QX Large Format Live Sound_Feb_10_2:QX Large Format Live Sound 12/03/2010 08:19 Page 13

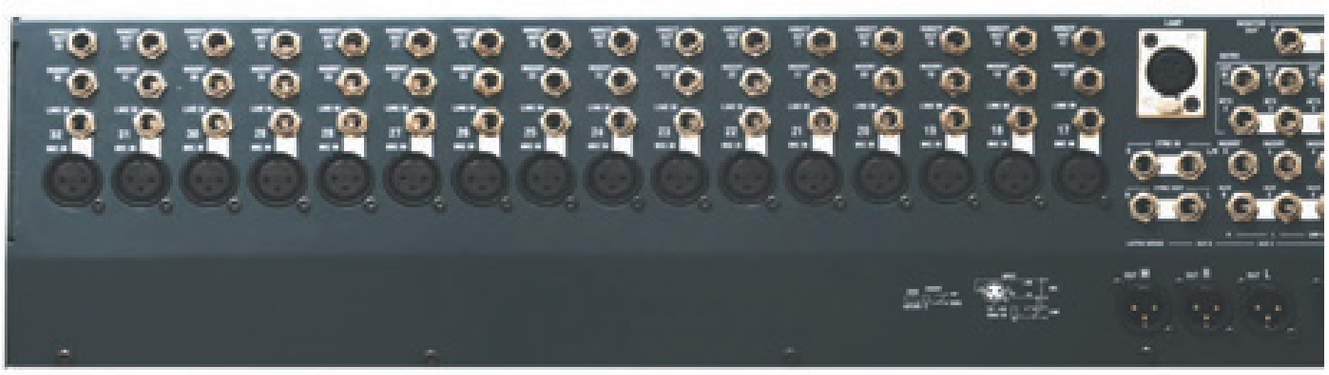
GL2400

The GL2400 is a mixing classic, industry standard in venues and hire stocklists across the globe. The ultimate 4 group dual-function mixer, the GL2400 is designed for the latest in modern engineering techniques, and every detail in this uniquely capable small footprint mixer has been carefully thought out to provide the very best mixing experience.



FEATURES

- 16, 24, 32, 40 channel frames
- LR and M main outputs
- 4 Audio groups with pan control
- 6 Auxiliary sends with per-channel pre/post fader switching
- 2 stereo channels each with mic and dual stereo line inputs
- 7x4 Matrix
- Proper dual functionality for FOH and/or Monitor mixing
- M can be configured as LR sum, wedge, or aux-fed sub or C master
- Recording capable with channel direct outputs
- Matrix external inputs with level trims and common input capability
- Stereo channel line inputs can be independently routed to LR
- Stereo channel mic input breakpoints for cross patching into matrix
- Responsive 4 band, 2 sweep EQ
- 100Hz high pass filters
- Individual phantom power and polarity switching
- Dedicated channel, master and stereo monitor meters
- Internal jumper plugs for pre/post-EQ aux, direct out and other options
- Mutes, meters and AFL on all fader masters
- Assignable talkback
- 1kHz oscillator and pink noise generator



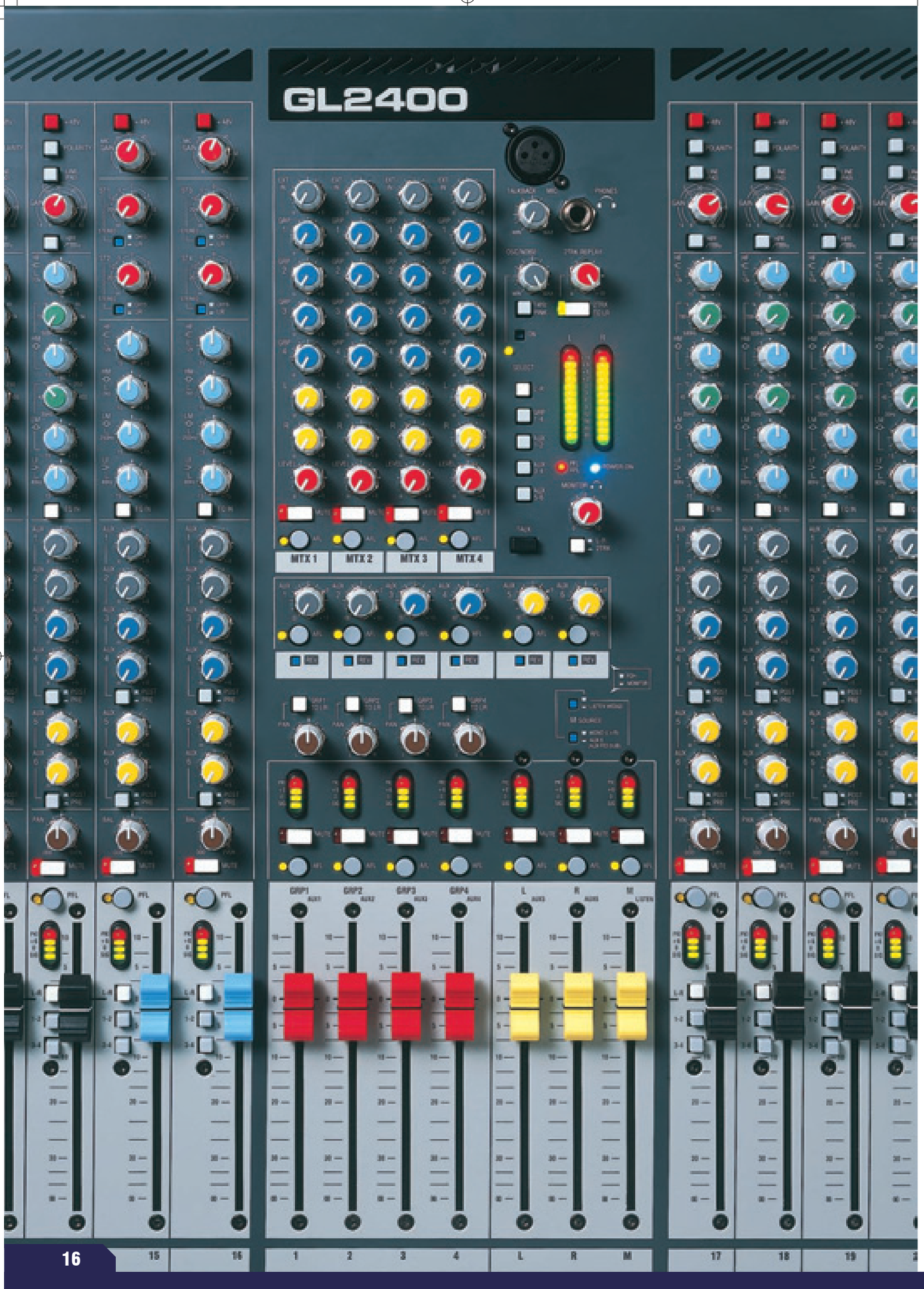
Whether mixing FOH, monitors, or both, recording live or in the studio, installed in a busy or house of worship, out on the road touring or earning its keep in rental stock, the GL2400 provides the perfect solution.

GL2400 is a compact, dual function, LR, Mono sum, 4 group, 6 aux, 7x4 matrix console.
Frame sizes range from 16 to 40 channels including 2 dual stereo channels.



- 2-track monitoring and replay to LR
- Headphones and local monitor outputs
- Electronically balanced XLR outputs with +26dBu drive capability
- Preamp 74dB range with +34dBu input capability for mic or line
- Ultra low noise mix head amp design
- Internal power supply with socket for MPS12 backup supply (16 to 32 channel models)
- External RPS11 power supply and socket for another RPS11 as backup (40 channel model)
- 100mm dust protected faders
- Individual circuit card assembly with nutted pots
- Sys-Link V2 console input/output linking option
- 4-pin XLR lamp sockets – **ALLEN&HEATH** LEDlamp available




GL2400
MTX 1
MTX 2
MTX 3
MTX 4
GRP1
GRP2
GRP3
GRP4
L
R
M
15
16
1
2
3
4
L
R
M
17
18
19

Specifications

Performance

Maximum input level	Mic	+34dBu (inc pad)
	CH Line	+34dBu
	Other Line	+20dBu
Maximum output level	XLR	+26dBu
	Jack	+20dBu
Internal headroom	Channels	+20dB
	Mix	+22dB
Meters	3 colour LED, quasi peak response	
Sensitivity	0VU = +4dBu at XLR output	
Master meters	12 segment	-30 to +16dB
Channel meters	4 segment	-12,0,+6+16dB (5dB before clip)
Frequency response	20Hz to 50kHz	+/-0.5dB
Mic CMRR at 1kHz	> 80dB typical	
THD+n at +14dBu 1kHz	Channel to mix out	< 0.003%
Crosstalk at 1kHz	Fader shutoff	>90dB
	Mute shutoff	>90dB
	Inter channel	>90dB
Noise, rms 22Hz to 22kHz	Mic EIN	-128dB
	Residual output noise	< -96dBu (-100dB S/N)
	LR mix noise 16 routed	< -86dBu (-90dB S/N)
	Group mix noise 16 routed	< -86dBu (-90dB S/N)
	Aux mix noise 16 routed	< -92dBu (-90dB S/N)
	Mix noise 16 line 0dB gain	< -86dB S/N
Channel HPF	12dB/octave below 100Hz	
Mono EQ	HF	Shelving +/-15dB, 12kHz
	HM	Peak/dip +/-15dB, 500Hz to 15kHz, Q=1.8
	LM	Peak/dip +/-15dB, 35Hz to 1kHz, Q=1.8
	LF	Shelving +/-15dB, 80Hz
Stereo EQ	HF	Shelving +/-15dB, 12kHz
	HM	Peak/dip +/-15dB, 2.5kHz, Q=1.8
	LM	Peak/dip +/-15dB, 250Hz, Q=1.8
	LF	Shelving +/-15dB, 80Hz
Power supply (16-32 ch)	Internal switched mode, auto sensing, IEC input External input for optional MPS12 backup supply	
Power supply (40 ch)	External RPS11 linear, IEC input Console Input for second RPS11 as backup supply	

Mechanical

	16	24	32	40
Width	609mm (24”)	817mm (32.2”)	1025mm (40.4”)	1233mm (48.5”)
Depth	560mm (22”)			
Height	150mm (5.9”)			
Weight	16.5kg(36.3lbs)	21.5kg(47.3lbs)	26.5kg(58.3lbs)	32kg(70.5lbs)

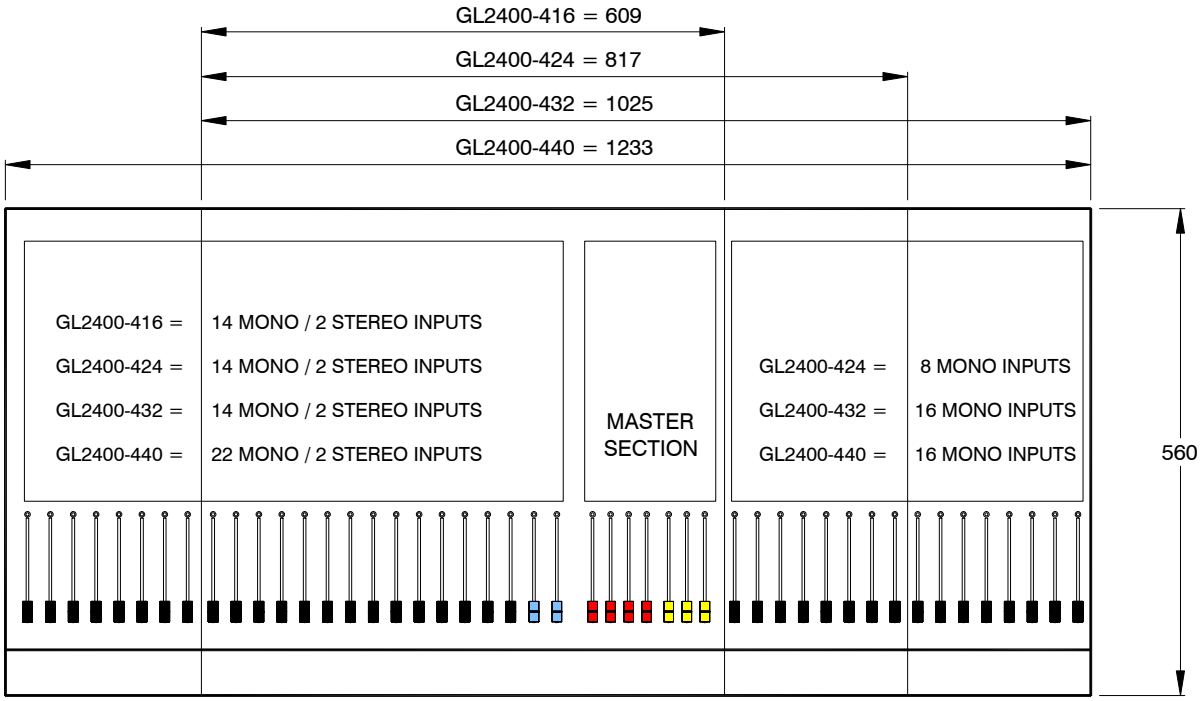
Connections

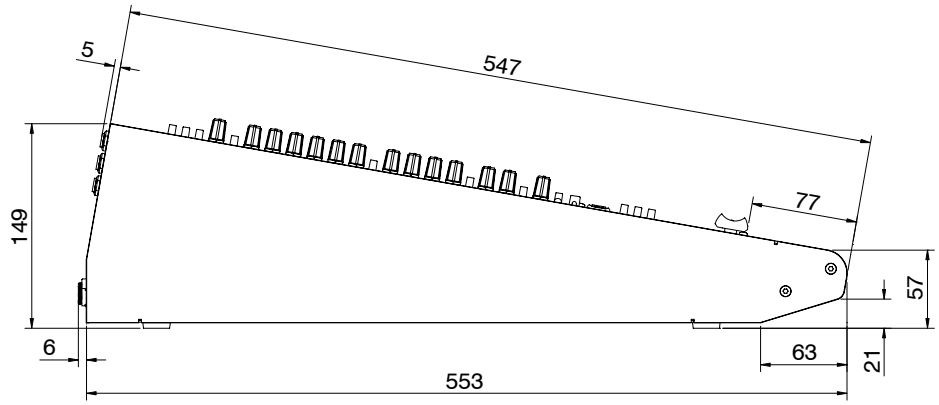
Mono channel	XLR balanced pin 2 hot	Sensitivity -60 to +14dBu
	TRS balanced, tip hot	Sensitivity -40 to +14dBu
	Pad out (MIC)	2k ohm
	Pad in (MIC or LINE)	>10k ohm, -20dB attenuation
	Max input level	+34dBu
	XLR phantom power	+48V, on/off
Stereo channel	ST1,3 TRS unbalanced	>10k ohm, -16 to +20dBu
	ST2,4 TRS balanced	>10k ohm, -16 to +20dBu
Talkback mic	XLR balanced pin 2 hot	Sensitivity -50 to -10dBu
	Phantom power	Internal jumper +48V
2-track return	TRS unbalanced	>4k ohm, -2dBu
2-track send	TRS impedance balanced	<75 ohm, -2dBu
Inserts	Channel	TRS, tip send, ring return, 0dBu
	Output	TRS, tip send, ring return, -2dBu
L, R, M outputs	XLR balanced pin 2 hot	<75 ohm, +4dBu, +26dBu max
Group (aux) out	XLR balanced pin 2 hot	<75 ohm, +4dBu, +26dBu max
Aux 1-6 output	TRS impedance balanced	<75 ohm, -2dBu, +20dBu max
	Electronic balance option	<75 ohm, +4dBu, +26dBu max
Direct out	TRS impedance balanced	<75 ohm, 0dBu, +20dBu max
Matrix out	TRS impedance balanced	<75 ohm, -2dBu, +20dBu max
	Electronic balance option	<75 ohm, +4dBu, +26dBu max
Headphones	TRS, tip L, ring R, 30 to 600 ohm headphones recommended	
Monitor output	TRS impedance balanced	<75 ohm, -2dBu, +20dBu max
Lamp	4-pin XLR	max 12V 5W lamp

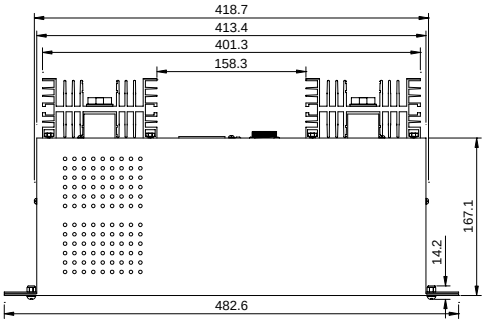
GL2400 Series Part Numbers

14 mic/line, 2 mic/dual stereo, 4 group console	GL2400-16/v
22 mic/line, 2 mic/dual stereo, 4 group console	GL2400-24/v
30 line, 2 mic/dual stereo, 4 group console	GL2400-32/v
38 line, 2 mic/dual stereo, 4 group console	GL2400-40/v
Sys-Link V2 input/output option kit	GL2400-SLV2
SSM2142P balanced output driver option IC	AE0302
DRV134 balanced output driver option IC (alternative to above)	AE5725
Backup power supply option for the 16, 24 and 32 models	MPS12/v
Backup power supply option (for the 40 channel model	RPS11/v
Allen & Heath 18” gooseneck LED lamp – right angled	LEDLAMP-X

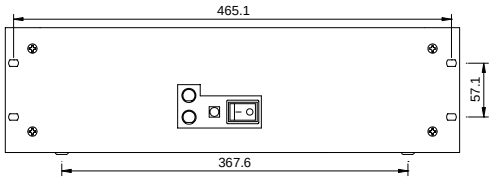
DIMENSIONS AND WEIGHTS

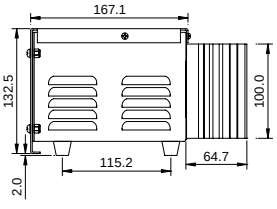




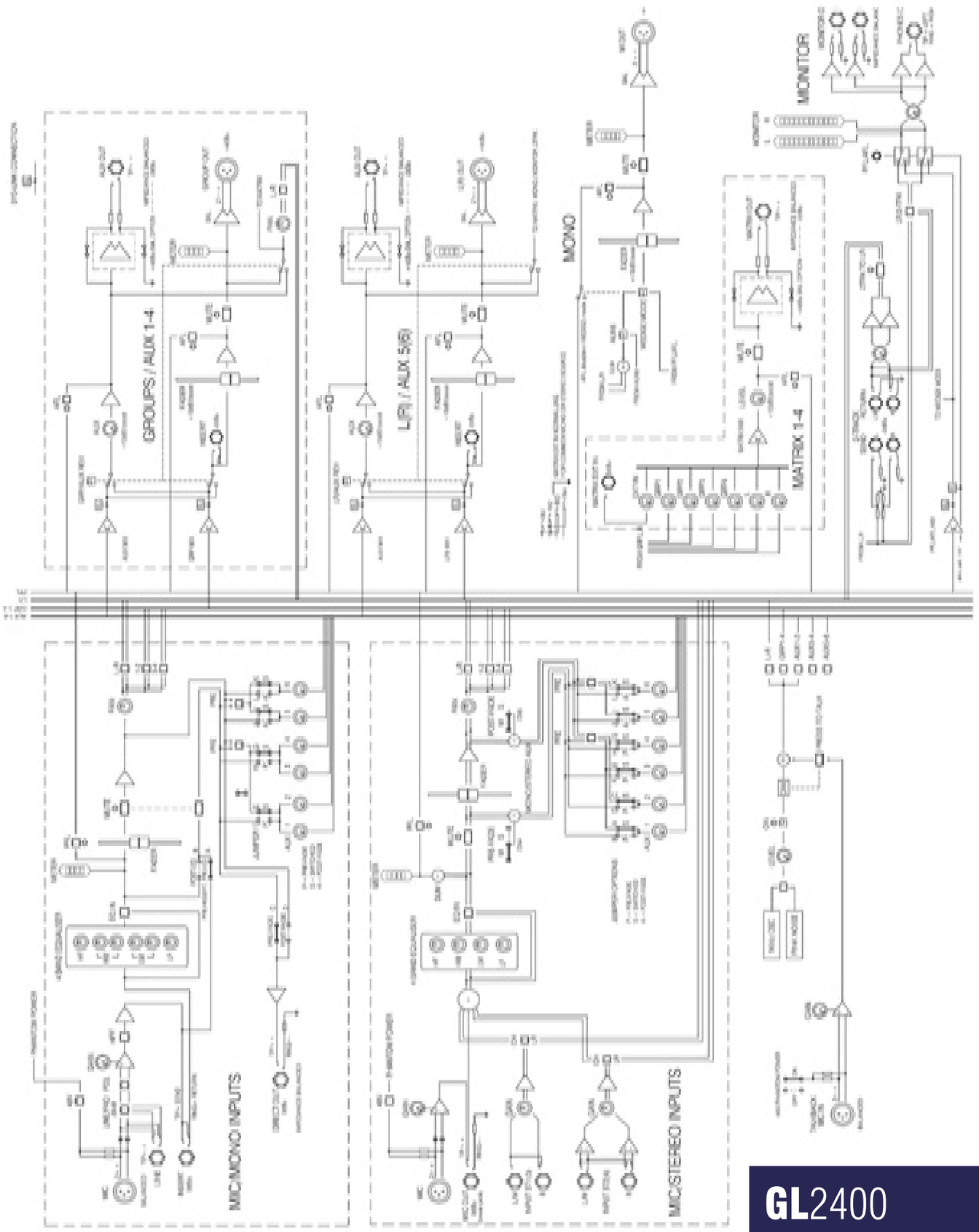


RPS11 Rack Mount Power Supply (GL2400-440 only)





	Width	Depth	Height	Weight
GL2400-416	609mm (24”)	560mm (22”)	150mm (5.9”)	16.5 kg (36.3 lbs)
GL2400-424	817mm (32.2”)	560mm (22”)	150mm (5.9”)	21.5 kg (47.3 lbs)
GL2400-432	1025mm (40.4”)	560mm (22”)	150mm (5.9”)	26.5 kg (58.3 lbs)
GL2400-440	1233mm (48.5”)	560mm (22”)	150mm (5.9”)	31.5 kg (69.3 lbs)
RPS11 PSU	482.6mm (19”)	235mm (9.25”)	135mm (5.31”)	9.5 kg (21 lbs)


GROUPS / AUX 1-4
L/R / AUX 5/6
MONO
MATRIX 1-4
MONITOR
MIC/MONO INPUTS
MIC/STEREO INPUTS

GL2400

Accessories

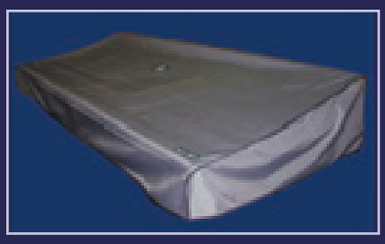
PSU FOR ML3000, GL3800, GL2800, GL2400, GL2400-40

The RPS11 is a rugged linear 300W 3U rack-mount power supply with DC cable. A second RPS11 can be connected through the RPSD2 Auto-Switching PSU, which monitors the console's power supply and allows silent switching between the two supplies



DUST COVER

A nylon cover that comes in various sizes, tailored to fit the **ML**'s differing frame dimensions



SOFTWARE

ML Archiver software is a Windows application that runs on a PC connected to your console.

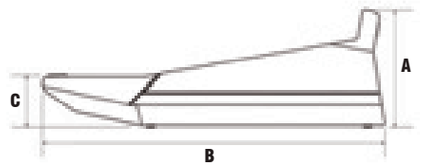
It lets you access the 128 onboard snapshots, save the console settings and snapshot memories to a disk file, and is used to archive settings as a backup or for future recall

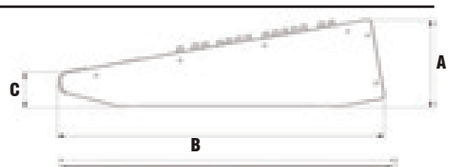
SYS-LINK - ML3000

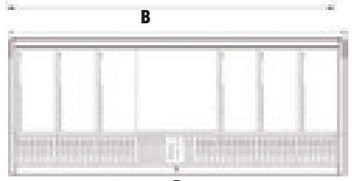
The SYS-LINK V2 option allows the **ML3000** console to be easily linked to other **ALLEN&HEATH** consoles to expand the number of channels in the mix. Fitting requires the removal of connector blanking plates and the installation of two internal circuit cards

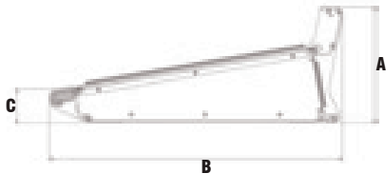
MECHANICAL SPECIFICATIONS

ML Consoles	A mm(")	B mm(")	C mm(")	D mm(")	Weight kg(lb)
ML3000-24	252 (10)	640 (25)	110 (4)	1141 (45)	30 (66)
ML3000-32	252 (10)	640 (25)	110 (4)	1396 (55)	40 (88)
ML3000-40	252 (10)	640 (25)	110 (4)	1651 (65)	50 (110)
ML3000-48	252 (10)	640 (25)	110 (4)	1906 (75)	60 (132)
GL Consoles	**A mm(")**	**B mm(")**	**C mm(")**	**D mm(")**	**Weight kg(lb)**
GL2400-416	150 (6)	560 (22)	57 (2)	609 (24)	17 (36)
GL2400-424	150 (6)	560 (22)	57 (2)	817 (32)	22 (47)
GL2400-432	150 (6)	560 (22)	57 (2)	1025 (40)	27 (58)
GL2400-440	150 (6)	560 (22)	57 (2)	1233 (49)	32 (69)
GL2800-824	170 (7)	650 (26)	62 (2)	944 (37)	29 (64)
GL2800-832	170 (7)	650 (26)	62 (2)	1171 (46)	35 (77)
GL2800-840	170 (7)	650 (26)	62 (2)	1398 (55)	41 (90)
GL2800-848	170 (7)	650 (26)	62 (2)	1625 (64)	47 (103)
GL2800-856	170 (7)	650 (26)	62 (2)	1852 (73)	53 (117)
GL Consoles	**A mm(")**	**B mm(")**	**C mm(")**	**D mm(")**	**Weight kg(lb)**
GL3800-824	275 (11)	691 (27)	78 (3)	1026 (40)	33 (73)
GL3800-832	275 (11)	691 (27)	78 (3)	1281 (50)	42 (92)
GL3800-840	275 (11)	691 (27)	78 (3)	1536 (60)	51 (112)
GL3800-848	275 (11)	691 (27)	78 (3)	1791 (71)	60 (132)









CONNECTIONS

XLR Inputs	Female	Pin2 = +ve polarity	Pin3 = -ve polarity	Pin1 = ground	Chassis = chassis
XLR Outputs	Male	Pin2 = +ve polarity	Pin3 = -ve polarity	Pin1 = ground	Chassis = chassis
1/4" TRS Jacks					
Balanced Input, Insert Return	TRS	Tip = +ve polarity	Ring = -ve polarity	sleeve = ground/chassis	
Balanced Output, Insert Send	TRS	Tip = +ve polarity	Ring = -ve polarity	sleeve = ground/chassis	
Insert (unbalanced)	TRS	Tip = send signal	Ring = return signal	sleeve = ground/chassis	
Unbalanced Input	TRS	Tip = signal	Ring = ground	sleeve = ground/chassis	
RCA Phono	Socket	Tip = signal		Outer = ground/chassis	

Accessories

LED LAMP

ALLEN&HEATH also manufactures LEDlamp, an 18" 4 pin XLR gooseneck console lamp containing a built-in thumbwheel dimmer. The stylish lamp replaces traditional filament console lamps with more user friendly cool white light, and has the additional advantages of lower heat discharge and longer life

PSU (back-up) FOR GL2400-16, 24 & 32

The MPS12 is a back-up power supply which connects via an internal socket to the exisiting built-in power supply. An optional rack mount face plate is provided

SYS-LINK - (all GL Series)

The Sys-Link V2 option allows **GL** mixers to be easily linked to other **ALLEN&HEATH** consoles to expand the number of channels in the mix. Fitting requires the removal of connector blanking plates and the installation of internal circuit cards

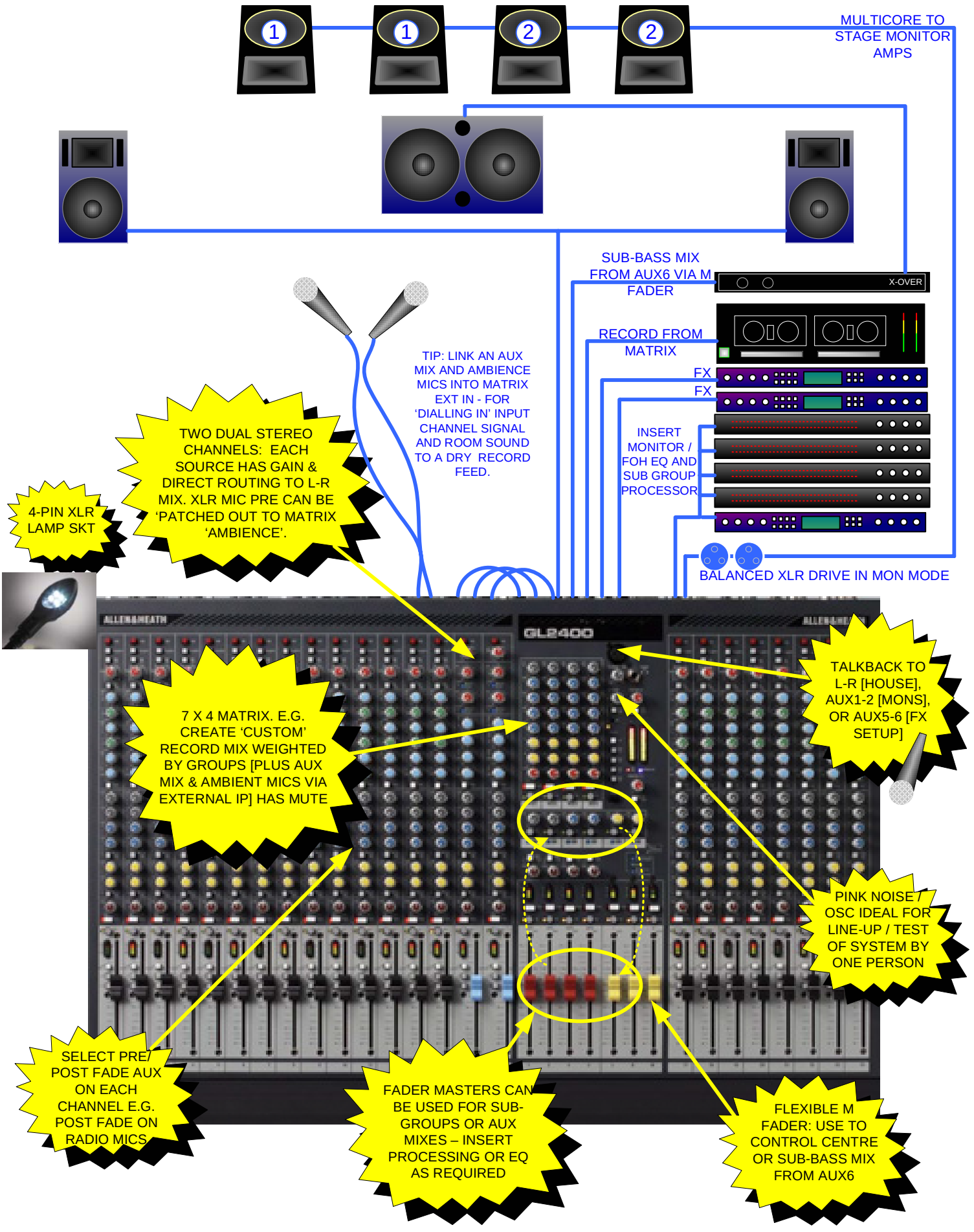
DUST COVER - all GL Series

A nylon cover that comes in various sizes, tailored to fit the **GL**'s various frame dimensions

TECHNICAL SPECIFICATIONS

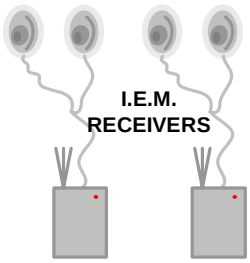
	ML3000	GL3800	GL2800	GL2400
OPERATING LEVELS				
Channels	0dBu, +21dB Headroom	0dBu, +20dB Headroom	0dBu, +20dB Headroom	0dBu, +20dB Headroom
Mix	-2dBu, +23dB Headroom	-2dBu, +22dB Headroom	-2dBu, +22dB Headroom	-2dBu, +22dB Headroom
Main Outputs	0dBu	+4dBu	+4dBu	+4dBu
Maximum output	+23dBu	+26dBu	+26dBu	+26dBu
Mic Pre-Amp Sensitivity	-60 to +10dBu	-60 to +14dBu	-60 to +14dBu	-60 to +14dBu
FREQUENCY RESPONSE *(20Hz-30kHz)*				
Mic to Main output (+40 dB)	+0/-0.5dB	+0/-0.5dB	+0/-0.5dB	+0/-0.5dB
Line to Main output (0dB)	+0/-0.5dB	+0/-0.5dB	+0/-0.5dB	+0/-0.5dB
DISTORTION *at 1kHz +14dBu out*				
THD + Noise (mic in +40dB gain)	<0.01%	<0.003%	<0.003%	<0.004%
THD + Noise (line in 0dB gain)	<0.01%	<0.005%	<0.005%	<0.006%
COMMON MODE REJECTION *@1kHz*				
Mic Input +40dB gain	>80dB	>85dB	>85dB	>80dB
Mic Input with Pad 0dB gain	>50dB	>55dB	>55dB	>55dB
CROSSTALK *@1kHz*				
Adjacent Channel	<-95dB	<-97dB	<-97dB	<-93dB
Mute Shutoff	<-90dB	<-88dB	<-88dB	<-94dB
Fader Shutoff	<-90dB	<-90dB	<-90dB	<-90dB
NOISE PERFORMANCE				
(22Hz-22kHz unweighted)				
Mic EIN with 150ohm source	-128dB	-128dB	-128dB	-128dB
Residual output noise - main outputs	<-98dBu	<-98dBu	<-98dBu	<-98dBu
Main Mix noise (nothing routed)	<-94dBu	<-91dBu	<-91dBu	<-92dBu
Main Mix noise (24 channels routed)	<-82dBu (82dB S/N)	<-86dBu (90dB S/N)	<-86dBu (90dB S/N)	<-86dBu (90dB S/N)
CONNECTION IMPEDANCES				
Mic Inputs	22k ohms	2k ohms	2k ohms	2k ohms
Line Inputs	>10k ohms	>10k ohms	>10k ohms	>10k ohms
Outputs	<75 ohms	<75 ohms	<75 ohms	<75 ohms
EQUALISATION				
Gain (each band)	+/- 15dB	+/- 15dB	+/- 15dB	+/- 15dB
Mono Channel Low Frequency	Shelf 60Hz	Shelf 80Hz	Shelf 80Hz	Shelf 80Hz
Mono Channel Low Mid Frequency	35Hz - 1kHz Q=2	35Hz - 1kHz Q=1.8	35Hz - 1kHz Q=1.8	35Hz - 1kHz Q=1.8
Mono Channel High Mid Frequency	500Hz-15kHz Q=2	500Hz-15kHz Q=1.8	500Hz-15kHz Q=1.8	500Hz-15kHz Q=1.8
Mono Channel High Frequency	SShelf 12kHz	Shelf 12kHz	Shelf 12kHz	Shelf 12kHz
Stereo Channel Frequencies	60Hz,250Hz,2.5kHz,12kHz Q=1.8	60Hz,250Hz,2.5kHz,12kHz Q=1.8	60Hz,250Hz,2.5kHz,12kHz Q=1.8	60Hz,250Hz,2.5kHz,12kHz Q=1.8
Filter (mono input)	SSwept Off - 400Hz	Switch 100Hz	Switch 100Hz	Switch 100Hz
METERING				
Reading referred to Main outputs	00VU = 0dBu	0VU = +4dBu	0VU = +4dBu	0VU = +4dBu
Peak indication threshold	5dB before clipping	5dB before clipping	5dB before clipping	5dB before clipping
SYSTEM				
Lamp connectors	3 x 4pin XLR-F	2 x 4pin XLR-F	2 x 4pin XLR-F	up to 2 x 4pin XLR-F
Power supply	RPS11	RPS11	RPS11	Internal (16, 24, 32)

GL2400
FoH MODE

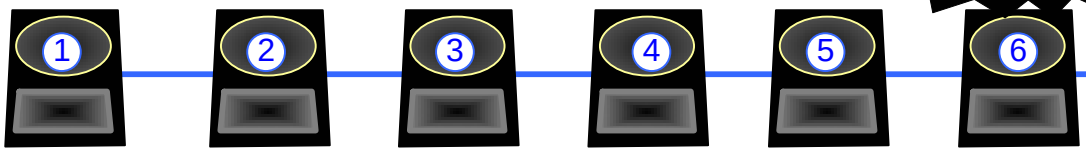


ALLEN&HEATH

GL2400
MONITOR MODE



RUN SIX MONITOR MIXES WITH FADER [+MUTE] CONTROL, INSERT POINT FOR EQ AND BALANCED XLR DRIVE TO STAGE



MULTICORE TO MONITOR AMPS

AMBIENCE MICS

OUTPUT EQ CONNECTS TO FADER MASTER INSERT POINT

I.E.M. TRANSMITTERS



TWO DUAL STEREO CHANNELS: EACH SOURCE HAS GAIN & DIRECT ROUTING TO L-R MIX. XLR MIC PRE CAN BE 'PATCHED OUT TO MATRIX FOR I.E.M.

4-PIN XLR LAMP SKT





BALANCED XLR DRIVE IN MON MODE



7 X 4 MATRIX WITH EXT INPUT [E.G. USE WITH 'PATCHABLE' MIC PREAMPS FOR STEREO AMBIENCE FEED TO I.E.M. MATRIX FED FROM 4 SUBS, L, R, EXT. & HAS MUTE

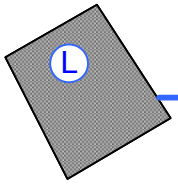
TALKBACK TO GRP1-4, AUX1-2, AUX3-5, AUX5-6

PINK NOISE / OSC IDEAL FOR LINE-UP TEST OF SYSTEM BY ONE PERSON

SELECT PRE/ POST FADE AUX ON EACH CHANNEL E.G. POST FADE ON RADIO MICS

FLIP UP TO SIX AUX MIXES TO USE MASTER FADERS, MUTE, INSERT, AND BALANCED XLR DRIVE

FLEXIBLE M FADER: USE TO CONTROL LISTEN WEDGE



ALLEN&HEATH