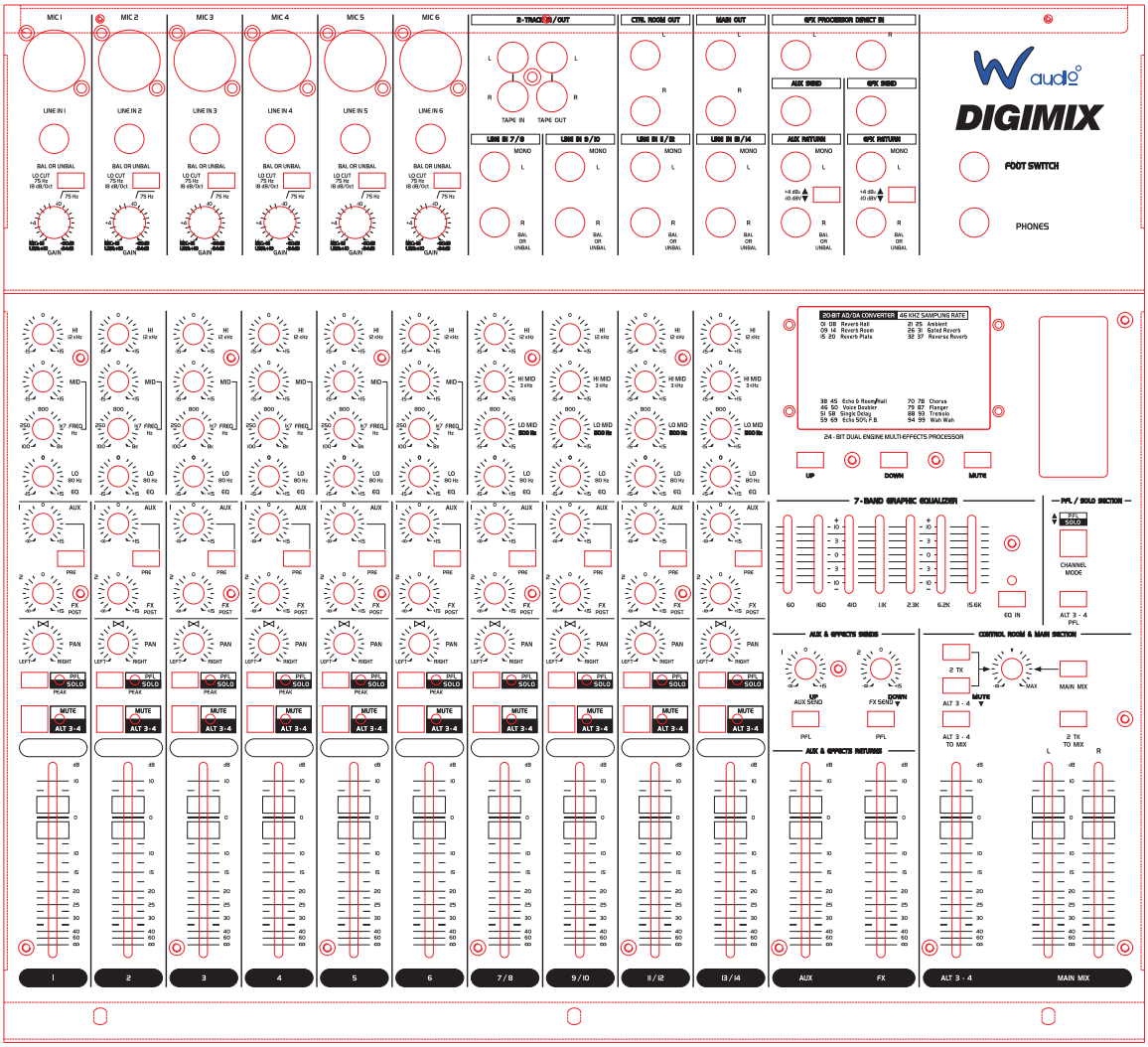
DIGIMIX audio



Order Code: MIXE07

USER MANUAL

www.prolight.co.uk

ENGLISH

WARNING

FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY BEFORE YOUR INITIAL START-UP!

CAUTION!

Keep this equipment away from rain, moisture and liquids.

SAFETY INSTRUCTIONS

Every person involved with the installation, operation & maintenance of this equipment should:

- Be competent
- Follow the instructions of this manual

CAUTION! TAKE CARE USING THIS EQUIPMENT!
HIGH VOLTAGE-RISK OF ELECTRIC SHOCK!!

Before your initial start-up, please make sure that there is no damage caused during transportation. Should there be any, consult your dealer and do not use the equipment.

To maintain the equipment in good working condition and to ensure safe operation, it is necessary for the user to follow the safety instructions and warning notes written in this manual.

Please note that damages caused by user modifications to this equipment are not subject to warranty.

IMPORTANT:

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorised modification to the equipment.

- Never let the power-cable come into contact with other cables. Handle the power-cable and all mains voltage connections with particular caution!
- Never remove warning or informative labels from the equipment.
- Do not open the equipment and do not modify the equipment.
- Do not switch the equipment on and off in short intervals, as this will reduce the system's life.
- Only use the equipment indoors.
- Do not expose to flammable sources, liquids or gases.
- Do not carry the unit with only one handle. Always carry using both handles.
- Always disconnect the power from the mains when equipment is not in use or before cleaning! Only handle the power-cable by the plug. Never pull out the plug by pulling the power-cable.
- Make sure that the available voltage is between 220v/240v.
- Make sure that the power-cable is never crimped or damaged. Check the equipment and the power-cable periodically.
- If the equipment is dropped or damaged, disconnect the mains power supply immediately. Have a qualified engineer inspect the equipment before operating again.
- If the equipment has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation might damage the equipment. Leave the equipment switched off until it has reached room temperature.
- If your product fails to function correctly, discontinue use immediately. Pack the unit securely (preferably in the original packing material), and return it to your Prolight dealer for service.
- Only use fuses of same type and rating.
- Repairs, servicing and power connection must only be carried out by a qualified technician. THIS UNIT CONTAINS NO USER SERVICEABLE PARTS.
- WARRANTY; One year from date of purchase.

OPERATING DETERMINATIONS

If this equipment is operated in any other way, than those described in this manual, the product may suffer damage and the warranty becomes void.

Incorrect operation may lead to danger e.g.: short-circuit, burns and electric shocks etc.

Do not endanger your own safety and the safety of others!
Incorrect installation or use can cause serious damage to people and property.

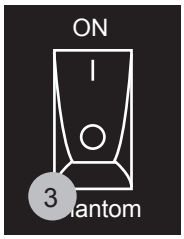
General

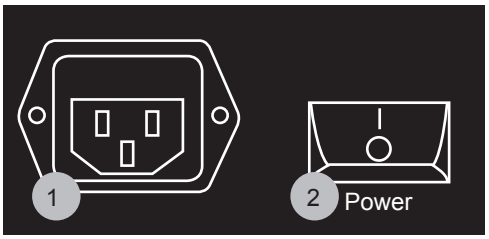
When using the built-in amplification it is important not to block the air intake vents on the front and side panels. These are essential for the dual speed fan to keep the unit cool during operation. Avoid exposing the unit to rain or excessive levels of humidity during operation.

1) IEC power input - use this standard IEC connector to connect the DIGIMIX to the mains. This socket supplies power to both the Mixer and the Amplifier Sections of the unit and also has a built-in fuse holder.

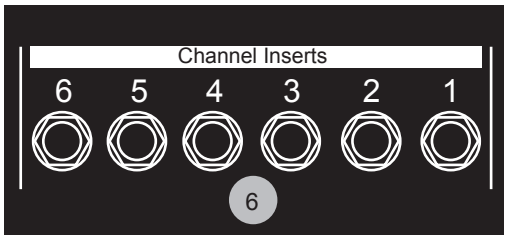
2) Power Switch - Use this switch to turn **ON** & **OFF** the mains power supply to the DIGIMIX.

3) Phantom Power Switch - The DIGIMIX mic inputs feature a 48V Phantom Power System to facilitate the use of Condenser Microphones that require an external power supply. To use; move the switch marked 'Phantom' (found on the rear panel) to the **ON** position and phantom power will be delivered to all six XLR mic input connectors. There should be no adverse affect using a mixture of powered Condenser mic's and standard dynamic mic's simultaneously. The Dynamic mic's should not be affected by the phantom power supply. When the Phantom power system is active you should see the +48V red status LED in the Main Level Meter LED area illuminated.





Rear Panel



Rear Panel

The 'Channel Strips' (see diagrams) on pages 4 - 12

4) XLR Input (mic channels 1 to 6 only) - Use this mic level XLR input to connect your microphones. You can use dynamic or condenser microphones with the DIGIMIX. You cannot use this XLR connection for line level audio signals.

5) Line Input - (mic channels 1 to 6 only) - Use these 1/4" jack sockets to attach any line level audio source (keyboard, CD Player etc). This socket is electronically balanced so accepts either a balanced or unbalanced audio signal and automatically self adjusts accordingly.

6) Channel Insert connections (Channels 1 to 6 only) - The microphone channels feature an 'insert' system. These are commonly used to connect automatic gain control devices such as Compressors and Noise Gates. The Insert system follows industry standard protocol. To use it you will need a specially configured 'Y Insert Cable'. These cables have a single stereo 1/4" jack connector at one end and a pair of standard mono 1/4" jack connectors at the other. To use the system you connect the single stereo jack connector to the appropriate 'Channel Insert' connection found on the rear panel of the unit.

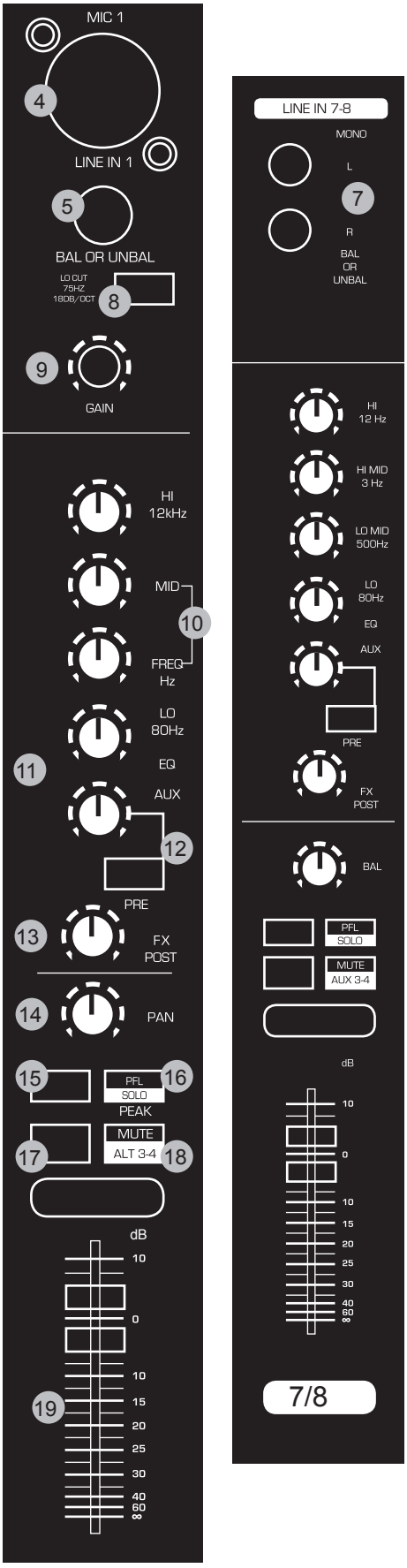
7) L (MONO) & R Line inputs (Channels 7 to 10 only) - Use these unbalanced 1/4" jack sockets to connect any line level audio source. Use the **L** input when you wish to attach a mono source as this socket is automatically split and sent to both **L** & **R** channels of the main mix when there is no connection to the **R** input. Use both connections when connecting a stereo source (e.g. a CD Player).

8) Lo Cut Switch (mic channels 1 to 6 only) - This button applies an 18dB per octave high pass filter that completely removes all frequencies below 75Hz. We highly recommend using this filter for hand held vocal microphones because it reduces handling noise. It is also worth while using it for any microphone or instrument that is not intended to produce bass because it also reduces the chances of low frequency feed back and can deliver an overall mix with greater clarity.

9) Gain - Use this control in conjunction with the PFL system & the level meters to adjust the input signal level so that it peaks around the 0dB mark on the level meter. You will notice two different sets of calibration around the control. This is because the gain circuit applies a different amount of gain to the microphone and line inputs. The +4 marking corresponds to the 'Unity' setting for a signal at the standardised professional line level of +4dBu. The -10 marking corresponds to the 'Unity' position for a standard domestic line level -10dBu signal. These two markings are there to show you where to position the gain control so that the gain circuit is neither increasing nor decreasing the signal level for each different line level signal type.

10) EQ - The mic channels (1-6) and line channels (7-10) feature different types of EQ system.
The mic channels - Feature 3 band EQ with a swept mid control. The Hi control applies +/-15dB of cut and boost to frequencies centred on 12kHz. The low control applies +/-15dB of cut or boost to frequencies centred on 80Hz. The mid section has two controls; the upper control sets whether you cut or boost by +/-15dB. The lower control lets you choose which mid range frequency you cut/boost. As with all mid range EQ systems you are effectively adjusting a 'notch' or 'band' of frequencies above and below the selected 'centre' frequency.
The Line Channels - feature 4 band EQ. The Hi control applies +/-12dB of cut and boost to frequencies centred on 12kHz. The Hi Mid control applies +/-15dB of cut or boost to frequencies centred on 3kHz. The Lo Mid control applies +/-15dB of cut or boost to a 'band' of frequencies centred on 500Hz. The Lo control applies +/-12dB of cut or boost to frequencies centred on 80Hz

11) Aux 1 'AUX' - Use this control to set the amount of signal sent to the line level audio output marked 'Aux Send' in the master connections section. How to set up the Aux Send & return system is explained under Master Connections.



12) Pre Button - This button relates to the Aux control. When the button is ‘down’ the signal from this channel is sent to the Aux output connection before it reaches the channel level fader - so adjusting the channel level fader has no impact on the Aux Send Level. When the button is in the ‘UP’ position the signal from the channel is routed to the Aux Send connection after it has passed through the channel level fader - so when the button is ‘UP’ turning down the level fader also turns down the signal sent to the Aux Send. This is useful when using the Aux Send System to set up an on stage monitor mix as it enables creation of a separate mix with levels that differ from those of the main mix.

13) Aux 2 ‘FX’ - Use this control to adjust the signal level sent to the on board effects processor. To aid in versatility the DIGIMIX II also provides a line level output marked **‘EFX Send’** in the master connections section. This output can be used to connect an external effects processor instead of the on board processor. The ‘EFX Send’ is wired ‘Post Fade’ so adjusting the channel fader also adjusts the EFX Send level (to both the on board effects processor and the external EFX Send connection).

14) Pan - When this control is in the central position equal proportions of the channel signal is sent to the Left and Right channels of the main mix. Turn the control left and more signal will be sent to the Left channel of the main mix. Turn the control to the right and more signal will be sent to the Right channel of the main mix.

15) PFL/Solo - This sends the channel audio signal to the PFL/Solo system (described in the PFL/Solo section of this manual). This signal is sent ‘Pre Fade’ and pre EQ so the measured signal is not changed by the position of the channel level fader or EQ controls... but the signal is taken immediately after the channel Gain control (and thus the Insert Sockets), so you are essentially measuring the input signal level after you have adjusted it with the input Gain control.

16) Peak LED - This LED illuminates when the channel signal level is approaching a level at which it may distort. It is there to act as a warning to you so that you can reduce the particular channel level faders to avoid distortion.

17) Mute/Alt 3 & 4 - This button performs two tasks at once when pressed.

1. It mutes (silences) the channel from the main mix.
2. It routes the signal to the ‘Alt 3 & 4’ system
   (as described in the ‘Alt 3 & 4’ section of this manual).

18) Alt 3&4 LED - When the Alt 3 & 4 button is engaged this amber LED illuminates to remind you that you have routed this particular channel into the Alt 3 & 4 system

19) Channel Fader - Use this 60mm fader to adjust the relative level of the channel in the main mix

Using an Aux System

The idea of an Auxiliary Send & return systems is that it enables you to send a signal out of the mixer, to an external processor (usually it is an effects unit), through the external processor, then back to the mixer.. and back into the main mix. The on board effects processor on the DIGIMIX is accessed exactly as though it were an external processor. When you wish to send sound to it you use the 'Aux 2 EFX' send and return system. Aux 2 EFX also features Send and Return connections so can be used with an external Effects processor should the need arise. The descriptions of all connections etc below apply therefore to both 'Aux1' and 'Aux 2 EFX'.

20) Aux Send connections - Use a cable to connect from this mono line level 1/4" jack socket to the input of your external processor.

21) Master Aux Send Level controls - Use these to set the master Send Level for the Aux Send system. These controls set the overall level of all of the signals sent to the Aux Send & Return systems via the Aux Send controls in the channel strips.

22) Aux Send PFL buttons - Press these buttons to route either Aux Master signal to the main Level Meter (and solo it) so that you can measure it (and hear it isolated). Many External Effects processors do not have input level meters so it is wise periodically to measure the Send Level signal to ensure that the signal is neither too large nor too small.

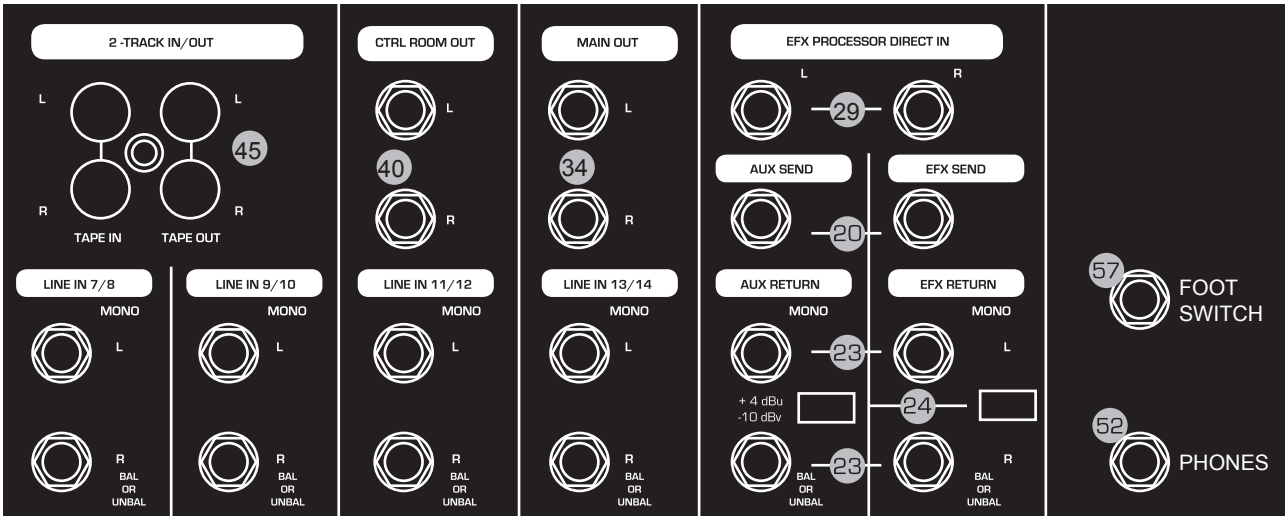
23) Aux Return Connections - Use a pair of cables to connect these line level 1/4" jack input sockets from the output of your external processor to your mixer.

24) Aux Return input level switches - Use these buttons to determine whether each Aux Return connection operates at either the professional Line Level Standard of +4dBu or the Domestic line level standard of -10dBV.

25) Aux Return Level faders - Use these faders to set the relative level of the Return signal (from your external processor) and the internal effects processor to the main mix.

On Board Effects

The DIGIMIX on board Effects System provides a carefully selected range of 99 high quality Effect Programmes with variable time parameters. They are designed to be as versatile as possible and to meet your requirements for a wide range of uses. Operation is also extremely simple.



FRONT PANEL INPUTS

26) Programme LED - This large two digit LED display shows the currently selected programme.

27) Up & Down buttons - Use these increment buttons to select the Effect programme you wish to use from the list. Press either button once to move up or down through the list. When you have selected the desired programme you may then alter the timing of the delay/reverb by using the UP/DOWN buttons. To alter the timing of the selected effect press the enter button and the arrow displayed at the side of the selected effect will move down the display and will point to the letter **T**. You can then alter the delay/reverb time by using the UP/DOWN buttons.

28) Enter button - Use this button to select between effect and delay/reverb time.

There are 99 effects in the DSP as follows:

1 Reverb Hall	2.0 sec	**26**, Gated Reverb	75 ms	51, Single Delay	50 ms	76, Chorus	Slow
2, Reverb Hall	2.5 sec	27, Gated Reverb	100 ms	52, Single Delay	100 ms	77, Chorus & Echo	Slow/0,3s
3, Reverb Hall	3.0 sec	28, Gated Reverb	125 ms	53, Single Delay	150 ms	78, Chorus & Room	Slow/4.0s
4, Reverb Hall	4.0 sec	29, Gated Reverb	150 ms	54, Single Delay	200 ms	79, Flanger	Fast
5, Reverb Hall	5.0 sec	30, Gated Reverb	200 ms	55, Single Delay	250 ms	80, Flanger & Echo	Fast/0.1s
6, Reverb Hall	6.0 sec	31, Gated Reverb	300 ms	56, Single Delay	300 ms	81, Flanger & Room	Fast/1.0
7, Reverb Hall	8.0 sec	32, Reverse Reverb	75 ms	57, Single Delay	400 ms	82, Flanger	Medium
8, Reverb Hall	10.0 sec	33, Reverse Reverb	100 ms	58, Single Delay	500 ms	83, Flanger & Echo	Med/0.1s
9, Reverb Room	1.0 sec	34, Reverse Reverb	125 ms	59, Echo 50% F.B.	100 ms	84, Flanger & Room	Med/1.0
10, Reverb Room	1.5 sec	35, Reverse Reverb	150 ms	60, Echo 50% F.B.	125 ms	85, Flanger	Slow
11, Reverb Room	2.0 sec	36, Reverse Reverb	200 ms	61, Echo 50% F.B.	150 ms	86, Flanger & Echo	Slow/0,3s
12, Reverb Room	2.5 sec	37, Reverse Reverb	300 ms	62, Echo 50% F.B.	200 ms	87, Flanger & Room	Slow/4.0s
13, Reverb Room	3.0 sec	38, Echo & Room	.1/10 sec	63, Echo 50% F.B.	250 ms	88, Tremolo	Fast
14, Reverb Room	4.0 sec	39, Echo & Room	.15/1.5 sec	64, Echo 50% F.B.	300 ms	89, Tremolo & Room	Fast/1.0s
15, Reverb Plate	1.0 sec	40, Echo & Room	.2/2,0 sec	65, Echo 50% F.B.	350 ms	90, Tremolo	Medium
16, Reverb Plate	1.5 sec	41, Echo & Room	.25/2/5 sec	66, Echo 50% F.B.	400 ms	91, Tremolo & Hall	Med/2.0s
17, Reverb Plate	2.0 sec	42, Echo & Room	.3/3.0 sec	67, Echo 50% F.B.	500 ms	92, Tremolo	Slow
18, Reverb Plate	2.5 sec	43, Echo & Room	.35/3.0 sec	68, Echo 50% F.B.	650 ms	93, Tremolo & Hall	Slow/4.0s
19, Reverb Plate	3.0 sec	44, Echo & Room	.4/4.0 sec	69, Echo 50% F.B.	800 ms	94, Wah Wah	Fast
20, Reverb Plate	4.0 sec	45, Echo & Room	.5/5.0 sec	70, Chorus	Fast	95, Wah Wah & Room	Fast/1.0s
21, Ambient	0.5 sec	46, Voice Doubler	60 ms	71, Chorus & Echo	Fast/0.1s	96, Wah Wah	Medium
22, Ambient	0.7 sec	47, Voice Doubler	80 ms	72, Chorus & Room	Fast/1.0s	97, Wah Wah & Hall	Med/2.0s
23, Ambient	1.0 sec	48, Voice Doubler	100 ms	73, Chorus	Medium	98, Wah Wah	Slow
24, Ambient	1.3 sec	49, Voice Doubler	120 ms	74, Chorus & Echo	Med/0.2s	99, Wah Wah & Hall	Slow/4.0s
25, Ambient	1.6 sec	50, Voice Doubler	140 ms	75, Chorus & Room	Med/2.0s		

29) EFX Processor Direct In - In addition to routing signals to the on board Effects Processor you can use these line level 1/4” jack input connections to route external signals directly into the Effects Processor. When you do this the signal passes through the processor and arrives in the main mix via the EFX Return Level Fader.

The Master Section

The Master Section of the DIGIMIX is extremely versatile and highly specified for a mixer in this class. The are various ways in which you can connect and use this product.

Main Mix

There are three sets of main Output connections which all simultaneously carry the full stereo main mix.

30) XLR R&L - These two line level balanced XLR connectors (found on the rear panel) are your primary outputs, they are the least prone to interference because they are of a balanced XLR type.

31) Master Insert connections - These stereo 1/4” jack sockets are Insert connection points for the master output connections. They function in exactly the same manner as the Channel Inserts.

32) XLR Level switch - Use this switch to determine whether the main XLR Output Connectors (30) operate at either the Professional Line Standard of +4dBu or the Domestic Line Level Standard of -10dBV.

33) Rear Panel Main Outputs - These line level 1/4" jack connectors carry the stereo main mix and can be used for a variety of purposes.

34) Top Panel main Outputs - These line level 1/4" jack connectors carry the stereo main mix and can be used for a variety of purposes.

35) Main Mix L&R Level faders - Each of these two faders control the Level of one side of the stereo main mix as sent to all of the various connectors that carry the main mix.

Graphic Equaliser - The 7 band Graphic Equaliser is only applied to the main mix

36) EQ In - This button switches the Graphic Equaliser **ON** and **OFF**

37) EQ Frequency faders - Five of these faders (the ones marked 160Hz, 410Hz,1.1Hz, 2.3Hz and 6.2Hz) relate to a narrow band of frequencies. When placed at the calibrated 'zero' position they have no effect, but when pushed up or pulled down they cut or boost the relevant band of frequencies by +/-10dB. The faders at either end are a little different, they are 'shelving filters'; the lower one cuts and boosts all frequencies below 60Hz (I.E. bass) and the upper one cuts and boosts all frequencies above 15.6kHz (I.E. high treble & hiss).

The main Level Meter (38)

This 'enclosed bar type', 3 colour, stereo level meter provides an accurate audio signal level measuring tool. It can be used to measure a broad range of signals. When the PFL & Solo status indicators remain un-illuminated the meter will be measuring the stereo signal of the main mix. When either the PFL or Solo status LED's are illuminated the meter will be measuring a signal source you have selected by pressing one of the many PFL/Solo buttons found on the mixer.

An optimum signal level is one where the meter peaks regularly at around the 'zero' dB calibrated segment (at the top of the green coloured section). It is perfectly acceptable for the meter to be peaking in the amber sections of the meter, but when they are coloured amber, they are there to warn you that you are approaching the red segment. If the meter is peaking at the red segment your sound is probably 'clipping' and sounding distorted and should be turned down.

PFL/Solo

39) PFL/Solo button - This button switches the PFL Solo system between it's two different operating modes.
When in the 'UP' or 'PFL' position; the DIGIMIX routes any selected signals to the Main Level Meter (39) so that they can be measured. The amber PFL status LED in main Level Meter area also illuminates.
When in 'Down' or 'Solo' position' in addition to routing the signal to the Main Level Meter, the mixer mutes all of the channels and inputs to the DIGIMIX so that you only hear the individual channel (s) selected via PFL/Solo buttons. The Solo LED in the master section also illuminates.
You can actually press the PFL/Solo buttons for several channels/sources at once... meaning that you can listen to how several channels/sources sound together isolated from the rest of the mix.. and/or measure their signal levels in isolation.

Control Room

The DIGIMIX features a ‘Control Room’ system. In a recording studio this is often used for connection of the Mixing Console to the monitor system (speakers) used by the recording engineer. It’s main purpose is to provide a convenient routing and level control system for the engineer to use.

40) Control Room Connections - Use an appropriate audio cable to connect these line level 1/4” jack connectors to the audio input for whichever speakers are to be used by the mix engineer.

41) Control Room Level control - Use this rotary control (conveniently located on the front panel near the main Mix Level Faders) to adjust the signal level sent via the control Control Room System outputs.
Located around the Control Room Level control you will find three buttons; each of these buttons routes a different audio source to the Control Room output connections. The three options for routing to the Control Room system are **(42) Main Mix** (which is the main stereo mix), **(43) 2 Track** (which is the signal from the 2 Track input) and **(44) Alt 3 & 4** (which is the signal from the Alt 3 & 4 system)

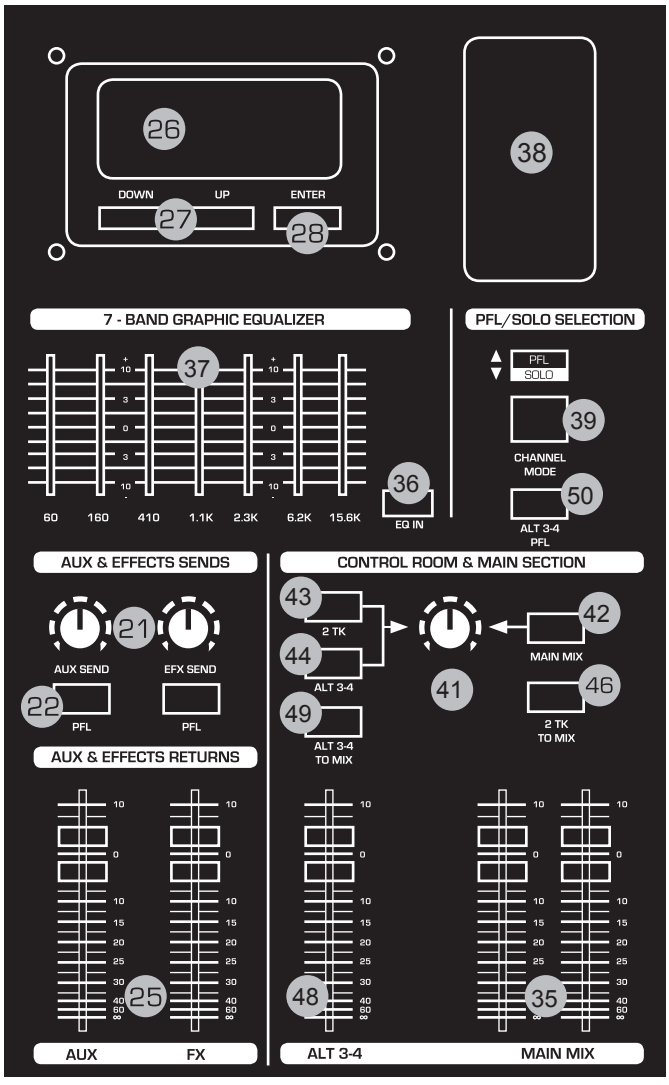
2-Track

The 2-Track system is designed for recording, particularly recording at a gig.

45) 2-Track connections - Use these unbalanced line level RCA type connections to attach your recording device. Connect the L&R set marked ‘Tape In’ to the Record Input sockets of your recording device. Connect the L&R marked ‘Tape Out’ to the Output or playback sockets of your recording device.

43) 2-Track to Control Room - Use this button to route the signal from the 2-Track ‘Tape Out’ connectors to the Control Room system output.

46) 2-Track to Main Mix - Use this button to route the signal from the 2-Track ‘Tape Out’ connectors to the Main Mix Level Faders and various Main Mix output connections.



Master Section

Alt 3&4

The Alt 3 & 4 System is a powerful 'routing system' that enables you to set up a second separate mix to the main mix that can be used for recording or setting up stage monitors or simply as a traditional 'Sub Mix'. The classic use for a traditional sub mix is to route all of the microphones on a drum kit, or all the microphones for a brass section, or all the microphones used for backing vocals to a single fader; so that you can adjust the entire group with one fader movement.

Any channel that is routed to the Alt 3 & 4 System via the Alt 3 & 4 button is removed from Main Mix and sent instead to a set of line level 1/4" jack connections on the rear panel marked **'Alt 3 & 4 Outputs' (47).**
Before the signal gets to those rear panel outputs it goes via the fader in the master section marked **'Alt 3 & 4' (48)** - you use this fader to adjust the combined level of all of the channels you have currently selected to route to the Alt 3 & 4 system.

There is a button above the fader marked **Alt 3 & 4 to Mix (49)** that simultaneously routes the 'Alt 3 & 4 Mix' back to the main mix (post fader) so that you have the option of routing the selected channels to this additional 'Sub Mix' and sending it onwards to the Alt 3 & 4 outputs but without also losing it from the Main Mix.
There is a button marked **'Alt 3 & 4 PFL' (50)** that routes the entire Alt 3 & 4 Mix to the PFL/Solo System & Main Level Meter for measure etc.
There is a button beside the Control Room Level **(44)** that routes the combined Alt 3 & 4 Mix to the Control Room System.

51) Alt 3&4 Insert connections - These stereo 1/4" jack sockets are Insert connection points for the Alt 3 & 4 output connections. They function in exactly the same manner as the Channel Inserts **(6)**.

52) Phones - Use this standard head phone connection socket to attach a set of headphones for monitoring purposes (minimum impedance 16 Ohms).

The Amplifier

53) Input connections - Use these line level 1/4" jack sockets to connect an input audio signal to the built-in Amplifier.

54) Amplifier Input Level controls - Use these L&R rotary Level controls to adjust the overall listening level of any speakers connected to the DIGIMIX Amplifier speaker outputs.

55) Speakon Type Speaker Output connections - Use appropriate cables to connect these speakon type speaker output connectors to the input connections of your speakers. Speakon is the industry standard connection method for connecting speakers to power amplifiers; it is safe, secure and delivers superior audio sound.

The speakon uses Pin1+ and Pin1- to connect to the loudspeaker.

56) Binding Post Speaker Output connectors - Use appropriate cables to connect these Binding Post speaker output connectors to the input connections of your speakers. Binding Posts are designed to accommodate bare wire ends of speaker cables; this is a speaker connection method which although safe and reasonably secure when handled correctly and capable of delivering good quality audio sound... and undeniably convenient in the sense that any speaker cable can rapidly be turned into a set of bare wires in an emergency... is not our recommended connection method.

57) Footswitch Socket - The footswitch socket turns the selected reverb/echo setting on or off.

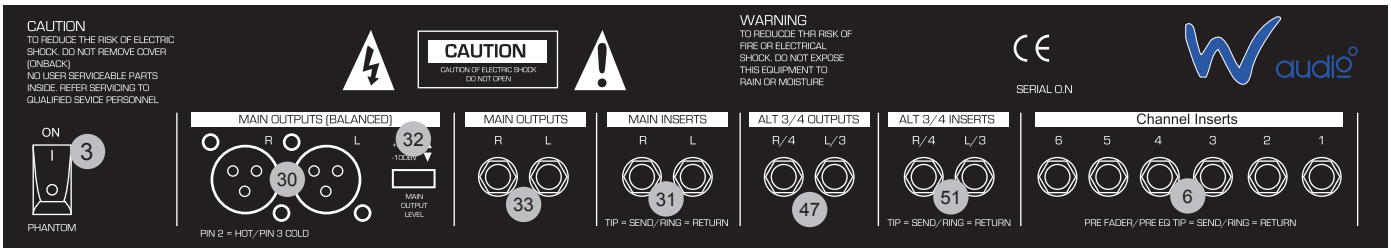
Note: The DIGIMIX has a rated power output that delivers the following:

2 x 300W RMS @ 8 Ohms **2 X 550W RMS @ 4 Ohms**

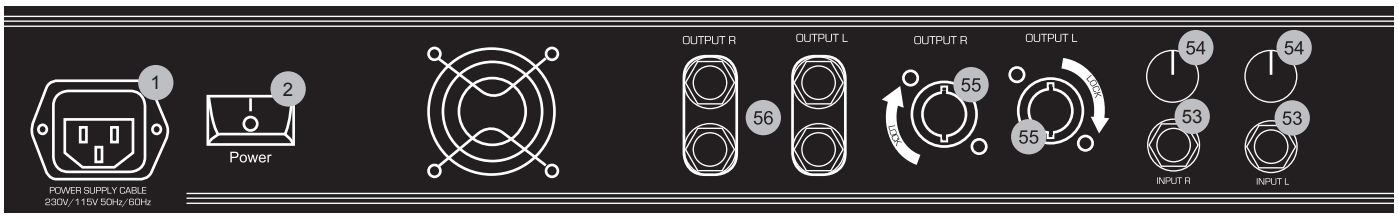
Be sure to match the rated power handling capacity of your speakers to the DIGIMIX power output to avoid damaging your speakers.

Rack Mounting

To rack mount the DIGIMIX remove the screws on the outside edge of each of the plastic side cheeks.



Rear Panel



Amplifier Panel

Specifications

2 x 550W RMS @ 4 Ohms
10 channels/20 inputs: 6 mic/line & 14 line
Built-in 20BIT DSP Effects System
7 Band Master graphic EQ
Electronically balanced inputs
Inserts on Mic Channels, Master & Alt 3 & 4
3 Band swept & 4 Band channel EQ
2 x Aux Send & Return System (pre/post)
Full Mute/Alt 3 & 4 sub mix system
Fully routable Control Room system
Professional PFL/Solo system
Independent Amp inputs & PSU
Footswitch input