

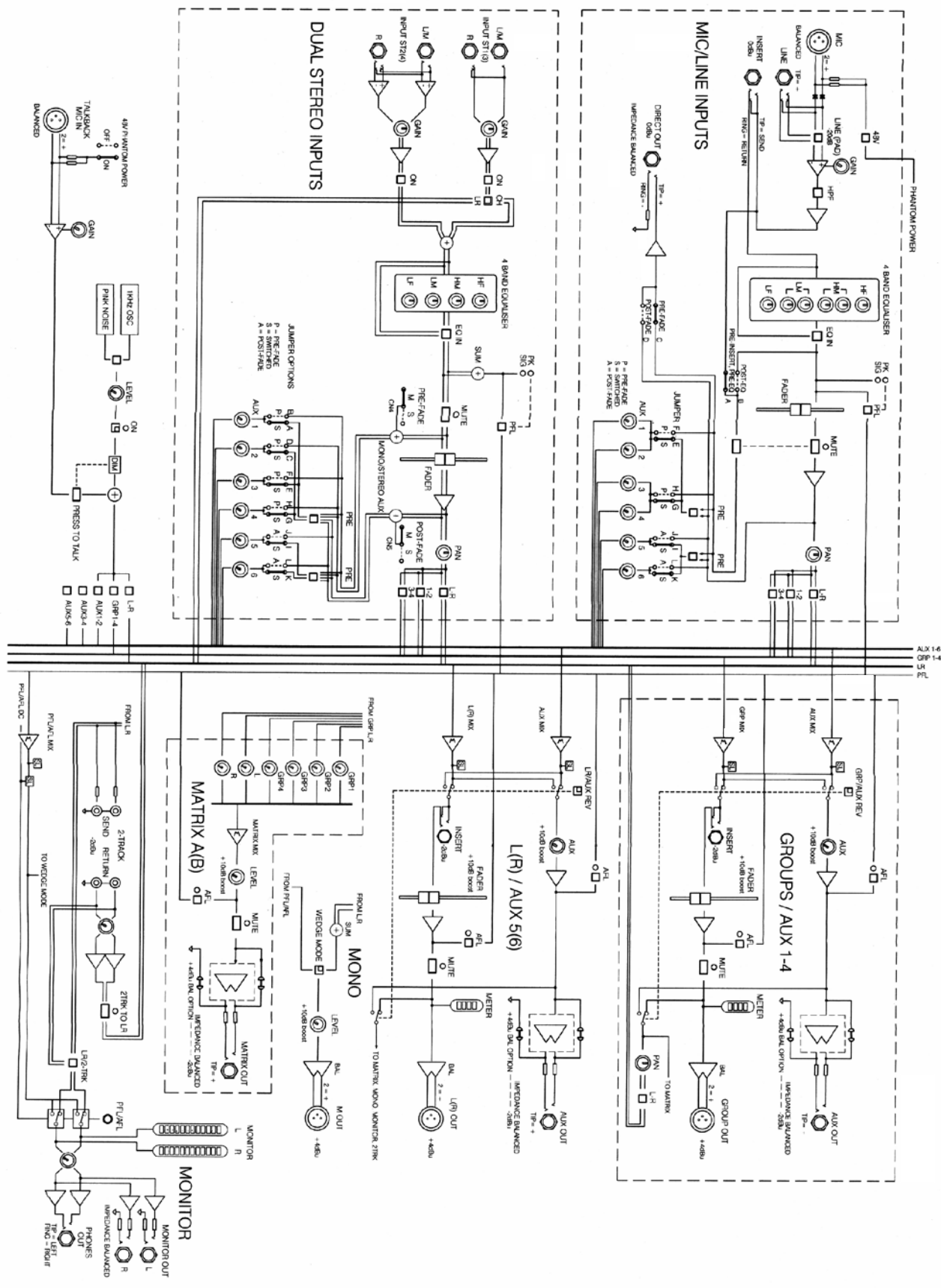
USER MANUAL

PROFESSIONAL MIXER

AS 10/12/16/24/32



AS10/AS12/AS16/AS24/AS32 MIXER WIRIGN DIAGRAM



AS MIXER CONTROL SPECIFICATION

MIC CHANNEL :	XLR balanced pin 2 hot	Sensitivity -60 to +10dBu
	TRS balanced, tip hot	Sensitivity -40 to +10dBu
	Pad out (MIC)	2k ohm
	Pad in (MIC or LINE)	>10k ohm, -20dB
	Max input level	+30dBu
	XLR phantom power	+48, on/off
STEREO CHANNEL :	ST1,3 TRS unbalanced	>10k ohm, -16 to +20dBu
	ST2,4 TRS balanced	>10k ohm, -16 to +20dBu
	MIC TALKBACK: XLR balanced pin 2 hot	>10k ohm, -50 to -10dBu
	Phantom power	Internal jumper +48V
2-Track RETURN :	RCA phono, unbalanced	>4k ohm, -8 to +4dBu
2-Track SEND:	RCA phono, unbalanced	<1k ohm, -2dBu
INSERT :	Channel TRS, tip send, ring return,	0dBu
	Output TRS, tip send, ring return,	-2dBu
L,R, MOUTPUT :	XLR balanced pin 2 hot	<75 ohm,+4dBu, +26dBu max
GROUP OUT:	XLR balanced pin 2 hot	<75 ohm,+4dBu, +26dBu max
AUX OUT:	TRS impedance balanced	<75 ohm,-2dBu, +21dBu max
	Electronic balanced option	<75 ohm,+4dBu, +26dBu max
DIRECT OUT:	TRS impedance balanced	<75 ohm,0dBu, +21dBu max
MATRIX OUT:	TRS impedance balanced	<75 ohm,-2dBu, +21dBu max
	Electronic balanced option	<75 ohm,+4dBu, +26dBu max
HEADPHONE :	TRS,tip L, ring R,30 to 600 ohm headphones recommended	
MONITOR OUT:	TRS impedance balanced	<75 ohm,-2dBu, +21dBu max

Power : AS10/AS12 Supply 100-240V 50/60Hz Switch Power
AS16/AS24/AS32External High Quality Loop Transformer Power Supply
(AC115V And 230V Selectable)

IMPORTANT SAFETY SYMBOLS



Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



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



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.

1. 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.

• 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.

Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

• 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.



AS series are compact mixer designed for professional sound mixing. They are built to the high standards top mixer with individual circuit cards which reduce the interference between units to minimum. High quality components and unique mechanical design and advanced circuits ensure the best performance of the mixers.

With their 4 band semi-parametric EQ, 4groups, 6 auxes, 2 matrixes and stereo main output the AS series can be the optimal option for live show, recording and outdoors activities.

MAIN FEATURES

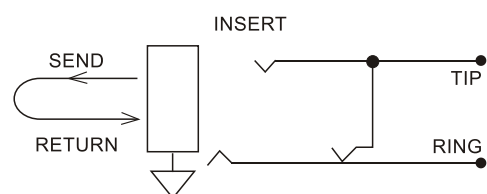
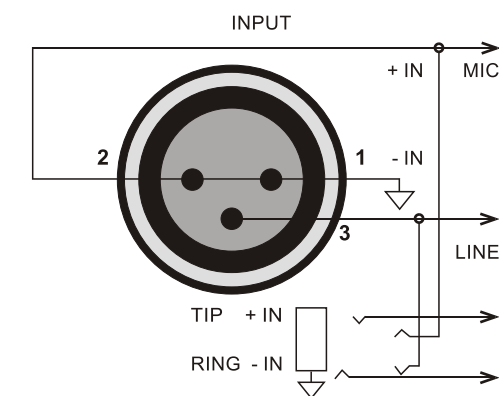
- 1) built-in phantom power +48V
- 2) precise level display
- 3) ALPS switches and faders and ALPS potentiometer
- 4) TI BB2134 and BB2604 amps for output and input
- 5) high quality NEUTRIK connectors
- 6) JRMICON signal couple capacitors
- 7) 4 band semi-parametric EQ for channels
- 8) 80Hz-12dB/oct switch for each MIC channel
- 9) light system for the application in dark environment
- 10) 1K frequency oscillator and pink noise generator can be selected to all outputs
- 11) independent talkback can be selected to all outputs

Type	Mic Input	Channel Stereo Input	Channel Stereo Insert/return	Lrm Output	Group Output	Aux Output	Power Supply	Net Weight Kg	Gross Weight Kg	Dimension mm
AS10	10	2	2	3	4	6	Built-in switch power	13	15	523x183x583
AS12	12	2	2	3	4	6	Built-in switch power	15	17	591x183x583
AS16	16	4	2	3	4	6	External analog power	24	55	666x183x583
AS24	20	4	2	3	4	6	External analog power	28	67	895x183x583
AS32	28	4	2	3	4	6	External analog power	33	80	1102x183x583

- Note:
1. AS10/12 carton package
 2. AS16/24/32 light case
 3. AS 10 19"rack mount
 4. AS16/24/32 equipped with 2U power, net weight 8.8kg

AS10/AS12/AS16/AS24/AS32 MIXER SPECIFICATION

Max bal output :	+26dBu (load 600 ohms)
Main level meter:	0VU=+4 dBu bal output
Headphone monitor out:	+21dBu
Frequency response :	
MIC:	40-20KHz +/-1dB
Stereo line:	20-20KHz +/-0.5dB
THD:	<0.004% (be +10dBu 1kHz @)
Noise:	
Equivalent input noise:	-125dB
Residual output noise:	<-92 dBu
Fader mix noise :	<-84 dBu
Group fader noise :	<-90 dBu
Crosstalk : (be 1kHz @)	
Fader off:	>90dB
Mute off :	>100dB
Between channels:	>90dB
MIC channel low cut :	>12dB/octave below 80Hz
MIC channel HF boost:	+/-15dB 12kHz
H M	+/-15dB 500Hz to 15kHz Q=1.8
L M	+/-15dB 35Hz to 1kHz Q=1.8
LF boost	+/-15dB 80Hz
Stereo line:	
HF boost	+/-15dB 12kHz
H M	+/-15dB 2.5kHz Q=1.8
L M	+/-15dB 250Hz Q=1.8
LF boost	+/-15dB 80Hz



MIC/LINE INPUT: Through PAD(line) switch select MIC XLR or LINE TRS as input. XLR is balanced connector. LINE can be used as either balanced input or unbalanced input also.

INSERT: This is a 3 Pin TRS connector used to connect with unbalanced insert signal. TIP= send, RING= return. The channel insert are post master gain, pre-fader. They are mainly used to connect with line level signal processing equipment such as compressors, EQ, delay units, etc.

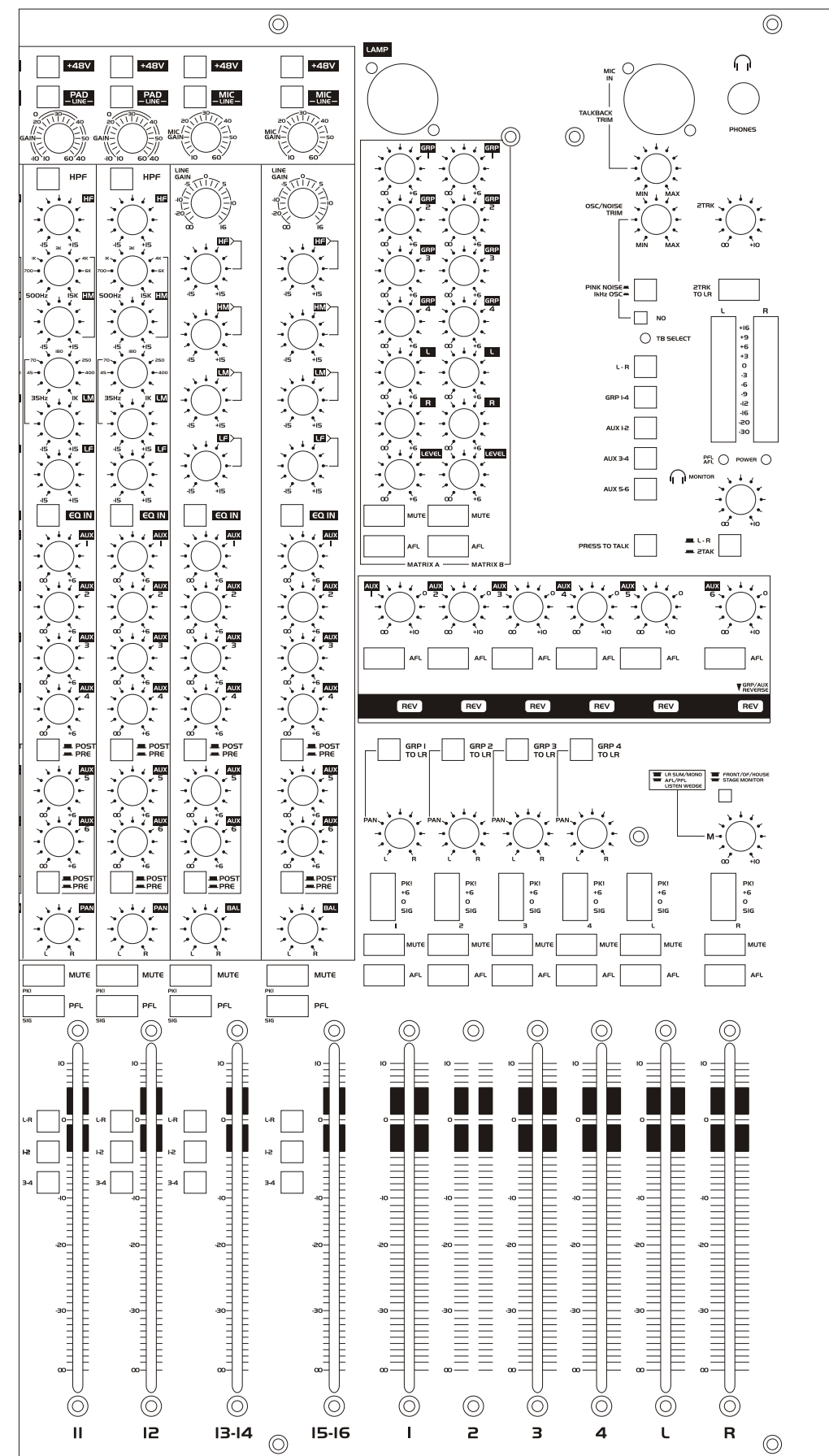
DIRECT OUTPUT: This is a balanced TRS output connector. It is pre-fade output providing a useful source for multi-track recording. Many users prefer to use pre-fader for multi-track recording so that the live show fader movements do not affect the recording. Another application is channel effects sends.

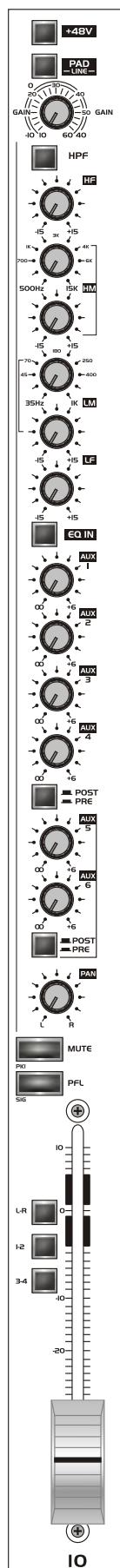
GRP L R M OUT: The main GRP L R M outputs are on balanced XLR. These produce +4dBu when the meters read 0.

AUX OUT 1-6: Balanced TRS connectors. AUX OUT usually provide signal to stereo or mono recording or broadcast or relay, cabinet, zone, hearing assist loop, etc.

2-TRACK: These connections are unbalanced on RCA sockets for connection with CD, computers, tape machines, etc. 2 track return can be used for monitoring a stereo recording, or as a simple stereo input for playback of walk-in and background music.

MONITOR OUT: These signals feed speaker and headphone monitoring system.





+48V: It is used to switch +48V phantom power MIC channel supplying condenser MIC
Caution: When the phantom power is selected, unbalanced signal can't be connected with line input. To avoid big noise, mute the channel before turn on/off +48V phantom power and plug in/out microphone.

PAD: It is used to switch XLR and LINE input. Release the switch for XLR MIC input.

Press the switch for LINE input. This PAD switch can also be used for XLR attenuation. It attenuates 20dB for connecting with high level MIC or LINE signal source.

GAIN: It adjusts channel sensitivity to match signal source, providing a adjustable range from +10dB to +60dB(mic), or from -10dB to +40dB(line, select PAD).

HI-PASS FILTER: switches in the channel high pass filter. This attenuates frequencies below 80Hz by 12dB per octave. The filter is pre-insert, pre-EQ. Select the HPF to reduce low frequency noise such as microphone popping, stage noise and tape transport rumble.

MIC EQ: It is a 4 band semi parametric EQ provides independent control of four frequency bands. Use EQ IN to compare the sound with the equalizer switched in or out of circuit. HF and LF are shelving filters which affect high frequencies above 12kHz, and low frequencies below 80Hz respectively. HM and LM are band filters which affect frequencies around a center point from 500Hz to 15kHz and 35Hz to 1kHz respectively. These have a width (Q) of 1.8. All bands can be boosted or cut by up to 15dB.

AUX OUT: these potentiometers are used to adjust AUX OUT signal levels. Each of the 6 AUX OUT has its own control in a range from OFF to +6dB. When POST /PRE is pressed down, pre-fader signal is sent to the relevant AUX. When POST/PRE is released up, post-fader signal is sent to relevant AUX. AUX 1-4, 5-6 are grouped to switch pre-fader and post-fader.

PAN: It sends MIC channel signal to stereo mixing in different ratio. The central position is a detent for quick resetting.

MUTE: When this switch is pressed down, channel signal is closed up. When the channel is muted, the red LED lights up.

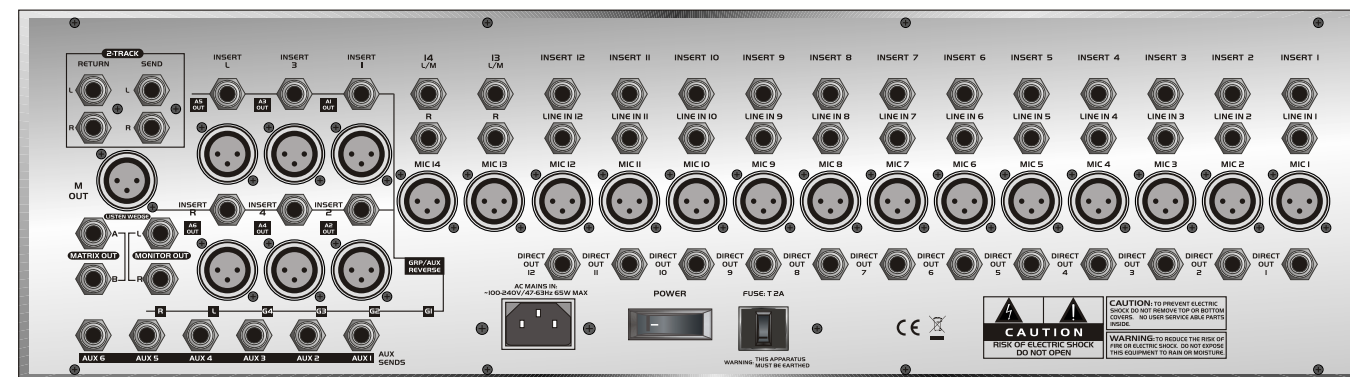
PFL: press PFL and listen to it in the headphones and local monitor without affecting the main outputs.

PEAK LED: the red indicator lights up when the channel prefade signal is within 5dB clipping. This gives the operator enough warning to reduce the GAIN control before you hear signal distortion.

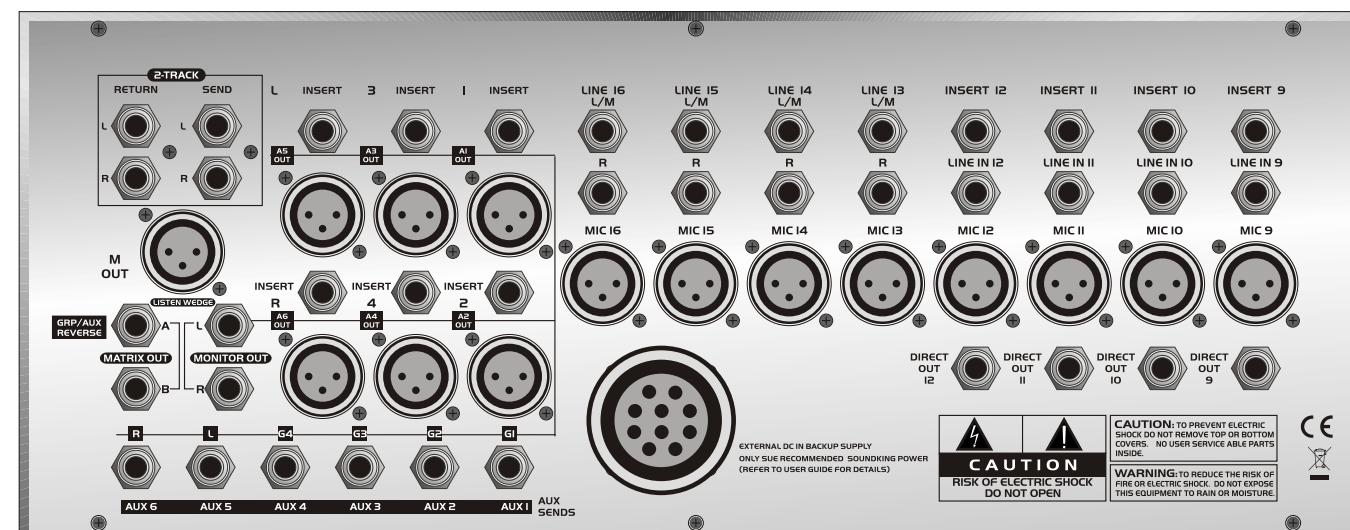
SIGNAL LED: when channel pre-fader signal is more than 12dBu, the green LED lights up.

ROUTING: press L-R to route the channel signal to the main LR MIX. Press 1-2 or 3-4 to route to the groups. Press all the switches, you can route the signal to LR and all the groups. Check if all the switches are in a right position before mixing sound.

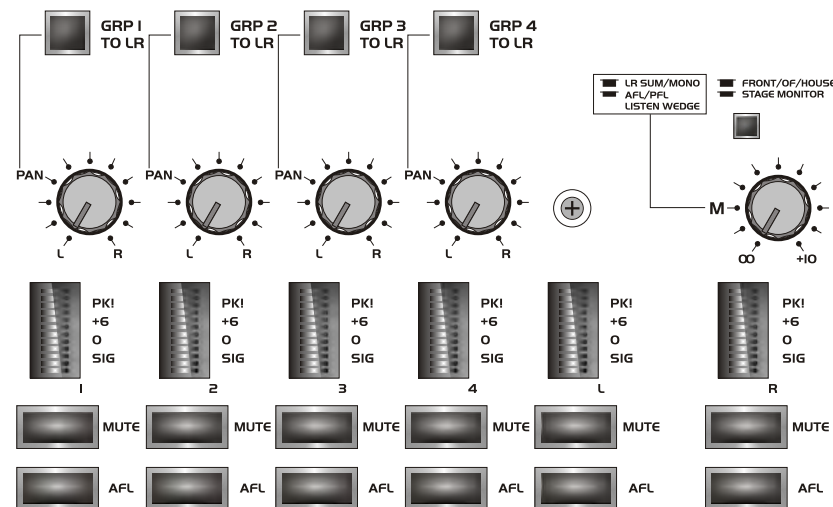
FADER: controls the channel level feeding the main LR mix, groups and post-fade aux sends. The fader provides +10Db maximum boost above its normal unity gain 0dB position.



AS10/12 REAR PANEL



AS16/24/32 REAR PANEL

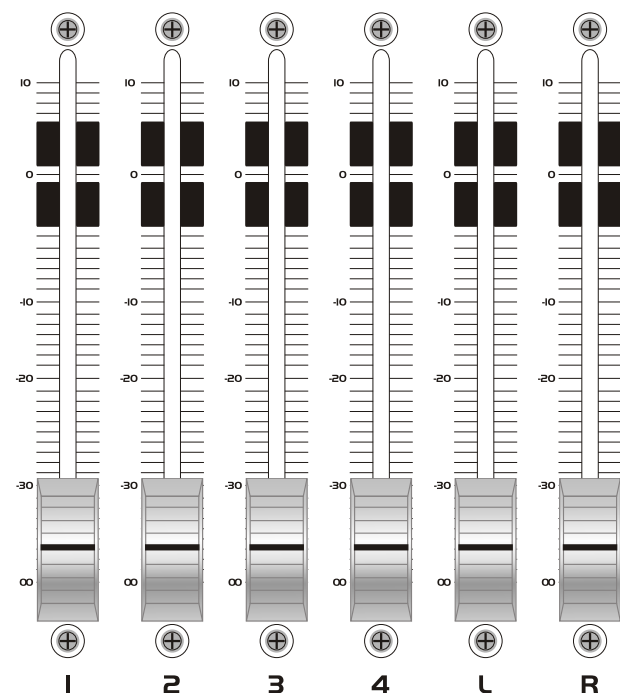


GRP TO LR: When this switch is pressed down, group signal is sent to main output LR channel. PAN potentiometer is used for mono channel and stereo group send.

LEVEL METER: This meter consists of 4 LED to indicate signal level of post group fader and AUX (AUX signal can be displayed only when REV switch is pressed down).

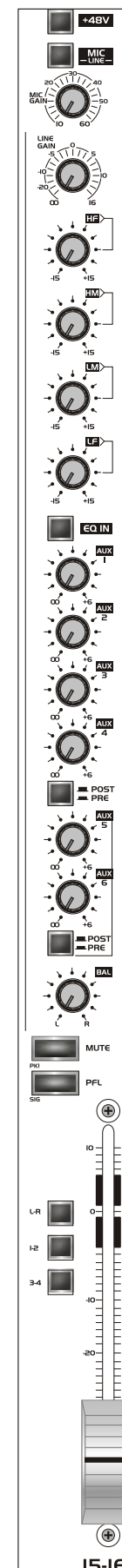
MUTE: When this switch is pressed down, group signal is closed. This control affects MATRIX channel signal at the same time. When the channel is muted, the red LED lights up.

AFL: This is group after fader listen. Press down AFL and listen to group AFL sound in headphones and local monitor. This AFL switch is equipped with a yellow LED for indication.



GROUP FADER: It controls the signal level of group channel. Note that it becomes AUX channel level control in monitor mode (REV pressed down). It provides +10dB gain above 0dB position.

LR FADER: It controls LR channel output level, providing +10dB gain above 0dB position.



MIC/LINE: When the switch is released, this channel can only be used for MIC input.

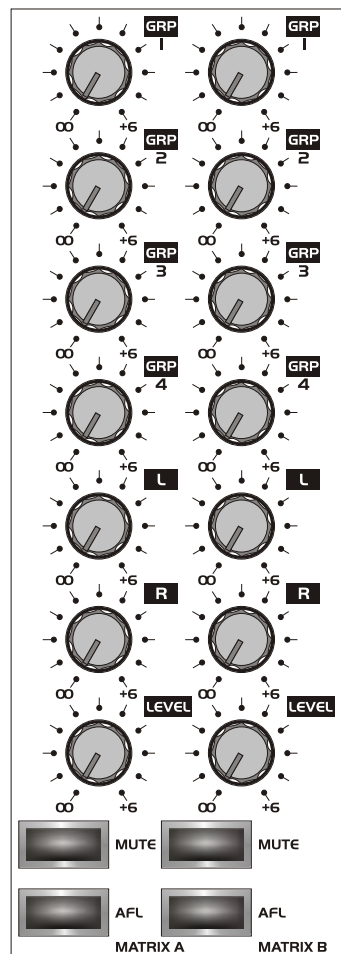
When the switch is pressed down, this channel is used for LINE input.

MIC GAIN: When the switch MIC/LINE is released, adjust channel sensitivity to match signal source, providing an adjustable range from +10dB to +60dB.

LINE GAIN: when the switch MIC/LINE is pressed down, adjust channel sensitivity to match signal source, providing an adjustable range from +10dB to +40dB.

MIC/LINE EQ: 4 band EQ controls 4 frequency bands. EQ IN is the switch for connecting equalizer. Use EQ IN to compare the sound with the equalizer switched in or out of circuit. HF and LF are shelving filters which affect high frequencies above 12kHz, and low frequencies below 80Hz respectively. HM and LM are band filters which affect frequencies around a center point from 500Hz to 15kHz and 35Hz to 1kHz respectively. These have a width (Q) of 1.8. All bands can be boosted or cut by up to 15dB.

BAL: It is used to balance the level of the L signal against the R signal to compensate for differences in the source signal.



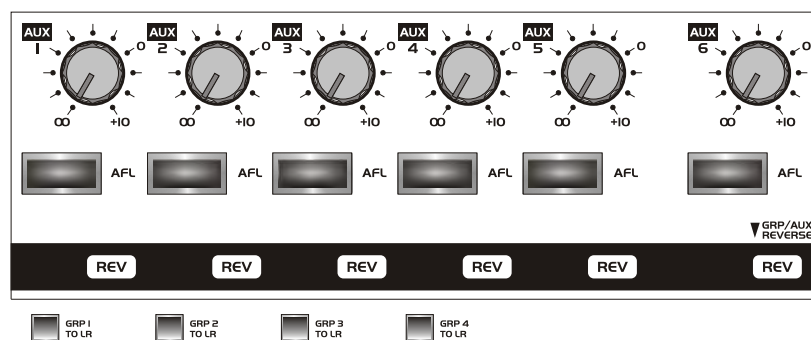
MATRIX GRP1
GRP2
GRP3
GRP4
L.R:

These potentiometers are used to adjust the signal level from group 1-4 and main channel L to MATRIX channels in a range from OFF to +6dB.

MATRIX LEVEL: It is used to adjust MATRIX signal level from OFF to +6dB.

MATRIX MUTE: When this switch is pressed down, matrix channel signal is closed up. When the channel is muted, red LED lights up.

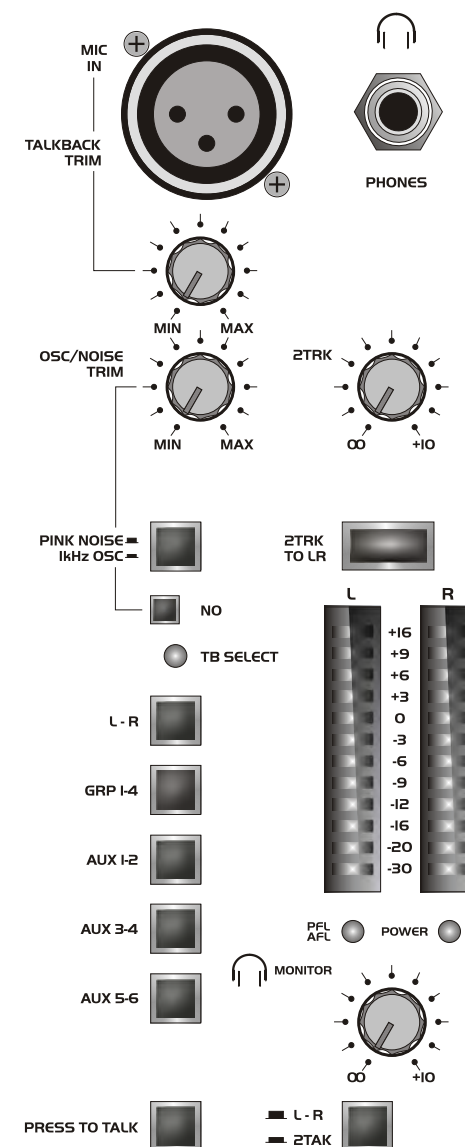
MATRIX AFL: press down MATRIX AFL and listen to the MATRIX level of pre-potentiometer signal in headphones and local monitor.



AUX: AUX 1-6 has a independent master volume control respectively to adjust the output level of AUX connector to match external equipment. This control has +10dB gain above 0 position.

AUX AFL: Without affecting main output, press down AFL and listen to the sound of post AUX MASTER OUTPUT POTENTIOMETER in headphones and local monitor.

REV(GROUP/AUX): press down these switches to send AUX signal to corresponding group. These switches are recessed to prevent from accidental operation. Use a pen or a pointed object to press this switch. When these switches are in UP position, they flush with the panel.



TALKBACK: This mixer is equipped with an independent TALKBACK which can be selected to all main outputs. Dynamic microphone can only be used to connect here.

Warning: To avoid loud noise do not press TALK switch when plugging or unplugging talkback microphone.

Firstly select the source you wish to talk to. Select the auxes in pairs for communicating with the performers on stage.

Select the four groups are simultaneously, ideal for identifying a multitrack recording. You can also talk to LR, ideal for announcements to the audience. Once selected, press TALK to route the mic to the required destination. Adjust the talkback level using the TRIM control below the TB MIC XLR.

SIGNAL GENERATOR / PINK NOISE: Press this switch to select either pink noise or 1kHz sine wave tone as the test source. Start with the trim control of OSC/NOISE turned fully down.

The generator ON switch is recessed to prevent accidental operation. Press this with a pen or pointed object. The green indicator lights up to warn that the generator is activated.

OSC/NOISE signal is routed by the switch above BALK switch

Use this signal to test speaker system. Pink noise is useful to test full range frequency operation and the phase & polarity of speaker. For system equipment, 1KHz sound is more useful because 1KHz signal is more stable.

Warning: It is recommended that the signal generator should be turned down after test to avoid accident events in a show.

HEADPHONES: use MONITOR level control to adjust headphone and monitor output level. It is recommended to use 30~300 Ohm headphone for monitoring. 100 Ohm headphone is a popular selection. Use LF/2TRK switch to select LF or 2TRK.

Warning: to avoid hearing loss, do not monitor in high volume for a long time.

2-TRACK SEND: This is a connector for sending signal. The two sent signals are controlled by the main fader.

2- TRACK RETURN: This is a connector for returning signal. The returning signal level is controlled by 2TRIK potentiometer. If it is necessary to switch return signal into L/R channel, press down 2TRIK TO LR switch.

LEVEL METER: This meter consists of 12 LED to display output signal level precisely. If the red +16 peak LED lights up, reduce the signal level. The signal level should be controlled about +6 position for best performance.