

8/12/16/24-CHANNEL MIC/LINE MIXER

Professional Mixing Console Equipment

OWNER'S MANUAL



Appendix B: Technical Information Specifications

Main Mix Noise	
(20 Hz-20 kHz bandwidth, 1/4" Main out, channel gains @ unity gain, channel EQs flat, all channels assigned to Main Mix, odd channels panned left, even channels panned right.)	
Main Mix fader unity, channel faders down:	-86.5 dBu
(90 dB Signal to Noise Ratio, ref +4 dBu)	
Main Mix fader unity, channel faders @ unity:	-86 dBu
Total Harmonic Distortion (THD)	
(1 kHz 35 dB gain, 20 Hz-20 kHz bandwidth)	
Mic in to insert out:	<0.0007%
Attenuation (Crosstalk)	
(1 kHz relative to 0 dBu, 20 Hz-20 kHz bandwidth, Line in, 1/4" Main Out, Gain @ unity.)	
Channel Mute switch engaged:	-82 dBu
Channel Gain knob down:	-82 dBu
Frequency Response	
(Mic input to any output.)	
20 Hz to 40 kHz:	+0 dB/-1 dB
20 Hz to 60 kHz:	+0 dB/-3 dB
Equivalent Input Noise (EIN)	
(Mic in to Insert Send out, max gain.)	
150 ohm termination:	-129.5 dBu 20 Hz-20 kHz
Common Mode Rejection Ratio (CMRR)	
(Mic in to Insert Send out, max gain.)	
1 kHz:	better than -70 dB
Maximum Levels	
Mic in:	+22 dBu
All other inputs:	+22 dBu
Main Mix TRS out and XLR out:	+28 dBu
All other outputs:	+22 dBu
Impedances	
Mic in:	2.5 kilohms
Channel Insert return:	2.5 kilohms
All other inputs:	10 kilohms or greater
Tape out:	1.1 kilohms
All other outputs:	120 ohms
3 Band EQ	
High Shelving	±15 db @ 12 kHz
Mid Peaking	±15 dB sweep 240 Hz-6 kHz
Low Shelving	±15 db @ 80 Hz
Low Cut Filter	18 dB/octave, -3 dB @ 75 Hz

Power Consumption			
90V-240 VAC, 50/60 Hz, 50 watts			
Fuse Ratings			
100-120 VAC	1A Slo Blo, 5 x 20 mm		
220-240 VAC	0.5A Slo Blo, 5 x 20 mm		
Dimensions (H x W x D) in Normal Pod Position			
8CH	12CH	16CH	24CH
440x450x110mm	555x450x110mm	670x450x110mm	900x450x110mm
Weight			
8CH	12CH	16CH	24CH
5.75kg	7.25kg	8.75kg	11.75k

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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 a 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 a 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.

PORTABLE CART WARNING

Carts and stands - The Component should be used only with a cart or stand that is recommended by the manufacturer. A Component and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the Component and cart combination to overturn.

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.
15. This apparatus shall not be exposed to dripping or splashing, and no object filled with liquids, such as vases or beer glasses, shall be placed on the apparatus.
16. This apparatus has been designed with Class-I construction and must be connected to a mains socket outlet with a protective earthing connection (the third grounding prong).
17. This apparatus has been equipped with an all-pole, rocker-style AC mains power switch. This switch is located on the rear panel and should remain readily accessible to the user.

Duration Per Day In Hours	Sound Level dBA, Slow Response	Typical Example
8	90	Duo in small club
6	92	
4	95	Subway Train
3	97	
2	100	Very loud classical music
1.5	102	
1	105	Dave screaming at Steve about deadlines
0.5	110	
0.25 or less	115	Loudest parts at a rock concert

WARNING — To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

**CAUTION AVIS**

RISK OF ELECTRIC SHOCK
DO NOT OPEN
RISQUE DE CHOC ELECTRIQUE
NE PAS OUVRIR

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED PERSONNEL

ATTENTION: POUR EVITER LES RISQUES DE CHOC
ELECTRIQUE, NE PAS ENLEVER LE COUVERCLE. AUCUN
ENTRETIEN DE PIECES INTERIEURES PAR L'USAGER. CONFIER

- 

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 of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

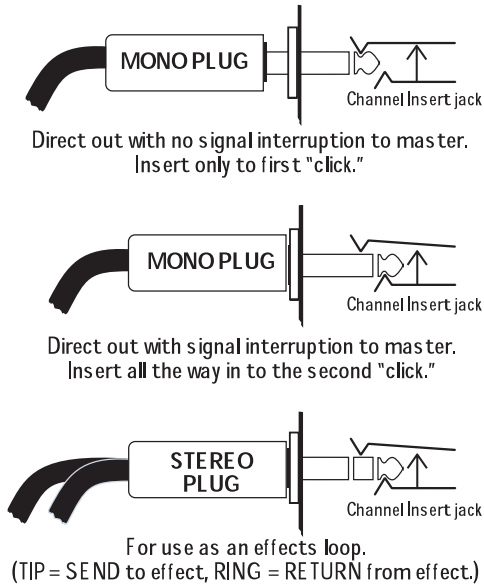
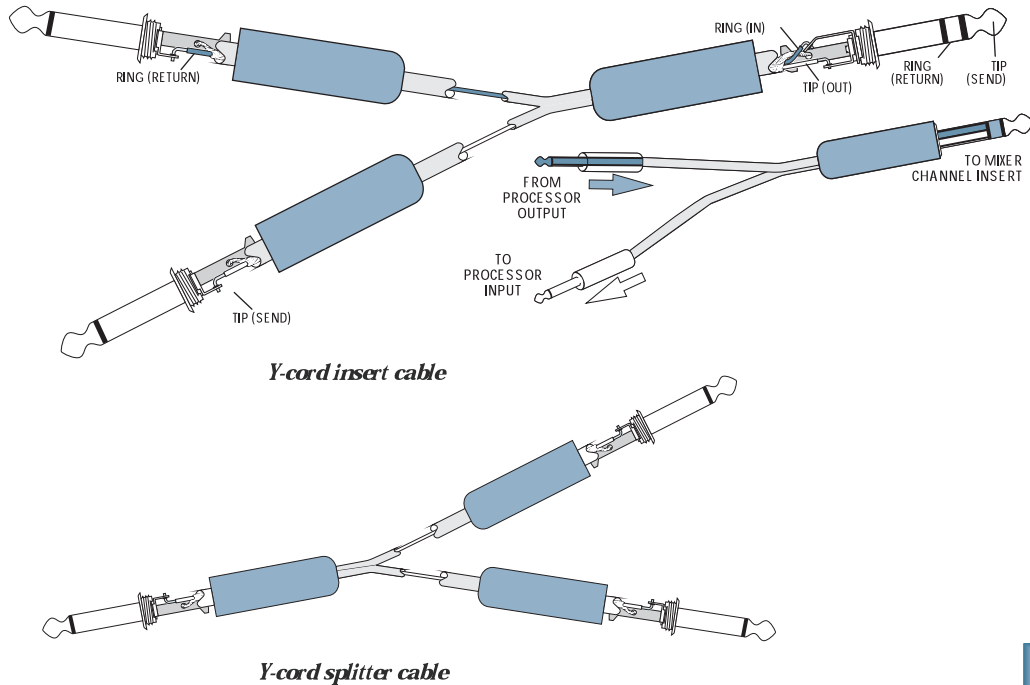


Figure F
Stereo Inputs and Returns: Mono, Stereo, Whatever

Stereo line inputs and stereo returns are a fine example of the philosophy (which we just made up) of Maximum Flexibility with Minimum Headache. The inputs and returns will automatically be mono or stereo, depending upon how you use the jacks. Here's how it works:

A mono signal should be patched into the input or return jack labeled Left (MONO). The signal will be routed to both the left and right sides of the return circuit, and will show up in the center of the stereo pair of buses it's assigned to, or it can be panned with the PAN control.



RCA Plugs and Jacks

RCA-type plugs (also known as phono plugs) and jacks are often used in home stereo and video equipment and in many other applications (Figure D). They are unbalanced and electrically identical to a 1/4" TS phone plug or jack. See Figure C. Connect the signal to the center post and the ground (earth) or shield to the surrounding "basket."

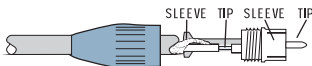


Figure D: RCA Plug

Unbalancing a Line

In most studio, stage and sound reinforcement situations, there is a combination of balanced and unbalanced inputs and outputs on the various pieces of equipment. This usually will not be a problem in making connections.

- When connecting a balanced output to an unbalanced input, be sure the signal high (hot) connections are wired to each other, and that the balanced signal low (cold) goes to the ground (earth) connection at the unbalanced input. In most cases, the balanced ground (earth) will also be connected to the ground (earth) at the unbalanced input. If there are ground-loop problems, this connection may be left disconnected at the balanced end.
- When connecting an unbalanced output to a balanced input, be sure that the signal high (hot) connections are wired to each other. The unbalanced ground (earth) connection should be wired to the low (cold) and the ground (earth) connections of the balanced input. If there are ground-loop problems, try connecting the unbalanced ground (earth) connection only to the input low (cold) connection, and leaving the input ground (earth) connection disconnected.
- In some cases, you will have to make up special adapters to interconnect your equipment. For example, you may need a balanced XLR female connected to an unbalanced 1/4" TS phone plug.

TRS Send/Receive Insert Jacks

The single-jack inserts are the three-conductor, TRS-type 1/4" phone. They are unbalanced, but have both the mixer output (send) and the mixer input (return) signals in one connector. See Figure E.

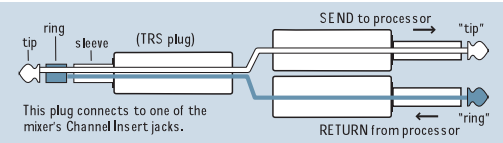


Figure E

The sleeve is the common ground (earth) for both signals. The send from the mixer to the external unit is carried on the tip, and the return from the unit to the mixer is on the ring.

Using the Send Only on an Insert Jack

If you insert a TS (mono) 1/4" plug only partially (to the first click) into an insert jack, the plug will not activate the jack switch and will not open the insert loop in the circuit (thereby allowing the channel signal to continue on its merry way through the mixer).

This allows you to tap out the channel or bus signal without interrupting normal operation.

If you push the 1/4" TS plug in to the second click, you will open the jack switch and create a direct out, which does interrupt the signal in that channel. See Figure F on the next page.

NOTE: Do not overload or short-circuit the signal you are tapping from the mixer. That will affect the internal signal.

Read This Page!

We realize that you must have a powerful hankerin' to try out the mixer or you might be one of those people who never reads manuals. All we ask is that you read this page NOW, and read the rest later—you'll be glad you did.

Level-Setting Procedure

Message to seasoned pros: do NOT set levels using the old "Turn the trim up until the clip light comes on, then back off a hair" trick. When the mixer clip light comes on, you really are about to clip.

This procedure really works — it assures low noise and high headroom. Please read on.

It's not even necessary to hear what you're doing to set optimal levels. But if you'd like to: Plug headphones into the PHONES output jack, then set the PHONES knob about one-quarter of the way up.

The following steps must be performed one channel at a time:

- Turn the GAIN, MON, FX send and fader controls fully down.
- Set all the EQ knobs at the center detents.
- Connect the signal source to the MIC or LINE channel input
- Engage (push in) the channel's PFL switch.
- Play something into the selected input, at real-world levels.
- Adjust the GAIN control so that the display on the meter stays around "0." (Only the left meter is active in the Level-Setting Procedure.)
- If you'd like to apply some EQ, do so now and return
- Disengage that channel's PFL switch.
- Repeat for each channel.

Other Nuggets of Wisdom

For optimum sonic performance, the channel faders and the MAIN MIX fader should be set near the "U" (unity gain) markings.

Always turn down the MAIN MIX fader knobs before making connections to your mixer, or turning PHANTOM POWER on.

If you shut down your equipment, turn off your amplifiers first. When powering up, turn them on last.

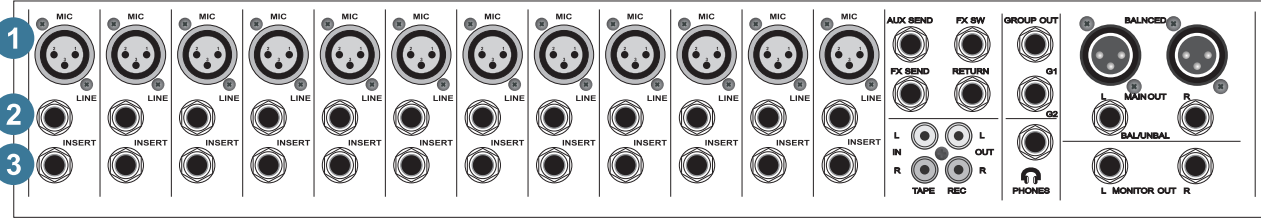
Save the shipping box! You may need it someday.

Instant Mixing

Here's how to get going right away, using a microphone and a keyboard:

- Plug your microphone into Channel 1's MIC input.
- Perform the Level-Setting Procedure.
- Connect cords from the MAIN OUT jacks to your amplifier.
- Hook up speakers to the amp and turn it on.
- Set channel 1's fader to the "U" mark.
- Engage (push in) Channel 1's L/R switch.
- Set the MAIN MIX fader one-quarter of the way up.
- Sing like a canary!
- Plug your keyboard into channels 3 and 4.
- Turn channel 3's PAN knob fully left and channel 4's PAN knob fully right.
- Set those faders to the "U" mark.
- Perform the Level-Setting Procedure.
- Engage the L/R switch on these channels.
- Play like a madman and sing like a canary!

Patchbay Description



At the risk of stating the obvious, this is where you plug everything in: microphones, line-level instruments and effects, and the ultimate destination for your sound: a tape recorder, PA system, etc. Many of the features described in this section are on top of the mixer, but some are on the rear panel.

See Appendix B for further details and drawings of the connectors you can use with the mixer. Also see the Channel Strip description on page 12 for details of the signal routing from the XLR and Line inputs.

E-Z INTERFACING

Concerned about levels, balancing, impedances, polarity, or other interface goblins? Don't be. On your mixer, you can patch anything almost anywhere, with nary a care. Here's why:

- Every input and output is balanced (except inserts, phones and RCA jacks).
- Every input and output will also accept unbalanced lines (except XLR jacks).
- Every input is designed to accept virtually any output impedance.
- The main left and right mix outputs can deliver 28 dBu into as low as a 600 ohm load.
- All the other outputs can deliver 22 dBu into as low as a 600 ohm load.
- All the outputs are in phase with the inputs.

1. MIC INPUTS

We use phantom-powered, balanced microphone inputs just like the big studio mega- consoles, for exactly the same reason: This kind of circuit is excellent at rejecting hum and noise. You can plug in almost any kind of mic that has a standard XLR-type male mic connector. Always be sure to perform the Level-Setting Procedure. If you wire your own connectors, make them like this:

- Pin 1 = ground or shield
- Pin 2 = positive (+ or hot)
- Pin 3 = negative (- or cold)

Professional ribbon, dynamic, and condenser mics will all sound excellent through these inputs. The mic inputs will handle almost any kind of mic level you can toss at them, without overloading.

Not every instrument is made to connect directly to a mixer. Guitars commonly need a Direct Injection (DI) box to connect to the mixer's MIC inputs. These boxes convert unbalanced line-level signals from your guitar, into balanced mic-level outputs, and provide signal and impedance matching. They also let you send your gifted guitar renditions over long cables or audio snakes, with minimum interference and high-frequency signal loss. Ask your dealer or guitar maker about their recommendations for a good DI box.

PHANTOM POWER

Most condenser mics require phantom power, where the mixer sends low-current DC voltage to the mic's electronics through the same wires that carry audio. The phantom power is globally controlled by the PHANTOM switch on the rear panel.

Semipro condenser mics often have batteries to accomplish the same thing. "Phantom" owes its name to an ability to be "unseen" by dynamic mics that don't need external power and aren't affected by it.

Appendix A: Connections

"XLR" Connectors

The mixers use 3-pin female "XLR" connectors on all microphone inputs, with pin 1 wired to the grounded (earthed) shield, pin 2 wired to the "high" ("hot" or positive polarity) side of the audio signal and pin 3 wired to the "low" ("cold" or negative polarity) side of the signal. See Figure A. This is all totally aboveboard and in full accord with the hallowed standards dictated by the AES (Audio Engineering Society).

Use a male "XLR"-type connector, usually found on the nether end of what is called a "mic cable," to connect to a female XLR jack.

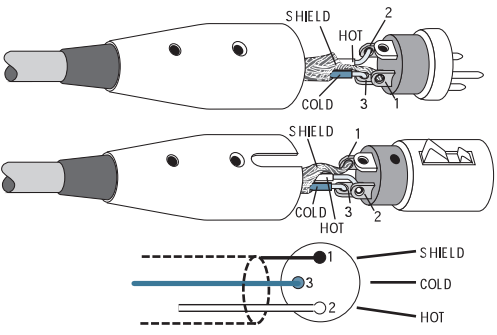


Figure A: XLR Connectors

1/4" TRS Phone Plugs and Jacks

"TRS" stands for Tip-Ring-Sleeve, the three connections available on a "stereo" 1/4" or "balanced" phone jack or plug. See Figure B.

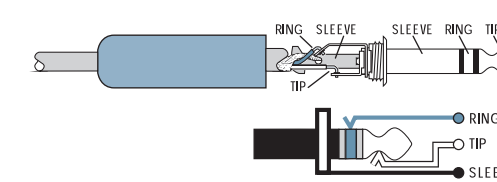


Figure B: 1/4" TRS Plugs

TRS jacks and plugs are used in several different applications:

- Stereo Headphones, and rarely, stereo microphones and stereo line connections. When wired for stereo, a 1/4" TRS jack or plug is connected tip to left, ring to right and sleeve to ground (earth). The mixers do not directly accept 1-plug-type stereo microphones. They must be separated into a left cord and a right cord, which are plugged into the two mic preamps.

You can cook up your own adapter for a stereo microphone adapter. "Y" two cables out of a female 1/4" TRS jack to two male XLR plugs, one for the Right signal and one for the Left.

- Balanced mono circuits. When wired as a balanced connector, a 1/4" TRS jack or plug is connected tip to signal high (hot), ring to signal low (cold), and sleeve to ground (earth).
- Unbalanced Send/Return circuits. When wired as send/return "Y" connector, a 1/4" TRS jack or plug is connected tip to signal send (output from mixer), ring to signal return (input back into mixer), and sleeve to ground (earth).

1/4" TS Phone Plugs and Jacks

"TS" stands for Tip-Sleeve, the two connections available on a "mono" 1/4" phone jack or plug. See Figure C.

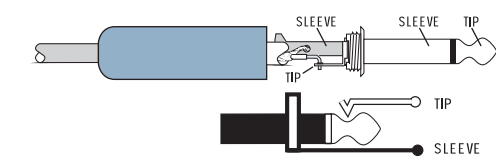


Figure C: TS Plug

TS jacks and plugs are used in many different applications, always unbalanced. The tip is connected to the audio signal and the sleeve to ground (earth). Some examples:

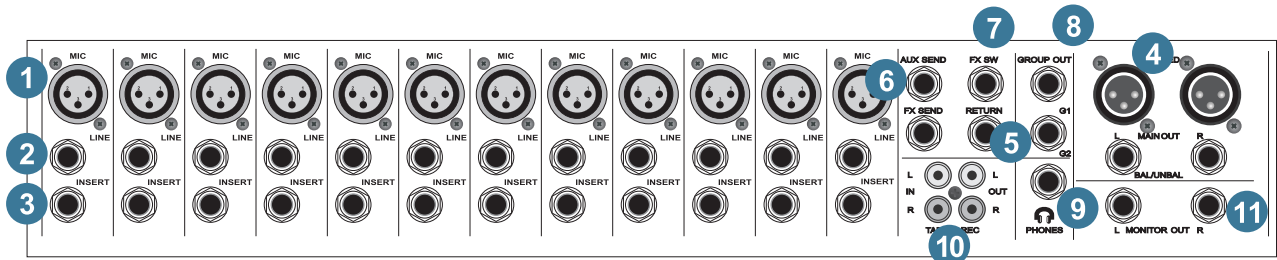
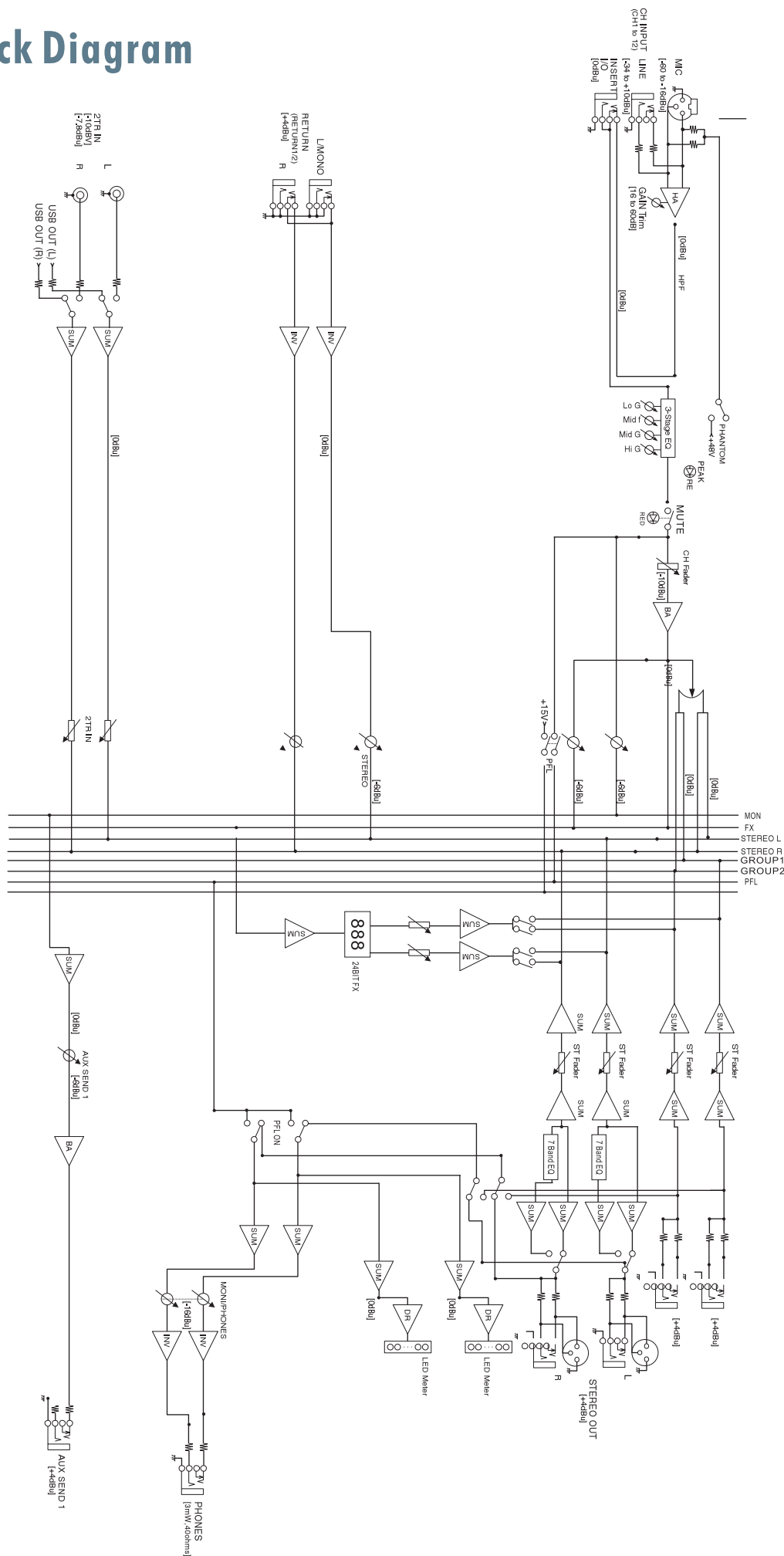
- Unbalanced microphones
- Electric guitars and electronic instruments
- Unbalanced line-level connections

Switched 1/4" Phone Jacks

Switches can be incorporated into 1/4" phone jacks, which are activated by inserting the plug. These switches may open an insert loop in a circuit, change the input routing of the signal or serve other functions. We use these switches in the channel insert and bus insert jacks, input jacks and AUX returns. We also use these switches to ground the line-level inputs when nothing is plugged into them.

In most cases, the plug must be inserted fully to activate the switch. Mackie takes advantage of this in some circuits, specifying circumstances where you are to insert the plug only partially. See Special Mackie Connections, on the next page.

Block Diagram



Unless you know for certain it is safe to do so, never plug single-ended (unbalanced) microphones, instruments, ribbon mics, or electronic devices into the MIC [1] input jacks if the phantom power is on.

2.LINE INPUTS

This 1/4" jacks share circuitry (but not phantom power) with the mic preamps. You can use these inputs for virtually any signal you'll come across, from instrument levels as low as -50dB to operating levels of -10dBV to +4dBu, as there is 45dB of gain available via the GAIN[4] knob. Note that channels 1-8 line inputs are initially attenuated by 15dB.

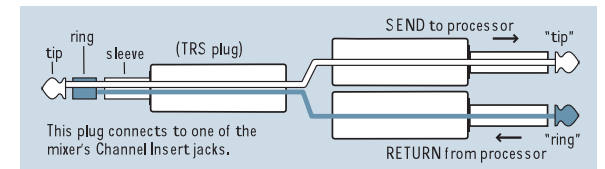
Always be sure to perform the Level-Setting procedure when you connect a new input.

To learn how signals are routed from these inputs, see the details lovingly described in the Channel Strip section.

3.INSERT

Found only on mono channels, these 1/4" unbalanced jacks are for connecting serial effects processors such as compressors, equalizers, de essers, or filters. The insert point is after the GAIN control, but before the channel's EQ, LOW CUT, FADER and MUTE controls.

Insert cables must be wired thusly:



Tip = send (to effects device input)
Ring = return (from effects device output)
Sleeve = common ground

4.MAIN

These line-level outputs connect the main mix to the outside world. Connect them to the balanced inputs of a power amplifier or powered speakers. See page 16 for details of the main mix.

These low-impedance outputs are fully balanced and capable of driving +4 dBu lines with up to 28dB of headroom. This output is 6dB hotter than other outputs.

5.RETURNS

This is where you connect the outputs of your parallel effects devices (or extra audio sources). These balanced inputs are similar to the stereo LINE IN inputs (without EQ, Aux Sends, Pan, Mute, and Solo).

The circuits will handle stereo or mono, balanced or unbalanced signals, either instrument level, -10dBV or +4dBu. They can be used with just about any pro or semipro effects device on the market. The signals coming into these inputs can be adjusted using the STEREO RETURN knobs before passing onto the main mix bus.

6.AUX SEND

The 1/4" TRS output connectors provide balanced or unbalanced line-level signals for connecting to the inputs of effects devices or stage monitor amplifiers.

7.FOOT SWITCH JACK

A FC5 foot switch (sold separately) can be connected to this jack and used to toggle the digital effects ON and OFF.

8.G1-2 JACK

Use it to connect the G1-2 balanced output.

9.PHONES

This 1/4" TRS stereo jack will drive any standard headphone to very loud levels. Walkperson-type phones can also be used with an appropriate adapter. If you're wiring your own cable for the PHONES output, follow standard conventions:

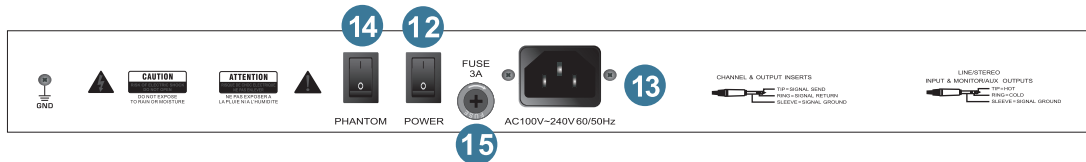
- Tip = Left channel
- Ring = Right channel
- Sleeve = Common ground

10.REC RECORDING OUTPUT

Main output via this interface connect to the external recording equipment.

11.MONITOR OUT

The headphones signal follows the control room output.



12. POWER SWITCH

Press the top of this rocker switch inwards to turn on the mixer. The POWER LED on the top surface of the mixer will glow with happiness, or at least it will if you have the mixer plugged in to a suitable live AC mains supply.

Press the bottom of this switch to turn off the mixer, whenever you feel that this would be a safe thing to do.

14. PHANTOM POWER SWITCH

Depressing this switch applies 48V DC across all microphone input channels connectors for remote powering of condenser microphones. The LED will be runed on when phantom power start working.

13. POWER CONNECTION

Just in case you lose the cord provided with the mixer, its power jack accepts a standard 3-prong IEC cord like those found on most professional recorders, musical instruments, and computers.



WARNING: Disconnecting the plug's ground pin can be dangerous. Please don't do it.

15. FUSE HOLDERS

When occur a problem on this appliance. the fuse will be cut off power to prevent form a problem.

Channel Strip Description

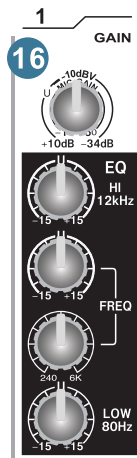
Mono Channels

- The mono channel controls affect both the mono mic input and the mono line-level input.
- The gain knob adjust both mic and line input.
- Each mono channel has an insert jack and low cut switch.
- Channel 1 has a hi-z switch to connect a guitar directly.
- The 3-band EQ has shelving high, shelving low, and peaking mid EQ.

“U” LIKE UNITY GAIN

Theye mixers have a “U” symbol on almost every level control. This “U” stands for “unity gain,” meaning no change in signal level (0 dB gain). Once you have adjusted the input signal with the gain control, set every control at “U” and the signals will travel through the mixer at optimal levels. What’s more, all the labels on our levels cotrols are measured in decibels (dB), so you’ll know what you’re doing levels-wise if you choose to change a control’s setting.

16. GAIN



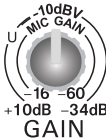
These controls are not in the patchbay, but they are the top row of knobs in the channel strip section. (They are so vitally linked with the inputs, this seemed like a good place to describe them.)

Every time you plug something into a MIC [1] or LINE [2] input jack, you should perform the Level-Setting Procedure, and that procedure is basically “how to use the GAIN knob.”

GAIN adjusts the input sensitivity of the MIC and LINE inputs. This allows signals from the outside world to be adjusted to optimal internal operating levels.

Through the XLR jack (MIC), there will be -16 dB of gain with the knob fully down, ramping to -60 dB of gain fully up.

Through the 1/4" input (LINE), there is 10 dB of attenuation fully down and -34 dB of gain fully up, with unity gain (U) at 10:00.



37. TAPE/USB FADER

These fader control the tape/usb’s level from off, to unity gain, on up to 10dB of additional gain.

38. TAPE/USB

Control input signal with “TAPE” and “USB” Control the size of the gain with “GAIN” According to the personal style, adjust the treble and bass with “HI” and “LOW”

39. FX LEVEL

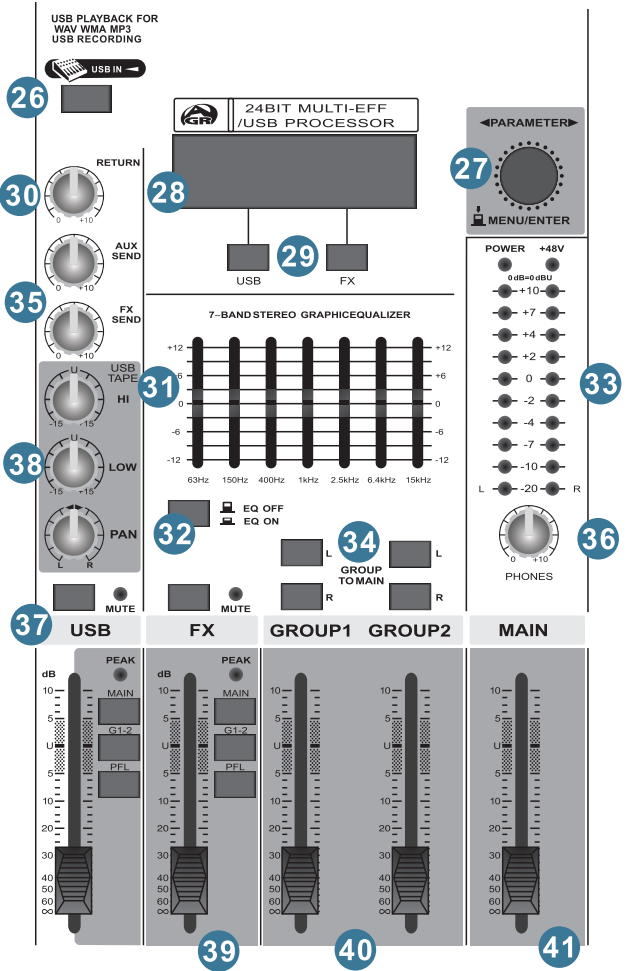
Using by this control, you can adjust signal level of echo repeat & exterior effect.

40. OUTPUT GROUPS 1-2 FADERS

This is a master fader for adjustment for volume of left/right output. Unity gain is the top their travel.

41. OUTPUT MAIN FADER

This is a master fader for adjustment for volume of output. Unity gain is the top their travel.



29.USB & FX Effect control to switch

1. Press the button "USB" to enter USB playback menu
2. Press the FN key to enter the effects selection menu

30.RETURN

These contrd set the overall level of effects received fxm the RETURNS [5] input jacks.

31.STEREO GRAPHIC EQ

This 7-band graphic equalizer adjusts the main mix output.It affects the line-level outputs.It may also be quickly bypassed using the EQ in/bypass switch.

Each slider adjusts the level of its frequency band, with up to 15 dB of boost or cut,and no change in level at the center (0 dB) position. The frequency bands are 63,125,400,1K, 2K,4K,and 12KHz.

The EQ section comes before the main fader and meters.As with the channel EQ, just take it easy. There is a large amount of adjustment,and if you are not careful, you can upset the delicate balance of nature. Although it may not seem cool to actually turn down controls,with EQ it is often your best option.Turn down the offending frequency range,rather than boost the wanted range.Use it to reduce the level of some frequency bands where feedback occurs.

32.EQ OFF /ON

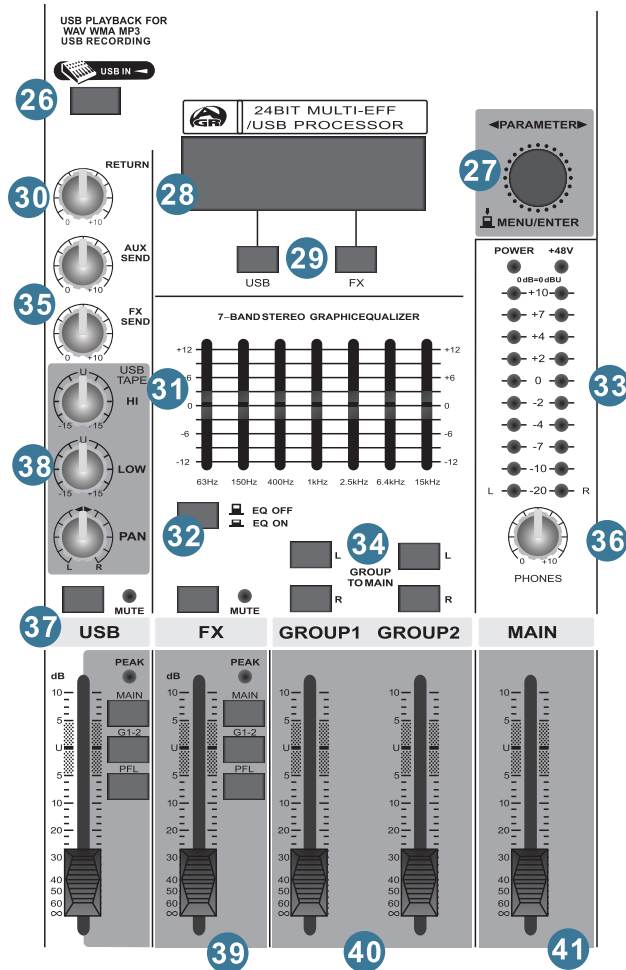
Use this switch to quickly engage or disengage the stereo graphic EQ.This may be used for quick checks of EQ settings or to shorten the signal path if not using the EQ.

33.METERS

Condition on the way of operation, therefore, you can see output condition thru this master level indication.

34.GROUP TO MAIN(L/R)

This switch routes the R mix output to the stereo bus,allowing L bus to be used two mono subgroups mixed down to a single output when stereo is not required.



35.AUX Auxiliary control

The "AUX" button, control signal between mixer and external devicesto adjust the voice. The "FX"button, control volume-level between external devices and master fader.

36.PHONES LEVEL

This controls the volume of the headphones output from off to maximum gain.

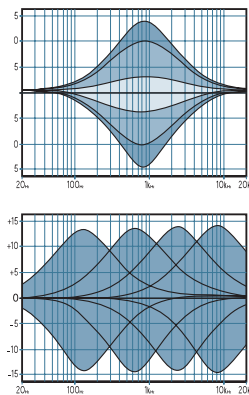


Warning:The headphone amplifier is designed to drive any standard headphones to a very loud level.It can cause permanent hearing damage.Even intermediate levels may be painfully loud with some headphones.Be careful!Always start with the phones level control turned all the way down before connecting headphones or making any connections. Keep it down until you've put on the headphones,and turn it down first whenever you play a new source or instrument.

17.3-BAND MID-SWEEP EQ

The eight mono channels have a 3-band, mid-sweep equalization: LOW shelving at 80 Hz, MID sweep peaking from 240Hz to 6KHz, and HI shelving at 12 kHz. It's probably all the EQ you'll ever need! (Shelving means that the circuitry boosts or cuts all frequencies past the specified frequency. For example, the LOW EQ boosts bass frequencies starting at 80 Hz and continuing down to the lowest note you never heard. Peaking means that certain frequencies form a "hill" around the center frequency.)

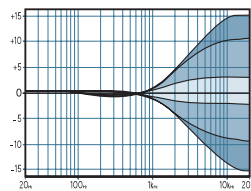
The LOW EQ provides up to 15 dB boost or cut below 80 Hz. The circuit is flat (no boost or cut) at the center detent position. This frequency repre sents the punch in bass drums, bass guitar, fat synth patches, and some really serious male singers.



Used in conjunction with the LOW CUT switch, you can boost the LOW EQ without injecting a ton of subsonic debris into the mix. We recommend using the LOW CUT feature on all channels, except low frequency signals, like kick drums and bass guitars.

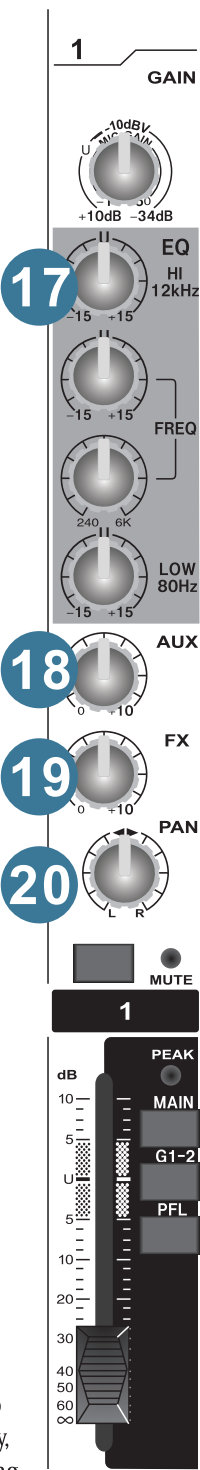
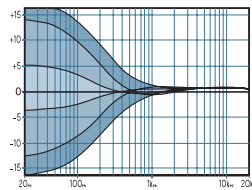
The MID EQ, or "midrange," has a fixed bandwidth of 1 octave. The MID knob sets the amount of boost or cut, up to 15 dB, and is effectively bypassed at the center detent. The frequency knob sets the center frequency, sweepable from 240Hz to 6KHz.

Most of the root and lower harmonics that define a sound are located in the 100 Hz–8 kHz frequency range, and you can create drastic changes with these two knobs. Many engineers use MID EQ to cut midrange frequencies, not boost them. One popular trick is to set the MID fully up, turn the frequency knob until you find a point where it sounds just terrible, then back the MID down into the cut range, causing those terrible frequencies to disappear. Sounds silly, but it works. Sometimes.



The HI EQ provides you up to 15 dB boost or cut above 12 kHz, and it is also flat at the detent. Use it to add sizzle to cymbals, an overall sense of transparency, or an edge to keyboards, vocals, guitar and bacon frying. Turn it down a little to reduce sibilance or to mask tape hiss.

With too much EQ, you can screw things up royally. We've designed a lot of boost and cut into each equalizer circuit because we know everyone will occasionally need that. But if you max the EQ on every channel, you'll get mix mush. Equalize subtly and use the left sides of the knobs (cut), as well as the right (boost). If you find yourself repeatedly using full boost or cut, consider altering the sound source, such as placing a mic differently, trying a different kind of mic, changing the strings, or gargling.



19.FX

These knobs tap a portion of each channel’s signal to set up a nice FX mix feeding the internal FX processor, and to feed external processors via the FX output.

The controls are off when turned full down, deliver unity gain at the center detent, and can provide up to 15 dB of gain turned fully up.

The channel fader, mute and other channel controls affect the FX output, but pan [24] does not, (The aux FX is post-fader.)

20.PAN

These knobs adjust the amount of channel signal sent to the left versus the right outputs. On mono channels these controls act as pan pots. On hybrid and stereo channels, they work like the balance control on a home stereo. They do not affect the aux mon or FX mixes.

21.MUTE

Press this switch in to mute the channel in the main mix. The aux mon output of the channel is not muted.

22.PEAK

This LED will light if the channel signal is too high, and this may cause distortion due to overloading.

The OL LED comes before the channel fader in the signal path, so the fader has no effect in your efforts to turn off the OL LED.

Overloading may occur if the gain is set too high. Turn down the gain if it is.

Overloading may also occur if the channel EQ is set too high. Check that the EQ settings are moderate.

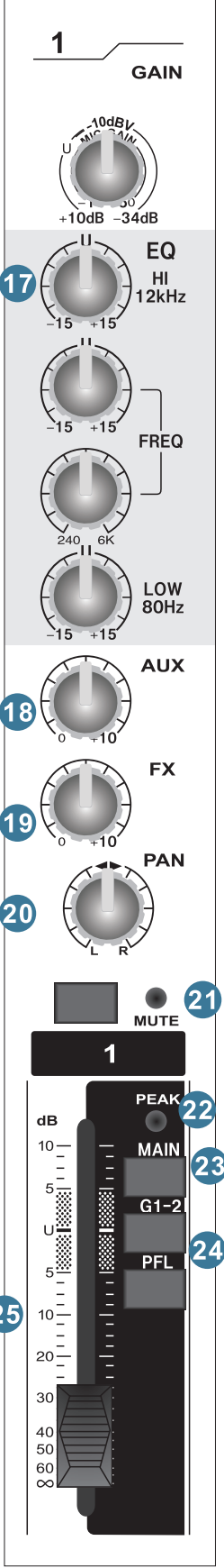
23.MAIN

Alongside each channel fader are three buttons referred to as channel assignment switches. Used in conjunction with the channel’s PAN knob, they are used to determine the destination of the channel’s signal.

With the PAN knob at the center detent, the left and right sides receive equal signal levels (GROUPS 1-2, and MAIN MIX L-R). To feed only one side or the other, turn the PAN knob accordingly.

If you’re doing a mixdown to a 2-track, for example, simply engage the MAIN MIX switch on each channel that you want to hear, and they’ll be sent to the MAIN MIX bus. If you want to create a subgroup of certain channels, engage either the 1-2 switches instead of the MAIN MIX, and they’ll be sent to the appropriate Group faders. From there, the groups can be sent back to the MAIN MIX (using the MAIN MIX assign switches next to the Group faders), allowing you to use the Group faders as a master control for those channels.

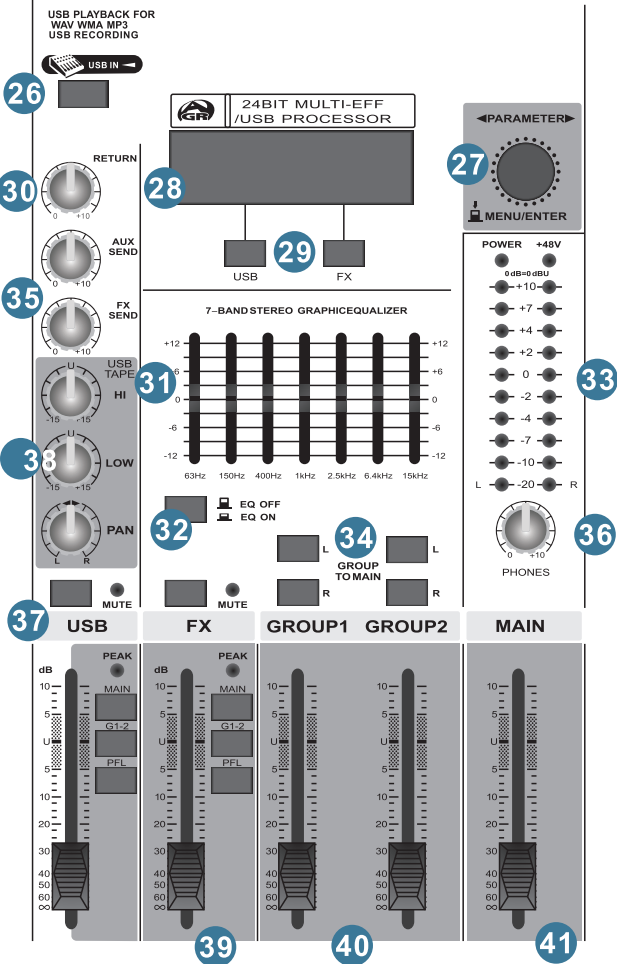
If you’re creating new tracks or bouncing existing ones, you’ll also use the GROUP ASSIGN switches, but not the MAIN MIX switch. Here, you don’t want the subgroups sent back into the MAIN MIX bus, but sent out, via the GROUP OUTS jacks, to your multitrack inputs.



24.PFL

This switch lets you monitor the channel’s pre-fader signal. Press the switch in so that it lights on turn it on. When the switch is on the channel pre-fader signal is output to the PHONES and CONTROL ROOM OUT jack for monitoring.

Master Controls Description



26.USB

This USB interface, a machine built-in MP3 player and recorder, support format: MP3, WAV, WMA

27.PARAMETER

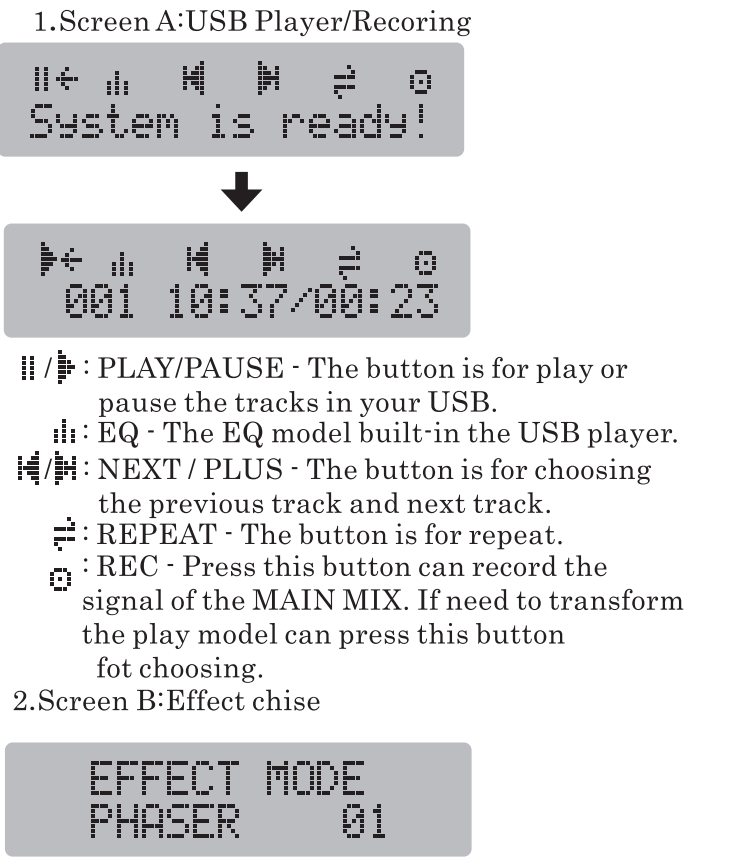
Use the MENU / ENTER rotary encoder in menu mode for menu navigation. In effect mode the MENU/ENTER rotary encoder has no function.

25.CHANNEL FADER

These faders control the channel’s level from off, to unity gain, on up to 10 dB of additional gain. The mono channels have mono faders, and the hybrid and stereo channels use stereo faders.

With the gain control set correctly, the faders should be set around unity gain (U).

28.DISPLAY



Rotate and press the MENU / ENTER rotary encoder you will get the perfect never negative effect you need. 256DSP-Digital multi effects

01-16 VOKHALL	65-80 EARLY REF
17-32 HALL	81-96 SROOM
33-48 ROOM	97-112 SPRING
49-64 PLATE	113-128 PHASER
129-144 TAP DELAY	193-208 CHORUS
145-160 DELAY	209-224 DELAY+REV
161-176 DIMPONG	225-240 FLANG+REV
177-192 FLANGER	241-256 CHORUS+REV