

# GL3300

WHEN YOU'RE MIXING WITH PROFESSIONALS



*Dual Function*  
*8 groups*  
*4 Mute Groups*

ALLEN  
&  
HEATH

# GL3300

## INTRODUCTION

The GL3300 is a dual function console, with the versatility to excel in a number of roles. It is a fully featured 8 group front-of-house console. It is a dedicated 10 mix monitor mixer. It is a combination of both, allowing a single engineer to provide all mixing functions from one console. In addition, GL3300 offers direct outputs and 2-track sends for live and project recording - the ultimate in flexibility.

With its versatile feature set and simple control layout, GL3300 is suited to a broad range of applications, including PA rental, band PA, corporate theatre and installation in houses of worship, theatres, clubs, conference facilities, casinos, schools, stadiums, rehearsal studios and more.

With over 25 years in professional audio, Allen & Heath demand exceptional sound quality. GL3300's mic preamp has a 70dB range, getting the most from all types of equipment. The console's 4 band, 2 sweep British EQ has the precision the discerning engineer needs to make subtle corrections to any frequency, together with the power to give your sound real bite.

GL3300 is built to last. The console's all-metal frame is light, yet tough and rigid. Steel nuts on all pots protect against impact damage. For added strength and ease of service, every input and output has its own vertically mounted circuit board.

The GL3300 can adapt to growing needs with a range of expansion options. To provide extra inputs, a choice of four 8-channel expansion blocks can be bolted onto the frame. For total versatility, GL3300 can be fitted with the SYS-LINK™ option, allowing buss level linkage to other Allen & Heath sound reinforcement consoles and zone mixers.

GL3300 is dedicated to the sound engineers around the world whose comments and encouragement, combined with the hands-on experience of the Allen & Heath design team, have been instrumental in the console's development.

- FOH and monitor mode switching
- 16, 24, 32, 40 channel frames
- 8 subgroups with mutes
- Inserts on all groups
- 4 assignable mute groups
- 4-band EQ with switchable lo-cut filter
- 12 x 2 matrix outputs
- 4 or 8 stereo input channel combinations
- Channel direct outputs
- 8 aux sends, 4 with XLR and inserts, 2 stereo returns
- Talkback to individual auxes
- Extensive metering and monitoring capability
- 2-track record, monitoring and replay
- Mechanical and Sys-Link™ expandability
- Optional meterbridge
- Front and rear ident strips
- Flightcase option
- Dual power supply option



DUAL-FUNCTION AUDIO MIXING CONSOLE

1 3 5 7  
AFL AFL AFL AFL

2 4 6 8  
AFL AFL AFL AFL

AUX SEND GROUP OUT

TALKBACK MIC IN

TALK

TO AUX 1-8

GEND

2-TRACK

RETURN

L-R REPLAY



BAL EVEN R

L-R

1-2

A-0

STEREO

INPUT

1 2

AFL A

AFL B

MATRIX

OUTPUT

A B

PFL/AFL

L R

+15 +9 +6 +3 0 -3 -6 -9 -12 -16 -20 -30

GL3300

MTX A B

0 +6 +12 +18

1-8

MTX A B

0 +6 +12 +18

1-2

L-R

PAN

1-8

PHONES LEV

MONO OUTPUT

LR SUM AFL/PFL

LISTEN REGR

LEV 1-10

UNDER ARMREST

PEAK

0 +6 +12 +18

AFL

1-8

1 2 3 4 5 6 7 8

MUTE GROUP

10 20 30 40 50

L R

MUTE

PEAK

0 +6 +12 +18

FFL

L-R

1-2

3-4

5-6

7-8

M1

M2

M3

M4

# mic/line inputs

## *A versatile front end*

Allen & Heath's dual connector system gives you the convenience of both XLR and TRS jack balanced inputs, whilst the pre-amp stage has a wide 70dB range to accommodate every type of source. All the features you need are at your fingertips, including +48V phantom power and phase reverse to correct wiring or mic positioning problems.

## *British EQ at its best*

GL3300 has 4 band, 2 sweep EQ, with overlapping bands to allow correction of all frequencies. This British EQ design has the subtlety to add touches of warmth and sparkle, whilst being forceful enough to give up to 15dB cut or boost. A switchable 100Hz lo-cut filter eliminates unwanted stage noise with ease.

## *Aux flexibility*

GL3300 has 8 auxes on 8 separate controls, switchable pre/post fader. Internal links give you the added option of bypassing switches and assigning each aux pre/post mute and/or pre/post EQ.

## *Faders, Mutes and Metering*

Full 100mm quality slimline faders provide smooth control, with a maximum +10dB of boost. Comprehensive mute facilities allow you to mute each channel, and to assign it to any or all of the 4 mute groups. A 3 segment LED meter and illuminated mute switch provide at-a-glance monitoring of input status. For recording or special feeds, direct outputs on impedance balanced TRS jacks are fitted as standard.

## *direct outputs*

For live recording, broadcast and other feeds, GL3300 mono inputs feature direct outputs on impedance balanced TRS jacks. These signals are taken post-fade, at 0dBu line level. Group direct outs on a D-connector are available as an option, providing convenient feeds for applications such as 8-track recording.



## *built to last*

### **Vertical PCB's**

Unlike some console designs, GL3300 has a separate PCB (Printed Circuit Board) for each input and output, vertically mounted inside the frame. Not only does this increase the console's rigidity, it also makes any necessary servicing far more convenient. A single module can be simply repaired or replaced, whilst the rest of the mixer continues to function normally.

### **Nutted pots**

Steel nuts on all pots provide protection from impact damage. Each rotary control is firmly bolted to the front panel, spreading any pressure throughout the console's frame and preventing harm to the circuitry inside.

### **Full metal jacket**

GL3300 is housed in a tough all-metal chassis. The console is designed to be lightweight yet strong, with steel panels filling an extruded aluminium frame. GL3300 is built to withstand the rigours of touring and PA rental, continuing to perform superbly for many, many years.



# stereo inputs

## *Stereo versatility*

The L and R inputs have separate gain controls, each with the same wide-ranging mic/line preamp found on the mono inputs. You can treat the inputs as you prefer, creating either a stereo pair or a mono sum - or you can feed two monos through each stereo channel, thereby increasing mono capacity. Jack and balanced XLR inputs are both provided, so mics or keyboards, other stereo sources or FX returns, or individual cables or multicore, can be introduced here. Inserts are provided, allowing external signal processing to be added to each stereo input. All stereo channels have +48V phantom power and phase switching.

## *Uncompromising EQ*

The comprehensive 4-band EQ has been designed specifically to get the best results from stereo sources; shelf at 12kHz, peak/dip at 2.5kHz and at 250Hz, and shelf at 80Hz.

## *Aux access*

Like the mono inputs, each stereo channel has sends to all 8 Auxes, switch-selected pre or post fader. Each Aux is fed the mono sum of the L and R inputs.

## *Complete control*

On many mixers the stereo channels are very poorly featured compared with their mono counterparts - not so with the GL3300. Each stereo channel has L-R balance control, 3-segment led metering and 4 Mute Group assignments. Output can be routed to all 8 Group busses and 100mm faders give smooth fade-outs and fine level-tuning.

## *fx returns*

Effects returns to the stereo inputs can waste features better used for other sources. Additional stereo returns are provided on GL3300, within the master section. The "wet" return signals can be routed via faders to the L-R mix and A/B outputs. Or Group FX can be returned to their corresponding pairs of subgroups.

These returns can alternatively be used for additional line inputs or external inputs to the matrix mix. Input to the Left Jack alone routes a mono signal to both channels, and the Balance control places the stereo image or routes the signal to one buss only.



## *stereo options*

Some engineers prefer their stereo channels to be just on the right of the master section, and some like them on the extreme right of the desk. GL3300 lets you to choose the layout you like: 4 stereo channels set on the immediate right or the far right, or 8 stereo channels on the far right.

These are our "standard" configurations, as shown on the back page. (Configuration "A" is exclusively mono input, with the exception of the two stereo returns in the master section.)

You can add channels later, as your needs grow, or we can factory-assemble special input configurations to match your particular requirements. GL3300's maximum mono+stereo channel capacity is 40.



## dual functionality

Recessed mode switches enable you to configure the desk for the application in hand - from a full FoH mixer to a dedicated stage monitor desk, or a mix of both, with total security against accidental switching.

Eight mode switches below the Aux Send section let you swap each Aux/Group routing according to your needs: in 'reverse' mode, the fader controls the Aux send level (monitor) and the pot controls the Group level.

Mono-output mode-switching further dedicates the console function to FoH or Stage Monitor. For dedicated stage monitors, this mode switch is depressed and a wedge speaker connected to the XLR mono-output: AFL and PFL selections only will be heard. In its up position, the switch routes the L-R mono sum to this output for FoH centre-fill, broadcast, or other mono feed.



## groups & auxes

The master section is designed with its eight Group faders at the bottom and eight Aux send pots at the top - all have AFL buttons with warning LEDs.

Four Aux Outs are available on XLRs for monitors with inserts for signal processing such as graphic EQ, and 4 on jacks for FX. All eight Groups can be used for subgrouping to the main mix, eg. backing vocals, drum kits etc. and Groups 5-8 are provided with XLR outputs for broadcast, recording or other feeds. Master L-R and Mono feeds are all available from balanced XLRs.



## master section

### Sound control for the engineer

Talkback to any combination of Auxes using the press-to-talk buttons below the front panel mic socket - with level trim and phantom power available.

There are independent outs with level control (L-R mix, post-fader) for 2-track recording. Separate 2-track return inputs are routed through a level pot and ON-switch with led, to the L-R busses. 2-track replay can be monitored through the switch next to the headphone level trim.

### Metering and monitoring

12-segment bargraphs and the engineer's phones normally monitor the L-R mix, post-fade. Pressing AFL anywhere will override the L-R monitoring automatically, and pressing a PFL will override both. This important feature will let you listen to an AFL, for example when checking a monitor mix, and check channel signals by pressing the appropriate PFL buttons. Additional optional VU metering is available to monitor separately Groups/Auxes 1-8, L, R and M/PFL levels.

### L,R and matrix outputs

Group outputs are always routed to the main mix via the L-R switches (whether from fader or pot) and, through level controls, to the A and B matrix outputs. The versatile A and B Matrix outs have centrally placed smooth faders and AFL switches. You can feed the matrix from all groups, the main L-R mix and from external sources through the adjacent Stereo Return faders.

### Mute groups

Large illuminated switches indicate the status of the 4 Mute Groups. Selecting a Mute Group will mute all inputs assigned to it, illuminating their individual channel mute LEDs.



**Summary** In FoH mode the 8 subgroups and LR outputs appear on 100mm faders, with 8 aux sends available for foldback and FX. In monitor mode, reverse the aux and group faders to give 8 monitor mixes plus LR side fill on 100mm faders, switching the mono output to become a mono wedge feed. In dual mode, select the combination of monitor and group faders required to suit performance.



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PFL/PFL



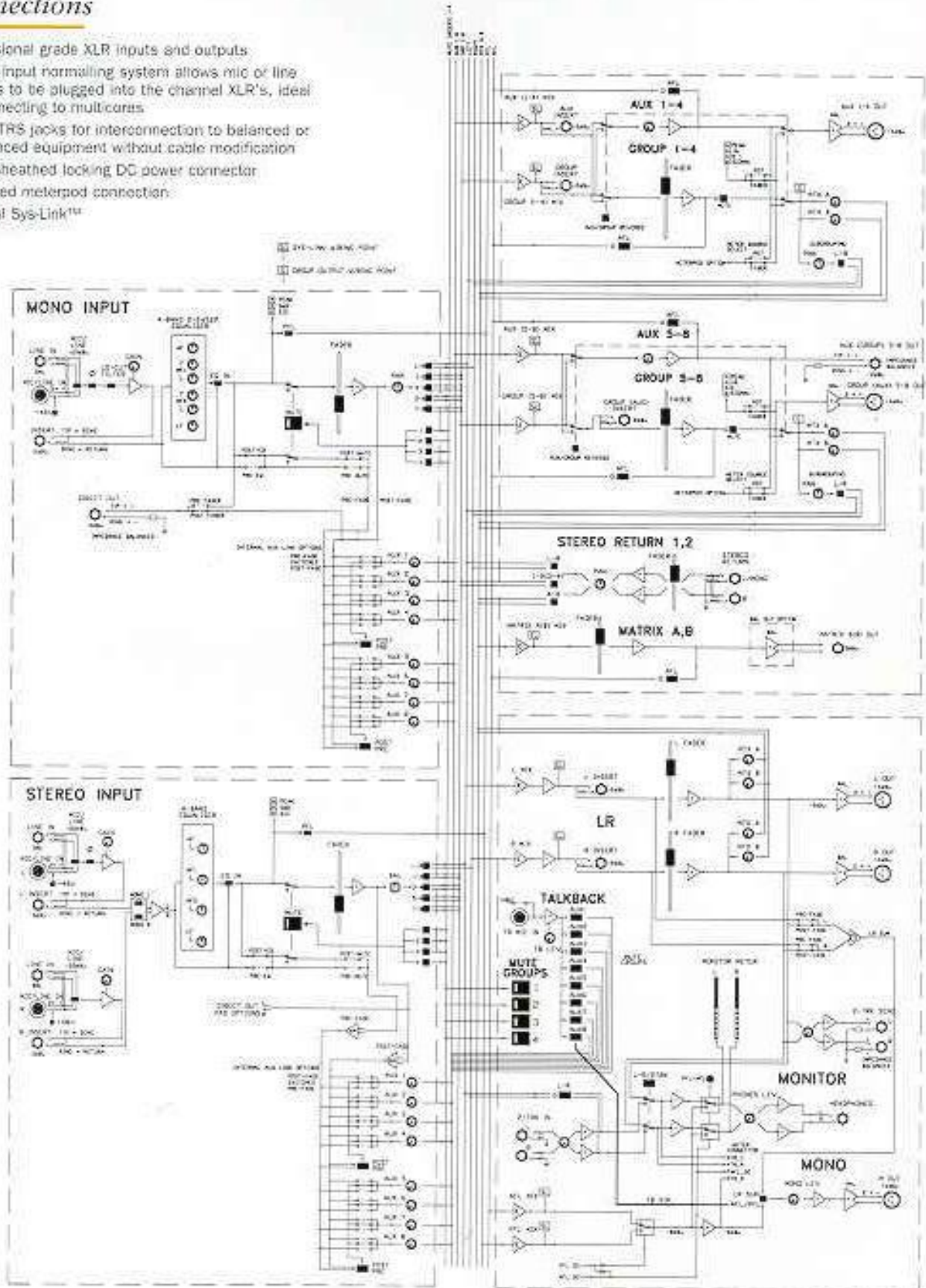
GL3300





## connections

- Professional grade XLR inputs and outputs
- Unique input normalising system allows mic or line sources to be plugged into the channel XLR's, ideal for connecting to multicarers
- 3 pole TRS jacks for interconnection to balanced or unbalanced equipment without cable modification
- Metal sheathed locking DC power connector
- Recessed meterpod connection
- Optional Sys-Link™



## block diagram

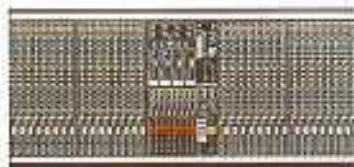
## 4 frame sizes



GL3300-816A 16 channel



GL3300-824a 24 channel



GL3300-832a 32 channel



GL3300-840a 40 channel

Replace 'a' with letter to define configuration required, as shown below. For example GL3300-832C = 32 channel, configuration C (4 stereo inputs at far right of console)

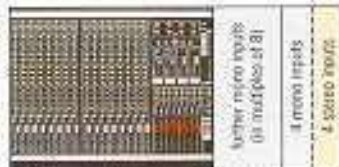
## 4 input configurations — if further alternatives are required, please refer to your supplier



A: all mono inputs



B: 4 stereo inputs to right of master section



C: 4 stereo inputs on far right of console



D: 8 stereo inputs at far right of console

Position of pins of 8 mono channels depends upon frame configuration selected

## feature summary

- FOH and monitor mode switching
- 16, 24, 32, 40 channel frames
- 8 subgroups with mutes
- Inserts on all groups
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- 4-band EQ with switchable lo-cut filter
- 12 x 2 matrix outputs
- 4 or 8 stereo input channel combinations
- Channel direct outputs
- 8 aux sends, 4 with XLR & inserts, 2 stereo returns
- Talkback to individual auxes
- Extensive metering and monitoring capability
- 2-track record, monitoring and replay
- Mechanical and Sys-Link™ expandability
- Optional meterbridge
- Front and rear ident strips
- Flightcase option
- Dual power supply option

## options

### EXPANDER

- GL3300-8M 8 mono channel expander
- GL3300-4SM 4 stereo, 4 mono channel expander
- GL3300-4MS 4 mono, 4 stereo channel expander
- GL3300-8S 8 stereo channel expander

### SYS-LINK

- GL3300-SL Sys-Link™ expander option
- GL3300-8GD 8 Group output option

### POWER SUPPLY

- RP59 300W rack power unit with d.c. cable
- RP5D2 dual supply monitor

### METERBRIDGES

- GL3300-M24 for 24 channel frame
- GL3300-M32 for 32 channel frame
- GL3300-M40 for 40 channel frame

**FLIGHT CASE** A hard-wearing, industrial design to protect your console from serious transit damage.

## connections

<b>INPUTS</b>				
Mic inputs	XLR	female, balanced, pin 2 hot	2x ohms	-60dBu to +10dBu
Line inputs	TRS jack	balanced, tip hot, ring cold	10k ohms	-40dBu to +10dBu
	XLR	mono - female, balanced, pin 2 hot	10k ohms	-40dBu to +10dBu
		stereo - female, balanced, pin 2 hot	10k ohms	-40dBu to +14dBu
Stereo returns	TRS jack	unbalanced	>6k ohms	-10dBV minimum
2-track return	TRS jack	unbalanced	>16k ohms	-10dBV minimum
<b>INSERTS</b>				
Channel inserts	TRS jack	unbalanced, tip send, ring return		0dBu, +21dBu max
Output inserts	TRS jack	unbalanced, tip send, ring return		-20dB, +21dBu max
<b>OUTPUTS</b>				
Direct outs	TRS jack	ground compensated		0dBu, +21dBu max
Matrix outs	TRS jack	ground compensated		-20dB, +21dBu max
	TRS jack	balanced option, tip hot, ring cold		-20dB, +21 dBu max
Aux 1-4 outs	XLR	male, balanced, pin 2 hot		+4dBu, +27dBu max
Aux 5-8 outs	TRS jack	ground compensated		-20dB, +21 dBu max
2-track send	TRS jack	ground compensated		variable +21dBu max
Group 5-8 outs	XLR	male, balanced, pin 2 hot		+4dBu, +27 dBu max
LRM outs	XLR	male, balanced, pin 2 hot		+4dBu, +27 dBu max

## performance

### OPERATING LEVELS

Internal operating level	0dBu
Internal headroom	+21dB channels, +23dB mix to output
Max outputs	balanced +27dBu > 2kohm max load unbalanced +21dBu > 2kohm max load

Adjacent channel	< -100dB
Fader closed	< -90dB
Mute on	< -80dB
Pin pot isolation	< -77 dB

### NOISE PERFORMANCE

Measured rms, 22kHz bandwidth	
Nic in EIN (150 ohm source)	< -128dB
Line preamp, 0dB gain	< -93dBu
L-R residual noise	< -68dBu, 102dB s/n
L-R faders 0, nil routed	< -90dBu, 94dB s/n
L-R mix noise	
(16 channel routed)	< -66dBu, 90dB s/n
Group mix noise	< -87 dBu, 91dB s/n

### CMRR

### FREQUENCY RESPONSE

Referred to 1kHz @ +4dBu, 20Hz to 30kHz	
Mic in to L-R out, 40 dB gain	+0/-1dB
Line in to L-R out, 0dB gain	+0/-1dB

### DISTORTION, THD+noise @ +14dBu, 1kHz output

Mic in to L-R out, 40 dB gain	0.005%
Line in to L-R out, 0dB gain	0.005%

### CROSSTALK, Referred to driven channel @ 1kHz

## dimensions (mm)

	UNPACKED				PACKED			
	WIDTH	DEPTH	HEIGHT	WEIGHT	WIDTH	DEPTH	HEIGHT	WEIGHT
GL3300-816	771	634	176	21 kg	1300	750	280	31 kg
GL3300-824	1026	634	176	29	1300	750	280	38
GL3300-832	1281	634	176	37	1555	750	280	50
GL3300-840	1536	634	176	45	1791	750	280	65
Expander unit	255	634	176	8	470	630	280	15
Meterbridge M24	1014	56	105	4	1050	130	230	6
Meterbridge M32	1269	56	105	5	1330	130	230	7
Meterbridge M40	1524	56	105	5	1590	130	230	8
RP59 (19', 2U)	482	140	96	6	540	270	180	8
RP5D2 (19', 1U)	480	145	45	2.5	550	380	90	4



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The GL3300 complies with the European Directive for Electromagnetic Compatibility (EMC) 89/336/EEC & 92/31/EEC



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