. The filter characteristics and cut-off frequencies are the same as those in the mono channel.

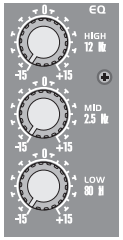

Fig. 2.5: The equalizer of the stereo input chanel

A stereo EQ is highly preferable to two mono equalizers. when working on a stereo signal, as two separate Eq"s will usually produce an unwanted discrepancy between the left and right channels.

2.2.3FX sends, balance and level adjustment

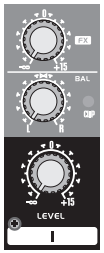

Fig. 2.6: The FX send/balance/level control

FX

The FX sends of the stereo channels function similar to those of the mono channels. However, since the FX send buses are both mono, a mono sum is a first taken from the stereo input before it is sent to the FX bus. The MX-5 is not equipped with FX sends.

BAL

The BAL(ANCE) control determines the levels of left and right input signals relative to each other before both signal are then routed to the main stereo mix bus. If a channel is operated in mono via the line input, the control has the same function as the PAN control used in the mono channels.

LEVEL

The LEVEL control determines the level of the channel signal in the main mix

2.3 Connector panel and main section

2.3.1 Send/return effects path

Fig. 2.7:FX send/return connectors

STEREO AUX RETURN

MX-6 / MX-8 ONLY: THE STEREO AUX RETURN connectors are used to bring the output of the external device (whose input is derived from the aux sends) back into the console. you can instead use these connectors as additional inputs, but any effects device will then have to be brought back into the console via a normal stereo channel. this does, however, give you the ability to use the channel EQ on the effects return signal if you wish.

☞ **When you using a stereo channel as effects return path, the FX control of the relevant channel should generally be turned fully down to avoid undesirable feedback.**

if only the left connector is used, the AUX RETURN automatically operates in mono. Use the AUX RETURN control to determine how much of the effects signal is sent to the main mix.

FX SEND

The FX SEND output (does not apply for MX-5) should be connected to the input of an external effects unit. The post-fader FX signal you created using the input channel FX controls is sent to the effects unit via the FX SEND output.

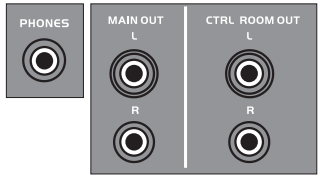

Fig. 2.9: Monitor/main mix connectors