ALLEN&HEATH

GLD

GLD Digital Audio Mixing System

User Guide

Provisional Release B

Limited One Year Manufacturer's Warranty

This product is warranted to be free from defects in materials or workmanship for period of one year from the date of purchase by the original owner.

To ensure a high level of performance and reliability for which this equipment has been designed and manufactured, read this User Guide before operating.

In the event of a failure, notify and return the defective unit to the place of purchase. If this is not possible then please contact the authorised ALLEN & HEATH distributor or agent in your country as soon as possible for repair under warranty subject to the following conditions:

Conditions Of Warranty

The equipment has been installed and operated in accordance with the instructions in this User Guide.

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.

Any necessary adjustment, alteration or repair has been carried out by an authorised ALLEN & HEATH distributor or agent.

This warranty does not cover fader wear and tear.

The defective unit is to be returned carriage prepaid to the place of purchase, an authorised ALLEN & HEATH distributor or agent with proof of purchase. Please discuss this with the distributor or the agent before shipping.

If the unit is to be repaired in a different country to that of its purchase the repair may take longer than normal, whilst the warranty is confirmed and parts are sourced.

Units returned should be packed to avoid transit damage.

In certain territories the terms may vary. Check with your ALLEN & HEATH distributor or agent for any additional warranty which may apply.

If further assistance is required please contact Allen & Heath Ltd.

GLD User Guide   AP8561 Issue B

ALLEN&HEATH

IMPORTANT - Read these instructions before starting:

Safety instructions

Before starting, read the **Important Safety Instructions** printed on the sheets supplied with the equipment. For your own safety and that of the operator, technical crew and performers, follow all instructions and heed all warnings printed on the sheet and on the equipment panels.

System operating firmware

The function of the GLD is determined by the firmware (operating software) that runs it. Firmware is updated regularly as new features are added and improvements made. The latest firmware and update instructions are available from the Allen & Heath web site.

Firmware can be downloaded from the Allen & Heath web site, transferred to USB key and then loaded into the GLD mixer using the Firmware Update utility. If the AudioRack firmware is different to that running on the mixer it is automatically updated by the GLD mixer when the mixer powers up.

- Check the Allen & Heath web site for the latest version of GLD firmware.

Software licence agreement

By using this Allen & Heath product and the software within it you agree to be bound by the terms of the relevant **End User Licence Agreement** (EULA), a copy of which can be found on the Allen & Heath website in the product's pages and in the About section of the GLD built-in Help Manual. You agree to be bound by the terms of the EULA by installing, copying, or using the software.

Further information

For further information about the GLD refer to the user guides associated with each system component. Also use the on-screen **Help Manual** available on the GLD-80 surface. For additional downloads, resources, knowledgebase and technical support refer to the **Allen & Heath web site**.
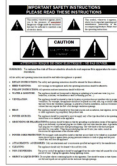
General precautions

- To prevent damage to the controls and cosmetics, avoid placing heavy objects on the control surface, obstructing movement of the motorised faders, scratching the surface or touch screen with sharp objects, or rough handling and vibration.

- Protect the equipment from damage through liquid or dust contamination. Avoid dust or small objects getting into the fader slots. Cover the mixer when it is not being used for a long period.

- Computer and touch screen technology can be affected by extreme cold. If the equipment has been stored in sub-zero temperatures allow time for it to reach normal operating temperature before use at the venue. Recommended operating temperature for iLive is 5 to 35 degrees Celsius.

- Avoid using the equipment in extreme heat and direct sunlight. Make sure the mixer and rack ventilation slots are not obstructed and that there is adequate air movement around the equipment.

- Transport the GLD-80 using a touring grade, purpose designed flightcase with adequate foam lining and internal support for protection.

- Avoid the use of chemicals, abrasives or solvents. Clean the control surface with a soft brush and dry lint-free cloth.

- It is recommended that servicing is carried out only by an authorised Allen & Heath agent. Contact details for your local distributor can be found on the Allen & Heath web site. Allen & Heath do not accept liability for damage caused by maintenance, repair or modification by unauthorised personnel.

Packed contents, registration and accessories

GLD-80 Mixer

User Guide
AP8561

Safety Sheets

AP3345 – English
AP7287 – French
AP8513 – Chinese

• Read this before starting

Registration Card   AP3594

• Return the card or register online at www.allen-heath.com

Mains lead   • Check this is correct for your territory

GLD-AR2412 AudioRack

CAT5 cable 2m (6.6')

AH8822

Information
AP8596

Safety Sheets

AP3345 – English
AP7287 – French
AP8513 – Chinese

• Read this before starting

Registration Card   AP3594

• Return the card or register online at www.allen-heath.com
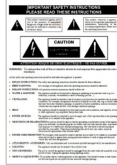
Mains lead   • Check this is correct for your territory

GLD-AR84 AudioRack

CAT5 cable 2m (6.6')

AH8822

Information
AP8720

Safety Sheets

AP3345 – English
AP7287 – French
AP8513 – Chinese

• Read this before starting

Registration Card   AP3594

• Return the card or register online at www.allen-heath.com

Mains lead   • Check this is correct for your territory

Accessories available

The 2m CAT5 cable shipped with the GLD AudioRack is to get you started or for local connection. For longer distances refer to the Allen & Heath web site for information on recommended cable types. The following are available from Allen & Heath:

120m (396') CAT5 drum
AH8721   • For use with dSNAKE and ACE™ connection only

80m (264') CAT5 drum
AH7000   • For use with all GLD CAT5 connections

LEDlamp

Part LEDlampX

Right angled 4-pin XLR with built-in dimmer

Soft cover for GLD-80
AP8806

Black, water repellent polyester

Table of Contents

Important note about this guide

This is a provisional release of the GLD User Guide. It relates to **Version 1.0** pre-release firmware. Some details shown in this guide may differ from those in the current release of firmware. For more information on these and functions not described in this release of the guide please refer to the Help Manual built into the GLD mixer and to the GLD pages on the Allen & Heath web site.

- Check the Allen & Heath web site for the latest version of this guide.

- Check the Allen & Heath web site for the latest version of GLD firmware.

- Refer to the GLD mixer built-in **Help Manual** for more information.

- A single sheet **Quick Start Mixing Guide** is provided at the rear of this user guide.

GLD

Systems

GLD-80 only   8 in (4 mics), 10 out

4 mics at mixer

Can use I/O module option for networked audio

Standard system   32 in (28 mics), 22 out

24 mics at rack, 4 mics at mixer

GLD-80 x1
GLD-AR2412 x1
Connect to dSNAKE

Cat5
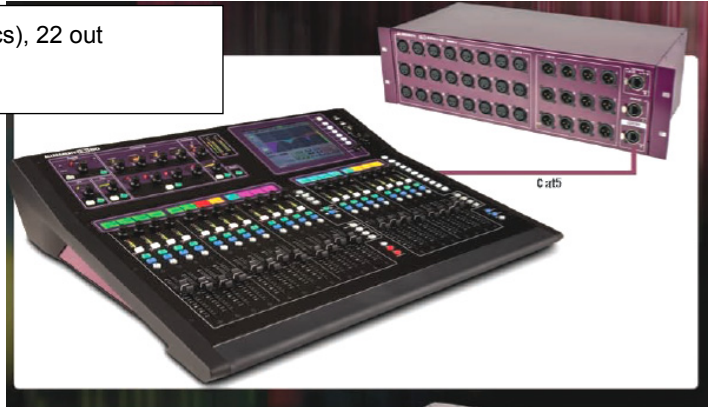
Compact system   16 in (12 mics), 14 out

8 mics at rack, 4 mics at mixer

GLD-80 x1
GLD-AR84 x1
Connect   to
EXPANDER

Cat5

Cat5

Expanded system   40 in (36 mics), 26 out

32 mics at racks, 4 mics at mixer

GLD-80 x1
GLD-AR2412 x1
GLD-AR84 x1
Connect to dSNAKE

Cat5

Cat5

Fully expanded system   48 in (44 mics), 30 out

40 mics at racks, 4 mics at mixer

Cat5

GLD-80 x1
GLD-AR2412 x1
GLD-AR84 x2
Connect to dSNAKE and
EXPANDER
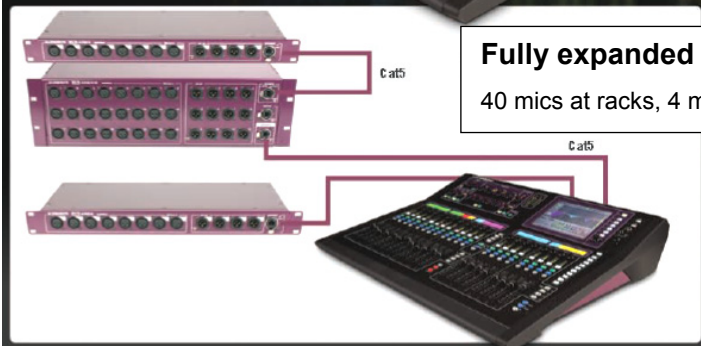
Introduction

GLD is an affordable live sound digital audio mixing system from Allen & Heath. At its low price point and with its intuitive user interface and 'plug n play' connection it provides the perfect upgrade for users of analogue mixers such as the Allen & Heath GL Series, and for small to mid-sized venues, tours and rental companies looking for an affordable yet fully featured and configurable professional digital solution that is easy to learn, operate and maintain.

GLD components

The heart of the system is the **GLD-80 Mixer**. The DSP is located in the mixer and can process 48 channels x 30 buses x 20 mix outputs plus 8 'RackFX' internal effects devices with dedicated return channels bringing the total number of sources able to feed the mix to 56. The rear panel provides connections for 8 inputs and 10 outputs plus an option slot to fit one of several audio networking cards available from Allen & Heath.

Adding one or more of the available AudioRacks lets you configure systems with up to 40 remote mic inputs in addition to the mixer rear connections. This gives you a distributed audio system with convenient CAT5 digital snake based on the proprietary Allen & Heath dSNAKE protocol. The main I/O (Input/Output) rack is the **GLD-AR2412 AudioRack** providing 24 mic/line inputs and 12 line outputs. It also features a MONITOR port compatible with the Aviom™ personal monitor system. The **GLD-AR84 AudioRack** is an expander I/O remote rack adding an extra 8 mic/line inputs and 4 line outputs. You can add up to two GLD-AR84 racks, one at the GLD-AR2412, the other at the GLD-80 mixer.

Compatibility with iLive

GLD is not compatible with iLive components, firmware, Libraries or Show files. However, it is compatible with the range of iLive Port B option cards letting you interface easily between GLD and iLive or other systems using a digital snake such as ACE, MADI, EtherSound or Dante.

Key features

- Plug n play components for systems from 4 to 44 mics

- Easy to use, quick access, analogue style interface

- Remote I/O using dSNAKE CAT5 digital snake - up to 120m (400') length

- High grade 1dB/step recallable mic/line preamps

- 48 channels into 30 buses into 20 outputs – assignable mono/stereo Group, Aux, FX, Main, Matrix

- 8 stereo RackFX engines with dedicated return channels – total 56 sources to the mix

- Full processing on all inputs – Preamp, trim, polarity, HPF, insert, Gate, PEQ, Compressor, Delay

- Full processing on all outputs – Ext input, Insert, PEQ, GEQ, Compressor, Delay

- Input, insert and output soft patchbays

- 20 faders, 2 Banks of 4 Layers each – 80 freely assignable strips for custom layout

- 8.4" colour touch screen

- Virtual write-on strip – 8 colour backlight LCD strip display for naming and colour coding

- 10 user assignable SoftKeys

- Dedicated keys for quick Copy/Paste/Reset of mixes and processing parameters

- 16 DCA / Mute groups

- I/O network card option for FOH/Monitor split, recording, link to iLive and more

- MONITOR port for personal monitor systems – Aviom™ compatible

- Built-in Talkback, RTA display, Signal Generator

- Monitor mode features – Input override output PAFL, engineer's Wedge and IEM strips

- MIDI In/Out and Network ports

- Libraries, Scenes and Show memories

- Get started quickly with Template Shows for classic FOH or Monitor configuration

System block diagram

The block diagram here shows the audio signal flow and processing through the GLD-80.

The GLD-AR2412 and GLD-AR84 AudioRacks provide inputs as shown in the 'Remote Inputs' box, and outputs as shown in the 'Remote Outputs' box. These signals connect to the GLD-80 via the dSNAKE or EXPANDER ports.

Note the options available for AUX sends, FX sends and global Direct Out. Configuration possibilities are shown for the MIX masters.

Remote Inputs From AudioRacks

48V — Skt 1-40 MIC/LINE — PAD 20dB — GAIN — ADC

INPUT PATCH

48 input channel x 30 bus x 20 mix channel DSP Engine

30 assignable buses — GRP/AUX/FX MAIN MTX PAFL

Skt 1-32 dSNAKE — Input Skt 1-32
Skt 33-40 EXPANDER — Input Skt 33-40

Local Inputs
Skt 41-44 MIC/LINE — 48V — PAD 20dB — GAIN — ADC — Input Skt 41-44
Sensitivity +15 to -60dBu
Skt 45/46, 47/48 RCA 0dBu nominal — ADC — Input Skt 45-48

USB Stereo Playback — USB Playback
WAV, MP3, M4a, FLAC

I/O MODULE 64 Inputs 48kHz — I/O Input 1-64
Remote Audio, Digital Mic Split inputs, Multitrack Playback
ACE, MADI, Dante, EtherSound, Waves — RackFX 1-8
From RackFX outputs

INPUT CHANNEL x 48 CH1-44 = mono, CH45/6, 47/8 = stereo
TRIM POL — HPF — GATE — INSERT Skt or RackFX — PEQ — COMP — DELAY — Strip METER multi-point Peak — MUTE — FADER — ASSIGN+PAN
Post-Preamp — Post-HPF — Post-Gate — Post-Insert — Post-PEQ — Post-Comp — Post-Delay
Source — option per AUX mix — Source
PFL / AFL in-place — IP to MAIN — IP to GRP — Post/Pre LEV — IP to AUX/FX — TRIM — DIRECT OUT
Global option for DIRECT OUT — Follow MUTE — Follow FADER

FX SHORT SEND x8
Strip METER — PFL / AFL — MUTE — FADER
RackFX x8 — Send > Return FX / Inserted FX
From: Short Send or Any MIX, Input DIR OUT, Other RackFX
Patch to: Short Return or Full IP Channel, IP or MIX INSERT, Output Patch
FX SHORT RETURN x8
Strip METER — PEQ — MUTE — FADER — ASSIGN+PAN
PFL / AFL in-place — Ret to MAIN — Ret to GRP — Post/Pre LEV — Ret to AUX/FX

TALKBACK
PATCH from: Input Skt 1-48, I/O Input 1-64 — HPF — Press to TALK — ASSIGN to MIX
To: GRP AUX MAIN MATRIX

SIG GEN
Sine (Sweep 20-20kHz), White Noise, Pink Noise, Bandpass Noise (Sweep) — MUTE — LEV — METER — ASSIGN to MIX
To: GRP AUX MAIN MATRIX

GRP/AUX/FX MAIN MTX PAFL

MIX MASTER (GRP, AUX, MAIN)
INSERT Skt or RackFX — PEQ — 28-band 1/3 octave GEQ — COMP — DELAY — MUTE — FADER — Strip METER multi-point peak — BAL (Main LR only)
PFL / AFL — Mix Output — GRP to MAIN — GRP to AUX/MTX — AUX/MAIN to MTX
Post-Dly / Pre-Dly — Post/Pre LEV
EXT IN - PATCH from: Input Skt 1-48, I/O Input 1-64, USB Playback, RackFX 1-8 — TRIM POL
Configuration:
30 x Bus = GRP, AUX, FX, MAIN
20 x Mix processing = GRP, AUX, MAIN, MTX
Configure GRP, AUX, FX mix = Mono or Stereo
Configure MAIN mix = NONE (monitors), LR, LCR, LR+M(bus) or LR+M(sum)

MATRIX MASTER Configure as MONO or STEREO
EXT IN - PATCH from: Input Skt 1-48, I/O Input 1-64, USB Playback, RackFX 1-8 — TRIM POL — INSERT Skt or RackFX — PEQ — 28-band 1/3 octave GEQ — COMP — DELAY — MUTE — FADER — Strip METER multi-point peak
PFL / AFL — MTX Output

OUTPUT PATCH
GRP/AUX/MAIN, MATRIX, Input DIR OUT, Input Skt 1-48, I/O Input 1-64, PAFL, Wedge Monitor, IEM Monitor, USB Playback, RackFX 1-8

Remote Outputs To AudioRacks
DAC — BAL — Skt 1-20 — Ready +4dBu
Skt 1-16 MONITOR 1-16 dSNAKE
Skt 17-20 EXPANDER
DAC — BAL — Skt 21-24 — Ready +4dBu
DAC — Skt 25/26 RCA 0dBu — Ready
SPDIF 48kHz — Skt 27/28 Digital Out
AES 48kHz — Skt 29/30
Stereo Record WAV 44.1kHz / 16bit — USB
I/O MODULE 64 Outputs 48kHz
ACE, MADI, Dante, EtherSound, Waves, MMO (ADAT, Aviom, iDR, Hearback)
Remote Audio, Digital Mic Split sends, Multitrack Record

PFL/AFL MONITOR
EXT TALK to PAFL, Any input socket, Any Port B input, Surface Talk mic — PREAMP — RTA 31-band 1/3 octave — DELAY — PFL TRIM -24dB 0dB
Strip METER — MUTE — FADER — WEDGE
Strip METER — MUTE — FADER — IEM
L R M — PAFL Active — MAIN mix PAFL — PHONES — IEM to PHONES — PAFL — DAC — PHONES
Meters are pre-Trim

Input and output sockets

The diagram here shows the interconnection and socket numbering of the fully expanded system.

Each socket has a unique number. The physical socket numbers are shown below. Any input socket or source can be patched to any of the 48 channels. Any mix or other GLD signal can be patched to any of the output sockets.

The default is one-to-one mapping, ie. Socket 1>CH1, Socket 2>CH2 and so on.

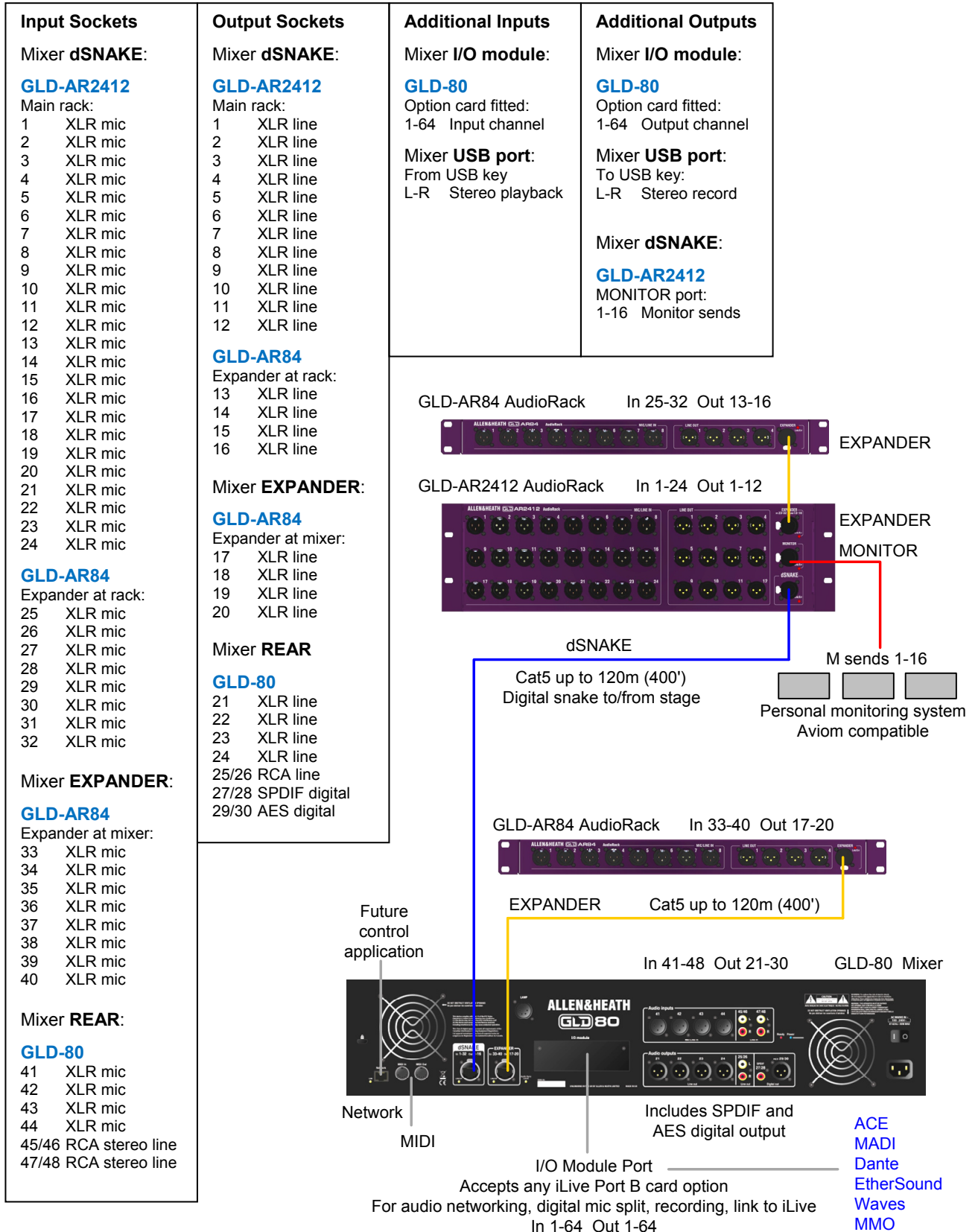| Input Sockets	Output Sockets	Additional Inputs	Additional Outputs
Mixer **dSNAKE**:	Mixer **dSNAKE**:	Mixer **I/O module**:	Mixer **I/O module**:
GLD-AR2412	**GLD-AR2412**	**GLD-80**	**GLD-80**
Main rack:	Main rack:	Option card fitted:	Option card fitted:
1 XLR mic	1 XLR line	1-64 Input channel	1-64 Output channel
2 XLR mic	2 XLR line		
3 XLR mic	3 XLR line	Mixer **USB port**:	Mixer **USB port**:
4 XLR mic	4 XLR line	From USB key	To USB key:
5 XLR mic	5 XLR line	L-R Stereo playback	L-R Stereo record
6 XLR mic	6 XLR line		
7 XLR mic	7 XLR line		
8 XLR mic	8 XLR line		Mixer **dSNAKE**:
9 XLR mic	9 XLR line		
10 XLR mic	10 XLR line		**GLD-AR2412**
11 XLR mic	11 XLR line		MONITOR port:
12 XLR mic	12 XLR line		1-16 Monitor sends
13 XLR mic			
14 XLR mic	**GLD-AR84**		
15 XLR mic	Expander at rack:		
16 XLR mic	13 XLR line		
17 XLR mic	14 XLR line		
18 XLR mic	15 XLR line		
19 XLR mic	16 XLR line		
20 XLR mic			
21 XLR mic	Mixer **EXPANDER**:		
22 XLR mic			
23 XLR mic	**GLD-AR84**		
24 XLR mic	Expander at mixer:		
	17 XLR line		
GLD-AR84	18 XLR line		
Expander at rack:	19 XLR line		
25 XLR mic	20 XLR line		
26 XLR mic			
27 XLR mic	Mixer **REAR**		
28 XLR mic			
29 XLR mic	**GLD-80**		
30 XLR mic	21 XLR line		
31 XLR mic	22 XLR line		
32 XLR mic	23 XLR line		
	24 XLR line		
Mixer **EXPANDER**:	25/26 RCA line		
	27/28 SPDIF digital		
GLD-AR84	29/30 AES digital		
Expander at mixer:			
33 XLR mic			
34 XLR mic			
35 XLR mic			
36 XLR mic			
37 XLR mic			
38 XLR mic			
39 XLR mic			
40 XLR mic			
Mixer **REAR**:			
GLD-80			
41 XLR mic			
42 XLR mic			
43 XLR mic			
44 XLR mic			
45/46 RCA stereo line			
47/48 RCA stereo line			

GLD-AR84 AudioRack   In 25-32 Out 13-16

EXPANDER

GLD-AR2412 AudioRack   In 1-24 Out 1-12

EXPANDER

MONITOR

dSNAKE

Cat5 up to 120m (400')
Digital snake to/from stage

M sends 1-16

Personal monitoring system
Aviom compatible

GLD-AR84 AudioRack   In 33-40 Out 17-20

EXPANDER   Cat5 up to 120m (400')

Future control application

In 41-48 Out 21-30   GLD-80 Mixer

ALLEN&HEATH GLD 80

Network

MIDI

Includes SPDIF and AES digital output

ACE
MADI
Dante
EtherSound
Waves
MMO

I/O Module Port
Accepts any iLive Port B card option
For audio networking, digital mic split, recording, link to iLive
In 1-64 Out 1-64

GLD-80 Mixer controls

Channel Processing Strip   Analogue style processing control section presenting the main controls for the Preamp, HPF, Gate, PEQ and Compressor. Press the strip **Sel** key to access the processing for the input or master assigned to it. Further parameter control is available using the touch screen **Processing** screen.

Routing select key to display the assignments and sends for the **Sel**ected strip in the touch screen while in **Processing** mode.

Touch Screen   For status display, system setup and memory management. To see details and a graphical view of the processing for the channel or master currently selected make sure it is in **Processing** mode. The keys select the screen mode. Use the rotary control to adjust the value of a highlighted parameter.

Main / PAFL meters

Strip LCD display to show channel status information and user defined Name and Colour.

Strip rotary controls Their function is selected using these keys – Gain, Pan, Custom 1 and 2 (assignable using the **Setup / Control** screen).

Strip meters The top red indicator lights when a peak is detected at any point in the channel signal path. These meters also display RTA activity while in GEQ on Faders mode.

USB ports For transferring Show files, Libraries and event logs, stereo playback and recording to USB, and for updating system firmware.

Headphones Level control and ¼" and 3.5mm sockets.

Press to Talk Talkback source and destination is assigned using the **Setup / Audio** screen.

Help Touch the **?** button to open the built-in **Help Manual**

SoftKeys 10 keys with function assigned using the **Setup / Control** screen.

Copy/Paste/Reset edit keys

Fader Banks   2 groups of motorised faders with 4 layers each (80 control strips). Provides control of the Input channel, FX return, Mix master, DCA or engineer's Wedge or IEM monitor assigned to it using the **Setup / Control** screen.

Mute mutes the channel assigned to the strip. It affects pre and post-fade sends. The DCA indicator lights when the channel is muted by a DCA master assigned to it.

Sel opens the channel processing for the selected strip.

Mix presents the sends for the selected strip on faders and shows the related assignments and pre/post settings in the strip LCD displays.

PAFL selects either PFL (pre-fade listen) or AFL (after fade listen) according to preferences set in the **Setup / Audio** screen. Input overrides output (mix) PAFL.

Copy/Paste/Reset Hold Copy down and press any **Sel** or **Mix** key to put its related mix or processing parameters on to the clipboard. Then hold down Paste and press a strip **Sel** or **Mix** key to paste its contents to that channel. Hold Reset and press a key to reset the related parameters to factory default.

Assign and **Pre/Post** access keys for the selected mix.

While a **Mix** is active:

Hold down **Assign** and press strip **Mix** keys to toggle the assignments on or off.

Hold down **Pre/Post** and press strip **Sel** keys to toggle sends pre or post fade.

Toggle all on/off or pre/post while a master is selected by pressing the master strip **Mix** or **Sel** key instead of the channel keys.

The touch screen lower toolbar displays the currently selected mix. You can return to the Main mix by turning the selected **Mix** off, or by turning on then off any other **Mix** key.

Alt View Hold down to view the channel or socket numbers in place of the name in the LCD displays. Set this preference in the **Setup / Control** screen.

Safes Make one or more channels safe from Scene recall by holding down the Safes key and then pressing channel **Mix** keys. A **Safes Map** is also available to make selected parameters safe.

Freeze in Layers Hold down then press strip **Mix** keys to temporarily keep a channel visible across all layers. To assign channels to strips use the **Setup / Control** screen.

GEQ on Faders Presents the GEQ for a **Sel**ected mix on the faders. Press to toggle between high and low frequencies. Frequency values are shown on the strip LCD displays. The mix master fader is presented on the right hand strip while in this mode.

GLD-80 Mixer rear connectors

GLD sockets can be patched using the **I/O** screen.

4-pin XLR **Lamp** socket. We recommend the use of the Allen & Heath LEDlamp with built-in dimmer.

Cooling fan. Do not block this opening.

The **LOCK** indicator lights when the audio is sync locked

Surface audio inputs 8 analogue inputs:

4 mic/line XLR (skt 41-44)
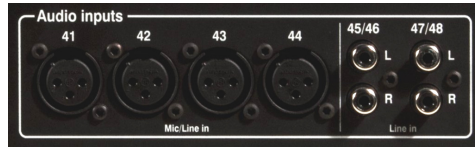
2 stereo RCA pairs (skt 45-48)

Any socket can be patched to any channel. The default is one-to-one mapping of sockets to channels.

Power On indicator

Ready indicator – Lights yellow when the output sockets are ready to pass audio after power up.

Mains power IEC input socket and On/Off switch.

Network
Ethernet port for future use.

MIDI in and out

I/O Port See below

dSNAKE link
This is the GLD-80 to **AR2412** AudioRack link. It carries audio inputs from skt 1-32 and outputs to skt 1-16. It also carries the audio sends to the AudioRack MONITOR port.

Connect using a CAT5 cable up to 120m (396') long.

The **Lnk/Err** indicator flashes at a steady rate when the link is established.

EXPANDER link
You can plug an **AR84** expander in here. This carries audio inputs from skt 33-40 and outputs to skt 17-20.

The AR84 can be located near the GLD-80 to provide more I/O at the mixer, or up to 120m away to provide more I/O on stage or at a remote location.

Connect to using a CAT5 cable up to 120m (396') long.

The **Lnk/Err** indicator flashes at a steady rate when the link is established.

Surface audio outputs 6 analogue and 4 digital outputs

4 XLR line out (skt 21-24)

1 stereo RCA pair (skt 25/26)

1 SPDIF 2 channel digital out (skt 27/28)

1 AES 2 channel digital out (skt 29/30)

Any GLD signal can be patched to any socket.

I/O Port options for system linking, expansion, recording and audio networking using one of the option cards available from Allen & Heath. 64 channel bi-directional 48kHz audio.

ACE™

EtherSound

Waves

Dante

MADI

MMO

ADAT

iDR out

Aviom™

Hearback

GLD-AR2412 Main AudioRack

① **Input sockets** 24 balanced XLR inputs for microphone and line level sources. The preamps are built into the AR2412 rack and their Gain, Pad and 48V phantom power is remote controlled from the GLD console via the dSNAKE link. The output of the analogue preamps are converted to digital format and transported via dSNAKE to be processed and mixed at the GLD-80 mixer.

The sockets are numbered 1-24. Any input can be patched to any channel using the **I/O** or **Preamp** screens. The default is one-to-one mapping of the input sockets 1-24 to channels 1-24.

② **Output sockets** 12 balanced XLR outputs operating at nominal +4dBu line level. Any GLD signal can be patched to any socket using the console **I/O** screen. The default Template Shows provide a logical mapping of these sockets to get you started.

③ **EXPANDER port** CAT5 cable link to connect a GLD-AR84 expander rack to add a further 8 mic/line inputs and 4 XLR line outputs. The GLD system numbers these sockets as Inputs 25-32 and Outputs 13-16.

④ **MONITOR port** CAT5 cable link to connect to a personal monitor system. The port is compatible with the Aviom™ A-16 system.

⑤ **dSNAKE port** CAT5 cable link to connect the AR2412 rack to the GLD-80 mixer. This carries the 32 inputs, 16 outputs and the monitor port sends audio to and from the rack as well as control for the preamps and system status.

Maximum CAT5 cable length is 120m (396') depending on cable type.

● Note that dSNAKE is not compatible with the iLive ACE connection.

⑥ **Fan** A low noise fan ensures air movement through the rack to keep the circuits within operating temperature range.

● Ensure good ventilation at the back of the rack. Read the safety instructions printed on the panel and the Safety Sheet packed with the unit.

⑦ **Mains power input** IEC connector, fuse and power ON/OFF push switch for the built-in universal voltage power supply unit. This accepts worldwide voltages from 100 to 240V AC 50/60Hz. Check that you have received the correct mains lead for your territory.

Secure the cable in place using the plastic P-clip. Use a T20 Torx screwdriver to refit the screw.

GLD-AR84 Expander AudioRack
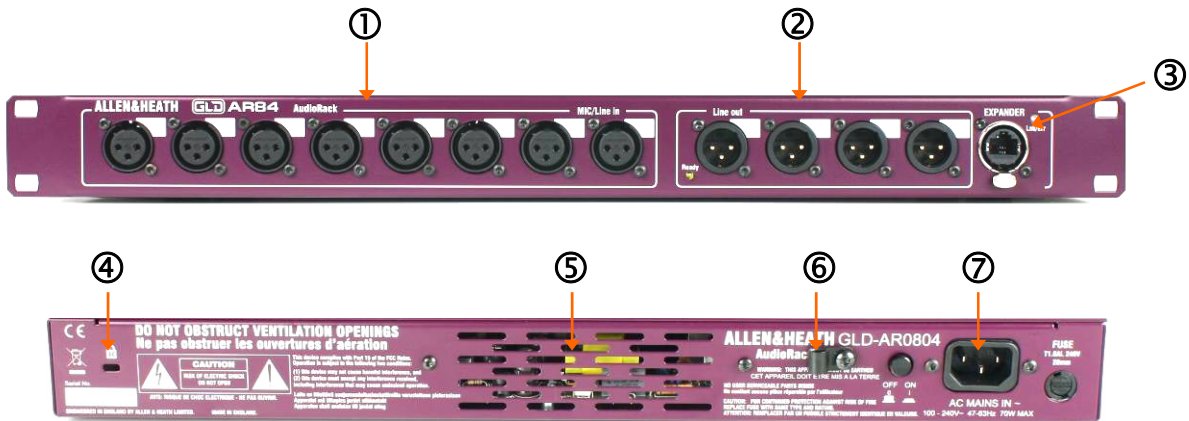
① **Input sockets** 8 balanced XLR inputs for microphone and line level sources. The preamps are built into the AR84 rack and their Gain, Pad and 48V phantom power is remote controlled from the GLD console via the EXPANDER link. The output of the analogue preamps are converted to digital format and transported via a Cat5 cable to be processed and mixed at the GLD-80 mixer.

Any input can be patched to any channel using the **I/O** or **Preamp** screens.

The sockets are not numbered. This is because the number depends on where the AR84 is plugged into the GLD system. Write-on blocks are provided for you to label the sockets.

② **Output sockets** 4 balanced XLR outputs operating at nominal +4dBu line level. Any GLD signal can be patched to any socket using the console **I/O** screen. The default Template Shows provide a logical mapping of these sockets to get you started.

The sockets are not numbered. This is because the number depends on where the AR84 is plugged into the GLD system. Write-on blocks are provided for you to label the sockets.

The socket identification is shown in the diagram below:

③ **EXPANDER port** CAT5 cable link to connect the AR84 expander to the EXPANDER port on the AR2412 AudioRack or GLD-80 Mixer.

● Note that the EXPANDER link is not compatible with the iLive ACE connection.

④ **Kensington security slot** To attach a 'Kensington lock' standard anti-theft cable and lock if required.

⑤ **Fan** A low noise fan inside the rack ensures air movement to keep the circuits and internal components within operating temperature range.

● Ensure good ventilation at the back of the rack. Read the safety instructions printed on the panel and the Safety Sheet packed with the unit.

⑥ **Mains cable clip** You can secure the cable in place using the plastic P-clip. Use a T20 Torx screwdriver to refit the screw.

⑦ **Mains power input** IEC connector, fuse and power ON/OFF push switch for the built-in universal voltage power supply unit. This accepts worldwide voltages from 100 to 240V AC 50/60Hz. Check that you have received the correct mains lead for your territory.

Socket numbering

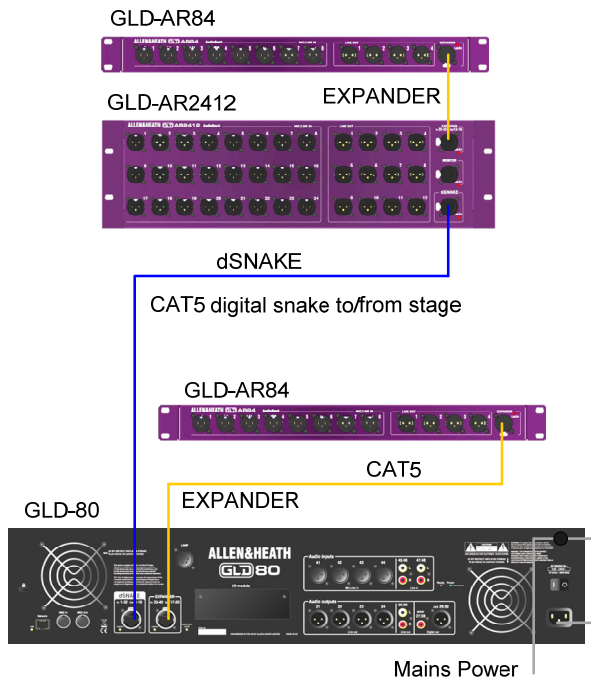AR84 plugged into the AR2412 main AudioRack:

Inputs 25-32   Outputs 13-16

AR84 plugged into the GLD-80 Mixer:

Inputs 33-40   Outputs 17-20

Connect and power up

GLD-AR84

GLD-AR2412   EXPANDER

dSNAKE

CAT5 digital snake to/from stage

GLD-AR84

CAT5

GLD-80   EXPANDER

Mains Power

Connect the AR2412 AudioRack Plug a CAT5 cable into the dSNAKE port at the rack and mixer. This is the main system link.

Connect the AR84 AudioRacks Plug a CAT5 cable into the EXPANDER port of the AR84 and the EXPANDER port of the AR2412 or GLD-80 mixer.

● Always plug the AR84 into an EXPANDER port. Do not plug it into the dSNAKE port even if you are not using an AR2412 main rack.

Plug in the mains power leads supplied with the mixer and racks. Secure the leads by hooking them into the plastic clips. If required the leads can be locked into these clips. Use a T20 Torx (starhead) screwdriver to remove the fixing screw.

Lnk/Err flashes
steadily

LOCK lights

To turn on the system Turn on power using the rear panel On/Off switches.

The GLD-80 takes around 30 seconds to boot up. Its screen lights white for a few seconds, then turns black displaying its boot sequence. A while later the **Home** screen is displayed. At this point the yellow **Lnk/Err** indicators of connected dSNAKE and EXPANDER ports start to flash steadily showing that the link between the mixer and racks is established. The mixer Audio Sync **LOCK** indicator lights. Finally, the AudioRack **Ready** indicators light and you will hear a click as the output socket protection relays switch over.

● If the **firmware** in a connected AudioRack is not the same version as that in the GLD-80 then the mixer will automatically update the rack firmware during power up. This takes a few seconds. During this time the **Lnk/Err** indicators on the AudioRack flash at a fast rate. Once updated normal flash rate is restored.

Fast flash on **firmware** auto update
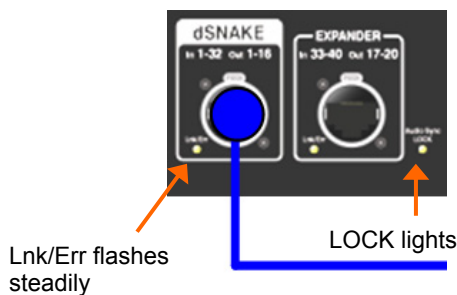
To turn off the system The system must be powered down correctly. Return to the **Home** screen. To do this turn off any active **Sel** key whilst in the **Processing** view.

Touch the **Power Down** button. A popup appears. Confirm the action then turn the mixer and racks off using their power switches.

● If the system is not powered down correctly there is a possibility recent changes may be lost.

● If the system was not powered down as described above then a '**Not shut down correctly**' screen appears the next time the system is turned on.

Recall a 'Template Show' as a starting point

The GLD has a fully configurable audio architecture, control layout and socket patching letting you customise the way you work. It would be a daunting task for the new user if we gave them a 'blank canvas' to start from scratch. Instead we have provided a set of 'Template' Show memories which give you a choice of classic console format to load in as a quick starting point. These present the familiar architecture and logical layout of well equipped analogue consoles. Once you are comfortable working with GLD you can make changes to your set up and save these as your own 'User' Shows.

A default show is already loaded when the iLive is shipped from the factory. This is **FOH_Config1_LR**.

To load a Template Show   Go to the **Setup / Memory / Show Manager** screen. Available Shows are listed. These include Template and User Shows.

Touch the **Template Show** you want to load. Touch **Recall**. A popup appears for you to confirm the action.

● Recalling a Show overwrites all the system settings including the DSP mix architecture, Surface configuration, current parameters, all the Scene and Library memories. If you want to keep the current settings to be used again in the future then first **Store** them as a **User Show**.

There are 4 Template Shows available:
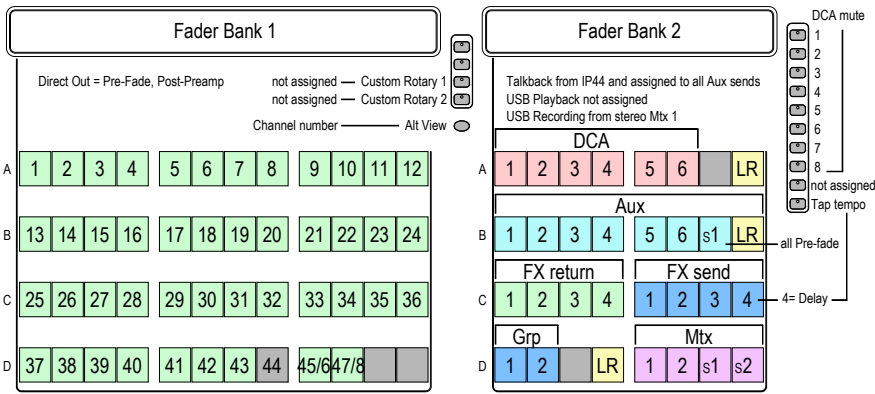
FOH_Config1_LR

This Template configures a traditional architecture and layout with stereo LR main mix for mixing FOH and Monitors from FOH:

LR stereo main mix

4 Groups (2 stereo)

8 Auxes (6 mono, 1 stereo)

8 FX (4 assigned to strips)

6 Matrix (2 mono, 2 stereo)

16 DCA / Mute groups

Talkback using mic socket 44

Fader Bank 1

Direct Out = Pre-Fade, Post-Preamp

not assigned — Custom Rotary 1
not assigned — Custom Rotary 2
Channel number — Alt View

A	1	2	3	4	5	6	7	8	9	10	11	12
B	13	14	15	16	17	18	19	20	21	22	23	24
C	25	26	27	28	29	30	31	32	33	34	35	36
D	37	38	39	40	41	42	43	44	45/6	47/8		

Fader Bank 2

Talkback from IP44 and assigned to all Aux sends
USB Playback not assigned
USB Recording from stereo Mtx 1

DCA mute 1 2 3 4 5 6 7 8 not assigned Tap tempo

DCA
| A | 1 | 2 | 3 | 4 | 5 | 6 | | LR |

Aux
| B | 1 | 2 | 3 | 4 | 5 | 6 | s1 | LR | all Pre-fade

FX return / **FX send**
| C | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 4= Delay

Grp / **Mtx**
| D | 1 | 2 | | LR | 1 | 2 | s1 | s2 |

AR2412
AR84
AR84

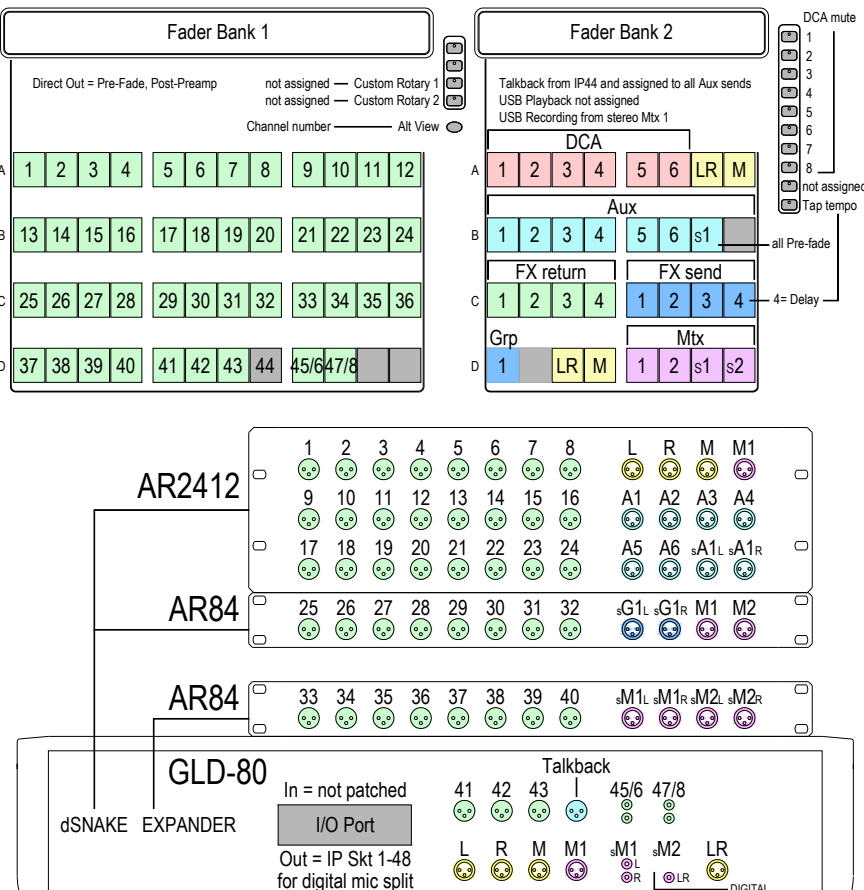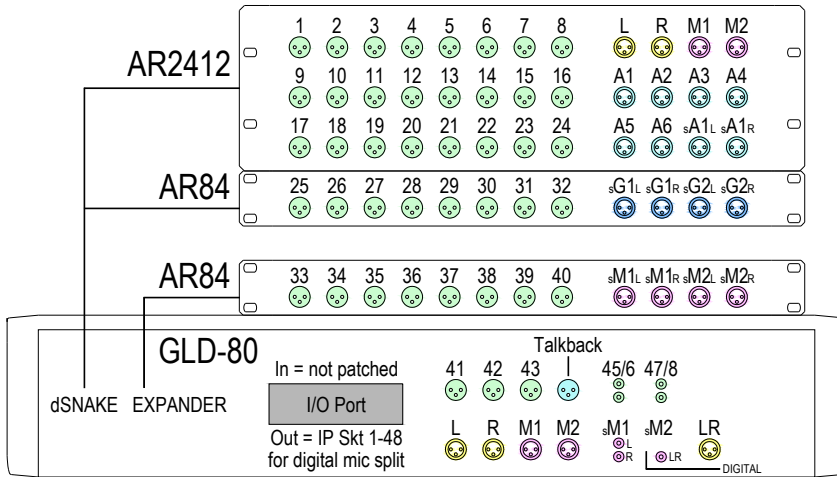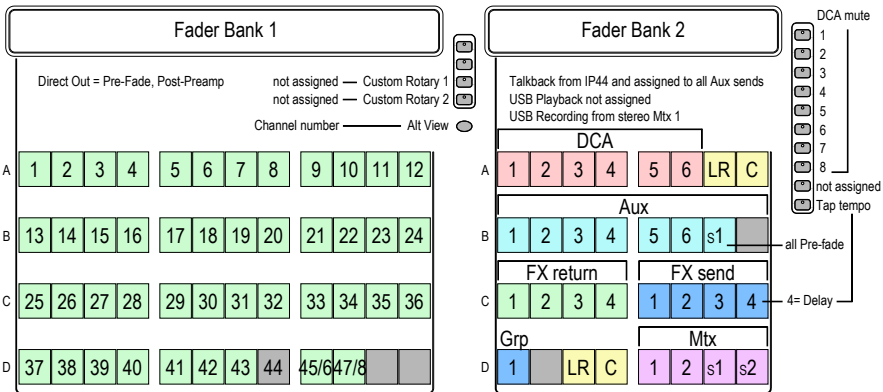| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | L | R | M1 | M2 |
9	10	11	12	13	14	15	16	A1	A2	A3	A4
17	18	19	20	21	22	23	24	A5	A6	sA1L	sA1R
25	26	27	28	29	30	31	32	sG1L	sG1R	sG2L	sG2R
33	34	35	36	37	38	39	40	sM1L	sM1R	sM2L	sM2R

GLD-80

dSNAKE EXPANDER

In = not patched
I/O Port
Out = IP Skt 1-48 for digital mic split

Talkback
41 42 43 | 45/6 47/8
L R M1 M2 sM1 L/R sM2 LR LR
DIGITAL

FOH_Config2_LRM

This Template configures stereo LR plus Mono bus for mixing 3 speaker FOH and Monitors from FOH:

LR + Mono (switched bus) main mix

2 Groups (1 stereo)

8 Auxes (6 mono, 1 stereo)

8 FX (4 assigned to strips)

6 Matrix (2 mono, 2 stereo)

16 DCA / Mute groups

Talkback using mic socket 44

Fader Bank 1

Direct Out = Pre-Fade, Post-Preamp

not assigned — Custom Rotary 1
not assigned — Custom Rotary 2
Channel number — Alt View

A	1	2	3	4	5	6	7	8	9	10	11	12
B	13	14	15	16	17	18	19	20	21	22	23	24
C	25	26	27	28	29	30	31	32	33	34	35	36
D	37	38	39	40	41	42	43	44	45/6	47/8		

Fader Bank 2

Talkback from IP44 and assigned to all Aux sends
USB Playback not assigned
USB Recording from stereo Mtx 1

DCA mute 1 2 3 4 5 6 7 8 not assigned Tap tempo

DCA
| A | 1 | 2 | 3 | 4 | 5 | 6 | LR | M |

Aux
| B | 1 | 2 | 3 | 4 | 5 | 6 | s1 | | all Pre-fade

FX return / **FX send**
| C | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 4= Delay

Grp / **Mtx**
| D | 1 | | LR | M | 1 | 2 | s1 | s2 |

AR2412
AR84
AR84

1	2	3	4	5	6	7	8	L	R	M	M1
9	10	11	12	13	14	15	16	A1	A2	A3	A4
17	18	19	20	21	22	23	24	A5	A6	sA1L	sA1R
25	26	27	28	29	30	31	32	sG1L	sG1R	M1	M2
33	34	35	36	37	38	39	40	sM1L	sM1R	sM2L	sM2R

GLD-80

dSNAKE EXPANDER

In = not patched
I/O Port
Out = IP Skt 1-48 for digital mic split

Talkback
41 42 43 | 45/6 47/8
L R M M1 sM1 L/R sM2 LR LR
DIGITAL

FOH_Config3_LCR

This Template configures LCR for mixing 3 speaker FOH and Monitors from FOH:

LCR pan main mix

2 Groups (1 stereo)
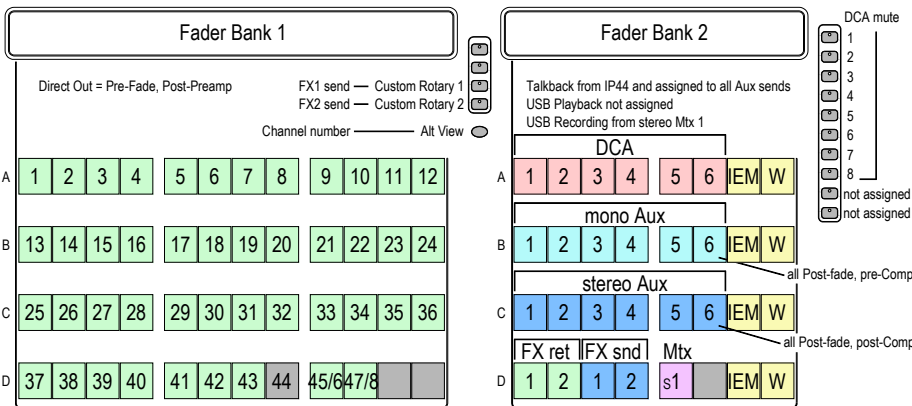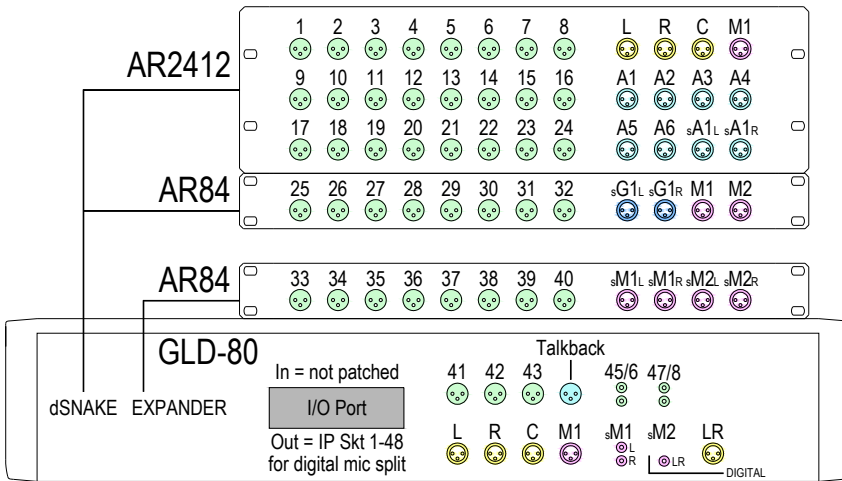
8 Auxes (6 mono, 1 stereo)

8 FX (4 assigned to strips)

6 Matrix (2 mono, 2 stereo)

16 DCA / Mute groups

Talkback using mic socket 44

Fader Bank 1

Direct Out = Pre-Fade, Post-Preamp

not assigned — Custom Rotary 1
not assigned — Custom Rotary 2
Channel number —— Alt View

A	1	2	3	4	5	6	7	8	9	10	11	12
B	13	14	15	16	17	18	19	20	21	22	23	24
C	25	26	27	28	29	30	31	32	33	34	35	36
D	37	38	39	40	41	42	43	44	45/6	47/8		

Fader Bank 2

Talkback from IP44 and assigned to all Aux sends
USB Playback not assigned
USB Recording from stereo Mtx 1

DCA
| A | 1 | 2 | 3 | 4 | 5 | 6 | LR | C |

Aux
| B | 1 | 2 | 3 | 4 | 5 | 6 | s1 | — all Pre-fade

FX return / FX send
| C | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | — 4= Delay

Grp / Mtx
| D | 1 | | LR | C | 1 | 2 | s1 | s2 |

DCA mute
1, 2, 3, 4, 5, 6, 7, 8
not assigned
Tap tempo

AR2412
1	2	3	4	5	6	7	8	L	R	C	M1
9	10	11	12	13	14	15	16	A1	A2	A3	A4
17	18	19	20	21	22	23	24	A5	A6	sA1L	sA1R

AR84
| 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | sG1L | G1R | M1 | M2 |

AR84
| 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | sM1L | sM1R | sM2L | sM2R |

GLD-80
In = not patched
Talkback
41 42 43 | 45/6 47/8
I/O Port
Out = IP Skt 1-48 for digital mic split
L R C M1 sM1L/R sM2 LR —— DIGITAL

dSNAKE EXPANDER

Monitor_6m6st

This Template configures the GLD as a dedicated monitor console with 18 mixes:
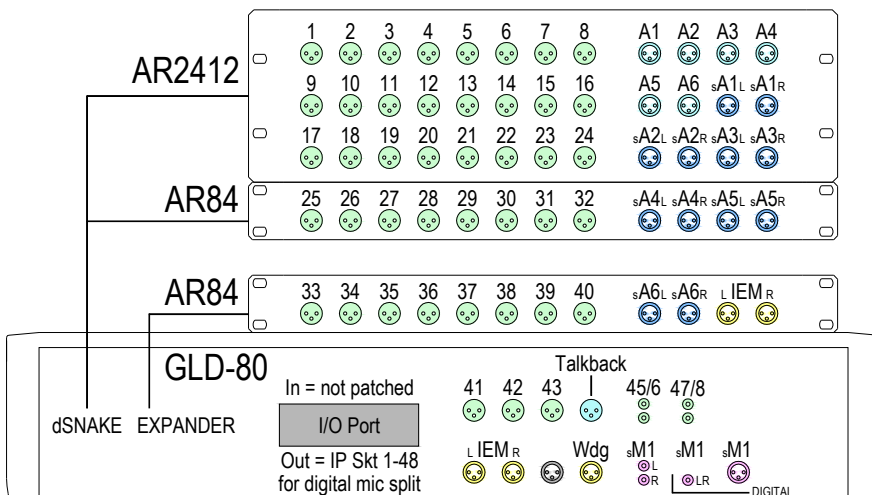
6 mono mixes (wedges, fills)

6 stereo mixes (IEM)

Auto switching engineer's Wedge/IEM

8 FX (2 assigned to strips)

Talkback using mic socket 44

Fader Bank 1

Direct Out = Pre-Fade, Post-Preamp

FX1 send — Custom Rotary 1
FX2 send — Custom Rotary 2
Channel number —— Alt View

A	1	2	3	4	5	6	7	8	9	10	11	12
B	13	14	15	16	17	18	19	20	21	22	23	24
C	25	26	27	28	29	30	31	32	33	34	35	36
D	37	38	39	40	41	42	43	44	45/6	47/8		

Fader Bank 2

Talkback from IP44 and assigned to all Aux sends
USB Playback not assigned
USB Recording from stereo Mtx 1

DCA
| A | 1 | 2 | 3 | 4 | 5 | 6 | IEM | W |

mono Aux
| B | 1 | 2 | 3 | 4 | 5 | 6 | IEM | W | — all Post-fade, pre-Comp

stereo Aux
| C | 1 | 2 | 3 | 4 | 5 | 6 | IEM | W | — all Post-fade, post-Comp

FX ret / FX snd / Mtx
| D | 1 | 2 | 1 | 2 | s1 | | IEM | W |

DCA mute
1, 2, 3, 4, 5, 6, 7, 8
not assigned
not assigned

AR2412
1	2	3	4	5	6	7	8	A1	A2	A3	A4
9	10	11	12	13	14	15	16	A5	A6	sA1L	sA1R
17	18	19	20	21	22	23	24	sA2L	sA2R	sA3L	sA3R

AR84
| 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | sA4L | sA4R | sA5L | sA5R |

AR84
| 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | sA6L | sA6R | L IEM R | |

GLD-80
In = not patched
Talkback
41 42 43 | 45/6 47/8
I/O Port
Out = IP Skt 1-48 for digital mic split
L IEM R   Wdg   sM1L/R   sM1 LR   sM1 —— DIGITAL

dSNAKE EXPANDER

A few things to know before starting

Before working with the GLD familiarise yourself with its control layout and operating principles.
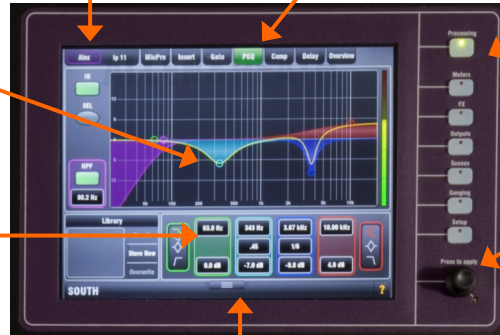
The Touch Screen

Screen **graph view** for PEQ and dynamics:

Touch a pick-up box and drag the curve. Values are displayed in the parameter buttons.

You can adjust parameters using the graph, touch buttons or processing section rotary controls to the left of the screen.

Name and Colour button

Tabs to select the pages available for the current screen

Screen select keys:

Press a key to select that view. Press the key again to return to **Processing** view.

Screen rotary control:

Touch a parameter on the screen to highlight it, then turn the rotary to adjust its value.

Processing
Meters
FX
I/O
Scenes
Ganging
Setup

Pullup tab opens additional controls and options for the current screen

The Home Screen

This screen displays after power up. You can return here by turning off any active strip **Sel** key while in the screen **Processing** view. You can also do this by turning on, then off any strip **Sel** key.

Returns to this screen

Access the User login screen

Opens the Quick Start Mixing Guide

To safely shut down the GLD computer before turning the system off.

● Always shut down using this button.

Displays system connection status

Displays system information

Real time **clock**. Set the date and time using the **Setup / Utility / Date/Time** screen.

To **lock** the surface controls. Can be password protected.

Tabs to open one of the 4 custom meter pages or the RTA (real time analyser) display. The RTA follows the PAFL signal. Custom meters are assigned using the **Meters** screen.
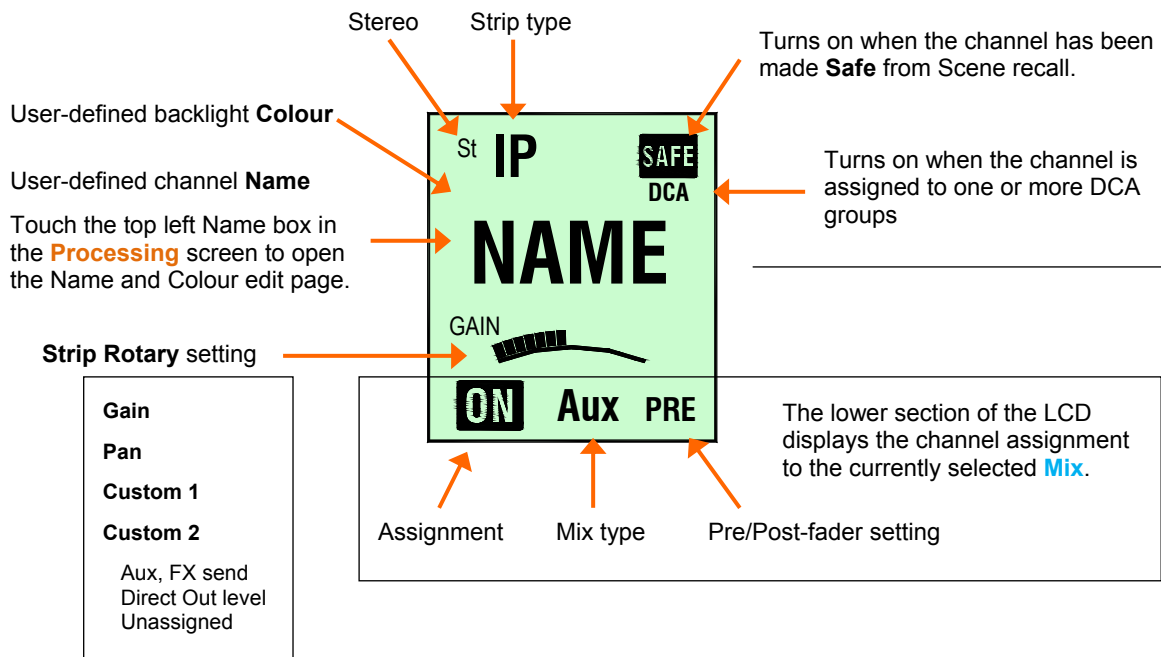
Touch **?** to open the Help page for the current screen. You can also access the main Help menu from here.

Shows which **Mix** is currently selected.

● Look here to check that you are on the correct mix. For example, remember to turn off an Aux **Mix** key to return to the **Main** (LR) mix after adjusting a monitor level.

The strip LCD display

The LCD strip above the faders displays information about the channels assigned to the faders. Channels can each be named and have one of 8 backlight colours applied. You can edit these names and colours to easily identify different channel and mix types, or highlight certain instruments and sources.

Stereo   Strip type

Turns on when the channel has been made **Safe** from Scene recall.

User-defined backlight **Colour**

User-defined channel **Name**

Touch the top left Name box in the **Processing** screen to open the Name and Colour edit page.

Turns on when the channel is assigned to one or more DCA groups

Strip Rotary setting

Gain

Pan

Custom 1

Custom 2

Aux, FX send
Direct Out level
Unassigned

The lower section of the LCD displays the channel assignment to the currently selected **Mix**.

Assignment   Mix type   Pre/Post-fader setting

Select the function of the strip Rotary controls using these keys. The Custom keys are assigned using the **Setup / Control / Surface Prefs** screen.

● Check that you have selected the correct function when working with the rotary controls.
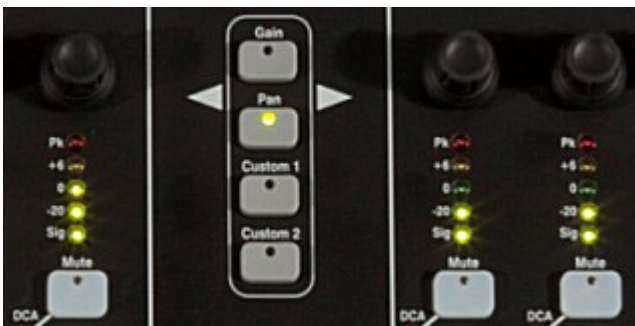
Press and hold the **Alt View** key to see the Channel Number, Socket Number or fader dB value in place of the Name in the LCD display.

Choose the Alt View function using the **Setup / Control / Surface Prefs** screen.

The Fader Banks

There are 2 independent Fader Banks, one with 12 fader strips, the other with 8 fader strips. Each Bank has 4 Layers. This means that the GLD-80 can work with up to 80 fader control strips.

Any strip can be assigned as an Input channel, Mix master, FX send master, FX Return, engineer's Wedge or IEM master, or DCA master in any combination. Strips can be left blank (unassigned). The Template Shows provide a logical assignment of the fader strips to give you a familiar starting point.

To change the fader strip assignment use the **Setup / Control / Strip Assignment** screen. You can drag-and-drop to quickly reassign the strips.

Layer select keys A, B, C, D

The Fader Strip keys

4 keys per strip provide quick access to important live mixing functions:

Lights when the channel is muted by a DCA

Mute Turns off the channel signal. Affects the main mix and pre-fade and post-fade sends. This is important in live mixing, for example to mute an acoustic guitar in both the FOH mix and monitors when the musician unplugs it.

Sel Instantly selects the processing for the channel. The rotary control section to the left of the touch screen becomes active to control the Preamp, HPF, PEQ, Gate and Compressor for that channel.

● To see and adjust the processing using the touch screen make sure the screen **Processing** key is selected.

Mix Puts the send levels and assignments of the associated channel or master onto the fader strips. For example you can work with all the sends to one Aux shown on the input faders by selecting its master strip **Mix** key. Or work with the sends from one channel to all the Auxes shown on the master faders by selecting the channel **Mix** key.

● Be aware of which Mix is currently selected. For example, when you have finished adjusting an Aux send, press its **Mix** key again to turn it off and return to the main mix. The currently selected mix is displayed in the lower left screen toolbar.

PAFL Sends the channel PFL (pre-fade listen) or AFL (after-fade listen) signal to the GLD headphones and monitoring system. Preferences for the PAFL system are set using the **Setup / Audio / PAFL** screen.

Input PAFL overrides mix master PAFL.

Working with the Mix on the fader strips

Normal mix mode (FOH)

Main **Mix** active
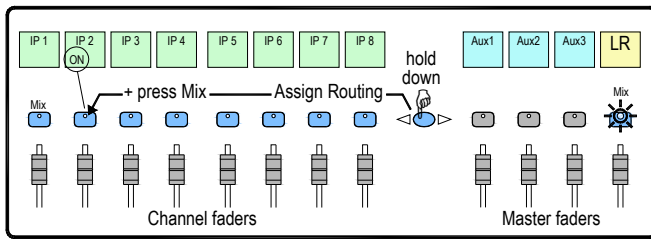
Press a Main Mix master strip **Mix** key.

This is the normal mixing mode. The Input strips present the channel faders. The Master strips present the master mix faders.

Hold down the **Assign** key and press channel **Mix** keys to assign or de-assign them from the main mix. Current ON status is displayed on the lower part of the strip LCDs.
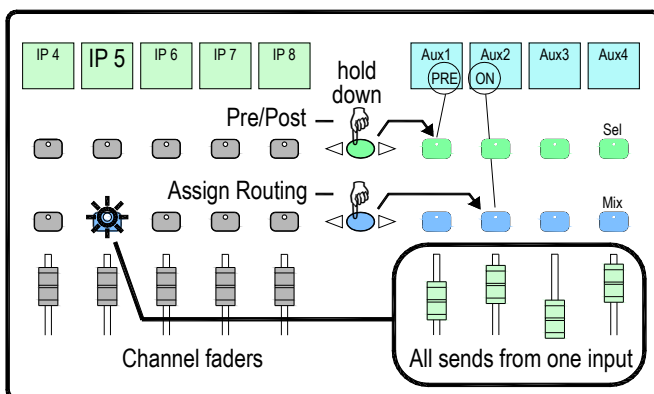
Master Mix view

Access Aux, FX, Matrix mix on faders
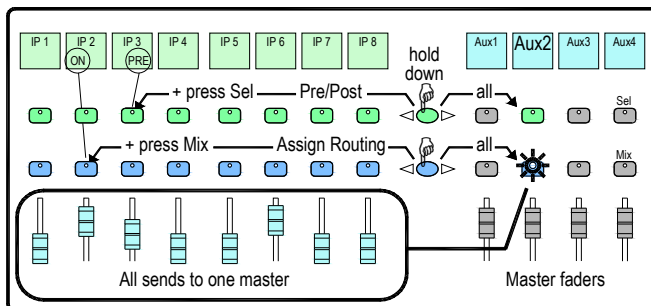
Press a Mix master strip **Mix** key.

Use this to work with Aux and FX sends. The Input strips change to present all the send levels to the selected mix. The Master strips present the master mix faders.

Hold down the **Assign** key and press channel **Mix** keys to assign or de-assign them from the selected mix.

Hold down the **Pre/Post** key and press channel **Sel** keys to toggle each source pre or post fader. Current PRE status is displayed on the lower part of the channel strip LCDs.

You can quickly set **all** assignments on or off, or all sources pre or post fader by pressing the Master strip **Mix** or **Sel** key instead of a channel key as described above.
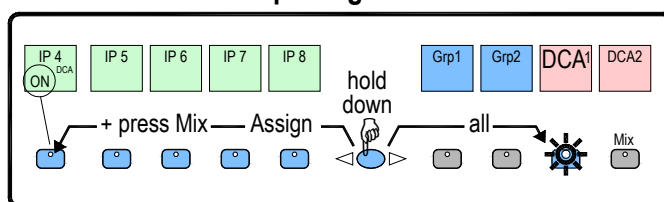
Channel Mix view

Press an Input Channel strip **Mix** key.

Use this to work with Aux and FX sends. The Input strips remain as Channel Faders. The Master strips change to present all sends from the selected channel.

Hold down the **Assign** key and press master **Mix** keys to assign or de-assign the channel from each mix.

Hold down the **Pre/Post** key and press master **Sel** keys to toggle the channel pre or post fader to each mix. Current status is displayed on the master strip LCDs.

DCA and Audio Group assign

Press a Group Master strip **Mix** key.

Use this to assign channels to the Audio and DCA groups. The Input and Master faders are not affected.

Hold down the **Assign** key and press channel **Mix** keys to assign or de-assign the channels from the group.

Specification

Inputs

Inputs

XLR Mic/Line Inputs	Balanced, (All XLR on GLD-80 and AudioRacks)
Mic/Line Preamp	Fully recallable
Input Sensitivity	-60 to +15dBu
Analogue Gain	+5 to +60dB, 1dB steps
Pad	-20dB
Maximum Input Level	+32dBu
Input Impedance	>4kΩ (Pad out), >10kΩ (Pad in)
Mic/Line Channel noise	20-20kHz, Direct Out @ unbalanced out
Mic EIN	-127dB with 150Ω source
Unity gain (Pad in)	-90dBu
Low gain (5dB, Pad out)	-93dBu
Mid gain (30dB, Pad out)	-89dBu
Mic/Line Channel THD+N	20-20kHz, Direct Out @ unbalanced out
Unity gain (Pad in)	0.005% -86dBu @ 1kHz, 0dBu output
Low gain (5dB, Pad out)	0.003% -89dBu @ 1kHz, 0dBu output
Mid gain (30dB, Pad out)	0.004% -88dBu @ 1kHz, 0dBu output
RCA Line Inputs	Unbalanced (GLD-80)
Input Sensitivity	-24 to +24dBu, nominal 0dBu
Trim	+/-24dB, recallable
Maximum Input Level	+18dBu
Input Impedance	>10kΩ
RCA channel Noise	-92dBu 20-20kHz
RCA channel THD+N	0.0035% -90dBu @ 1kHz, 0dBu output

Outputs

XLR Outputs	Balanced, Relay protected
Output Impedance	<75Ω
Nominal Output	+4dBu = 0dB meter reading
Maximum Output Level	+22dBu
Residual Output Noise	-91dBu (muted, 20-20kHz)
RCA Line Outputs	Balanced, Relay protected
Output Impedance	<75Ω
Nominal Output	0dBu = 0dB meter reading
Maximum Output Level	+18dBu
Residual Output Noise	-94dBu (muted, 20-20kHz)
Digital Outputs	48kHz sampling rate
SPDIF	RCA, 600mV, coax terminated input 75Ω
AES3 2 ch XLR output	XLR, 2.5Vpp balanced terminated 110 Ω

System

Measured balanced XLR in to XLR out, 20-20kHz, minimum Gain, Pad out	
Dynamic Range	112dB
System Signal to Noise	-90dB
Frequency Response	0/-0.25dB @ 20Hz, 0/-0.5dB @ 20kHz
System peak level THD+N	0.0055% -68dBu @ +17dBu output, 1kHz
System Line level THD+ N	0.0022%, -84dBu @ +9dBu output, 1kHz
Headroom	+18dB
Internal operating Level	0dBu
dBFS Alignment	+18dBu = 0dBFS (+22dBu at XLR output)
Meter Calibration	0dB meter = -18dBFS (+4dBu at XLR out)
Meter Peak indication	-3dBFS (+19dBu at XLR out)
Meter Type	Fast (peak) response
Sampling Rate	48kHz +/-100PPM
ADC	24-bit Delta-Sigma
DAC	24-bit Delta-Sigma
Latency	1.49ms (GLD-80 local XLR in to XLR out)
	0.68ms (GLD-80 local XLR in to digital out)
USB Playback	2 channel, WAV, MP3, M4A, FLAC
USB Record	2 channel, 44.1kHz / 16bit - WAV
I/O Port	64 channel bi-directional
Card Options	A&H ACE, MADI, Dante, ES, Waves, MMO
Operating Temperature Range	0 deg C to 35 deg C (32 deg F to 95 deg F)

Mains Power

GLD-80	100-240V AC, 50/60Hz, 95W max
GLD-AR2412	100-240V AC, 50/60Hz, 70W max
GLD-AR84	100-240V AC, 50/60Hz, 20W max

Control

Control

Faders	100mm motorised
Fader Banks	2 Independent banks - 12, 8 faders
Touch Screen	8.4" TFT, 800x600 resolution
Control Strips	4 Layers per Bank = 80x strips
Strip Display	LCD per strip, assignable backlight colours
SoftKeys	10 assignable
MIDI	MIDI In and Out
Network	TCP/IP Ethernet (for future application)

Input Processing

48 Input Processing Channels	Mono = 1-44, Stereo = 45/46, 47/48
Trim	+/-24dB digital trim
Polarity	Normal/Reverse
High Pass Filter	12dB/octave 20Hz – 2kHz
Insert	Assign to any sockets, In/Out, +4dBu/-10dBV level
Delay	Up to 85ms
	Input global setting - ms, feet, meters, samples
Gate	
Sidechain	Self key, In/Out, Sel 'listen'
Sidechain Lo-Cut Filter	12dB/octave, Freq 20Hz – 5kHz
Sidechain Hi-Cut Filter	12dB/octave, Freq 120Hz – 20kHz
Threshold	-72dBu to +12dBu
Depth	0 to 60 dB
Attack	50us to 300ms
Hold	10ms to 5s
Release	10ms to 1s
PEQ	
Type	4-Band fully parametric, +/-15dB
Frequency Range	Global setting for Inputs = 20-20kHz or 'Analogue'
Analogue Ranges	20-200Hz, 35-1kHz, 500-15kHz, 2k-20kHz
Band 1	Selectable LF Shelving, Bell, Hi-Pass
Band 2	Bell
Band 3	Bell
Band 4	Selectable HF Shelving, Bell, Lo-Pass
Bell Width	Non-constant Q, variable, 1.4 to 1/9th octave
Shelving Type	Classic Baxandall
Hi-Pass, Lo-Pass Filter	12dB/octave
Compressor	
Sidechain	Self key, In/Out, Sel 'listen'
Sidechain Lo-Cut Filter	12dB/octave, Freq 20Hz – 5kHz
Sidechain Hi-Cut Filter	12dB/octave, Freq 120Hz – 20kHz
Threshold	-46dBu to 18dBu
Ratio	1:1 to infinity
Attack	300us – 300ms
Release	100ms – 2s
Knee	Soft/Hard
Manual Types	Peak Manual, RMS Manual
Auto Types	VocalAuto, OptoAuto, PunchBag
Channel Direct Out	Individual Trim (per channel)
Options	Source, follow Fader, follow Mute (global for all)

Mix Processing

20 Mix Processing Channels	Configure as mono/stereo Groups, Aux, Main, Matrix
	Mains = None, LR, LCR. LR+M(bus), LR+M(sum)
External Input	Assignable source
Trim	+/-24dB digital trim
Polarity	Normal/Reverse
Insert	Assign to any sockets, In/Out, +4dBu/-10dBV level
Delay	Up to 170ms
	Mix global setting - ms, feet, meters, samples
GEQ	
Type	Constant 1/3 octave, 28 bands 31Hz -16kHz
Gain	+/-12dB
GEQ Fader Flip Mode	2 overlapping frequency banks on strip faders
	layer 1 - 31-1kHz + Mix master fader
	layer 2 - 500-16kHz + Mix master fader
	SEL key resets frequency band to 0dB
	RTA following PAFL is displayed on strip meters

FX Processing	
Internal FX	8x RackFX engine
Types	Reverbs, Delays, Modulators, Sub-harmonics
Mode	Send>Return, Inserted, Daisy Chain FX
FX 'Short' Return Channels	
8 Stereo dedicated returns	Adds to inputs for up to 56 sources to the mix
Controls	Fader, Pan, Mute, Routing to Grp, Aux, FX, Main
FX Return PEQ	Same as Input Channel PEQ
Talkback	Assignable source
High Pass Filter	12dB/octave, 20Hz-2kHz
Routing	To Groups, Aux, Main, Matrix
Signal Generator	Sine, White Noise, Pink Noise, Bandpass Noise
Sine, Bandpass sweep	20-20kHz
Controls	Level, Mute
Routing	To Groups, Aux, Main, Matrix
RTA	31-Bands 1/3 octave 20-20kHz
Source	Follows selected PAFL source
Peak Band Indication	Option to display dominant frequency

| Dimensions and Weights	
GLD-80 Mixer	Width x Depth x Height
Unpacked	730 x 577 x 159mm (28.7" x 22.7" x 6.2")
Packed in shipping box	930 x 730 x 290mm (36.6" x 28.6" x 11.4")
Unpacked weight	16kg (35lbs)
Packed weight	21kg (46lbs)
GLD-AR2412 AudioRack	Width x Depth x Height
Unpacked	483 x 220 x 137mm (19" x 8.6" x 5.4") 3U rack
Packed in shipping box	600 x 350 x 250mm (23.6" x 13.7" x 9.8"
Unpacked weight	5kg (11lbs)
Packed weight	6.4kg (14lbs)
GLD-AR2412 AudioRack	Width x Depth x Height
Unpacked	483 x 220 x 48mm (19" x 8.6" x 1.9") 1U rack
Packed in shipping box	600 x 330 x 143mm (23.6" x 12.9" x 5.6")
Unpacked weight	3kg (6.6lbs)
Packed weight	4.4kg (9.7lbs)

ALLEN&HEATH
www.allen-heath.com

GLD Quick Start Mixing Guide
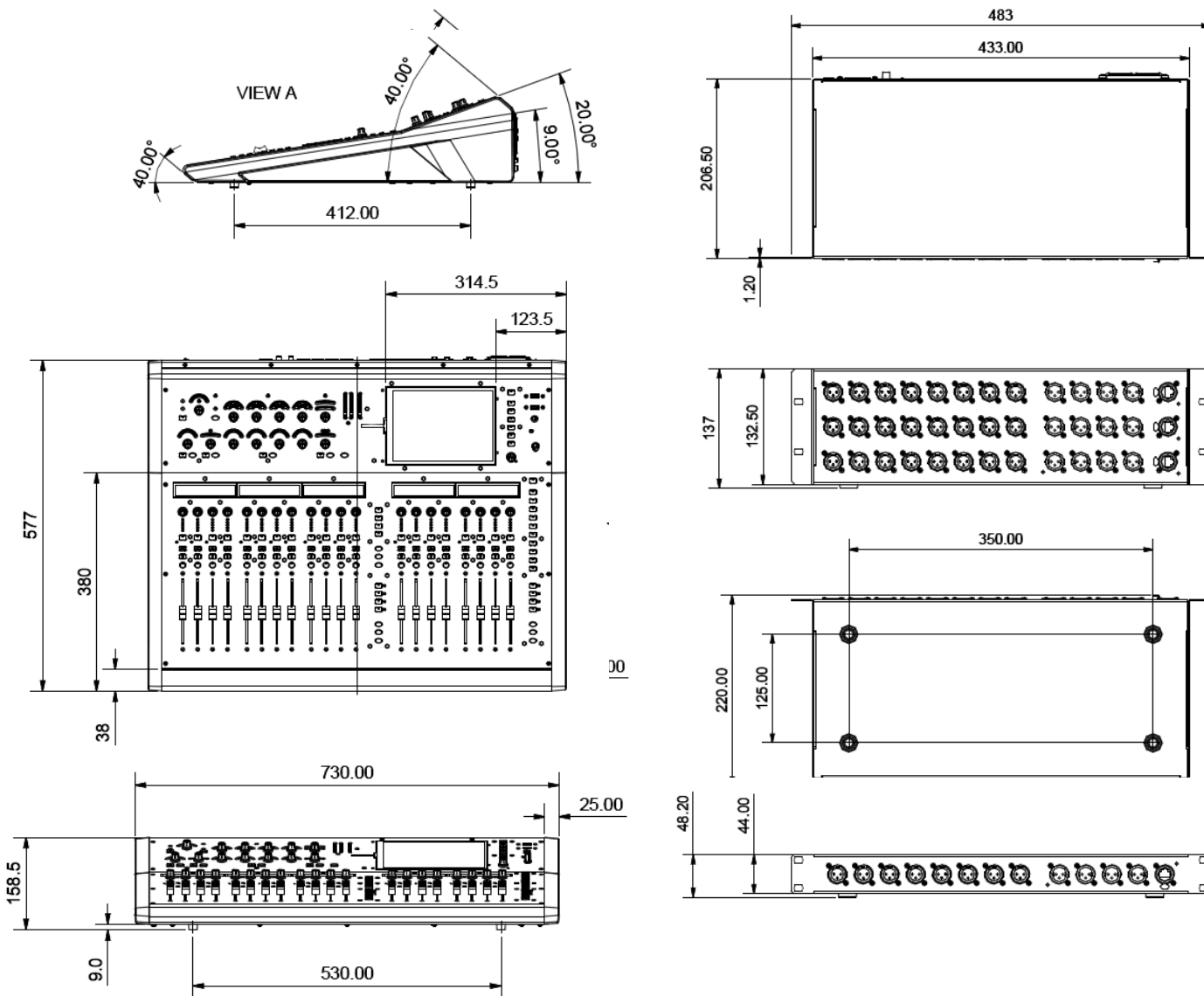
For the new user or guest engineer to start mixing with GLD. It assumes a mixer already configured for the show. To learn more about configuration, memories and advanced functions read the on-screen Help Manual and User Guide AP8561.

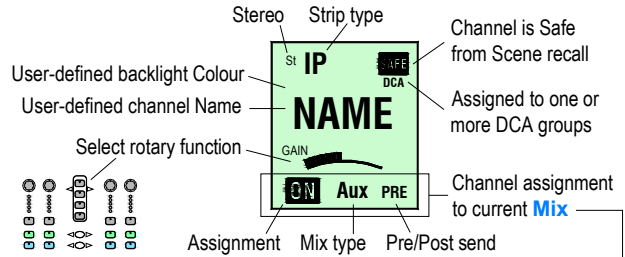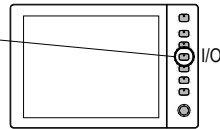**❶** See where Input and Master **Faders** are by pressing Layer keys A,B,C,D and reading the displays

To change the strip assignments use the **Setup/Control** screen
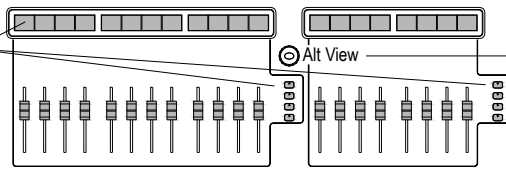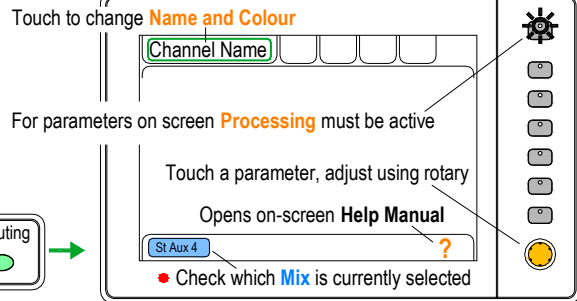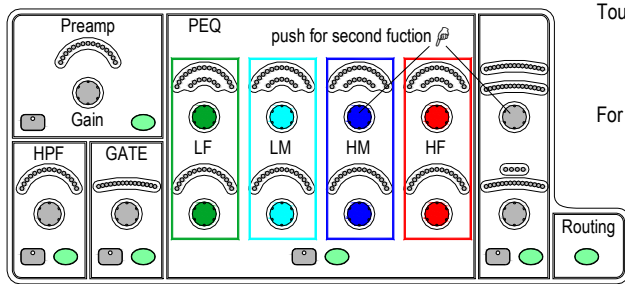
⊖ Alt View

Press **Alt View** to view channel or socket numbers or fader dB value in place of Name. Set option in **Setup/Control** screen

❷ See how the **Sockets** are patched using the **I/O** screen.

To change the socket assignments touch and select from drop-down menu

I/O

Stereo   Strip type   Channel is Safe from Scene recall

St **IP**   SAFE   DCA

User-defined backlight Colour   Assigned to one or more DCA groups

User-defined channel Name

NAME

Select rotary function

GAIN

ON **Aux** PRE

Channel assignment to current **Mix**

Assignment   Mix type   Pre/Post send

❸ Sel   Access the **Channel and Mix processing**

Preamp   PEQ   push for second fuction

Gain

HPF   GATE   LF   LM   HM   HF

Routing

Touch to change **Name and Colour**

Channel Name

For parameters on screen **Processing** must be active

Touch a parameter, adjust using rotary

Opens on-screen **Help Manual**
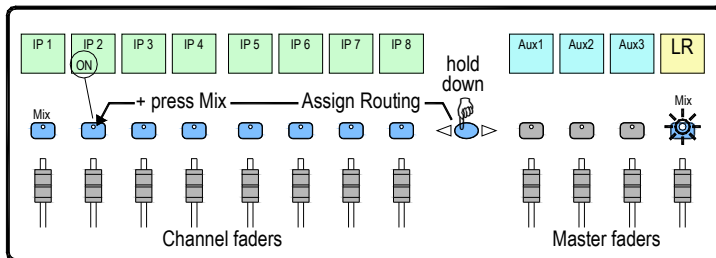
St Aux 4

?

● Check which **Mix** is currently selected

For GEQ on faders press **GEQ Fader Flip** - Master on last fader. RTA on strip meters. RTA follows current selected PAFL

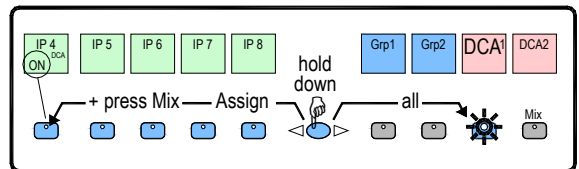**❹** Mix   Access the **Sends and Assignments**
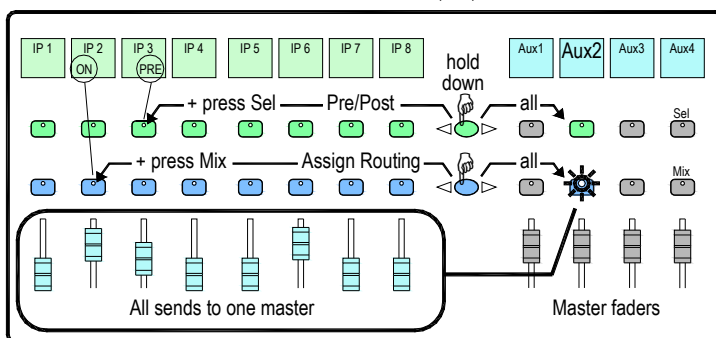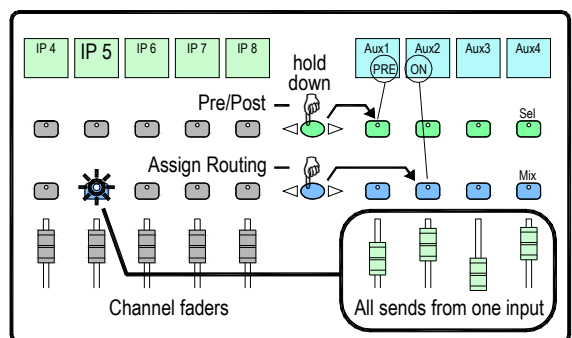
Normal mix mode (FOH)   Main **Mix** active

IP 1 IP 2 (ON) IP 3 IP 4 IP 5 IP 6 IP 7 IP 8   Aux1 Aux2 Aux3 **LR**

Mix   + press Mix — Assign Routing   hold down ◁ ○ ▷   Mix

Channel faders   Master faders

DCA and Audio Group assign

IP 4 (DCA) IP 5 IP 6 IP 7 IP 8   Grp1 Grp2 DCA1 DCA2

+ press Mix — Assign   hold down ◁ ○ ▷ all   Mix

● Press **Mix** again to return to Main mix

Master **Mix** view   Access Aux, FX, Matrix mix on faders

IP 1 IP 2 (ON) IP 3 (PRE) IP 4 IP 5 IP 6 IP 7 IP 8   Aux1 Aux2 Aux3 Aux4

+ press Sel — Pre/Post   hold down ◁ ○ ▷ all   Sel

+ press Mix — Assign Routing   ◁ ○ ▷ all   Mix

All sends to one master   Master faders

Channel **Mix** view

IP 4 IP 5 IP 6 IP 7 IP 8   Aux1 (PRE) Aux2 (ON) Aux3 Aux4

Pre/Post   hold down ◁ ○ ▷   Sel

Assign Routing   ◁ ○ ▷   Mix

Channel faders   All sends from one input

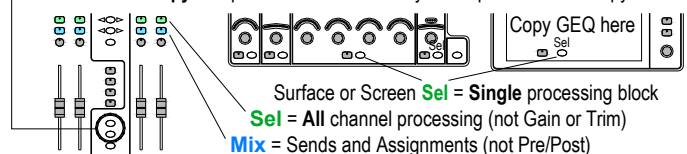**❺** Access the **FX**
> To send to an FX - press FX master **Mix**
> To adjust FX parameters - press FX strip **Sel**
> To return to the mix use related **FXret** channel

❻ To **Link parameters** eg, 2 channels for stereo keyboard Use the **Ganging** screen. Choose attributes.
● Ganging does not link the Gains or Trims.

❼ To **Copy parameters**
> Hold down **Copy** and press the **Sel** or **Mix** key of the parameters to copy:

Copy GEQ here

Surface or Screen **Sel** = **Single** processing block
Sel = **All** channel processing (not Gain or Trim)
Mix = Sends and Assignments (not Pre/Post)

> Now hold down **Paste** and press the **Sel** or **Mix** key of the strip to paste to