

ALLEN & HEATH



DIGITAL MIXING SYSTEM

User Guide

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Publication AP9989 Issue 2

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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.

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 in the original carton to avoid transit damage.

DISCLAIMER: Allen & Heath shall not be liable for the loss of any saved/stored data in products that are either repaired or replaced.

Check with your Allen & Heath distributor or agent for any additional warranty information which may apply. If further assistance is required please contact Allen & Heath Ltd.

Any changes or modifications to the equipment not approved by Allen & Heath could void the compliance of the product and therefore the user's authority to operate it.



The GLD range of products complies with the European Electromagnetic Compatibility directives 2004/108/EC and the European Low Voltage directives 2006/95/EC.

GLD Chrome Edition User Guide AP9989 Issue 2

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ALLEN & HEATH

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<http://www.allen-heath.com>

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 GLD Chrome Edition is determined by the firmware (operating software) that runs it. This guide relates to **Version 1.5 Chrome** or later firmware.

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

- **Check the Allen & Heath web site for the latest version of GLD and this user guide.**

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 at: www.allen-heath.com/legal.

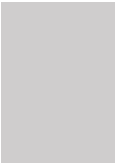

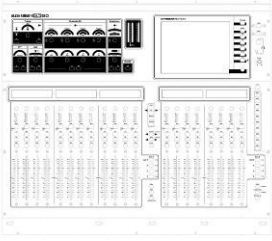

Further information

For further information about GLD Chrome Edition please refer to the user guides associated with each system component. A single sheet **Quick Start Mixing Guide** is provided at the end of this user guide. Also refer to the **GLD Touch Screen Reference Guide** available online, and the on-screen **Help Manual** available on the mixer. Refer to the **Allen & Heath website** for additional downloads, resources, knowledgebase and technical support.

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 GLD Chrome Edition 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 mixer using a touring grade, purpose designed flightcase with adequate foam lining and internal support for protection.
- Clean the control surface with a soft brush and dry lint-free cloth. Avoid the use of chemicals, abrasives or solvents.
- 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 Chrome Edition Mixer			Safety Sheet
	This User Guide AP9989		• Read this before starting • Check this is correct for your territory

Register your product online at <http://www.allen-heath.com/support/register-product/>

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Introduction

Combining supreme ease of use with a wealth of advanced functionality, GLD Chrome Edition is a digital mixing system fast to learn for the new recruit and with the sophistication to satisfy the most demanding veteran engineer. GLD Chrome Edition takes the acclaimed GLD concept to the next level with sleek new styling reflecting an array of powerful new features.

GLD Chrome Edition components

There are two GLD Chrome Edition mixers available, the **GLD-80** with 20 faders, and the larger **GLD-112** with 28 faders. 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 a slot to fit one of several audio networking cards available from Allen & Heath.

The mixers differ only in size, number of faders and SoftKeys. They both provide the same channel count and rear panel I/O.

Adding one or a combination of the available AudioRacks lets you configure systems with up to 48 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.

AR2412 24 Mic/Line in, 12 Line out - Rack mount



EXPANDER – To connect to an AR84 or AB168 for expansion.

MONITOR – To connect to the Allen & Heath ME personal mixing system or Aviom® A-Net 16 systems.

dSNAKE – To connect to the GLD mixer using a Cat5 digital snake.

AR84 8 Mic/Line in, 4 Line out - Rack mount



EXPANDER – To connect to the Expander port of the AR2412 / AB168, or connect directly to the GLD mixer.

AB168 16 Mic/Line in, 8 Line out - Floor, shelf or rack mount



EXPANDER – To connect to a second AB168 or AR84 for expansion. Also compatible with the Allen & Heath ME personal mixing system.

dSNAKE – To connect to the GLD mixer using a Cat5 digital snake.

GLD accessories

Refer to the Allen & Heath website for information on recommended cable types.

The following accessories are available from Allen & Heath:

AH9650 – 100m drum of EtherFlex Cat5 with locking Neutrik EtherCon connectors

AH9981 – 50m drum of EtherFlex Cat5 with locking Neutrik EtherCon connectors

AH9651 – 20m EtherFlex Cat5 with locking Neutrik EtherCon connectors

LEDLampX – Variable brightness 18" gooseneck lamp with right angled 4-pin XLR connector

AP8806 – black, water repellent polyester soft cover for GLD-80

AP9263 – black, water repellent polyester soft cover for GLD-112

ME Personal Mixing System

GLD Chrome Edition can interface directly with the Allen & Heath ME Personal Mixing System to allow musicians, performers and presenters to control their own monitor mix without using up GLD mix buses.

ME-1 – 40 channel personal mixer



ME-U – 10 ports PoE hub for parallel connection



Refer to the Allen & Heath website for more information.

Compatibility with GLD, iLive and Qu

Shows and Libraries created with older GLD systems can be loaded on a GLD Chrome system. Shows created with GLD Chrome can be loaded on older GLD systems running firmware version V1.5 or later.

GLD and GLD Chrome Edition are not compatible with iLive components, firmware, Libraries or Show files. However, they are compatible with the range of audio networking cards letting you interface easily between GLD and iLive or other systems via ACE, MADI, EtherSound, Waves SoundGrid or Dante.

GLD and GLD Chrome Edition are not compatible with Qu firmware, Libraries or Show files.

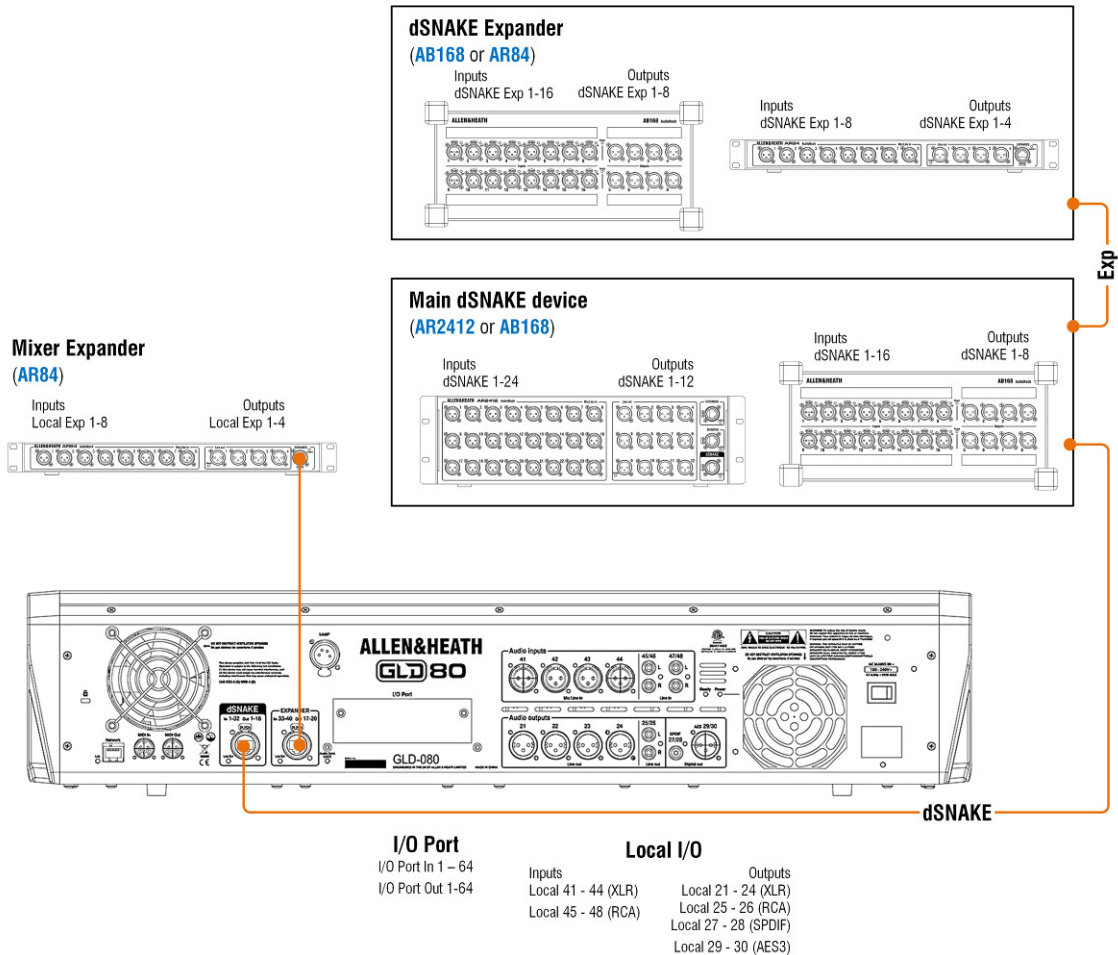
GLD Chrome Edition Key features

- Plug and play components for systems from 4 to 44 mics plus 2 stereo inputs
- Easy to use, quick access, analogue style interface with 8.4" colour touch screen
- 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 mix outputs – assignable mono/stereo Group, Aux, FX, Main, Matrix
- 8 stereo RackFX engines with dedicated return channels – total 56 sources to the mix
- AMM (Automatic Mic Mixer) with up to 44 mic contributions and two modes of operation
- 64 channel I/O audio networking option cards for FoH/Monitor split, recording, link to iLive and more
- 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
- Dedicated keys for quick Copy/Paste/Reset of mixes and processing parameters
- Input, insert and output soft patchbays
- Virtual write-on strip – 8 colour backlight LCD strip display for naming and colour coding
- User assignable SoftKeys
- 16 DCA / Mute groups
- Compatible with the Allen & Heath ME personal mixing system and Aviom® A-Net 16
- USB stereo recording and playback
- Built-in Talkback, RTA display, Signal Generator
- Monitor mode features – Input override output PAFL, engineer's Wedge and IEM strips
- GLD Remote and OneMix iPad apps for wireless mixing and parameter control
- MIDI In/Out and Network ports
- Libraries, Scenes and Show memories
- Scene Filters, Safes, crossfade and embedded Scene function
- 10 User Profiles for restricted operator access
- Get started quickly with Template Shows for classic FOH or Monitor configuration

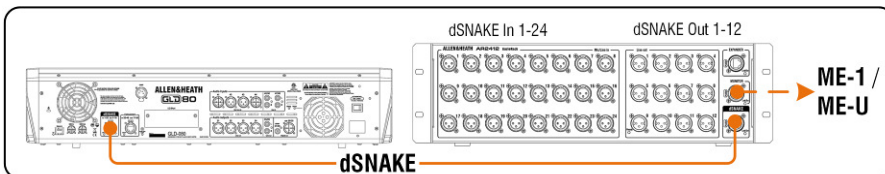
GLD Systems and socket numbering

The dSNAKE port on the GLD-80 or GLD-112 mixer can be connected to a main AR2412 or AB168 AudioRack. The main AudioRack can be expanded by cascading to a second AudioRack (AB168 or AR84). The EXPANDER port on the GLD mixer can only be connected to an AR84.

The diagram below shows the interconnection and socket numbering of the system. Each socket is identified by the device and socket number. Any input socket or source can be patched to any of the 48 channels. Any mix or signal can be patched to any of the output sockets.



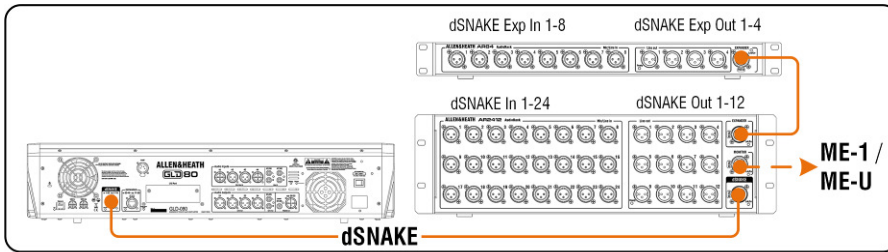
System examples



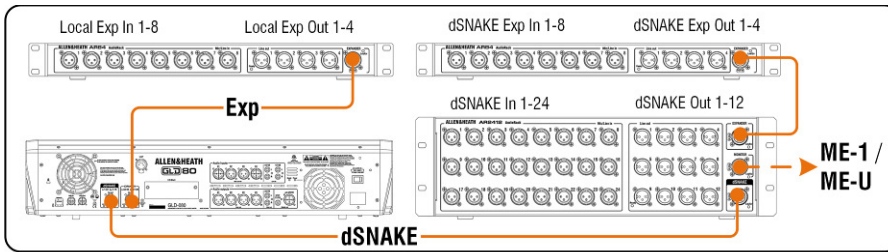
GLD + AR2412
Standard AR system
32 in, 22 out
24 remote mic inputs



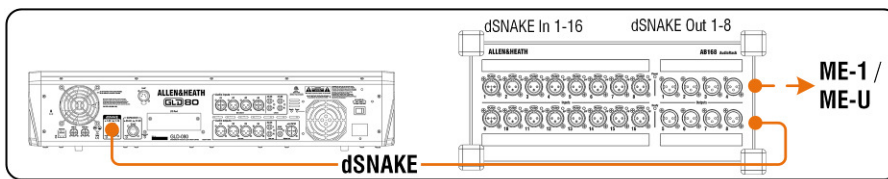
GLD + AR84
Compact AR system
16 in, 14 out
8 remote mic inputs



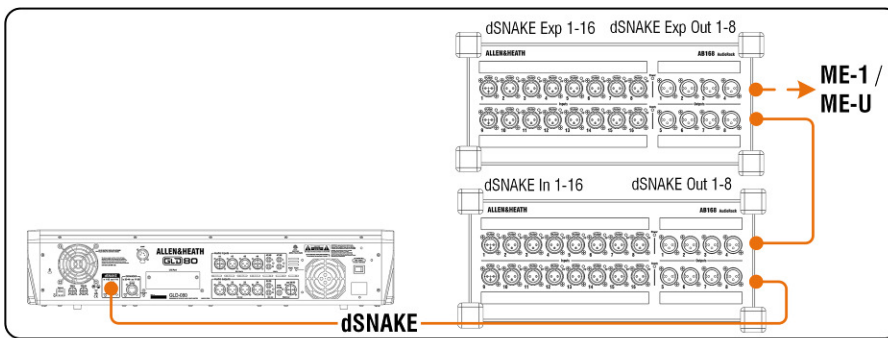
GLD + AR2412 + AR84
 Expanded AR system
 40 in, 26 out
 32 remote mic inputs



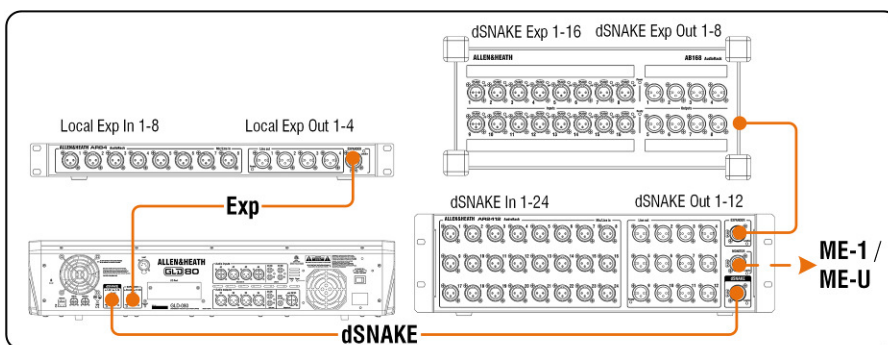
GLD + AR2412 + 2x AR84
 Expanded AR system
 48 in, 30 out
 40 remote mic inputs



GLD + AB168
 Rugged digital stage box
 24 in, 18 out
 16 remote mic inputs



GLD + 2x AB168
 Two digital stage boxes
 40 in, 26 out
 32 remote mic inputs



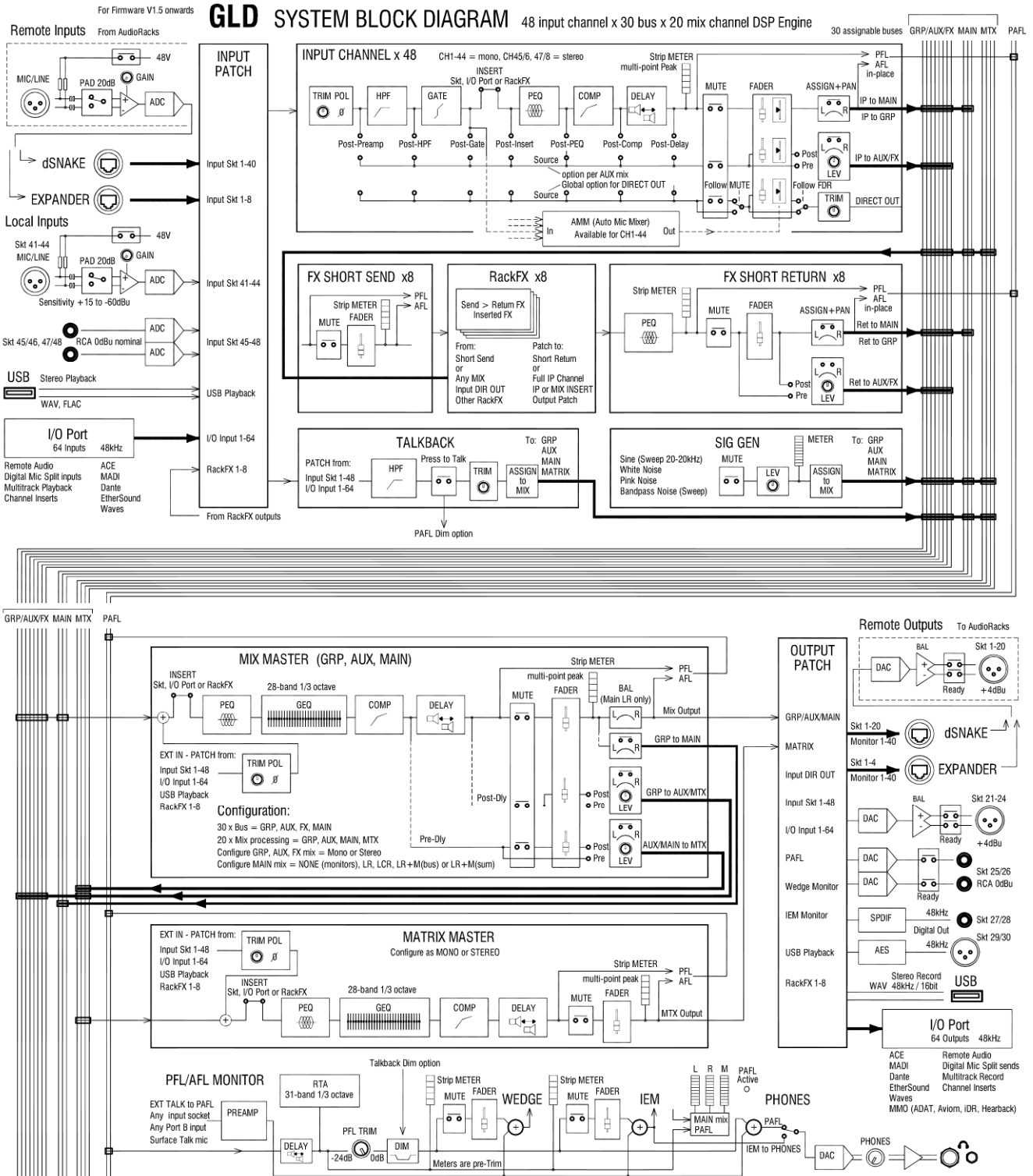
GLD + AR2412 + AB168 + AR84
 Fully expanded AR system
 48 in, 30 out
 48 remote mic inputs

System block diagram

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

The 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 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.



GLD Chrome 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.

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.

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

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.

Fader Banks 2 / 3 groups of motorised faders with 4 layers each (80 control strips on GLD-80, 112 on GLD-112). Provides control of the Input channel, FX return, Mix master, DCA, engineer's Wedge or IEM monitor, or MIDI assigned 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.

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.

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 1/4" 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 User assignable functions using the **Setup / Control** screen.

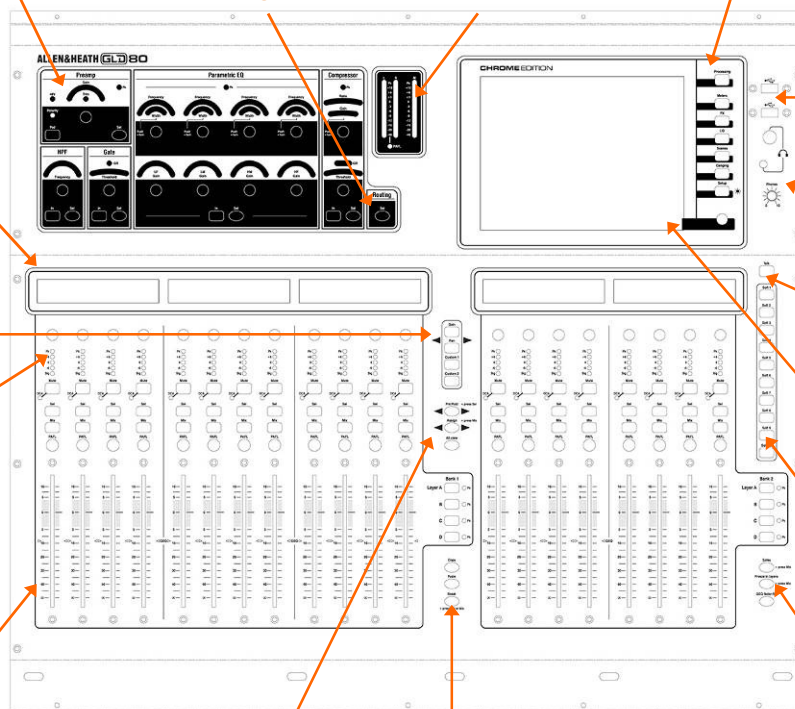
Copy/Paste/Reset Hold down Copy and press any **Sel** or **Mix** key to put its related mix or processing parameters on to the clipboard. Then hold down Paste and press a strip **Sel** or **Mix** key to paste its contents to that channel. Hold Reset and press a key to reset the related parameters to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

Hold Reset and push a **fader** to set it to '0' or off.

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 **Selected** 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 Chrome Mixer rear connectors

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

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.

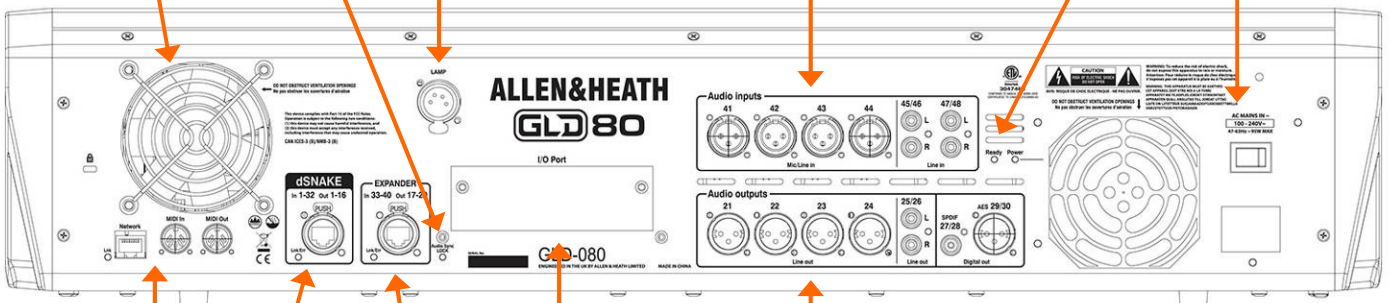
4-pin XLR **Lamp** socket. We recommend the use of the Allen & Heath LEDlamp with built-in dimmer.

Cooling fan. Do not block this opening.

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



Mains power IEC input socket and On/Off switch.



MIDI In/Out

Network Ethernet port for wireless router, GLD Editor or TCP/IP control.

dSNAKE link

This is the mixer link to the main **AR2412** or **AB168** AudioRack. It carries audio inputs and outputs including the sends to the ME-1 personal monitoring system.

Connect using a touring grade Cat5 cable up to 120m (396') long.

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

I/O Port See below

EXPANDER link

You can plug an **AR84** expander in here.

The AR84 can be located near the mixer to provide more local I/O, on stage or at a remote location.

Connect using a touring grade 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.



ADAT
iDR out
Aviom™
Hearback

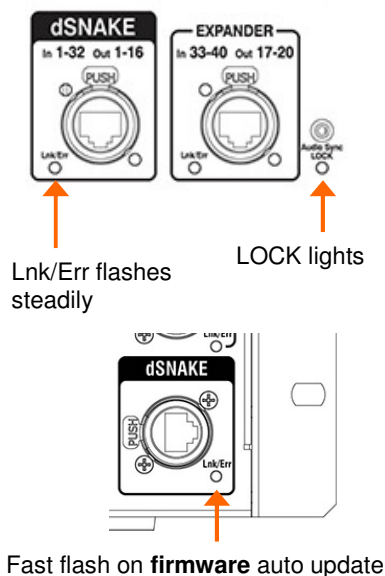
Connect and power up

Connect the main AudioRack Plug a Cat5 cable into the dSNAKE port at the rack and mixer.

Connect the dSNAKE Expander Plug a Cat5 cable into the EXPANDER port of the main AudioRack and the AR84 or AB168.

Connect the Mixer Expander Plug a Cat5 cable into the EXPANDER port at the AR84 rack and mixer.

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.



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

GLD Chrome takes around 40 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 mixer 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.

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.



GLD Editor, iPad apps and wireless router

GLD Editor

GLD Editor is an offline / online tool for setting up and controlling a GLD system from a PC or Mac. It is available free of charge and gives complete wired or wireless control of the mixer. GLD Editor offers the ability to configure the system offline before the show, and control the mix live using a laptop with standard network connection or wi-fi. Different tasks can be performed on Editor and the GLD mixer at the same time.



There are two operating modes:

Offline – Prepare your channel plot and surface layout, edit guest engineer Show files before transferring them to USB key to load into a GLD at the venue.

Online – Editor adds a second ‘virtual’ control surface to the GLD system providing simultaneous control. Editor can connect as either a master (uploads settings to the mixer) or a slave (downloads mixer settings).

iOS apps

GLD Remote and **GLD OneMix** allow wireless control of mixing and processing using one or more iPads. GLD Remote allows simultaneous control of different functions by more than one engineer, for example one engineer controlling the FOH mix at the GLD surface and another controlling monitors on stage using an iPad. GLD OneMix allows personal monitor control for the musicians.



Get the apps Download the app from the Apple Store. You can open it in Demo mode without a GLD connected to get a feel for how it operates and to read the Help Manual within the app.

- Make sure the Apps and GLD firmware versions are compatible. Check the Allen & Heath website for the latest firmware.

The router:

- Good wireless range
- Dual band (2.4 and 5GHz)
- Auto channel select
- Adjustable antennas
- Good security

Choose a router (wireless access point) GLD Chrome apps are professional mixing tools that justify network equipment of suitably high performance, quality and reliability.

For best performance we recommend you choose a dual band wireless router with auto channel selection. Use the more recent 5GHz band in places where there is intense WiFi activity or interference in the more crowded 2.4GHz band. A wireless router with auto channel selection automatically sets itself to an available or least congested channel when you power it up.

Refer to the Allen & Heath website for more information on choosing wireless routers for use with GLD Chrome.

Recommended settings:

GLD (default)
Static IP = 192.168.1.50
Subnet Mask = 255.255.255.0
Router
Router IP = 192.168.1.254
Subnet Mask = 255.255.255.0
DHCP 192.168.1.100 to 200
Security = WPA

Set up the router You will need to connect it to a PC using a wired LAN connection. Follow the instructions provided by the wireless router manufacturer to access its setup menus.

Set the router IP address - This must be compatible with the GLD console which has a default static IP address = 192.168.1.50 and Subnet Mask = 255.255.255.0. Go to the **Setup / Config / Network** screen to check the current GLD settings.

To work with the GLD you must give your wireless router a unique but compatible IP address. Some routers may have a default address that is not compatible and must be changed, for example 192.168.2.1. Some may already be compatible, for example 192.168.1.254.

Set the router DHCP settings - Make sure the router is set for DHCP so that it automatically allocates a compatible IP address to your iPad. To avoid conflict with the GLD static address we recommend you set a router DHCP address allocation range of 192.168.1.100 to 200.

Note You do not need to change the GLD setting to DHCP. The console will work fine with a static IP address as long as it is not within the router DHCP address range.





Set the router security -To prevent other people accessing your Wi-Fi we recommend you enable WPA/WPA2 encryption during router setup. A wireless key (password) will need to be set up.

Make a note of the router SSID. This is the name that the router broadcasts to help identify it in the network list you will see in the iPad Settings Wi-Fi page. If you want you can change the SSID to help you identify it alongside other wireless networks in the area.

After setup, the wireless router can be connected to the Network socket on the rear of the GLD console using a CAT5 cable. Plug this into one of the LAN (not Internet) ports on the rear of the router.

Position the router Make sure it is within the specified range and in line of sight of the iPad where possible. It can help to place it high up to avoid obstacles such as people and equipment. Avoid locating it behind pillars or walls, near metal beams or on top of loudspeakers.

Recall a 'Template Show' as a starting point

GLD Chrome 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. These let you archive and recall the complete configuration and setup. Use Scenes for instant store and recall of band sound checks, theatre cues and different event settings. Scenes are stored within the Show.

A **Show** memory stores the complete GLD setup. This includes:

- Current settings
- Mix configuration
- User preferences
- All Scene memories
- All Libraries

A default show is already loaded when the GLD is shipped from the factory. This is **Template1 LR**. You can load a different Template as your starting point if you wish:



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**.

The Show Manager screen

Touch a Show name to highlight and select it.

Recall the selected Show.

Store a new User Show. This opens the keypad. Type in and Apply a name for the Show.

Template Shows
Shown with a red icon. These cannot be deleted.

User Shows
Shown with a green icon.

Overwrite, Delete or Rename an existing User Show.

Info shows details on file size and when the highlighted Show was last modified.

USB Shows
Shown with a blue icon.

Copy Shows from the USB key to the GLD, or from the GLD to USB.

These controls become available when a USB key is plugged in and is recognised.

Template Show settings

There are three Template Shows available as a starting point for classic FOH and monitor mixing applications.

Template1 LR	Stereo main mix. Use for FOH or mixing monitors from FOH.
Template2 LRM	3-way main mix with separate Mono bus for centre or fill speaker
Template3 Mon	Dedicated monitor mixer with 6 wedge and 6 stereo IEM mixes

These have the following common settings:

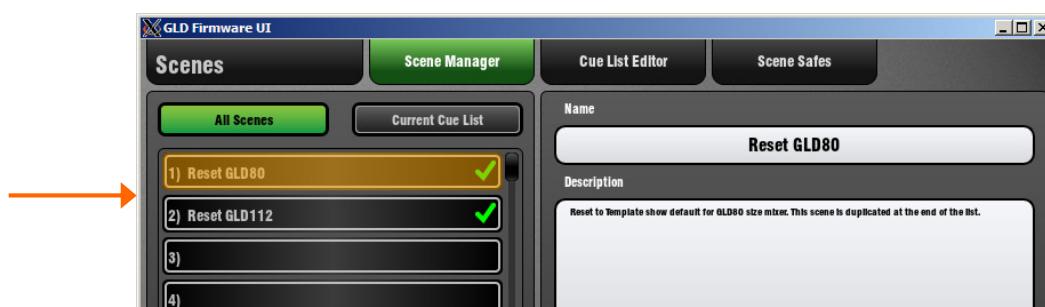
- SoftKey assignments are Scene Safe
- SoftKeys 1-8 = DCA mute 1-8
- SoftKey 9 = PAFL Clear All
- SoftKey 10 = FX4 tap tempo (FOH only)
- SoftKey 11-12 = Unassigned • Scene Confirmation = On
- Global Direct Out = post-delay, pre-fade, post-mute (ready for ME-1 personal mixer sends)
- Monitor Port = ME-1 mode
- I/O Port out = input socket 1-48
- PEQ = 20-20kHz, Curve Fill = On
- Talkback = Momentary, Dim off
- Template1 and 2 FOH - Auxes are post-PEQ, pre-fade
- Template3 Mon - Auxes are post-fade
- FX mixes are post-fade (effects)
- USB playback assigned to CH47/48
- USB recording from LR via stereo Matrix1
- Scene 1 and 499 (backup) = 'Reset GLD-80' (Template default)
- Scene 2 and 500 (backup) = 'Reset GLD-112' (Template default)
- Scene 498 = 'Reset MIDI Strips' (restores default MIDI Strip message settings)

The Template Show 'Board Reset' Scene Each Template Show provides two 'Reset' scenes in position 1 and 2. These reset the GLD-80 or GLD-112 mixer settings to the starting point default for the loaded Template Show. These Board Reset Scenes are duplicated in positions 499 and 500 at the end of the list.

Use this Scene to instantly reset parameters without affecting the mix configuration, user preferences or the other Scenes. You can edit its Recall Filter to protect parameters you do not wish to reset. For example, you could set the filter to protect the patchbay and master strip assignments in a festival situation.

- You can also set Scene Safes to protect selected parameters for all Scenes, for example the patchbay, or SoftKeys.

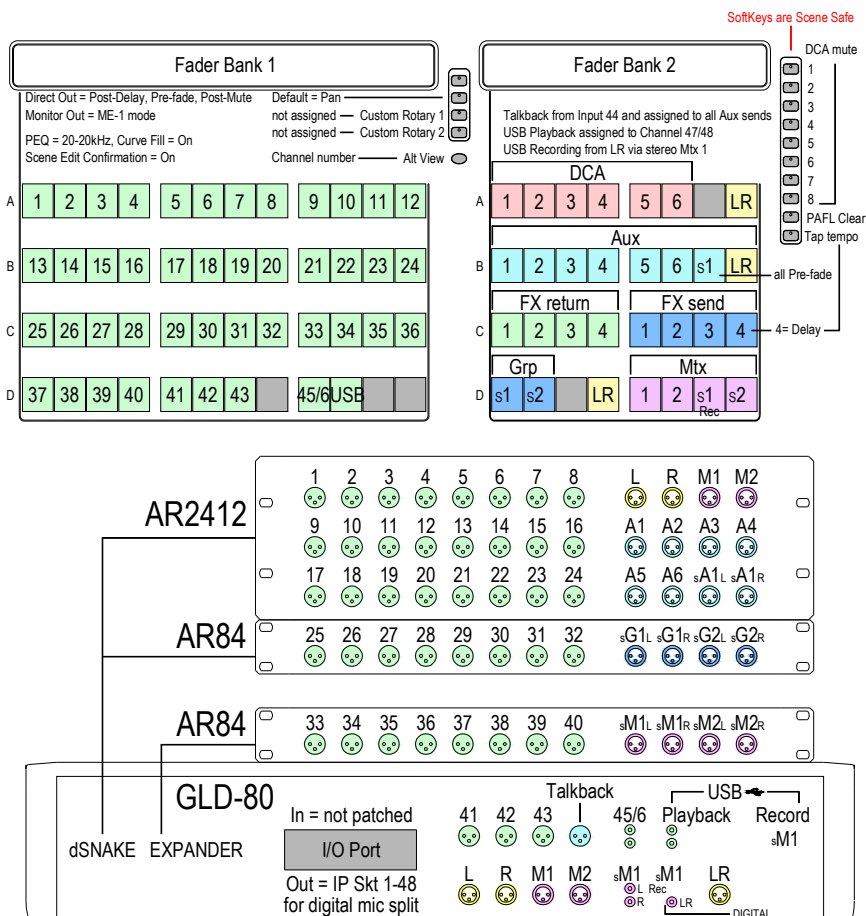
When creating your own User Show from a Template Show you can choose to overwrite the Scene 1 and 2 contents with your preferred settings, rename them, write in a description, set their Recall Filters to reset selected parameters only, or simply delete them. You can still access the default reset using Scene 499 or 500 if needed.

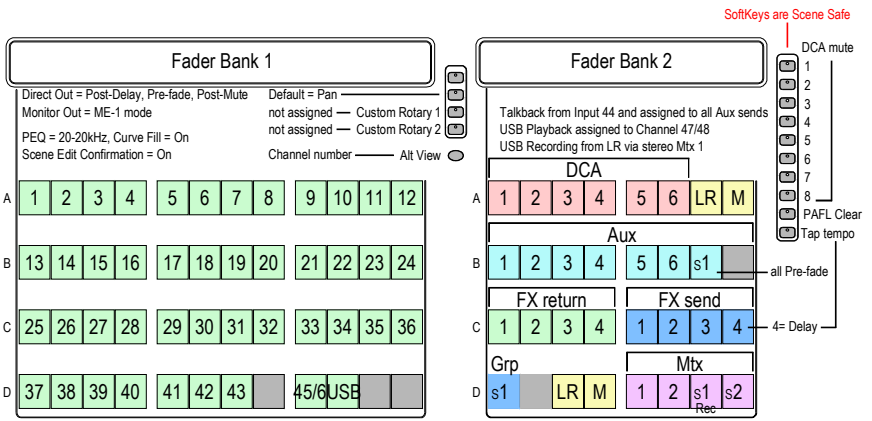


Template1 LR

This Template configures a traditional architecture and layout with stereo LR main mix for mixing FOH and Monitors from FOH. This is the factory default Show loaded.

LR stereo main mix	The Front-of-House main mix using a single master fader.
4 Groups (2 stereo)	For example, use these to EQ or compress groups of inputs such as drums, backing vocal or radio mics, or to send to a Matrix to create a different balance in fill speakers, or to group several inputs to record to mono or stereo tracks.
8 Auxes (6 mono, 1 stereo)	Typically used for monitor sends such as wedge speakers and stereo in-ear systems.
8 FX (4 assigned to strips)	3 reverb and a delay effect are assigned to the faders. 4 more effects send and returns can be assigned or inserted into channels or mixes.
6 Matrix (2 mono, 2 stereo)	Ready for use as additional speaker sends such as delay fills and remote zones, or for separately controlled recording, broadcast and video feeds.
Recording from stereo Matrix 1	Set up ready to feed a stereo recording sourced from the main LR mix. Its send and master are turned up. Its output is patched to analogue and Spdif connections on the rear panel. It is also patched as the source to the USB stereo recorder.
16 DCA / Mute groups	Use these for muting and controlling the levels of groups of signals such as drums, vocals and effects. 6 DCA masters are assigned to the faders. You can assign more as required.
Talkback using mic socket 44	Rear panel mic input 44 is patched as the Talkback source. For this reason CH44 is not assigned to the LR mix. You can assign it to LR if you are not using talkback.
USB playback to CH47/48	Playback from the USB key is patched to a stereo channel.





Template2 LRM (also use for LCR)

This Template configures stereo LR plus Mono bus for working with a 3-way FOH mix.

You can change the type of 3-way Main mix from LR+M (switched bus) to LR+M (mono sum of LR) or LCR using the **Setup / Config / Mixer Config** screen.

LR + Mono (switched bus) main mix
2 Groups (1 stereo)

8 Auxes (6 mono, 1 stereo)

8 FX (4 assigned to strips)

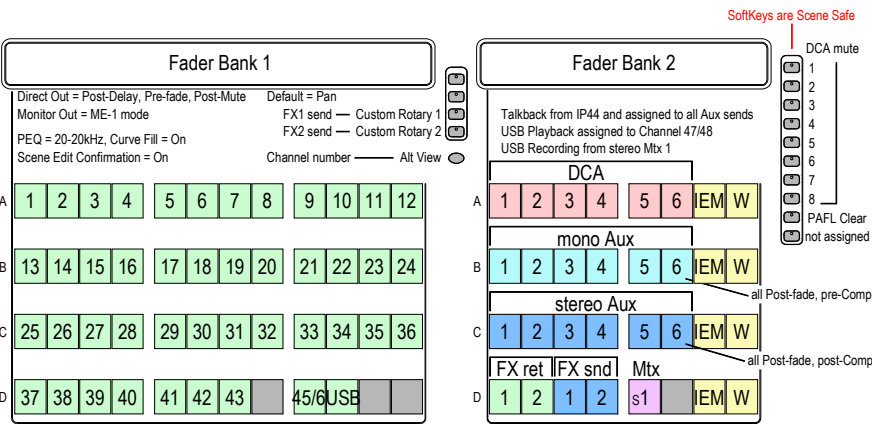
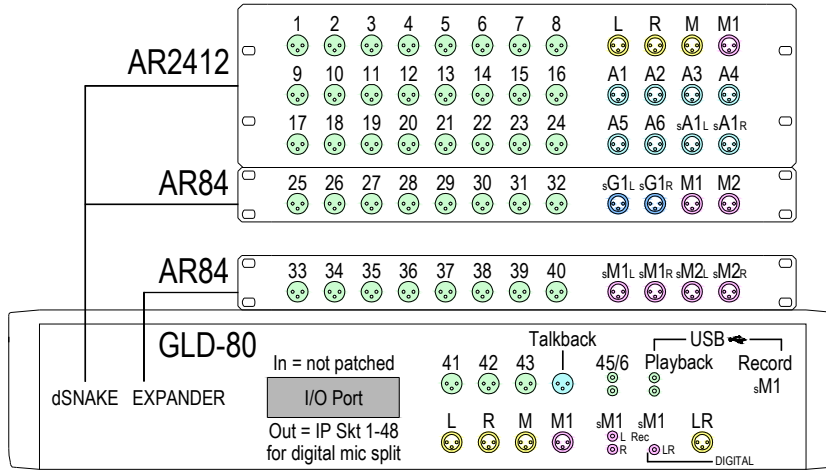
6 Matrix (2 mono, 2 stereo)

16 DCA / Mute groups

Talkback using mic socket 44

USB playback to CH47/48

Recording from stereo Matrix 1



Template3 Mon

This Template configures the GLD as a dedicated monitor console with 18 mixes:

6 mono mixes (wedges, fills)

6 stereo mixes (IEM)

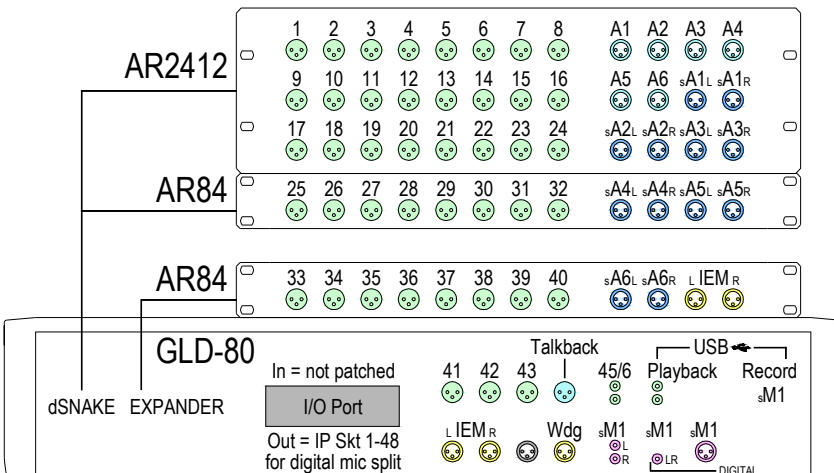
Auto switching engineer's Wedge/IEM

8 FX (2 assigned to strips)

Talkback using mic socket 44

USB playback to CH47/48

Recording from stereo Matrix 1



The engineer's IEM/Wedge monitor is configured so that pressing a mono Aux (wedge) mix PAFL key will automatically mute the engineer's stereo IEM monitor. Pressing a stereo Aux (IEM) mix PAFL key will mute the engineer's Wedge monitor.

A few things to know before starting

Before working with GLD Chrome familiarise yourself with its control layout and operating principles.

The Touch Screen

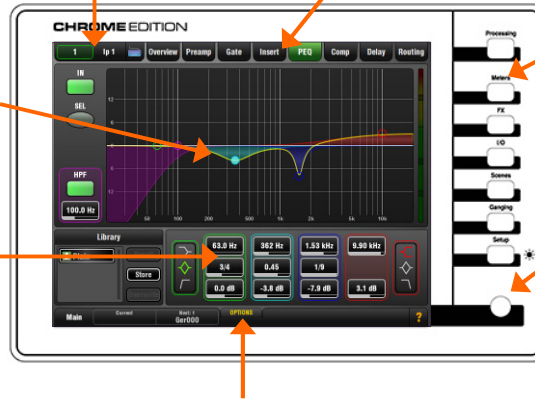
Screen **graph view** for PEQ and dynamics:

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:

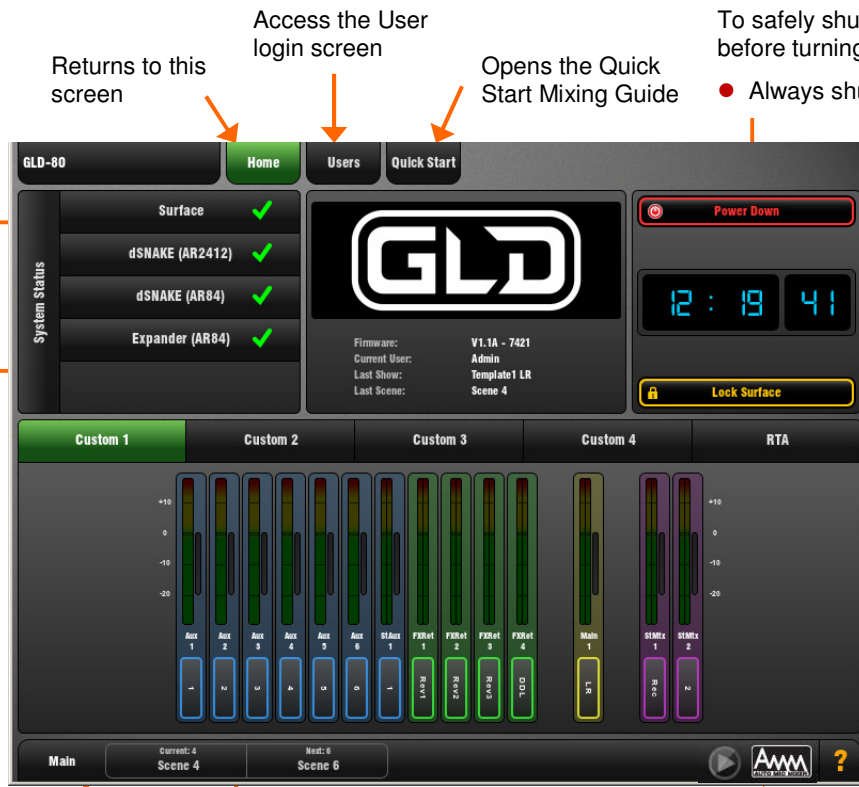
Touch a parameter on the screen to highlight it, then turn the rotary to adjust its value.

- Processing
- Meters
- FX
- I/O
- Scenes
- Ganging
- Setup

Pull-up 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.

The last Scene recalled and the Scene highlighted in the Scene list ready to be recalled are displayed here.

Shows which **Mix** is currently selected.

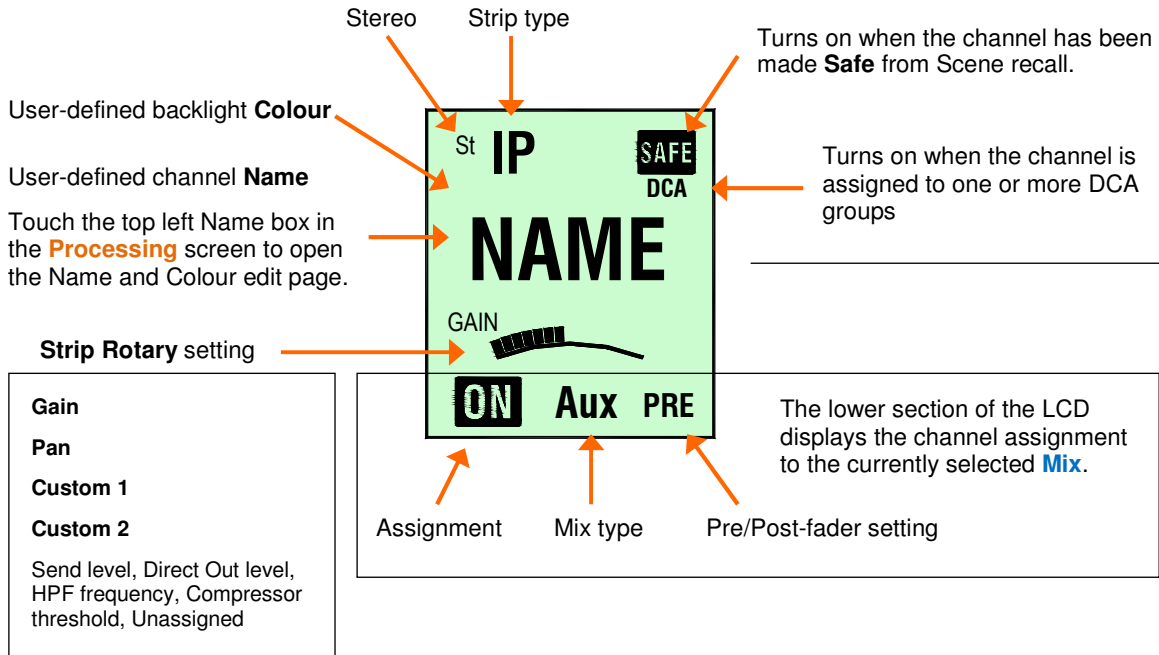
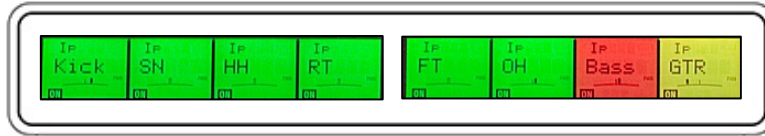
● Look here to check that you are on the correct mix. For example, remember to turn off an Aux **Mix** key to return to the **Main** (LR) mix after adjusting a monitor level.

Shows USB playback and recording status. Touch to open the **USB Audio** screen.

Also shows if one or more channels are assigned to the Automatic Mic Mixer. Touch to open the **AMM Setup** page.

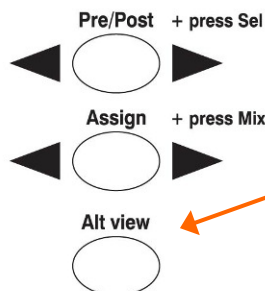
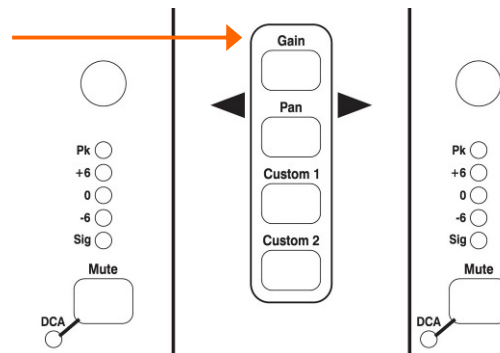
The strip LCD display

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.



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

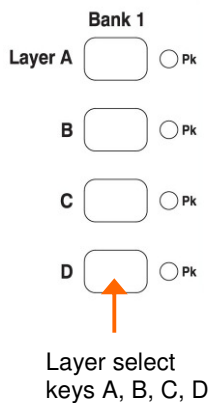
- Check that you have selected the correct function when working with the rotary controls.



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



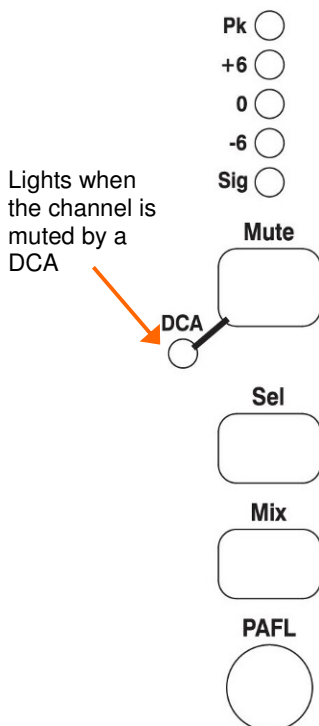
The GLD-80 mixer has 2 independent Fader Banks, one with 12 fader strips, the other with 8 fader strips. The GLD-112 has 3 Fader banks with 12, 8 and 8 faders. Each Bank has 4 Layers. This means that the GLD-80 can work with up to 80 fader control strips and the GLD-112 with up to 112 strips.

Any strip can be assigned as an Input channel, Mix master, FX send master, FX Return, engineer's Wedge or IEM master, DCA master or MIDI strip 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.

The Fader Strip keys

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



Meter Displays audio signal activity for the channel or mix master. Input channel metering is post-processing, pre-fader. Mix master metering is post-fader, post-mute so you can check the signal present at the output. The red PK! indicator lights to warn that the signal is within 5dB of clipping. It is multi-point sensing which means it detects peak activity at several points in the signal chain and can therefore keep a check on signal activity throughout the channel path.

Note: If the top red LED lights before the rest of the meter, or while the channel fader is down, this means that the signal is peaking earlier in the channel path. Press **Sel** to open up the channel processing and check signal activity.

Note: GLD meters are fast response digital absolute peak meters. This ensures you keep control and avoid digital clipping of signals including those with very fast dynamics. It does mean the GLD meters may read hotter than those on other consoles you are used to. It is perfectly ok to work with meters reading well into the yellow, but back the level off if the red PK! LED flashes.

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.

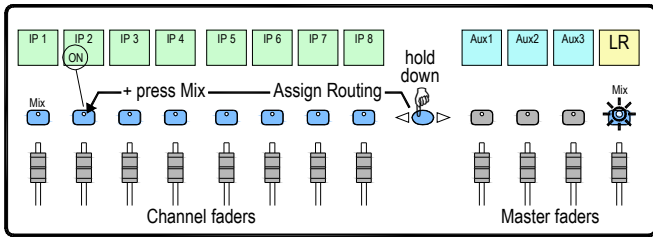
- Be aware of which Mix is currently selected. For example, when you have finished adjusting an Aux send, press its **Mix** key again to turn it off and return to the main mix. The currently selected mix is displayed in the lower left screen toolbar.

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)

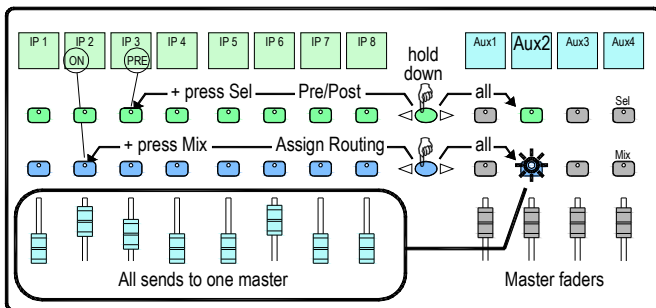


Press a Main Mix master strip **Mix** key.

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



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

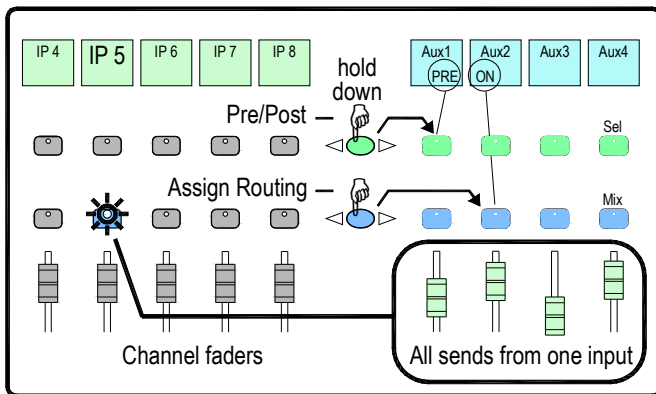
Use this to work with Aux and FX sends. The Input strips change to present all the send levels to the selected mix. The Master strips present the master mix faders.

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



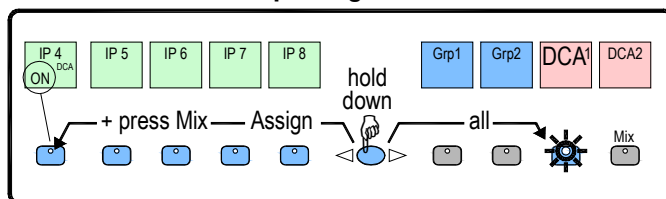
Press an Input Channel strip **Mix** key.

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.

Working with Scenes

GLD Chrome has 500 Scene memories. These are 'snapshots' of the live mixing parameters. They store all current mix settings but not the bus configuration and user preferences. Use **Scenes** to store parameter changes you want to recall instantly, for example cues during a theatre production or sound checked bands during a music show. Use **Shows** to store and archive the complete GLD setup including its bus configuration, user preferences and all Scene memories.

A Scene **stores all parameter settings**. A **Recall Filter** is available for each Scene to let you choose which parameters to recall. For example, work with just the channel fader levels and mutes for a range of Scenes, or change an EQ on one channel using a Scene. You can **name** Scenes, add a **description**, **copy and paste** their settings to other Scenes, **delete** their contents, and create **Cue Lists** from selected Scenes arranged in any order and repeated any number of times.

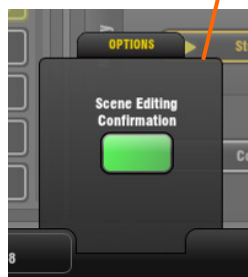
Global **Scene Safes** can be set to protect selected parameters being overwritten by the Scene system. These can be set using the **Scene Safes** screen. You can also fully protect a channel or master from Scene recall by pressing the **Safes** key together its strip **Mix** key. For example, to protect background music and continuity announcement while a band sound check is recalled.

Refer to the **GLD Touch Screen Reference Guide** for more information on using Scenes and the other functions accessed via the screen.

Annotations for the Scenes interface:

- Display the full list of 500 Scenes. (Points to 'All Scenes' button)
- Display a **Cue List** of selected Scenes. (Points to 'Current Cue List' button)
- Create, name, save and load Cue Lists using this screen. (Points to 'Cue List Editor' tab)
- Choose to make select parameters globally Recall **Safe** using this screen. (Points to 'Scene Safes' tab)
- Touch to open the keypad and **name** the Scene. (Points to 'Name' input field)
- Set a crossfade time to affect faders, send levels and pan. (Points to 'Crossfade Time' field)
- Type in a **description** for the Scene. (Points to 'Description' text area)
- Touch to **recall** the selected Scene. (Points to 'Recall' button)
- Touch to view and edit the **Recall Filter** for the selected Scene (Points to 'Recall Filter' button)
- Delete** the selected Scene. (Points to 'Delete' button)
- Store** the current settings to the selected Scene. This will overwrite existing Scene settings. (Points to 'Store' button)
- Embedded Scene Recall function (refer to the Help manual). (Points to 'Embedded Recall' button)
- Touch to **Copy** the currently selected Scene ready to be pasted to one or more other Scene positions. This copies the Scene contents but not its name. (Points to 'Copy' button)
- Highlight a Scene in the list then touch **Paste** to overwrite its contents with those of the copied Scene. It also copies the settings of the Recall Filter. (Points to 'Paste' button)
- You can paste one Scene to multiple positions in the list. (Points to 'Copy' and 'Paste' buttons)
- Touch **OPTIONS** to turn the Scene Editing Confirmation option on or off. This affects Scene Store, Recall, Delete and Copy using the Scene Manager page. (Points to 'OPTIONS' button)

The last Scene recalled and the Scene highlighted in the list ready to be recalled are displayed in the status bar. When the Scene is recalled its name briefly flashes green to confirm the action.

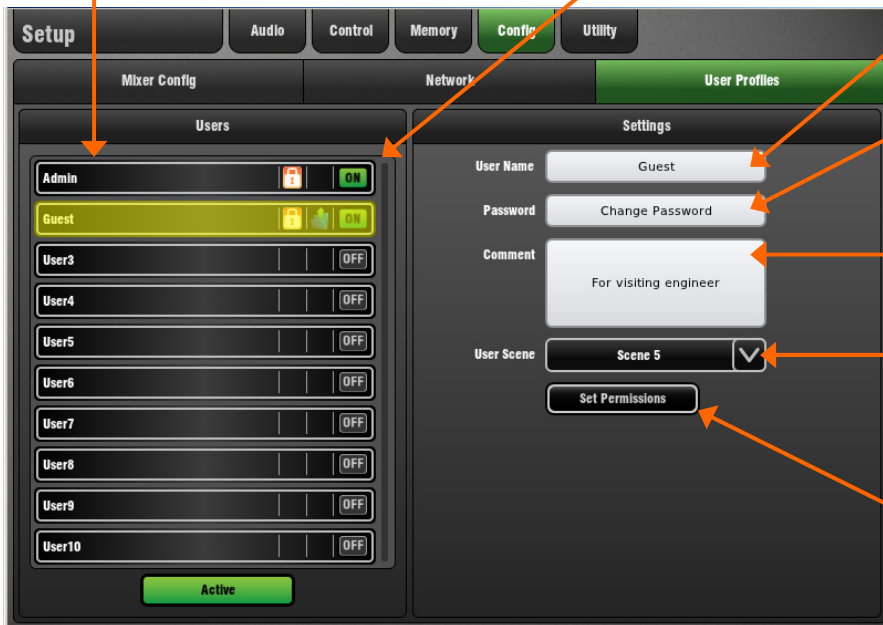


User Profiles

GLD Chrome lets you set up and work with up to 10 'User Profiles' including an Administrator and 9 Users. You can set permissions and a password to restrict operator access to certain functions.

The **User List**. 'Admin' has access to all functions and can set permissions and allocate passwords if required for the other users. Up to 9 guest users may be configured and activated.

Icons show if a User is **ON** (active), has a **password** set, or has a **User Scene** set.



Touch to open the keypad and Apply a **name** for the selected User.

Touch to set or change the **password**. This is entered twice to avoid errors.

You can add a **comment** to display here and on the Login screen. For example, provide details about or instructions for each user.

You can choose a **User Scene** which will recall when a different user with a Scene set logs in. This does not recall when the same user logs in. Choose 'No Scene' if none is required.

Touch to open the **Set Permissions** page. Here you can enable or disable any combination of functions to restrict how much control and access you give each User.

Refer to the [GLD Touch Screen Reference Guide](#) for more information on using User Profiles and setting their Permissions.



Category tabs group the different types of user permissions available.

List of permissions for the selected category show if they are enabled (ON) or disabled (OFF).

A **description** of the parameters affected for the highlighted permission is shown here.

Touch to **enable or disable** the highlighted permission.

Touch **Apply** to save your changes or **Cancel** to return to the User Profile page without saving.



To log in as a different user Go to the **Home / Users** screen and select a User. Touch **Login**. The User can also be changed from the GLD power up Login screen which appears when a password is set for the current user.

If a **password** has been set then you are prompted to enter it when you log in, turn the system on, or lock and unlock the Surface.

If a **User Scene** has been set then this will be recalled, but only if you are logging in as a different user.

USB Recording and Playback

Play back stereo audio tracks from a USB key and record any pair of GLD sources on to the key.



Audio file list shows the tracks available to play back.

Playback controls and information about the currently selected track.

Patching information and shortcut to **I/O** screen.

Recording control to start/stop the recording. Opens the screen keypad to apply a name before the recording starts.

OPTIONS pull-up to choose which audio files to show in the list and select single, repeat or continuous playback.

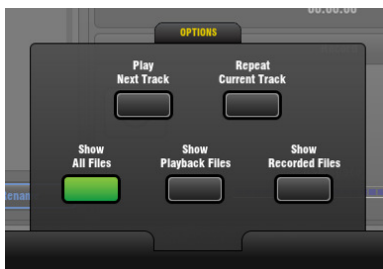
Playback/Recording status shown here. You can touch this while in any screen to open the **USB Audio** screen.

Playback – GLD Chrome can play back stereo WAV or FLAC files at 44.1 or 48kHz.

To assign USB playback to an Input Channel – Patch USB Playback to input channels using the **I/O / Surface screen** or the channel **Preamp** screen. USB playback is assigned to Ch 47/48 in the factory Template Shows.

To select a track to play back - Plug in a USB key with the audio files you wish to play back. Set the **OPTIONS** in the pull-up. Scroll through the list and touch to highlight a track. Information on the track including file path, size and date is displayed.

To start the playback - Use the transport buttons to **Play**, **Pause**, **Stop** and select **Next** or **Previous** track. A blue arrow in the lower toolbar in all screens shows a track is playing.



Open the **OPTIONS** pull-up to set playback options:

Play Next Track - Single or continuous playback.

Repeat Current Track - Continuously play a single track,

Show All Files – List all audio files in all directories found on the USB key,

Show Playback Files – List audio files found in the USBPlayback sub directory only.

Show Recorded Files –List audio files found in the USBRecord sub directory only.

Recording – Format = WAV files at 48kHz.

Recording time – Maximum recommended recording time for one track = 3 hours. Memory required = 188KB/sec. Therefore allow:

- 11.5MB per minute
- 700MB per hour

To assign a recording source – Use the **IO / Surface** screen. For example, record the main mix, a stereo group, aux or matrix, or two independent mono signals. USB recording is fed from Stereo Matrix1 in the factory Template Shows.

Check recording level – If you are using a source other than the Main mix, for example a stereo Matrix, then check that the send level to the source and its master fader are turned up. Check that there is signal displayed on the source meter.

To start the recording - Touch the **Record** button. This opens the name keypad. The default date/time name can be overwritten using the keypad. Default example = 15_Apr_18.23.26.wav

Touch **Apply** to start the recording. The elapsed time and remaining time available on the USB key is shown. A red circle in the status bar in all screens indicates that the GLD is recording to the key.

To stop the recording – Touch the **Record** button again.

USB Folders

The **AllenHeathGLD / USBRecord** directory is automatically created on your USB key when you start a recording.

The **AllenHeathGLD / USBPlayback** directory is automatically created when you select the Show Playback Files pull-up option. Or you can create it manually using your computer and add the files you wish to play back.

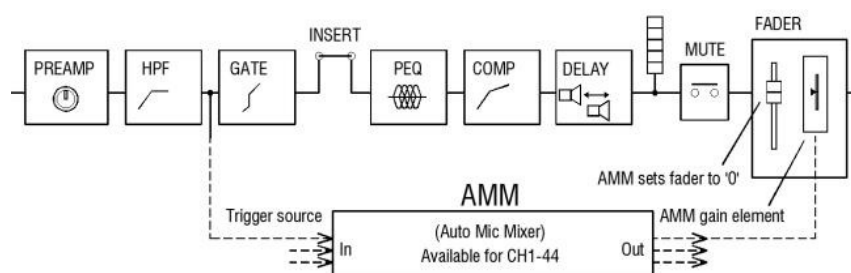
Working with the AMM (Automatic Mic Mixer)

The Automatic Mic Mixer (AMM) provides automatic level control of multiple microphones for spoken word applications such as conferences and discussion panels involving several participants each with their own mic around a table. This improves intelligibility and can reduce the risk of feedback by reducing the levels of mics which are not being spoken into. Once set, the AMM needs little or no change at all whilst still allowing the engineer to maintain absolute control of the mix.

Note The AMM is intended for speech applications not music.

Operating Principles

The AMM works by automatically reducing the mix level proportional to the microphone activity at any time. It adds an automatic gain element and derives a trigger source within each assigned channel. The following diagram shows the signal flow through each input channel:



The AMM takes control by first setting each assigned channel fader to '0' (0dB unity gain), thus effectively passing the signal unaffected through the fader, and then using its own post-fade gain element to make its automatic adjustments. It is typical to leave the faders at '0', but they can be adjusted if the engineer wishes to make additional post AMM level changes manually to adjust the relative balance between mics in the mix.

The AMM affects all channel post-fade sends but not pre-fade sends such as monitors.

The AMM determines when microphones are open (detects a level or speech) by analysing the channel signals at their pre-Insert point. The PEQ, Comp and fader do not affect AMM signal detection.

The AMM uses a complex algorithm to automatically optimise the overall gain by adjusting the microphone levels sent to the mix according to how many mics are open.

If just one mic is open then its level is passed through at 0dB and the others are attenuated. If several mics are open the overall gain is automatically reduced.

Additional features allow ambience to be maintained, crosstalk and false triggers to be eliminated, and microphones to be selected as 'Chair' to take priority over others by ducking their levels.

The AMM is assigned and set up using the **Setup / Audio / AMM** screen. This displays the current mode and assignments as well as blue bars showing the automatic gain settings.

Once channels are assigned, the screen lower right toolbar presents an AMM button to give you quick access to the AMM page from any other screen. Touch the button to open the page.



You can choose one of two operating modes using the **Setup** page:

NOM Mode



NOM (Number of Open Mics) mode evolved from the AMM developed for the Allen & Heath IDR8 installed sound processor, NOM mode acts as a gate, turning an input on when a threshold is passed. The level adjustment for each open input is equal and depends on the number of microphones open and the NOM attenuation parameter which sets the amount of attenuation applied for every doubling of open microphones.

Adaptive Threshold - You do not need to set the open mic threshold. NOM mode senses the background ambient noise level and automatically adjusts the open threshold level to ensure consistent triggering regardless of background noise.

Ambience Maintenance - Keeps the last open microphone locked on until another channel is opened to ensure consistent ambient noise is maintained, especially important in a broadcast environment. If just one microphone is active in the AMM then it is held open to maintain ambience.

ON - Any combination of mono channels 1-44 can be assigned to the AMM. Stereo channels cannot be assigned to the AMM. When switched to 'ON' the AMM sets the channel fader to '0' and then takes automatic control using its own gain element just after each fader.

Chair Priority - You can set a channel as 'Chair' to give it higher priority over the other channels, for example to let a chairman override another speaker. The Chair mic sensitivity and the amount that other channels are automatically ducked when the Chair is open can be set.

Best Mic On - This option ensures a single participant activates the one microphone receiving the strongest signal. This can prevent crosstalk, phasing and ambience issues caused by multiple microphones triggering for the same voice. The Chair mic is not part of the Best Mic On calculation.

Note We recommend you only select Best Mic On if all microphones involved are the same type and have similar positioning and gain.

Solo - Each input has a solo option which opens the selected channel and turns all others down. This is not additive. Only one channel can be soloed at a time.

NOM Setup:



Side Chain Filter - Set High Pass and Low Pass filters to cut off frequencies below and above the normal speech range that may cause false triggering of the mics.

Off Attenuation - Set the amount of shutoff for closed mics (from -10dB to fully off).

On Hold Time - Set the amount of time an open mic is held open once the trigger is removed (from 100ms to 5 seconds). The Chair mic is not affected by Hold Time.

NOM Attenuation - Set the amount of attenuation applied per doubling of open mics (from 3 to 6dB).

Chair Sensitivity - Set the sensitivity of signal required to trigger a Chair mic open and therefore duck the other mics (from 1 to 10 = least to most sensitive).

Chair Duck Level - Set the amount of attenuation applied to other mics when a Chair mic is open (from -3 to -40dB).

D-Classic Mode

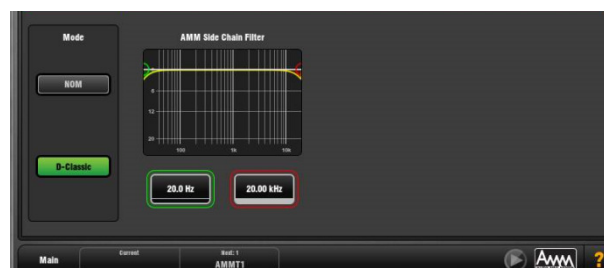


Unlike NOM mode which uses gating and fixed gain attenuation, D-Classic uses a 'constant gain sharing' algorithm to dynamically adjust the gain for each mic proportional to its input level. Louder signals will receive more gain in the mix.

Priority Level - For each channel you can set a priority 'level' which will offset the amount of gain going into the mix calculation and therefore give a higher or lower artificial gain to that channel. This is a variable slider with a range from -15dB (low priority) through 0dB (no offset) in the middle to +15dB (high priority) at the top.

ON - Any combination of mono channels 1-44 can be assigned to the AMM. Stereo channels cannot be assigned to the AMM. When switched to 'ON' the AMM sets the channel fader to '0' and then takes automatic control using its own gain element just after each fader.

D-Classic Setup:



Side Chain Filter - Set High Pass and Low Pass filters to cut off frequencies below and above the normal speech range that may cause false triggering of the mics.

D-Classic does not provide Best Mic On, Solo, Chair or other setup functions.

Scenes and the AMM

AMM settings are stored in GLD Scenes. However, these can be made globally safe from Scene recall using the Scenes / Scene Safes screen 'Others' tab. They can also be filtered out of individual Scene recall by highlighting a Scene in the list, touching its Recall Filter button to access its filter 'Others' tab and blocking the AMM item.

User Permissions and the AMM

AMM settings can be protected from selected users by disabling the 'AMM' item in the **Setup / Config User Profiles** screen Permissions page Setup tab.

Using the AMM

Set up and position the microphones. It is best to use the same type of microphone and position them so that the participants are not too close or too far from each. To avoid false triggering and phasing the distance from each voice to its mic should be closer than the distance between the mics. The distances from each mic to voice should be similar for consistent operation.

Set up an Audio or DCA Group for master control. Decide which mic channels to use for the AMM. Before assigning to the AMM we recommend you either route these via an audio Group to the LR mix (remember to also unassign these channels from the LR mix), or assign a DCA Group to them. This gives you a master fader and mute for quick overall control.

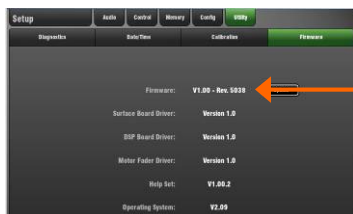
Set the mic gain and processing. It is best to start with the Group master fader down to avoid unexpected high levels in the PA while setting the gains. Use PAFL to check audio level and quality. Set gain for the loudest speech expected. Use the HPF and PEQ to tailor the sound for speech.

Set up the AMM. Use the Setup / Audio / AMM screen. This displays the current mode and assignments as well as blue bars showing the automatic gain settings. Touch the Setup button to choose NOM or D-Classic mode and adjust the available settings.

Assign the channels to the AMM. When you turn an assignment ON its fader will automatically move to its '0' position. The AMM takes over and keeps the mic closed until it picks up enough signal to trigger it.

Bring up the AMM in the mix. Turn one mic on by having someone talk into it. Raise the Group fader to set the required volume in the room.

How to Update the GLD Chrome Firmware



Go to the **Setup / Utility / Firmware** screen to check the current firmware version of running on the GLD. Go to www.allen-heath.com to check the latest version of GLD firmware available for download.

We recommend you check the Allen & Heath web site regularly and keep your console updated with the latest firmware.

Note 1: Use a USB key with at least **40 MB** of free space. Delete any existing GLD Firmware on the key as described below.

Note 2: The firmware **file transfer must not be interrupted**. Failure to complete the transfer may result in firmware corruption of the GLD. Make sure the mains power and connecting cables are reliable and that the system will not be disturbed or switched off during the update.

Note 3: **Updating firmware restores the console parameters to factory default.** If you want to keep your current settings then go to the **Setup / Memory / Show Manager** screen and store them as a **Show** memory before starting the update. Recall the show after you have updated your firmware.

Note 4: After updating the firmware you may need to **re-calibrate the touch screen and faders**. Do this using the **Setup / Utility / Calibration** screen.

Firmware update instructions for Windows:

Step1 Download the firmware

Visit www.allen-heath.com and download the latest GLD firmware. **Save** the zipped file to your Desktop or folder of your choice. You may also wish to keep a copy of this zip file as a backup of this version of firmware.

Step2 Remove any previous GLD Firmware from your USB key

Plug a USB key into your computer. If you have previous GLD firmware already on your key, look in its **AllenHeathGLD** folder and delete the existing **Firmware** directory and also the **Firmware.md5** file in the **AllenHeathGLD** folder. Do not delete the other directories.

Step3 Open and extract the Zip file to your USB key

Open up the zip file you have just downloaded. Extract all files to the **root** directory of your USB key. Once the extraction is complete check that a new **Firmware** directory has appeared under the **AllenHeathGLD** folder on your USB key. You may need to refresh the **AllenHeathGLD** folder to see this.

Note: Do not change the folder name or browse inside the **Firmware** folder as doing this may cause firmware corruption. Attempting to navigate or open files within this directory may cause your Operating System to leave behind temporary files which can invalidate your firmware.

Step4 Safely remove the USB key from your computer

Click on the 'safely remove hardware' icon, in the bottom right of your screen to safely remove your USB key.

Step5 Plug the key into a USB port on the GLD

Plug your USB key into either one of the USB ports on the GLD-80. Go to the **Setup / Utility / Firmware** screen and touch **Update**. This will then detect your USB key and validate the firmware contents.

Step6 Perform the update

Touch the **Update** button. **Do not interrupt this process**. When the firmware has been successfully installed, touch the **Reboot** button. The GLD will reboot with the new firmware installed. Any AudioRacks currently connected or connected later to the GLD-80 will have their firmware automatically updated by the GLD-80 during their boot process.

Step7 Recall your settings

Recall a Template Show or the User Show you saved before the update to restore your settings.

Firmware update instructions for Mac:

Step1 Download the firmware

Visit www.allen-heath.com and download the latest GLD firmware. **Save** the zipped file to your Desktop or folder of your choice. You may also wish to keep a copy of this zip file as a backup of this version of firmware.

Step2 Remove any previous GLD Firmware from your USB key

Plug a USB key into your computer. If you have previous GLD firmware already on your key, look in its [AllenHeathGLD](#) folder and delete the existing [Firmware](#) directory and also the [Firmware.md5](#) file in the [AllenHeathGLD](#) folder. Do not delete the other directories.

Step3 Extract the Zip file and copy the folder to your USB key

Navigate to where you have saved the GLD firmware zip file. Double click on the zip file to extract its contents (this may have automatically been done for you). You will now see a folder called [AllenHeathGLD](#). Copy this folder to the **root** directory of the USB key.

Check that a new [Firmware](#) directory has appeared under the [AllenHeathGLD](#) folder on your USB key. You may need to refresh the folder to see this.

Note: Do not change the folder name or browse inside the [Firmware](#) folder as doing this may cause firmware corruption. Attempting to navigate or open files within this directory may cause your Operating System to leave behind small temporary system files which can invalidate your firmware.

Step4 Eject the USB key from your computer

You can do this by clicking on the small eject icon by the USB key in Finder.

Step5 Plug the key into a USB port on the GLD

Plug your USB key into either one of the USB ports on the GLD-80. Go to the **Setup / Utility / Firmware** screen and touch **Update**. This will then detect your USB key and validate the firmware contents.

Step6 Perform the update

Touch the **Update** button. **Do not interrupt this process**. When the firmware has been successfully installed, touch the **Reboot** button. The GLD will reboot with the new firmware installed. Any AudioRacks currently connected or connected later to the GLD-80 will have their firmware automatically updated by the GLD-80 during their boot process.

Step7 Recall your settings

Recall a Template Show or the User Show you saved before the update to restore your settings.

USB directory structure

- The AllenHeathGLD folder is located in the root directory of your USB key.
- Event Logs** are copied to this directory. You can email them to Allen & Heath Tech Support if they require further investigation.
- Delete the **Firmware** directory as described in Step 2 above before unzipping a new version of firmware to your key. **Do not browse this directory** as opening files may result in the firmware failing to update.
- The GLD uses these directories to store the parameter **Libraries** and User **Shows**.
- GLD creates this folder when you open the **Setup / Audio / USB Audio** screen **Options** pull-up and choose the **'Show Playback Files'** option. Create this directory if it does not already exist and copy audio files from your computer here to view and play selected files rather than all audio on your USB key.
- GLD creates this directory to store audio **recordings**.

Specification

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, FLAC 44.1/48kHz
USB Record	2 channel, 48kHz / 16bit - WAV
I/O Port	64 channel bi-directional
Card Options	A&H ACE, MADI, Dante, ES, Waves, MMO
Operating Temperature	0 deg C to 35 deg C (32 deg F to 95 deg F)

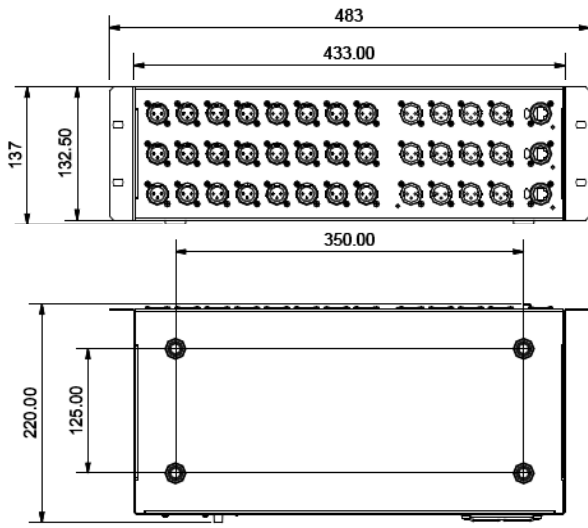
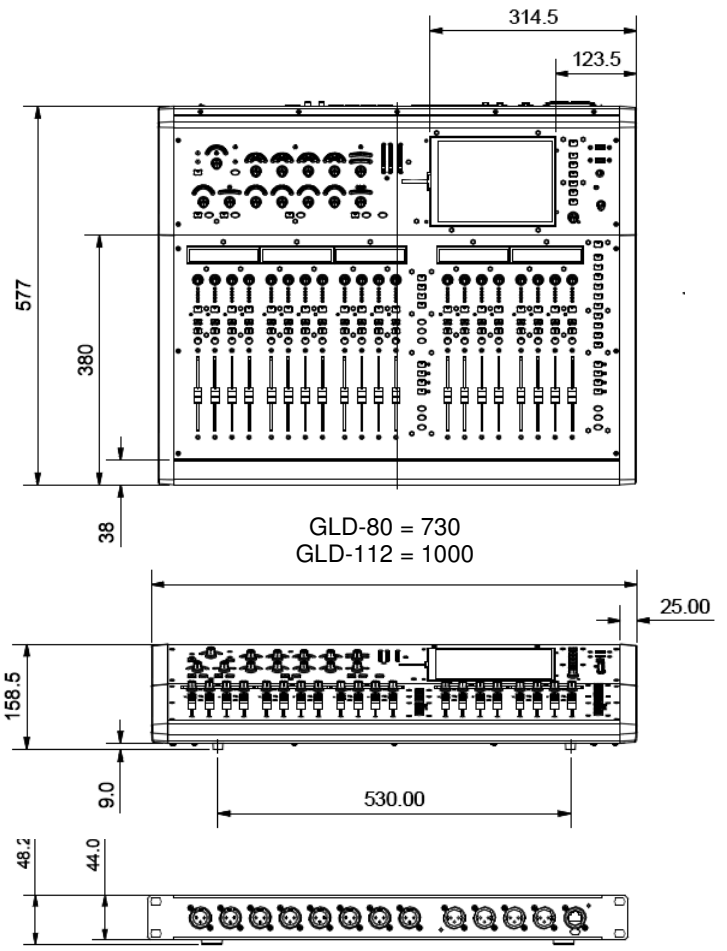
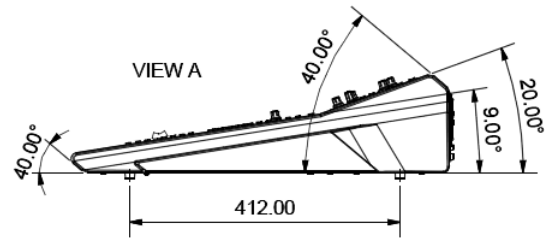
Control	
Touch Screen	8.4" TFT, 800x600 resolution
Faders	100mm motorised
GLD-80 Fader Strips	2 Banks (12,8), 4 Layers = 80x strips
GLD-112 Fader Strips	3 Banks (12,8,8), 4 Layers = 112x strips
Strip Display	LCD per strip, assignable backlight colours
SoftKeys	10 assignable
MIDI	MIDI In and Out
Network	TCP/IP Ethernet

FX Processing	
Internal FX	8x RackFX engine
Types	Reverbs, Delays, Modulators, Sub-harmonics, Pitch Shift, Rotary Speaker, De-Esser
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

Input Processing	
48 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, Bypass switch 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, 1.5 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 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, Bypass switch 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 SEL key resets frequency band to 0dB RTA following PAFL is displayed on strip meters
PEQ	
Type	4-Band fully parametric, +/-15dB
Frequency Range	Global setting for Mixes = 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, 1.5 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 filter in/out with sel 'listen'
Talkback	
Mode	Assignable source Latched/Momentary, PAFL Dim option
High Pass Filter	12dB/octave, 20Hz-2kHz
Routing	To Groups, Aux, Main, Matrix
Level Trim	+/-24dB
Signal Generator	
Sine, Bandpass sweep	Sine, White Noise, Pink Noise, Bandpass Noise 20-20kHz
Controls	Level, Mute
Routing	To Groups, Aux, Main, Matrix
RTA	
Source	31-Bands 1/3 octave 20-20kHz Follows selected PAFL source
Peak Band Indication	Option to display dominant frequency

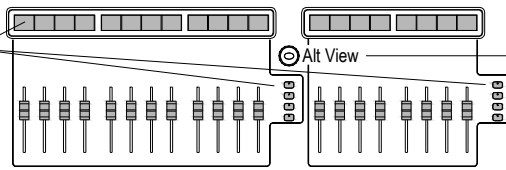
Dimensions and Weights	
GLD-80 Mixer	Width x Depth x Height
Unpacked	730 x 577 x 159mm (28.7" x 22.7" x 6.2")
Packed in shipping box	930 x 730 x 290mm (36.6" x 28.6" x 11.4")
Unpacked weight	16.5kg (36lbs)
Packed weight	21.2kg (46.6lbs)
GLD-112 Mixer	Width x Depth x Height
Unpacked	1000 x 577 x 159mm (39.4" x 22.7" x 6.2")
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)
Mains Power	
GLD-80	100-240V AC, 50/60Hz, 95W max
GLD-112	100-240V AC, 50/60Hz, 110W max
GLD-AR2412	100-240V AC, 50/60Hz, 70W max
GLD-AR84	100-240V AC, 50/60Hz, 20W max



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.

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

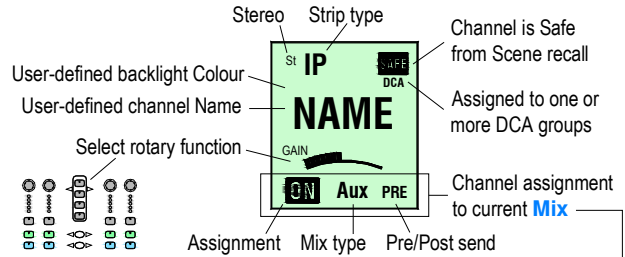
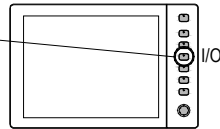
To change the strip assignments use the **Setup/Control** screen



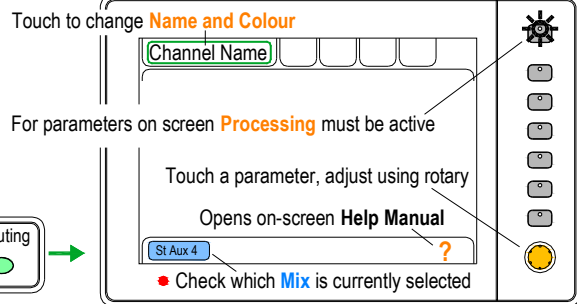
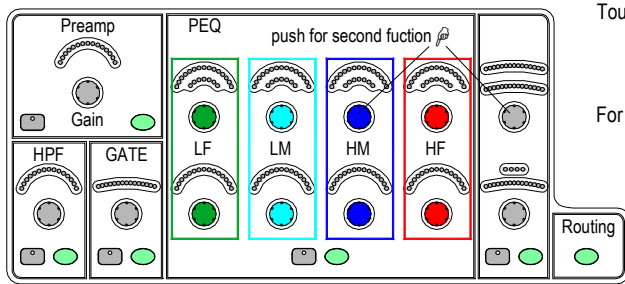
Press **Alt View** to view channel or socket numbers or fader dB value in place of Name. Set option in **Setup/Control** screen

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

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



- 3** **Sel** Access the **Channel and Mix processing**

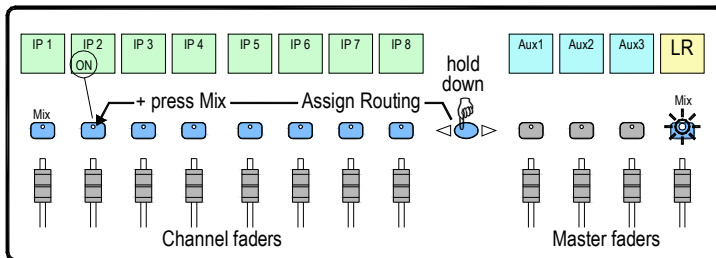


For GEQ on faders press **GEQ Fader Flip** - Master on last fader. RTA on strip meters. RTA follows current selected PAFL

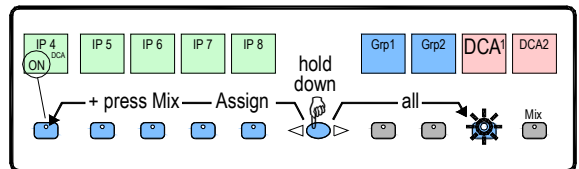
- 4** **Mix** Access the **Sends and Assignments**

Normal mix mode (FOH)

Main **Mix** active



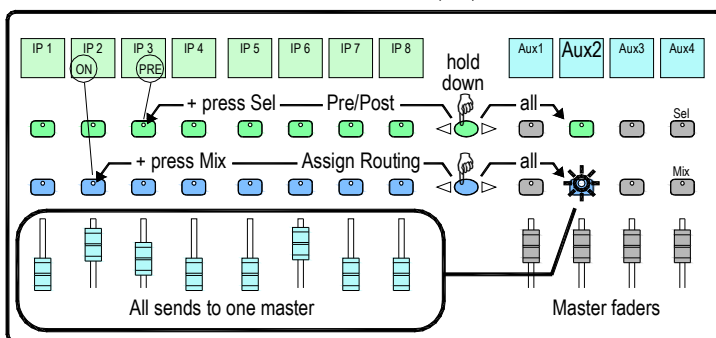
DCA and Audio Group assign



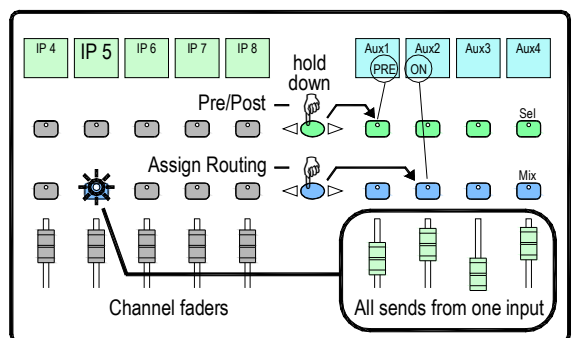
• Press **Mix** again to return to Main mix

Master **Mix** view

Access Aux, FX, Matrix mix on faders



Channel **Mix** view

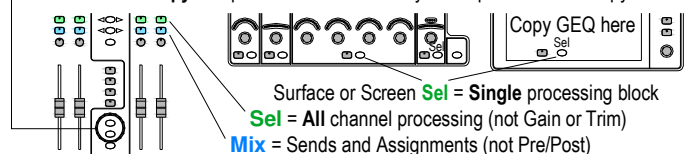


- 5** Access the **FX**
 > To send to an FX - press FX master **Mix**
 > To adjust FX parameters - press FX strip **Sel**
 > To return to the mix use related **FXret** channel

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

- 7** To **Copy parameters**

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



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

