GL2000

AUDIO MIXING CONSOLE

ALLEN & HEATH

USER GUIDE

PUBLICATION **AP2548**

LIMITED ONE YEAR WARRANTY

This product has been manufactured in the UK by ALLEN & HEATH and is warranted to be free from defects in materials or workmanship for a period of one year from the date of purchase by the original owner.

To ensure the high level of performance and reliability for which this equipment has been designed and manufactured please read this User Guide before use.

In the event of a failure notify and return the defective unit to ALLEN & HEATH or its authorised agent as soon as possible for repair under warranty subject to the following conditions:

CONDITIONS OF WARRANTY:

1. The equipment has been installed and operated in accordance with the instructions in the User Guide.
2. The equipment has not been subject to misuse either intended or accidental, neglect, or alteration other than as described in the User Guide or Service Manual, or approved by ALLEN & HEATH.
3. Any necessary adjustment, alteration, or repair has been made by ALLEN & HEATH or its authorised agent.
4. The defective unit is to be returned carriage prepaid to ALLEN & HEATH or its authorised agent with proof of purchase.
5. Units to be returned should be packed to avoid transit damage.

These terms of warranty apply to UK sales. In other territories the terms may vary according to legal requirements.

CE

This product complies with the European Electromagnetic Compatibility Directives 89/336/EEC & 92/31/EEC and the European Low Voltage Directives 73/23/EEC & 93/68/EEC.

ALLEN & HEATH

ALLEN & HEATH AGENT:

U.K. FACTORY:
ALLEN & HEATH.
Kernick Industrial Estate,
Penryn.
Cornwall. TR10 9LU.

A DIVISION OF HARMAN INTERNATIONAL INDUSTRIES Ltd.

copyright © 1997 ALLEN & HEATH. All rights reserved

Publication ..... AP2548 Issue 2

INTRODUCTION

The ***GL2000*** continues ALLEN & HEATH's commitment to provide high quality audio mixing consoles engineered to meet the exacting requirements of today's audio business. It brings you the latest in high performance technology and offers the reassurance of over two decades of console manufacture and customer support.

This user guide presents a quick reference to the function, application and installation of the ***GL2000***. For further information on the basic principles of audio system engineering please refer to one of the specialist publications available from bookshops and audio equipment dealers.

Whilst we believe the information in this guide to be reliable we do not assume responsibility for any inaccuracies. We also reserve the right to make changes in the interest of further product development.

SERVICE AND TECHNICAL SUPPORT

Under normal conditions the ***GL2000*** does not require user maintenance or internal calibration. Any service work required should be carried out by qualified service personnel only.

We are able to offer further product support through our worldwide network of approved dealers and service agents. To help us provide the most efficient service please keep a record of the console serial number, and date and place of purchase to be quoted in any communication regarding this product.

☞ SAFETY WARNING !

Mains electricity is dangerous and can kill. Mains voltage is present within the ***GL2000***. Do not carry out any work within the console while it is powered. The console mains voltage setting is indicated on the rear of the console. Check your mains wiring and earthing before switching on.

DO NOT REMOVE THE MAINS EARTH CONNECTION!

The console chassis is connected to mains earth to ensure your safety. Audio 0V connects to the console chassis internally. Should problems be encountered with ground loops, operate the audio ground lift switches on connected equipment or disconnect the cable screens at one end. Refer to the section on 'EARTHING' in this User Guide.

PRECAUTIONS.

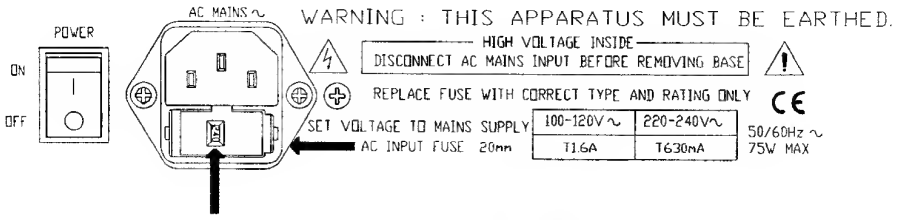
- **AC POWER:** Check the power unit for correct AC mains voltage setting before switching on. Allow adequate space around the unit for ventilation.
- **CONNECTIONS:** Use audio connectors and cables only for their intended purpose. Do not connect any source of AC or DC power to the console audio connectors. Do not connect the output of power amplifiers directly to the console.
- **CLEANING:** Avoid the use of chemicals, abrasives and solvents. The control panel is best cleaned with a soft brush and lint-free cloth. To remove stubborn marks (such as chinagraph pencil) isopropyl alcohol may be used.
- **LUBRICATION:** The faders, switches and potentiometers are lubricated for life. The use of electrical lubricants on these parts is not recommended.
- **DIRT, DUST, SMOKE and MOISTURE:** Prevent damage to the moving parts, such as faders and potentiometers, and cosmetics by avoiding drinks spillage, tobacco ash and smoke, and exposure to rain and condensation. Protect from excessive dirt, dust, heat and vibration.

CONNECTING AC MAINS TO THE CONSOLE

Refer to the **SAFETY WARNING** on the first page of this User Guide.

Mains input to the *GL2000* is via a standard 3 pin IEC mains input connector. A mains cable with moulded mains plug suitable for the local supply is supplied.

Check that the voltage indicated in the fuseholder window is the same as the mains supply in your area.



AC mains supply = 100 to 110 V.AC	**100**	T 1.6A	20mm fuse
AC mains supply = 110 to 125 V.AC	**120**	T 1.6A	20mm fuse
AC mains supply = 210 to 230 V.AC	**230**	T 630mA	20mm fuse
AC mains supply = 235 to 260 V.AC	**240**	T 630mA	20mm fuse

To avoid the risk of fire replace the fuse only with the correct type and value as specified on the unit.

It is normal for the power unit to dissipate heat. **Ensure adequate ventilation around the unit.** Do not cover the unit or position it on soft furnishings during operation.

Always switch the unit off before connecting or disconnecting the console power cable.

This unit contains no user serviceable parts. Do not remove the cover. Refer servicing to qualified service personnel only.

EARTHING THE AUDIO SYSTEM

The console chassis is connected to mains earth via the power cable. Audio 0 V is connected internally to the chassis and therefore mains earth. In this way all signal returns and connector shields are connected to mains earth at the console.

To ensure operator safety do not remove the earth connection from the AC mains plug.

For best performance it is important that the earth system is solid, clean and noise-free. To prevent mains born and external interference pickup from lighting equipment, motors and other mains powered equipment it is recommended that a separate 'clean' mains distribution outlet is used for the audio system.

All signal cables should have their screens connected to earth at the connector. If earth (ground) loop problems result in audible hum or buzz then disconnect the cable screen connection at one end, usually the destination end. This may be done within the cable plug or by operating the 'ground lift' switch if available on the connected equipment. Many DI boxes and power amplifiers include this facility.

PLUGGING UP THE CABLES

Where possible use balanced connections to prevent noise and interference pickup especially on long microphone cable runs. Avoid running audio cables next to AC mains, computer or lighting cables, near thyristor dimmer units or power supplies etc. The use of low impedance sources such as good quality microphones of 200 ohms or less significantly reduces interference pickup. Many problems can be avoided by taking time to check that all cables are correctly wired (in-phase) with professional quality cable and carefully soldered connections. The following wiring convention is used:

XLR

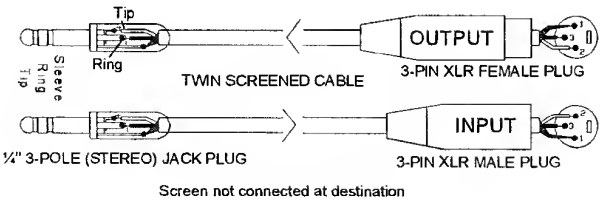
pin 1 = 0V earth shield
pin 2 = + / hot (in phase signal)
pin 3 = - / cold (out of phase signal)

1/4" jack

tip = + / hot / signal / left / send
ring = - / cold / 0V / right / return
sleeve = 0V earth shield

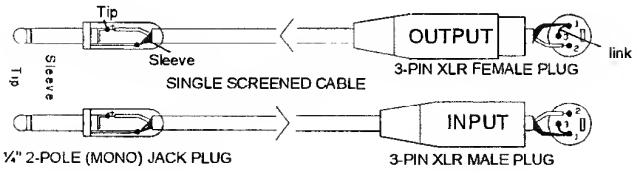
To connect an unbalanced source to a balanced console input, link the cold input (XLR pin 3 or jack ring) to 0V earth (pin 1 or jack sleeve) at the console. To connect a balanced console output to an unbalanced destination link the cold output to 0V earth at the console.

BALANCED



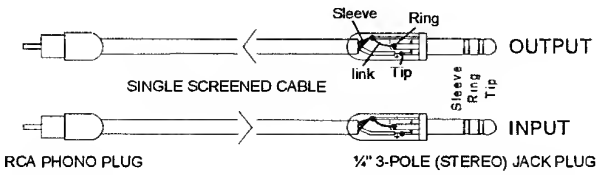
CONSOLE CONNECTIONS

UNBALANCED



CONSOLE CONNECTIONS

UNBALANCED



CONSOLE CONNECTIONS

Deselect input channel +48V when inputs are connected to non-phantom powered, mic, line or unbalanced sources.

ADJUSTING THE LEVELS

For best performance it is important that the connected source signals are matched to the "normal operating level" of the console. Similarly the console outputs should be correctly matched to the operating levels of the connected amplifiers and destination equipment. If too high the signal peaks will be clipped resulting in a harsh distorted sound, and if too low the signal-to-noise ratio is reduced resulting in excessive background hiss.

For best results operate the console with the meters averaging '0' or just below and allowing the loudest passages and occassional peaks into the 'yellow'. Reduce the gain if the peak indicators flash (red). The ***GL2000*** produces a standard XLR output level of +4dBu for a meter reading of 0VU. It is advisable to adjust the power amplifier input gain or fit an attenuator pad if normal console operation results in an output level too high for the connected amplifier. Normal operation should result in fader levels around the '0' mark.

The ***GL2000*** has an advanced PFL (pre-fade listen) / AFL (after-fader listen) and channel metering system to let you listen to and check the level of signals at different points in the signal path without affecting the main outputs. Use the channel **PFL** switches to set up the input **GAIN** controls to read an average '0' (yellow LED). Signal activity is always shown on the channel meters regardless of fader position. The green 'SIG' LED lights at -20dBu to indicate signal presence, the green '0' LED indicates normal level, and the red 'PEAK' LED warns of potential overload 5dB before clipping.

GL2000

The ALLEN & HEATH ***GL2000*** represents a breakthrough in price versus performance and functionality. It offers the professional user a new level of versatility to quickly adapt to the exacting demands of live sound engineering today. The ***GL2000*** is developed from the very successful **GL3** console which first introduced the innovative 'mode switching' that quickly converts the console from Front-of-House to On-stage Monitor operation. Apart from continuing the development of this unique feature the ***GL2000*** packs in more features and performance at the same price point of the mixer it supercedes. We now offer you 4 subgroups, 6 independent aux sends, stereo mic/line channels and lots more ...

FEATURES

- ✓ Easy to use intuitive layout.

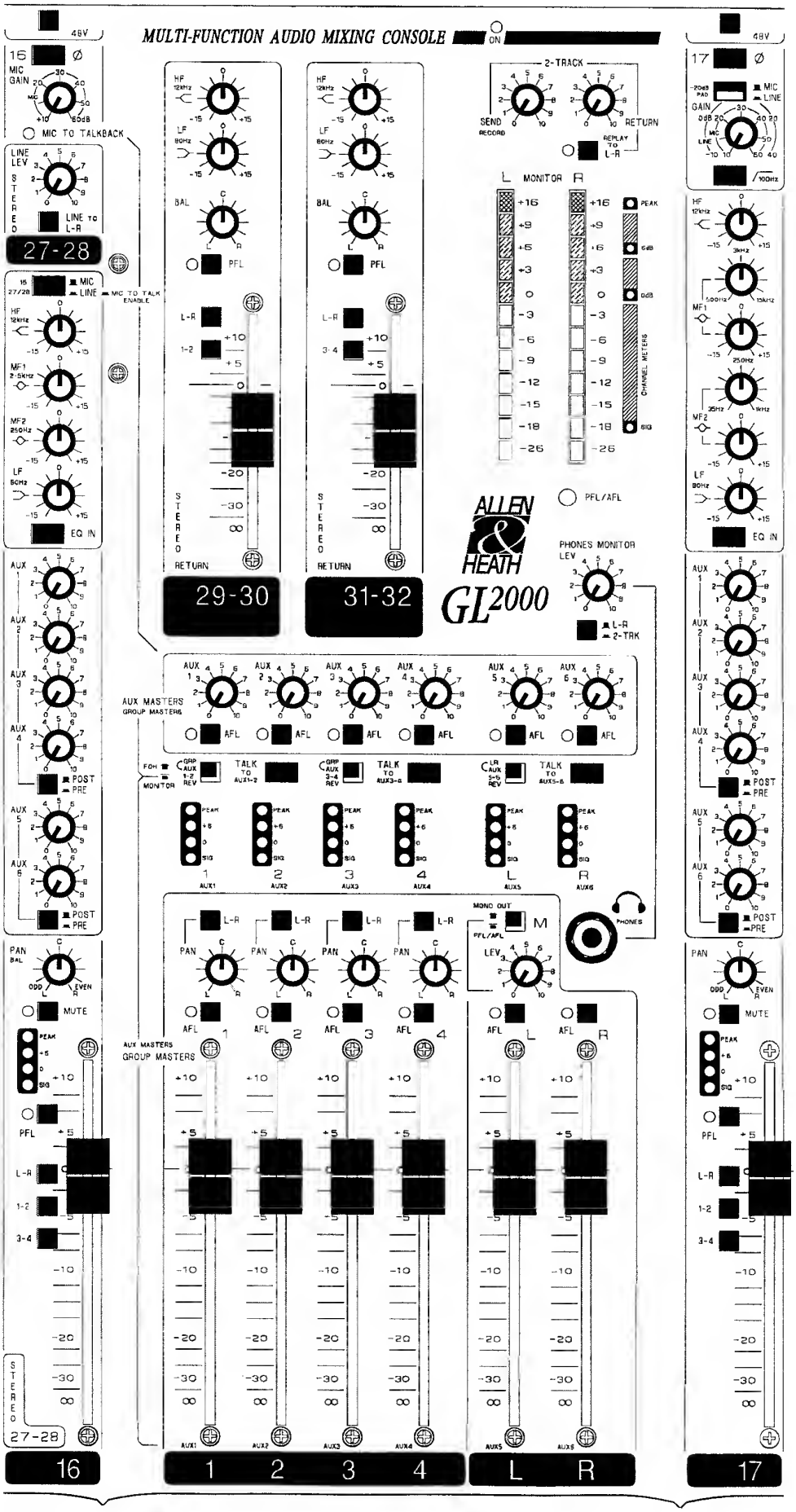
- ✓ 12, 16, 24 and 32 channel models with 20, 24 32 and 40 inputs to the mix respectively.
- ✓ Internal power supply unit.
- ✓ **SYS-LINK** buss expander option.
- ✓ 2 stereo mic/line channels as standard.

- ✓ L R outputs on balanced XLR with inserts.
- ✓ Mono sum output on jack output.
- ✓ 4 groups with outputs available on balanced XLR with inserts.
- ✓ Subgrouping to L R with pan control and switch for each group.
- ✓ 6 independent aux sends on jack outputs.
- ✓ 2 stereo returns on faders with Eq and routing.
- ✓ Mode switching to convert console to on-stage monitor with 6 sends on balanced XLR with inserts.
- ✓ Mode switching converts mono output to monitor engineers 'listen' wedge.
- ✓ 2-track record and replay with level controls.
- ✓ Talkback to all aux sends selected in pairs.

- ✓ Advanced channel features including +48V, phase switch, lo-cut filter, meter and insert.
- ✓ 4 band 2 sweep EQ with wide ranging frequency sweep and +/-15dB boost/cut.
- ✓ Pre-post aux switching with additional internal link options.

- ✓ High performance circuitry used for low noise and sonic purity.
- ✓ High quality, proven reliable parts used throughout.
- ✓ Rear mounted connectors, comfortable soft armrest, wide write-on strips.
- ✓ Rugged metal construction for on-the-road rigidity, easily flightcased and transported.
- ✓ Removeable steel base for easy access to individual circuit assemblies.

FRONT PANEL LAYOUT



THE RANGE

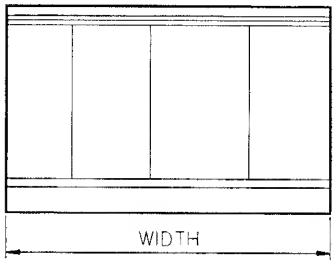
12, 16 24 and 32 channel models.

***GL2000*-412**	10 mono, 2 stereo, 4 groups, 6 aux, 2 stereo returns, L,R, Mono sum
***GL2000*-416**	14 mono, 2 stereo, 4 groups, 6 aux, 2 stereo returns, L,R, Mono sum
***GL2000*-424**	22 mono, 2 stereo, 4 groups, 6 aux, 2 stereo returns, L,R, Mono sum
***GL2000*-432**	30 mono, 2 stereo, 4 groups, 6 aux, 2 stereo returns, L,R, Mono sum

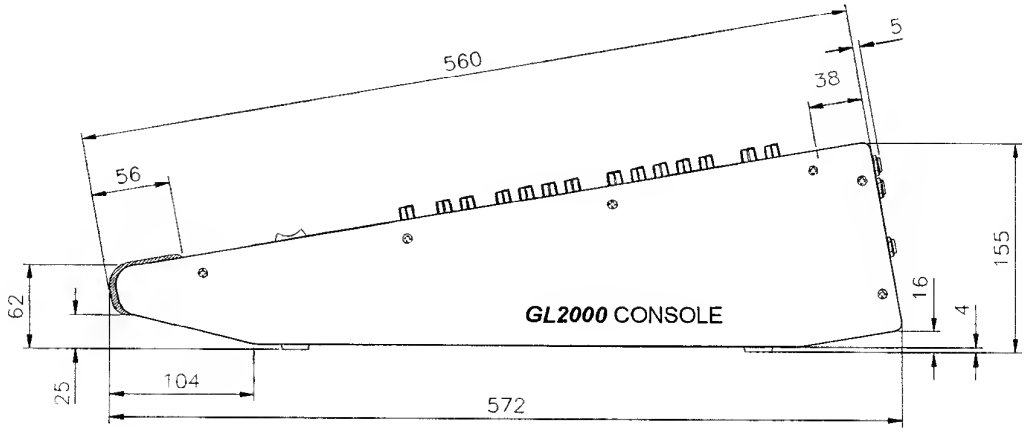
Optional **SYS-LINK** buss expander system

***GL2000*-SL1**	One kit required per console. User to source interconnecting cables.

DIMENSIONS



***GL2000*-412** ..... width 548mm
***GL2000*-416** ..... width 668mm
***GL2000*-424** ..... width 920mm
***GL2000*-432** ..... width 1160mm



SPECIFICATION

0 dBu = 0.775 Volts RMS 0 dBV = 1 Volt RMS

INTERNAL OPERATING LEVEL:.-2 dBu
INTERNAL HEADROOM:.....+21dB channels, +23dB mix to output.
MAX OUTPUTS: ..... balanced +27dBu 600 ohm max load
unbalanced +21dBu 2kohm max load

METERS:..... L, R .....peak reading 12 segment LED
Groups 1-4.....peak reading 4 segment LED
Channels.....peak reading 4 segment LED
PEAK LEDs: .....Turn on 5dB before clipping

POWER SUPPLY:.....internal
AC Mains input:.....range 100V to 240V AC @ 50/60Hz
Set with 4 position selector
Power consumption.....60W max
Mains Fuse rating:.....100-120V AC use T1.6A 20mm
220-240V AC use T0.63A 20mm

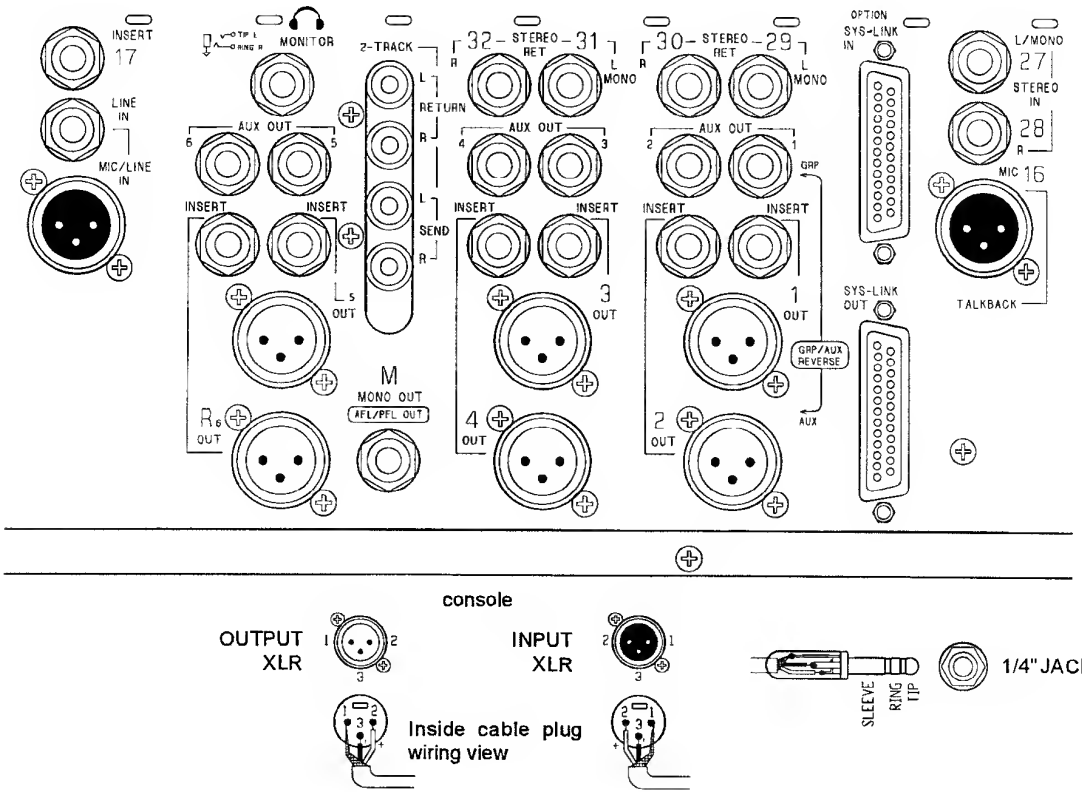
FREQUENCY RESPONSE: 20Hz to 50kHz +0/-1dB

DISTORTION: THD + Noise at +14dBu 1kHz
Mic in to LR out at +40dB gain.....0.010%
Line in to LR out at 0dB gain.....0.008%

CROSSTALK:. Referred to driven channel at 1kHz
Adjacent channel.....≤-94dB
Fader shutoff .....≤-90dB
Mute shutoff .....≤-90dB
Panpot shutoff .....≤-80dB

NOISE:.....Measured RMS 22Hz to 22kHz bandwidth
Mic input EIN referred to 150 ohm source.....<-128dB
Line input pre-amp at 0dB gain.....≤-90dBu
LR output residual noise.....≤-94dBu 98dB S/N
LR faders '0' no channels routed.....<-90dBu 94dB S/N
LR mix noise with 16 channels routed.....<-84dBu 88dB S/N
Group faders '0' no channels routed.....<-91dBu 95dB S/N
Group mix noise with 16 channels routed.....<-84dBu 88dB S/N

REAR PANEL CONNECTIONS



CONNECTIONS

INPUTS:

MIC IN	XLR	pin 2 hot, 3 cold, balanced	2 kohms	variable -60 to -10 dBu
LINE IN	XLR	pin 2 hot, 3 cold, balanced	>10 kohms	variable -40 to +10 dBu
or	1/4" JACK	tip hot, ring cold, balanced	>10 kohms	variable -40 to +10 dBu
STER CHAN LINE IN	1/4" JACK	tip hot, unbalanced	>8 kohms	-20 dBu min
STEREO RETURN	1/4" JACK	tip sig, ring gnd, unbalanced	>6 kohms	-10 dBV min
2-TRACK RETURN	RCA PHONO	unbalanced	>10 kohms	variable -10 dBV min
INSERT RETURN	1/4" JACK	tip send, ring ret, unbalanced	>6 kohms	0 dBu (chan), -2 dBu (out)

OUTPUTS:

L, R, GROUP OUT	XLR	pin 2 hot, 3 cold, balanced	<75 ohms	+4 dBu +27 dBu max
MONO OUT (AFL/PFL)	1/4" JACK	tip hot, ground comp	<75 ohms	-2 dBu +21 dBu max
(balance option)	1/4" JACK	tip hot, ring cold, balanced	<75 ohms	+4 dBu +27 dBu max
AUX OUT	1/4" JACK	tip hot, ring cold, ground comp.	<75 ohms	-2 dBu +21 dBu max
(balance option)	1/4" JACK	tip hot, ring cold, balanced	<75 ohms	+4 dBu +27 dBu max
2-TRACK SEND	RCA PHONO	unbalanced	<75 ohms	variable +21 dBu max
INSERT SEND	1/4" JACK	tip send, ring ret, unbalanced	<75 ohms	0 dBu (chan), -2 dBu (out)
MONITOR OUT	1/4" JACK	tip left, ring right, unbalanced	<75 ohms	variable +21 dBu max
PHONES OUT	1/4" JACK	tip left, ring rightfor stereo headphones	32 to 600 ohms	

MECHANICAL

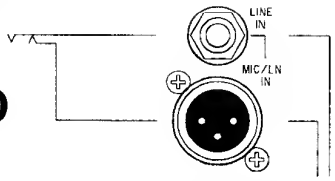
UNPACKED (PACKED) MEASUREMENTS in mm.

	WIDTH	DEPTH	HEIGHT	WEIGHT in Kg/lbs
GL2000- 412	548 (700)	572 (750)	155 (280)	16/35.2 (20/44.4)
GL2000- 416	668 (815)	572 (750)	155 (280)	18/39.6(23/50.6)
GL2000- 424	920 (1065)	572 (750)	155 (280)	24/52.8 (29/63.8)
GL2000- 432	1160 (1325)	572 (750)	155 (280)	30/668 (35/77)

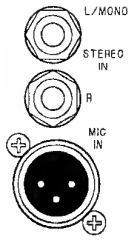
INPUT CHANNELS

For line sources on XLR simply plug into the XLR with the jack socket unplugged.

MONO



Plug in a microphone or line level source. Use balanced cables where possible to prevent interference pickup on long cable runs. Unbalanced sources may be connected by linking signal cold to ground (XLR pin 3 to pin 1, jack ring to sleeve) at the connector.



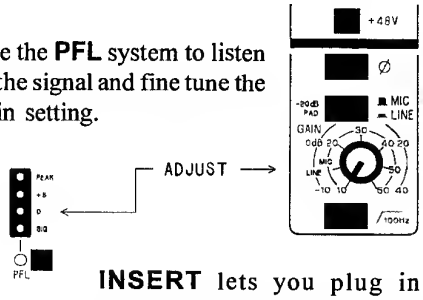
For mono line sources plug into the L/MONO jack socket only..

STEREO

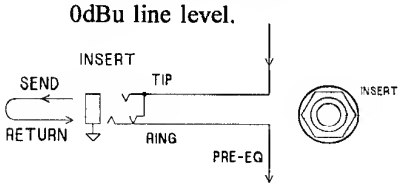
Switch off channel +48V when the inputs are connected to non-phantom powered, line or unbalanced sources.

For balanced microphones which require phantom power select **+48V**. If required this switch may be disabled by an internal link.

Use the **PFL** system to listen to the signal and fine tune the gain setting.



INSERT lets you plug in external effects and signal processing equipment into the signal path. Operate at around 0dBu line level.

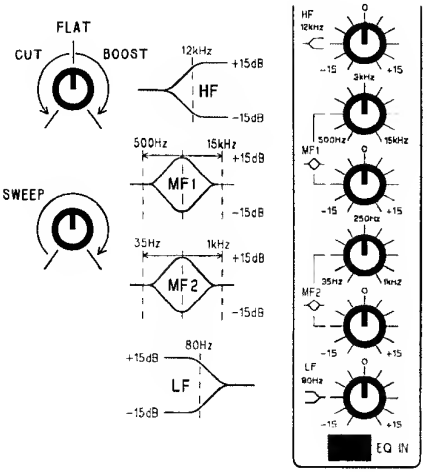


ϕ PHASE reverses the phase of the input source to correct the phase differences often encountered in microphone placement, or due to incorrectly wired cables (pin 3 hot instead of pin 2). May also be used to minimise acoustic feedback between closely positioned loudspeakers and mics in live sound mixing.

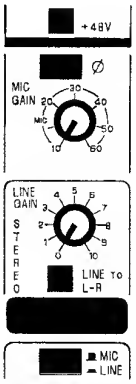
MIC/LINE selects line sensitivity on the jack input when pressed. Or becomes a 20dB pad for the XLR input when no jack is plugged in.

GAIN matches the level of the input source to the normal operating level of the console. Adjust this to read an average **'0dB'** on the channel meter (yellow LED). Use the **PFL** system to listen to the signal and fine tune the gain.

100Hz lo-cut filter removes low frequency noise such as microphone pops, stage noise and transport rumble before the pre-amp stage. The lo-cut filter is independent of the equaliser.

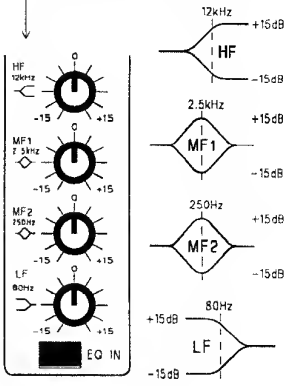


The **4-band EQ** lets you adjust the tonal quality of the sound in 4 separate bands. HF (treble) and LF (bass) are shelving while the 2 mid bands are peak/dip with a Q of 1.6. This is optimum for both corrective and creative equalisation. The controls are centre detented for centre flat response. Press **EQ IN** to switch the EQ into the signal path.



Separate **GAIN** controls for the MIC and LINE inputs let you adjust each source separately. Pressing **LINE TO L-R** routes the stereo line source direct to the L-R mix. In this way both the mic and stereo line inputs may be used at the same time

MIC/LINE selects either the mic XLR input or the stereo line jack inputs to the channel. When selecting LINE on the **second stereo input channel**, the MIC input section is available as the source for talkback. The input channel can be used in the normal way with the line inputs.

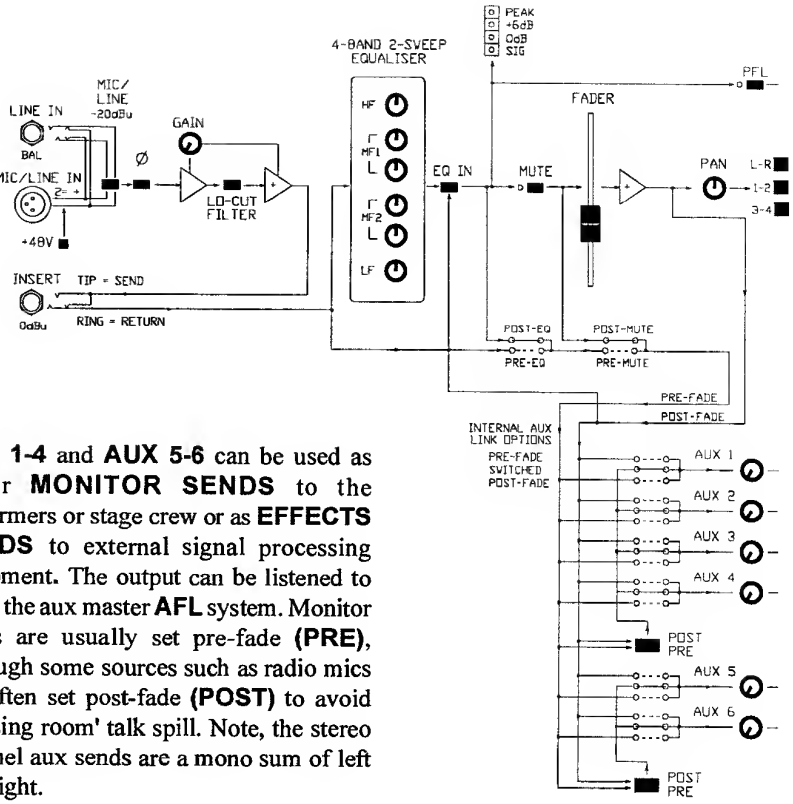


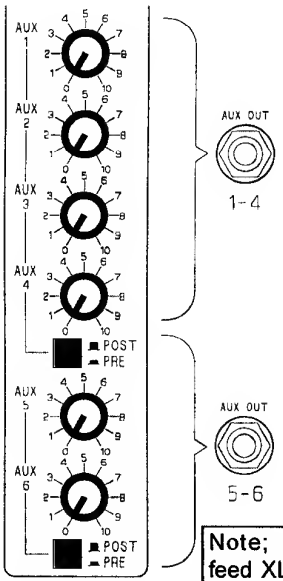
The 2 mid frequency bands may be swept across a wide frequency range to tune into the exact frequency required, most useful for getting the best out of microphones or when tuning out troublesome feedback. The mid bands are overlapping to provide additional cut or boost when required, or provide a tailored response to suit any application.

The 4-band stereo EQ puts the 2 mid frequencies at 250Hz and 2.5kHz. This provides optimum control over boomy or boxy sounds (250Hz), and to add bite or reduce harshness to keyboards, vocals etc. (2.5kHz). The stereo channels are well suited to stereo miking, dual mic mixing, or returning keyboards and effects processors to the mix and monitors.

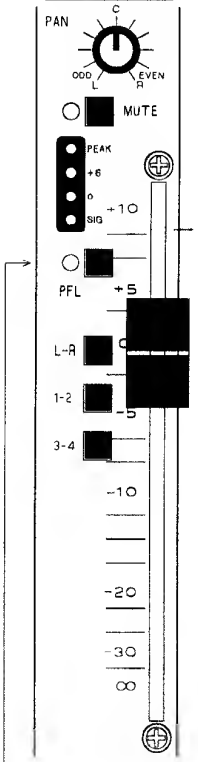
6 AUX SENDS

6 AUX SENDS provide ample feeds for foldback monitors and effects. These are in two groups each with a **POST/PRE** switch to source the sends either pre-fader or post-fader.





Note; AUX 1-6 feed XLR outputs with inserts when the GRP/AUX REVERSE switches are pressed in the master section.



< Normal fader position

AUX 1-4 and **AUX 5-6** can be used as either **MONITOR SENDS** to the performers or stage crew or as **EFFECTS SENDS** to external signal processing equipment. The output can be listened to using the aux master **AFL** system. Monitor sends are usually set pre-fade **(PRE)**, although some sources such as radio mics are often set post-fade **(POST)** to avoid 'dressing room' talk spill. Note, the stereo channel aux sends are a mono sum of left and right.

EFFECTS SENDS to external devices such as reverb and delay effects units,.are usually set post-fade so that the amount of effect (wet signal) is always relative to the position of the fader (dry signal). Adjust the amount of effect required for each channel using its **AUX** control. The effect is returned to the mix through another channel, usually the stereo return described later in this guide.

POST-FADE sends are always post-EQ, post-mute. **PRE-FADE** sends are set post-EQ, post-mute as standard, but may be internally reset to be pre-EQ, pre-mute or post-EQ, pre-mute. Each aux may be internally set to pre or post-fade permanently rather than follow the panel switch.

MUTE switches the signal off when pressed regardless of fader position. Muted channels are indicated by red LEDs. The meter continues to indicate pre-fader channel activity.

PAN positions the channel signal between L (odd) and R (even) of the outputs selected on the L-R and groups 1-2, 3-4 **ROUTING** switches. This lets you position the sounds within a stereo image. In this way subgroups may be set up in mono or stereo to feed the main L-R mix.

A 100mm long throw **FADER** provides +10dB boost above the normal '0' operating level.

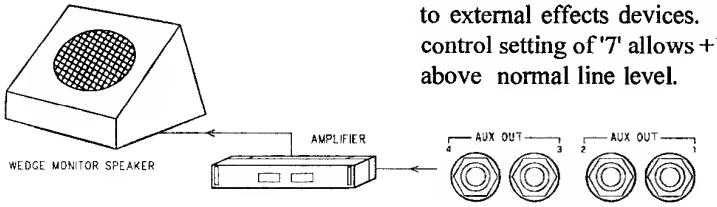
A 4 LED **CHANNEL METER** system shows signal activity at all times. The green **SIG** LED indicates signals greater than -20dBu, yellow **'0'** and **'+6'** represents normal operating level, and red **PEAK** warns of potential overload 5dB before clipping. Set the channel signal so that the meter averages between **'0'** and **'+6'**. Back the gain off if the red peak LED flashes.

Pressing **PFL** automatically interrupts the headphone monitor signal to let you listen to the channel pre-fader signal without interrupting the main console outputs. The signal level is shown on the L-R monitor bargraph meters. In this way each sound can be correctly lined up and checked at any time.

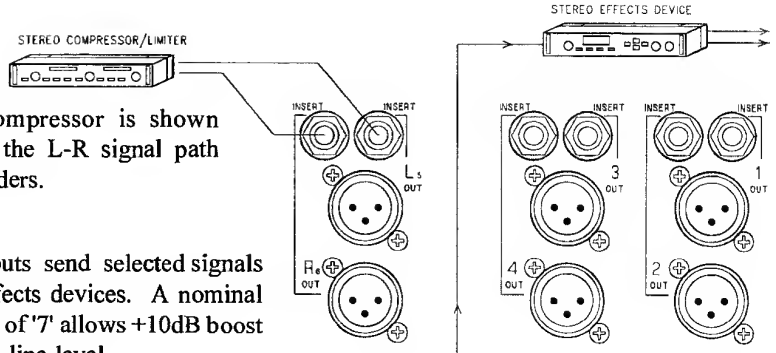
AUX SENDS

MONITORS

In this example **AUX OUT 1-4** feed stage foldback monitors. **AFL** lets you check the output signal after the master level control.



EFFECTS



Here a stereo compressor is shown **INSERTED** into the L-R signal path pre-master L-R faders.

AUX 5-6 outputs send selected signals to external effects devices. A nominal control setting of '7' allows +10dB boost above normal line level.

GROUPS L,R

GROUPS 1-4 and **L,R** are available on balanced XLR outputs to drive long cable runs. **INSERTS** are provided to insert signal processing devices such as compressor/limiters into the signal path. These outputs can be as additional speaker feeds or for recording. In **'ON STAGE MONITOR MODE'** these become **AUX 1-4** outputs with **AUX 5,6** on the **L,R** outputs.

All the XLR outputs operate at a nominal high level +4dBu. Ensure correct matching to external equipment.

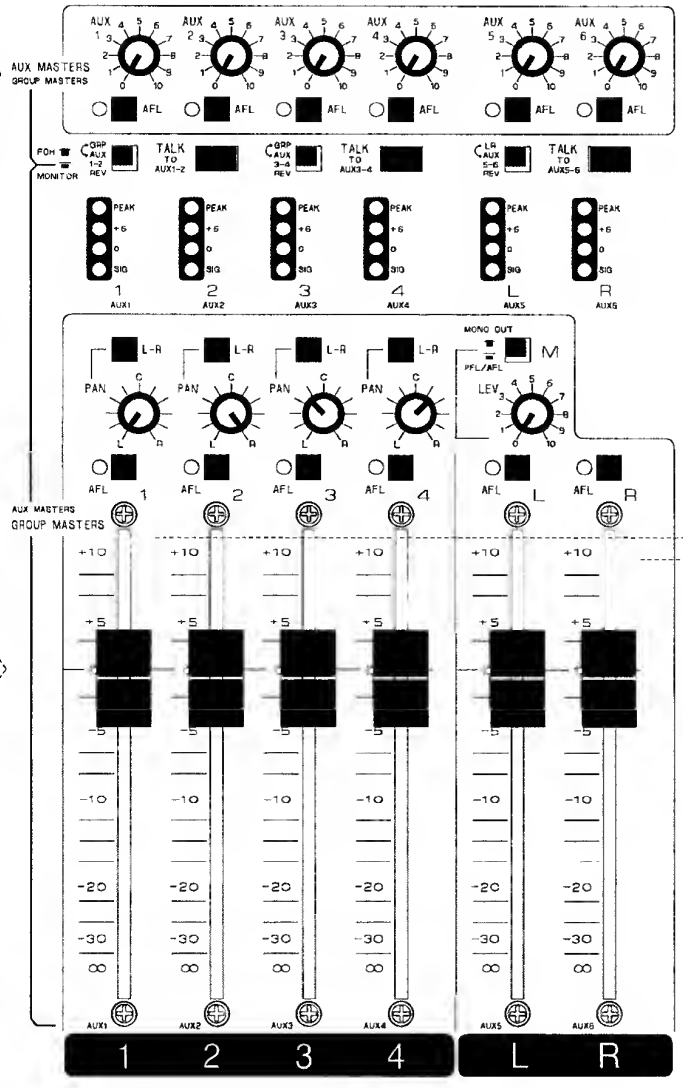
MODE SWITCHES

Decide your required console configuration. For **front of house FOH**, the switches should be up. For **ON STAGE MONITOR** mode, press the recessed switches using a pen tip or pointed object.

By pressing **GRP AUX REV** the group fader section will swap with the aux master section in pairs. This represents **'ON STAGE MONITOR MODE'** where the aux mix is controlled with the fader and monitored on the **METER** and **AFL**. The aux mix is output on the balanced XLR with **INSERT**. **AFL** lets you listen to and check the effect of the inserted graphic EQ or similar processing device.

In this mode the group mix is available on the aux master controls with output feed on the jack sockets.

Mix and match this fader section as you require. For example you could have 2 as monitor sends and 2 as subgroups.



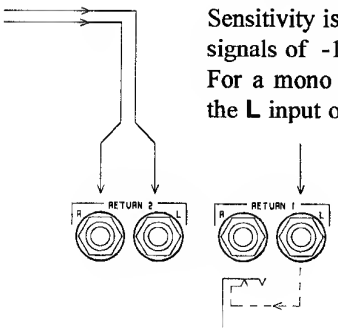
SUBGROUPING

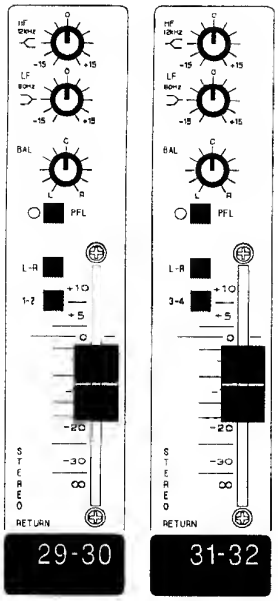
Using subgroups lets you group similar sounds together under the control of a single fader (mono subgroup), or a panned pair of faders (stereo subgroup). For example, the mics on a drum kit (kick, snare, overheads, toms), backing vocals, stage mics, orchestral wind section etc.

Select **L-R** to route a group to L-R as a subgroup. Position the signal within the stereo image using **PAN**. This illustration shows subgroup 1-2 as a stereo pair, and subgroup 3-4 panned just off centre to close the stereo image, useful when the speaker stacks are widely spaced and the front rows of the audience may be confused by a full stereo image. Note that the subgrouping to L-R always follows the signal on the master fader. This becomes the aux mix in monitor mode. **(GRP/AUX REV** selected)

STEREO RETURNS

The **L/Mono** and **R** inputs are on individual jack sockets. Sensitivity is set for line level signals of -10dBV and more. For a mono source plug into the **L** input only.





A 2 band EQ provides HF and LF control with 15dB cut and boost at 12kHz and 80Hz respectively. This is often used to remove unwanted high or low frequency noise from effects devices.

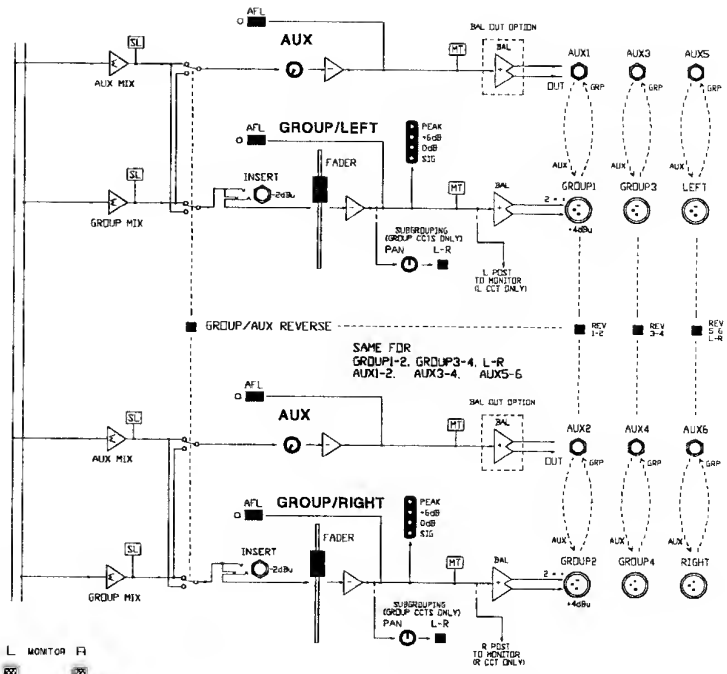
2 Stereo return inputs are provided to return the effects ('wet') signal, usually from a stereo device, to the mix. These are normally routed to the main **L-R** mix but may be returned to the corresponding pairs of subgroups for group effects (**1-2** or **3-4**). Use **PFL** to check the quality and level of the signal (in mono).

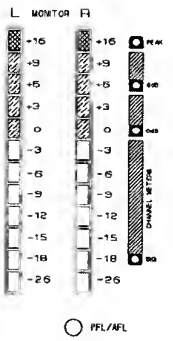
These inputs may also be used as additional line inputs to the mix by selecting **L-R**. The **BAL** control adjusts the balance between left and right signals, or can be used as a pan control to route the signal to one side only by rotating fully. A smooth travel 60mm fader provides precise control of the level.

L,R,M OUTPUTS

The main **L** and **R** outputs are individually controlled on two 100mm long throw faders.

Left and right signals are summed together through a separate level control to the **MONO** jack output which may be used to feed a centre fill speaker system, provide a mono broadcast or recording feed, or work a mono PA with capability for stereo recording.



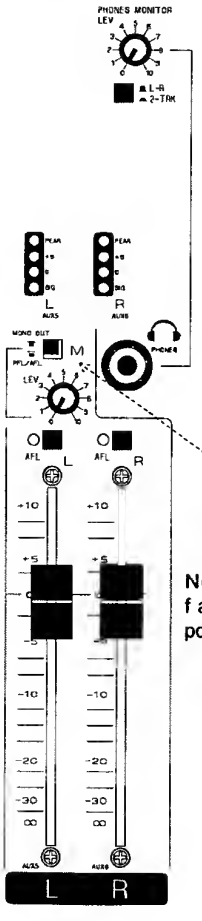


The L R monitor meter graphic displays the range of the 4 segment channel and group meters.

PHONES MONITOR

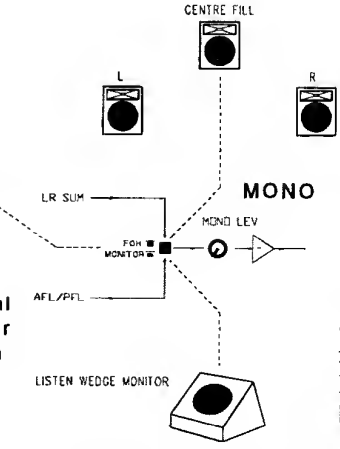
Use stereo headphones with nominal impedance of 150 to 600 ohms. Adjust the **LEV** control for comfortable listening level. The phones and 12 segment bargraph meters normally monitor the post-fade L-R mix. Press **2-TRK** to monitor the return from a stereo recorder or replay device if connected.

Pressing **PFL** or **AFL** anywhere on the console automatically overrides the monitor with the selected **PFL** or **AFL** signal. Check channel or output signals by pressing and releasing the required **PFL** or **AFL** buttons. A **PFL** or **AFL** selected is indicated by means of a large red LED below the meters.



Normal fader position

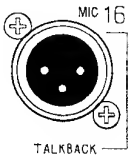
MONITOR MODE



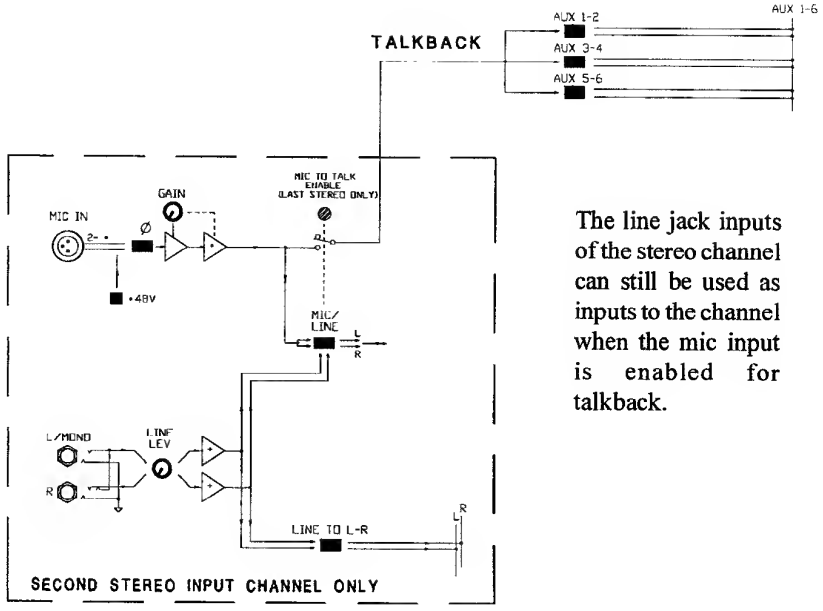
Select your required application: L R sum mono out for **FOH**, or PFL/AFL for **STAGE MONITOR**.

Press the mode switch for stage monitor application. The mono out XLR now feeds the monitor engineers 'listen wedge' speaker. It is advisable that the same type of loudspeaker is used for this as those used for the stage monitors themselves.

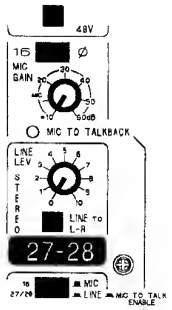
TALKBACK



SECOND STEREO INPUT CHANNEL ONLY



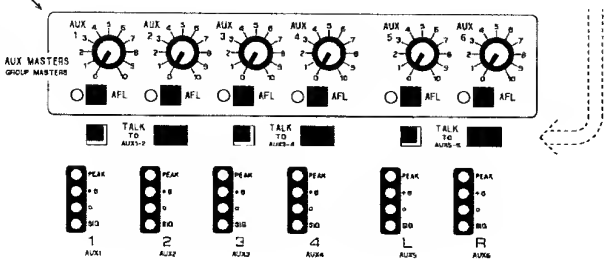
The line jack inputs of the stereo channel can still be used as inputs to the channel when the mic input is enabled for talkback.



The Talkback input is connected into the balanced XLR Mic input of the last stereo channel. By selecting LINE, the Talkback to AUX mix is enabled for the operator to talk to the aux sends in pairs. **+48V** is available for microphones which require phantom power.

Talk to the required aux mix in pairs, by pressing and holding the momentary talk switch. Talk to several at the same time by holding down a combination of switches.

The ability to talk to auxes (foldback monitors) is important when using the console for stage monitoring and cueing the performers.



2-TRACK

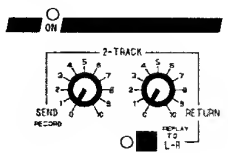
Individual RCA phono sockets are provided for the left and right outputs (sends) and inputs (returns) to and from a stereo recorder such as a DAT or cassette machine.

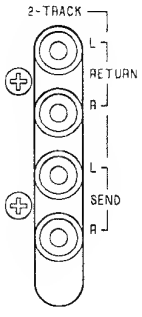
Alternatively the **RETURN** inputs may be used for stereo intermission replay from a CD or similar to the main mix by pressing **REPLAY TO L-R**. An LED warns that replay is selected.

The **SEND** may be used for recording or broadcasting the performance in stereo, or to feed an alternative set of speakers, or drive an induction loop hearing aid system. The send outputs are connected post L-R faders as standard.

Separate send and return level controls adjust the signal to the required line level and sensitivity. The console can work with both high (+4dBu) and low (-10dBV) level equipment.

The green ON LED indicates the console is powered up.



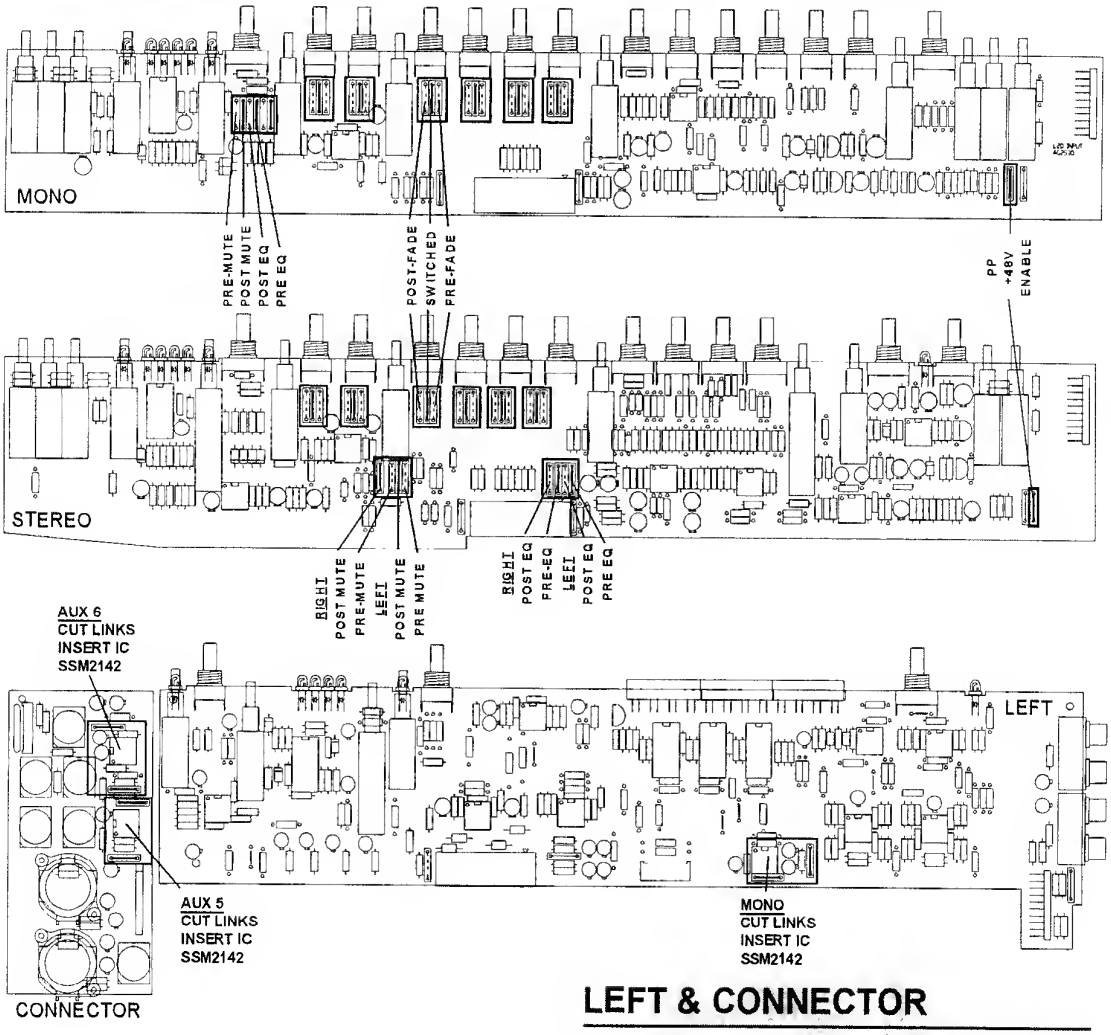


INTERNAL LINK OPTIONS

The console is set to satisfy most applications that should be encountered. However, the following internal link options are offered to provide alternative settings for those applications that may require them. These options involve resoldering of circuit board links and should only be carried out by competent technical personnel. Further information is available in the ***GL2000*** **SERVICE MANUAL** and from your agent.

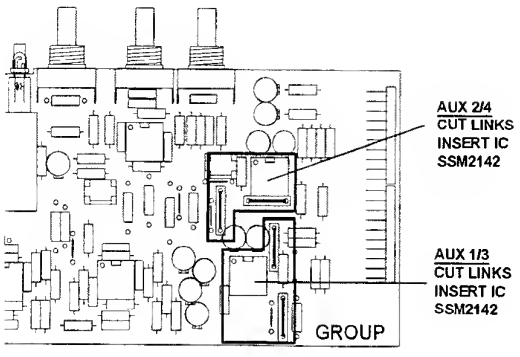
MONO & STEREO INPUT

1. Reconfigure each aux as required to be **permanently pre-fade or post-fade** rather than switched by the front panel **PRE/POST** switch.
2. Reconfigure the pre-fade sends to be **pre-EQ / pre-mute**, or **post-EQ / pre-mute**, instead of the standard post-EQ / post-mute.
3. **Disable +48V** phantom power regardless of panel switch position - remove link.



LEFT & CONNECTOR

1. For **Mono out & Aux out balance option** with jack output tip = hot, ring = cold. Remove two links and plug in balance driver IC.



GROUP

1. For **Aux out balance option** with jack output tip = hot, ring = cold. Remove two links and plug in balance driver IC.

GL2000 ALLEN & HEATH

BLOCK DIAGRAM

