ALLEN&HEATH

Qu-Pac

Before starting please check www.allen-heath.com for the latest Qu-Pac firmware and documentation.

Getting Started Guide

AnaLOGIQ RECALLABLE PREAMP | MULTITRACK RECORD/PLAY Qu-Drive | 800X480 TOUCHSCREEN TOUCH CONTROL | iLive FX | @SNAKE REMOTE AUDIO | ME PERSONAL MIXING SYSTEM | iPAD APP Qu-Pad | PERSONAL MONITORING APP Qu-You

For Firmware Version V1.7

Publication AP9815

Limited One Year Manufacturer's Warranty

Allen & Heath warrants the Allen &Heath -branded hardware product and accessories contained in the original packaging ("Allen & Heath Product") against defects in materials and workmanship when used in accordance with Allen & Heath's user manuals, technical specifications and other Allen & Heath product published guidelines for a period of ONE (1) YEAR from the date of original purchase by the end-user purchaser ("Warranty Period").

This warranty does not apply to any non-Allen & Heath branded hardware products or any software, even if packaged or sold with Allen & Heath hardware.

Please refer to the licensing agreement accompanying the software for details of your rights with respect to the use of software/firmware ("EULA").

Details of the EULA, warranty policy and other useful information can be found on the Allen & Heath website: www.allen-heath.com/legal.

Repair or replacement under the terms of the warranty does not provide right to extension or renewal of the warranty period. Repair or direct replacement of the product under the terms of this warranty may be fulfilled with functionally equivalent service exchange units.

This warranty is not transferable. This warranty will be the purchaser's sole and exclusive remedy and neither Allen & Heath nor its approved service centres shall be liable for any incidental or consequential damages or breach of any express or implied warranty of this product.

Conditions Of Warranty

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.

CE Qu Series products comply with the European Electromagnetic Compatibility directive 2004/108/EC and the European Low Voltage directive 2006/95/EC.

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

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ALLEN&HEATH

Allen & Heath Limited, Kernick Industrial Estate, Penryn, Cornwall, TR10 9LU, UK

http://www.allen-heath.com

IMPORTANT - Read these instructions before starting:

Safety instructions

Before starting, read the **Important Safety Instructions** printed on the sheet 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 Qu mixer is determined by the firmware (operating software) that runs it. Firmware is updated regularly as new features are added and improvements made.   The firmware version current when this guide was released is noted in the Contents section.

The latest firmware can be downloaded from the Allen & Heath website, transferred to USB key and then loaded into the Qu mixer using the Firmware Update utility. Read the Release Notes that come with the firmware.

- **Check the Allen & Heath website for the latest version of Qu-Pac 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 (www.allen-heath.com/legal). You agree to be bound by the terms of the EULA by installing, copying, or using the software.

Further information

Please refer to the **Allen & Heath website** for further information, knowledgebase and technical support. You can join our Allen & Heath Digital Community to share knowledge and information with other Qu users.

- Check for the latest version of this Getting Started Guide.

- Download the **Qu Series Reference Guide AP9372**.

General precautions

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

- Protect the equipment from damage through liquid or dust contamination. 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 Qu is 5 to 35 degrees Celsius.

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

- Clean the surface with a soft brush and dry lint-free cloth. Do not use 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 website. Allen & Heath do not accept liability for damage caused by maintenance, repair or modification by unauthorised personnel.

1. Packed contents

Qu-Pac Mixer

Getting Started Guide
AP9815

Safety Sheet

AP9240/CL-1

• Read this before starting
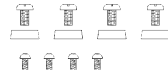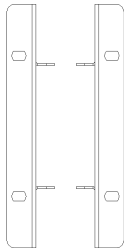
19" Rack Ears and screws

AA9848-L and AA9848-R
4x AB0344 M6x16 screws
4x AB0345 M6 cups
4x AB0332 M4x8 screws

Mains lead

• Check this is correct for your territory

Options and Accessories available

Remote Audio Racks
Provides remote audio over dSNAKE Cat5 cable digital snake.

AR2412 24 Mic/Line in, 12 Line out

Part: GLD-AR2412

AR84 8 Mic/Line in, 4 Line out

Part: GLD-AR0804

AB168 16 Mic/Line in, 8 Line out Remote AudioRack.
Part: AB1608

LEDlamp
Right angled 4-pin XLR LED lamp with built-in dimmer

Part: LEDlampX

Cat5 cables
For use with dSNAKE remote audio

AH8823 2m (6.6') short patch
AH9651 20m (66') coil
AH9981 50m (165') drum
AH9650 100m (330') drum

Qu-Pad app for iPad
Qu-You app for iOS devices
Available from the Apple Store

ME Personal Mixing System

ME-1 Personal Mixer
ME-U 10-port PoE hub

Full mix control   Personal monitoring

Qu-Pac polyester carry bag
Part AP9933

REGISTER YOUR PRODUCT online at: www.allen-heath.com/register

2. Contents

About this guide

This is the Getting Started Guide for the Allen & Heath Qu-Pac rack mount digital mixer.

For more information about Qu-Pac setup and mixing functions please refer to the **Qu Mixer Reference Guide** available for download from the Allen & Heath website:

www.allen-heath.com

Please Note

This guide refers to Qu firmware **V1.7**. Please refer to the Allen & Heath website for the latest version of firmware and this guide.

For information on the **AR2412**, **AR84** and **AB168** remote AudioRacks please refer to their user guides.

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3. Introduction

Qu-Pac is part of the Allen & Heath Qu Series of digital mixers. It is a faderless version with the same local connections as the Qu-16, but features the Qu-32 mix engine and can therefore be expanded to 32 channels using an optional AudioRack linked via the dSNAKE Cat5 digital snake. Qu-Pac is intended for wireless live mixing, for example using an iPad. It can also be fully controlled using its front panel touch screen. Qu-Pac has many applications where a compact solution is required:

- Compact live mixer for wireless remote mixing
- Band mixer for side-of-stage live mixing, personal monitoring, live and DAW multitrack recording
- Installed mixer with user logins for live event technician and zone control by non-technical staff
- Corporate event mixing

- Free standing or 19" 4U rack mount (rack ears supplied)
- 16 Mic/Line inputs expandable to 32 via dSNAKE (digital snake and optional AudioRacks)
- 3 stereo Line inputs, 12 mixes (4 mono, 3 stereo, LR), 4 stereo groups, 2 stereo matrix
- 4 internal FX engines with dedicated return channels
- 4 Mute groups, 4 DCA groups
- Input processing – Preamp, HPF, Gate, PEQ, Compressor, Delay, Ducking
- Output processing – PEQ, Graphic EQ, Compressor, Delay
- 100 Scene memories with recall filters, safes and USB data transfer
- Qu-Drive for stereo and 18-track recording/playback to USB hard drive
- 32 in, 32 out USB streaming, MIDI DAW control
- Qu-Pad engineer's mixing wireless remote app for iPad
- Qu-You personal monitoring app for iPhone, iPad, iPod Touch
- Compatible with the Allen & Heath ME personal mixing system
- Customisable 15 SoftKeys, 16 Sel keys, Qu-Control screen
- User permissions and login to enable operator access required

4. Installing Qu-Pac

Free Standing - For operating while on a desk, shelf or other flat surface.

Make sure the 4 rubber feet are fitted.

Allow space at the sides and rear for ventilation.

The mixer can be transported in a purpose designed padded bag or flight case.

Optional polyester Qu-Pac padded carry bag AP9931 is available from Allen & Heath.
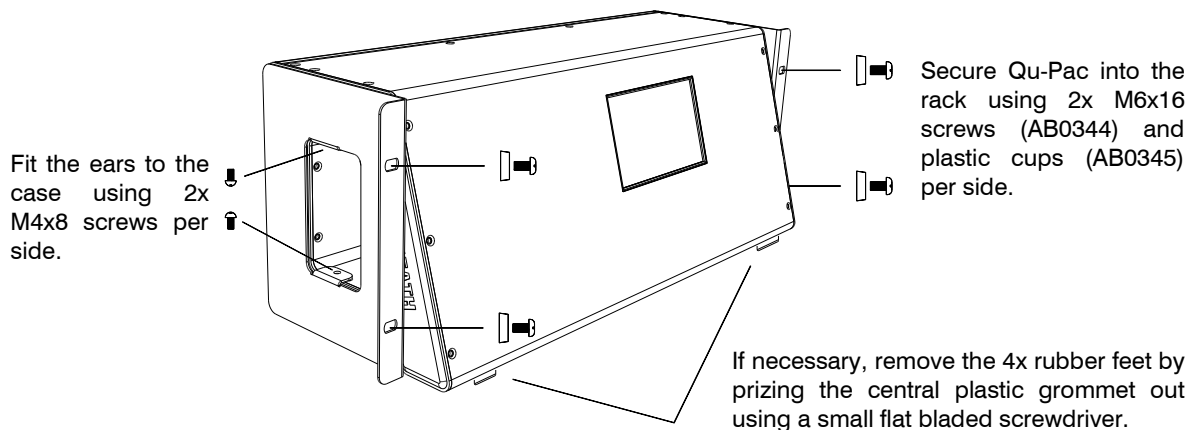
Rubber feet

Rack Cased - For operating while fitted into a 4U space in a standard 19" equipment rack or flight case.

Choosing a 'shallow' case with internal depth of 200mm (8") or more to allow easy access to the rear connectors.
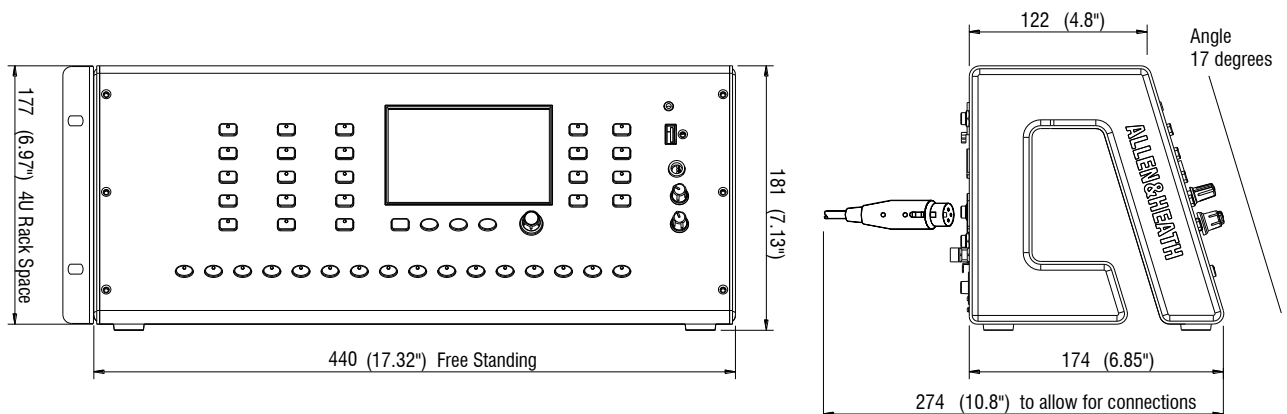
The mixer front panel is angled upwards to allow easier access to the controls while in the rack.

Qu-Pac is shipped with a rack ear kit to convert from free standing to rack operation. To fit the rack ears:
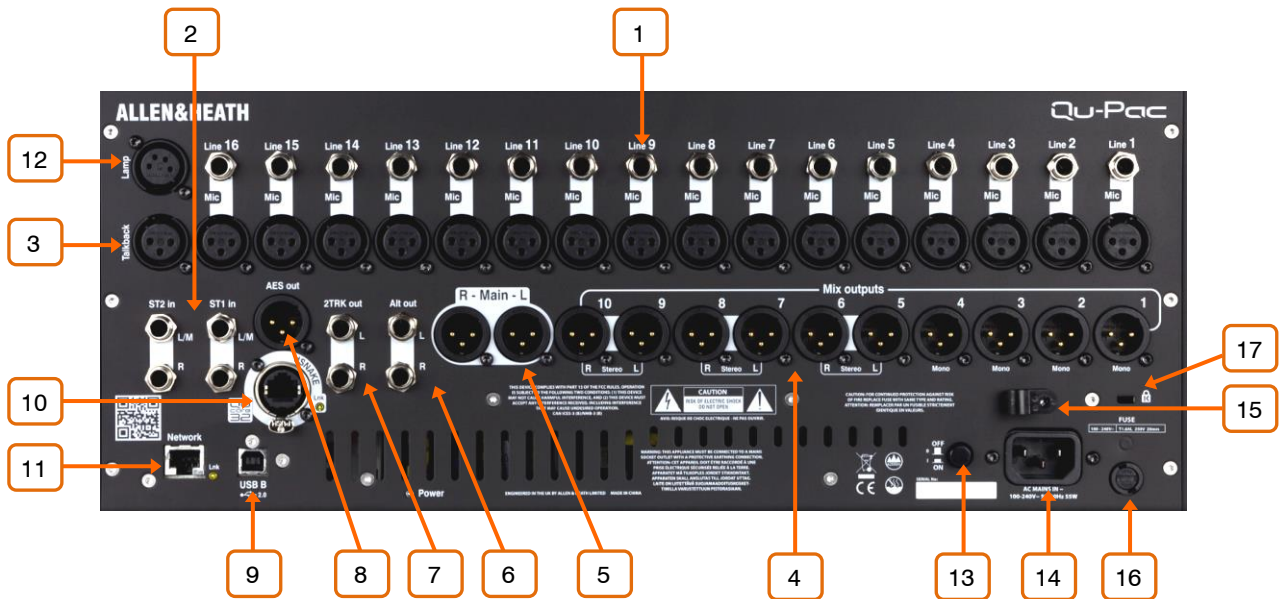
Fit the ears to the case using 2x M4x8 screws per side.

Secure Qu-Pac into the rack using 2x M6x16 screws (AB0344) and plastic cups (AB0345) per side.

If necessary, remove the 4x rubber feet by prizing the central plastic grommet out using a small flat bladed screwdriver.

Note Allow adequate air flow around the ventilation slots at the rear and through the inside section of the case. Do not block the sides.

Dimensions Shown in millimetres (inches)

177 (6.97") 4U Rack Space

181 (7.13")

440 (17.32") Free Standing

122 (4.8")

Angle 17 degrees

174 (6.85")

274 (10.8") to allow for connections

5. Rear Panel

1
Local Mic/Line inputs 1-16 - Plug into either the XLR Microphone or TRS jack Line socket, not both. The Line input adds a 10dB pad to attenuate very hot signals.

Mic/Line inputs 17-32 can be accessed using an optional AudioRack connected via dSNAKE. You can choose the source to Qu-Pac channels from these local inputs, remote dSNAKE inputs, Qu-Drive USB playback or USB streaming from a computer.

Note - To avoid loud thumps, mute the channel before plugging in mic cables or equipment while 48V phantom power is turned on.

2
Local Stereo inputs ST1, ST2 - The L input normals (switches) through the R input jack so that you can work with a mono source by plugging into just the L/M input. To work with RCA phono connections use jack to RCA converter plugs.

3
Talkback input - Dedicated input for plugging in a microphone for the engineer to talk to stage monitors or house. Use the **Setup / Audio / Talkback** screen to set its gain, HPF, 48V and route to the various mixes.

4
Local Mix outputs - These are dedicated XLR outputs for mono Mix 1-4 and stereo Mix 5-6, 7-8 and 9-10. These mixes can also be patched to other sockets and dSNAKE.

Dedicated Group and Matrix outputs are not available locally. However, these can be patched locally to the Alt Out and AES outputs, and via dSNAKE to remote AudioRack sockets.

5
Local LR outputs - Left and Right XLR output of the main stereo mix. LR can also be patched to other sockets and dSNAKE.

6
Alt output - Stereo 'alternative' jack output with dedicated front panel level control. Use the **Setup / Output Patch / Surface** screen to patch an output pair. For example, you could patch a stereo Group, Matrix or local PAFL monitor speakers.

7   **2TRK output** - Dedicated stereo recording jack output that follows the main LR mix. It is post-fader and therefore affected by the LR master fader.

8   **AES output** - 2-Channel AES (Audio Engineering Society) digital audio standard output for connection using an XLR cable to equipment fitted with an AES input. Use the **Setup** / **Output Patch** / **Surface** screen to patch outputs to the AES socket.

9   **USB B port** - USB type B socket for 32 channel, bi-directional audio streaming and MIDI control between the mixer and a computer running DAW (digital audio workstation) software. Use the **Setup** / **Output Patch** / **USB Audio** screen to patch mixer signals. Qu-Drive and USB B streaming share the same patch.

It is typical to set the channel source to **Insert Sends** (pre-processing) for live recording, or **Direct Outs** (set post) for DAW recording.

Refer to the Allen & Heath web site for information on Windows® and Apple® Mac drivers available for Qu.

10   **dSNAKE port** - Proprietary Allen & Heath 'digital snake' single Cat5 cable connection for remote audio using optional AR2412, AR84 or AB168 AudioRacks, and for personal monitoring using ME-1 personal monitor mixers.

Note   Qu-Pac has the same connectors as the Qu-16 mixer but the processing engine of the Qu-32. Use dSNAKE to access the additional 17-32 inputs and dedicated Group and Matrix outputs.

Use the **Setup** / **Output Patch** / **dSNAKE** screen to patch mixer outputs to the AudioRack sockets. Use the **Setup** / **Output Patch** / **Monitor** screen to patch channels to the ME monitor system. It is typical to set the global **Direct Out** option to pre-fade, post-mute, post-processing for these monitor sends.

11   **Network port** - For connection to a wireless router (access point) for live mix control using iOS devices running Allen & Heath Qu apps. You can use one iPad running Qu-Pad (engineer's mix control), and up to 7 iPhones, iPad or iPod Touch devices running Qu-You (musicians personal monitor control).

12   **Lamp** - 4-Pin socket to plug a standard 12V, 5W or lower power gooseneck lamp to illuminate the connector panel or working space around the mixer. We recommend the Allen & Heath LEDLamp with built-in thumbwheel dimmer.

13   **Power On/Off switch** - Press to switch the mixer on. Press again to switch it off.

14   **AC Mains input** - IEC socket to plug in a mains lead with moulded plug suitable for your territory. A suitable mains lead is shipped with the mixer.

Note – Do not replace the mains plug or modify the lead in any way. Do not remove or defeat the ground connection.

15   **Cable clamp** - A plastic P-clip cable clamp is provided to secure the mains cable. Slot the cable in or lock it in place using a star head Torx T20 screwdriver to refit the clamp around the cable.

16   **Fuse** - Mains input fuse to protect the mixer circuits in the unlikely event of a failure or excessive power surge. Always replace with the same type and rating as printed on the rear panel.

17   **Kensington lock** - A slot for fitting a standard Kensington anti-theft security device.

6. Front Panel
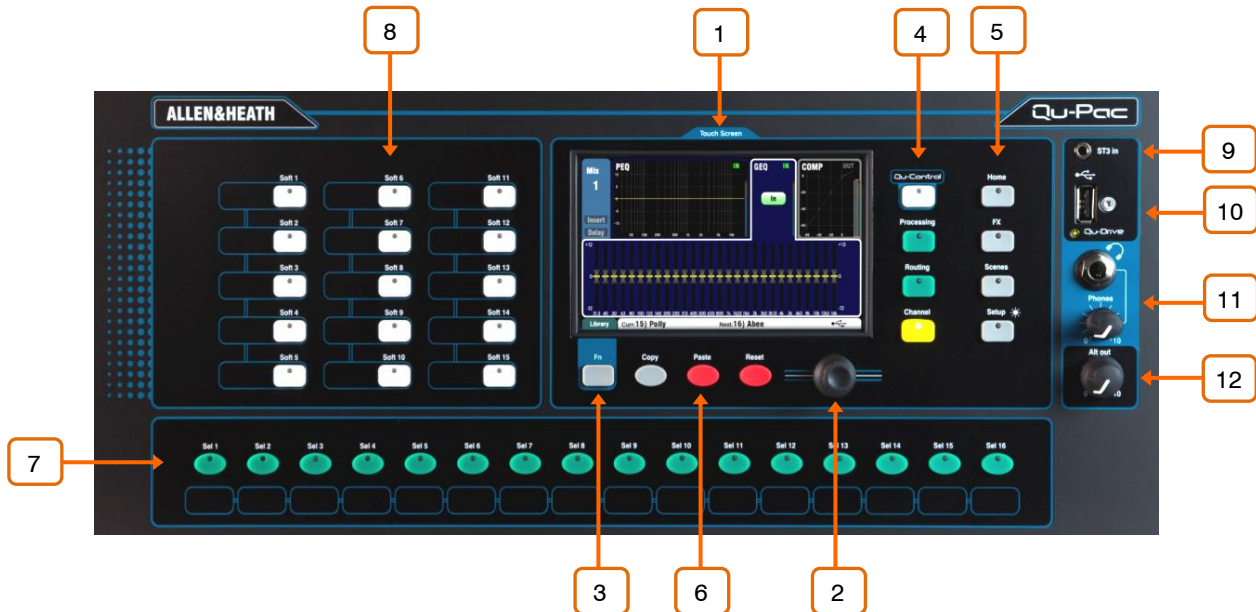
1
Touch Screen - All live mixing, setup and memory management functions can be controlled from the Qu-Pac front panel. The colour touch screen provides quick access to these functions. The top presents tabs for the available pages. The bottom presents a toolbar showing status information.

2
Screen Rotary - Adjusts the value of parameters on screen. Touch a parameter. It highlights orange to show it is selected. Turn the Rotary to adjust its value.

3
Fn key - Press to open an option pop-up page for the currently selected screen. Its function, if available, is shown in the screen toolbar above the key. For example, the **Fn** key provides quick access to the Libraries while in Processing screens.

4
Live mixing screens - These screens provide quick access to live mixing functions such as level control and signal processing:
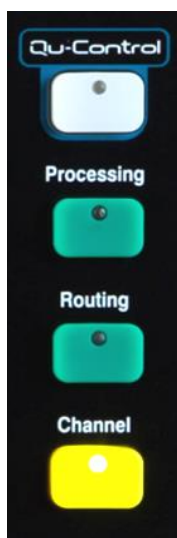
Qu-Control - User assignable custom screen for simple level, mute and on/off control. A user permission can be set so that this is the only control available to the 'Basic User', for example bar staff control of zone music source and level at a venue.

Processing – Follows the active **Sel** key or button to open the signal processing screens. This includes the Preamp, Gate, Ducker, PEQ, GEQ, Compressor, Delay, FX parameters and more.

Routing – Follows the active **Sel** key or button to open the routing assignment screens.

Channel – Follows the active **Sel** key or button to open a virtual 'fader strip' on screen. This replaces the physical faders of the other Qu mixer models. It provides a way to work with the faders when not mixing using an iPad.

The Channel screen presents tabs and Sel buttons to access any Qu input or output channel, and the DCA and Mute Group masters.

5 **System screens** - These screens provide access to the mixer setup, Qu-Drive recording and memories:

Home – Pages of housekeeping functions including safe Shut Down, Lock Surface, change and set up User Profile, view Meters and RTA, and work with Qu-Drive stereo and multitrack recording and playback.

FX – View, load and set up the 4 internal effects units. The Back Panel view lets you patch each unit as inserted or send/return. These can provide reverbs, delay and modulation effects types.

Scenes – Name, store and recall to/from 100 Scene memories. You can block selected parameters from scene recall by setting a global as well as per-scene Filters. You can protect selected channels from recall by making them Safe.

Setup – Access menus to configure Qu-Pac. Includes PAFL options, Talkback, Signal Generator, Custom Sel keys, SoftKeys, Network, MIDI, Output Patching and more. You can transfer Scene, Library and Show data to a USB storage device, calibrate the faders and screen, format a USB drive for recording, and update the mixer firmware.

Press and hold the Setup key and turn the screen Rotary for the dimmer function to adjust screen and indicator brightness.

6 **Copy/Paste/Reset keys** - These let you copy or reset processing or mix parameters. To copy – Hold down the Copy key and press the key associated with the parameters you wish to copy. Then hold down the Paste key and press **Sel** key (for processing) or **Mix** key (for send levels, pan and assign) of the channel or mix to copy to. To Reset – Hold down the Reset key and press an associated key:

+ Input strip **Sel** key = HPF, Gate, PEQ, Comp, Delay

+ Mix strip **Sel** key   = PEQ, GEQ, Comp, Delay

+ Master **Mix** key   = Send levels, Pans, Assign

+ touch Scene item in list = Scene name and contents

Note   Copy/Reset of Mix does not affect the Pre/Post fader settings.

7 **Custom Select keys** - 16 Sel keys can be user assigned for quick access to any combination of channels, masters and DCAs. For example, assign only those that you are using for your show. Space is provided for a label strip. Assign these keys using the **Setup / Control / Custom Sel** screen.

8 **SoftKeys** - 15 SoftKeys can be user assigned for quick access to various functions such as mutes, tap tempo, scene recall and navigation, Qu-Drive transport control, PAFL clear or Talk. Default is keys 1-4 assigned as Mute Groups 1-4, and key 15 assigned as Talk for talkback to stage. Assign these keys using the **Setup / Control / SoftKeys** screen.

9 **ST3 Input** - Convenient front panel stereo mini jack input for plugging in a local playback source such as an iPod, phone or laptop.

10 **Qu-Drive USB socket** - For Scene, Library and Show data transfer, and also for stereo or 18-track multitrack recording direct to a USB storage device.

Note – Qu-Drive audio recording and multitrack playback require the USB storage device to support high sustained transfer rates. Not all USB devices will guarantee flawless performance. To find out more please refer to the 'Understanding Qu-Drive and USB' document in the Qu Knowledgebase on the Allen & Heath web site.

11 **Phones** - Level trim and standard ¼" jack socket for plugging in headphones to listen to the mixer PAFL (monitor) signal.

12 **Alt Out** - Level control for the stereo 'alternative' local output available on the rear panel. The source to this output is patched using the **Setup / Output Patch / Surface** screen. For example you could access a stereo Matrix output here.

Note – For more information on setting up and operating Qu-Pac download the Qu Mixer Reference Manual from the Allen & Heath web site.

7. Audio Signal Processing

The following diagram shows the available Qu-Pac signal flow and processing. A more detailed diagram and further information is available within the Qu Mixer Reference Guide which can be downloaded from the Allen & Heath website.

All input and output channels have the processing shown here at all times. For example, every mix has a 1/3rd octave Graphic EQ, a 4-band Parametric EQ, Compressor and Delay. No need to patch from a limited resource.

The internal FX provides 4 slots for loading from several effects types available. These can used for Send/Return effects (reverb, delay) or inserted into any channel or mix.

A Ducker function is available. You can choose to insert either an FX or the Ducker at the Input channel or Group insert points. Each channel can have its own settings (single mode) or multiple channels can share the same settings (ganged mode).

Qu-Pac SIGNAL FLOW
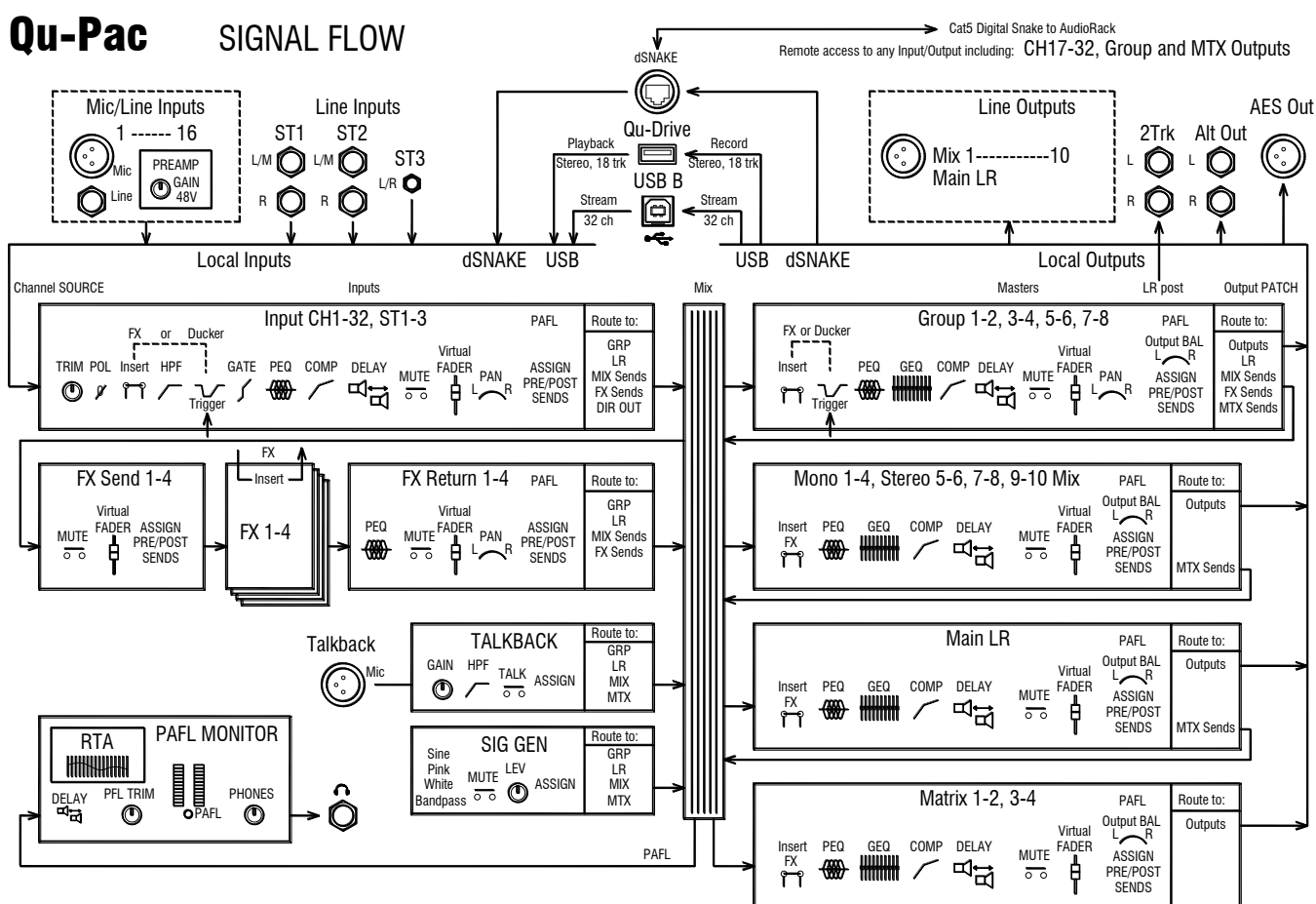
8. Operating Principles

8.1 Mixing using the Front Panel Controls


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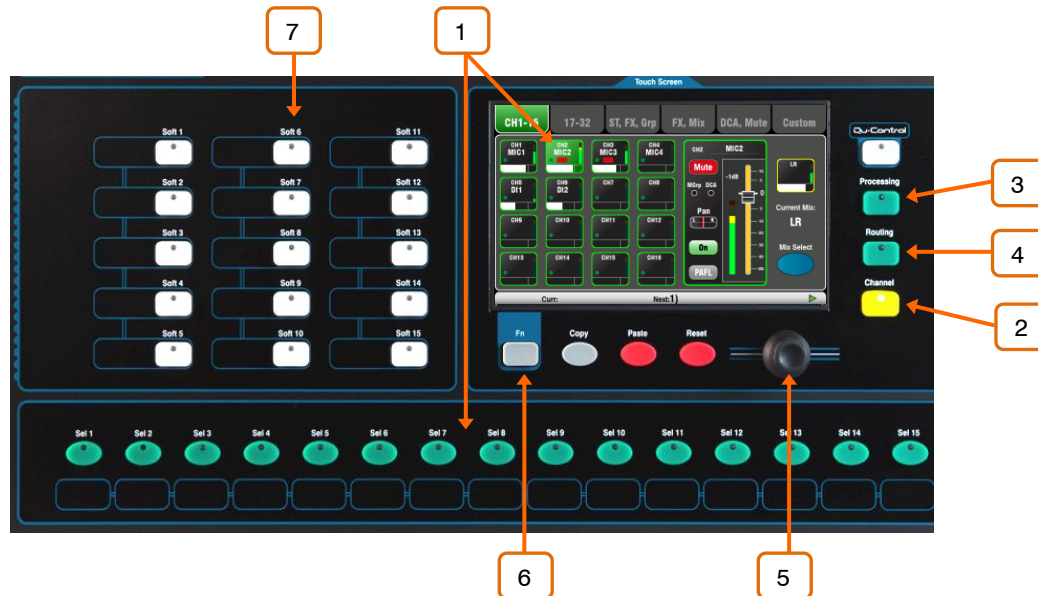
1   **Select a channel** - Press a Custom Sel key or touch a select button in the **Channel** screen to select a channel for editing.

2   **Channel screen** - To select any channel for editing, and adjust its fader and send levels using the 'virtual fader strip' and screen rotary control.

Select a channel using a screen button – Access any Qu channel, FX or master by touching its select button in the screen tabs. These also provide a useful overview of the mix by displaying current levels, metering and icons for assignment to the current mix (green dot), channel mute (red box) and mute by DCA or Mute group (red dot).

Select a channel using the Custom Select keys – The 16 green keys can be user assigned to select any combination of channels, masters, DCAs and MIDI for quick access while mixing. The default is CH1-16. You can change this using the **Setup / Control / Custom Layer** screen.
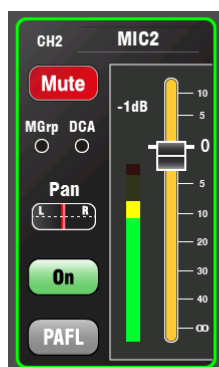

The 'virtual fader strip' - presents a screen version of the physical controls found on the other Qu mixer models. This includes the Fader, Pan control, Mute button, Mute/DCA group status, PAFL button and channel meter.

Touch the **Fader** to highlight it and use the rotary to adjust its level. The current dB value is displayed.

Touch the **Pan** control to highlight it and use the rotary to adjust its position.

Touch **PAFL** to listen to the channel signal in the headphones monitor and view it on the RTA (real time analyser) screen. Use the **Setup / Audio / PAFL** screen to set the PAFL (pre-fade and after-fade listen) options. You can set a SoftKey to **Clear PAFL** selections.
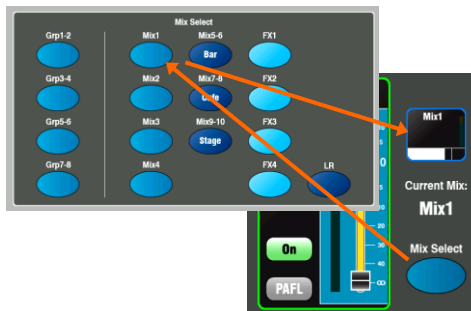
Select a different Mix – The faders and master select button relate to the mix currently selected. Touch the **Mix Select** button to choose a different mix. A popup presents a screen layout of the physical Mix keys found on the other Qu models. Touch a mix button to change mix.

If a mix other than LR is selected then the faders turn blue to show that you are adjusting the channel sends to that mix. The mix master select button follows the current mix.

3   **Processing screen** - To access the signal processing for the currently selected channel.
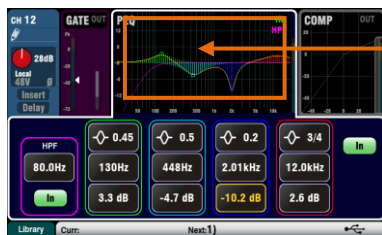
Touch the top part of the screen to open the page for each processing type.

Touch a button to change its state.

Touch a parameter box to highlight it and use the rotary to adjust its value.

Note – To turn phantom power on or off, touch and hold the **48V** button for 1 second or longer. This is to prevent accidental operation.

Inputs	Preamp/Linking/Insert/Ducker/Delay, Gate, PEQ, Compressor
Outputs	Delay/Insert, PEQ, GEQ, Compressor

4   **Routing screen** - To access the routing parameters for the currently selected channel. Use the tabs to open the available routing pages.

Input channel routing pages let you toggle Pre/Post fade and assignment On/Off settings. You can access send levels and pan, or alternatively use the **Channel** screen for quick access to these while mixing.

Global Direct Output options are also available from the input routing page. Set these according to your application, for example FX send, USB recording source, ME personal monitor source, Ducker trigger source.

Mix master routing pages let you quickly assign or unassign all channels, or set all pre or post-fader to a mix. This is global per mix. You can also choose the channel source point to the mix, and adjust the stereo mix output balance.

Press the **Fn** key to access the Mute and DCA Group naming and assignments while in any Routing page apart from Matrix.

Press the **Fn** key while a Matrix is selected to access the sends to that matrix.

5   **Screen Rotary** - Use this to adjust the value of the parameter highlighted in orange on the touch screen. The rotary also lets you scroll through selections in menus, scene lists and setup spin boxes.

6   **Fn key** - Press this key to open a page of additional options if available for the currently selected screen. The page function is labelled in the screen above the key. Exit the page by pressing the key again.

7   **SoftKeys** - Use these for quick access to functions such as commonly used mutes, recalling specific scenes, navigating scenes, tap tempo, talking to the stage, clearing active PAFL and more. SoftKeys are assigned using the **Setup / Control / SoftKeys** screen.

8.2 Mixing using Wireless Control

Qu-Pad (engineer's live mix control) and **Qu-You** (musician's personal monitor control) apps are available free from the Apple Store for iOS devices including iPad, iPhone and iPod Touch.

Setting up the Qu wireless network

The app sends and receives control data over a wireless (Wi-Fi) network. This requires a wireless router (wireless access point) connected to the Qu mixer Network port.

Qu mixer

Wireless router

iOS device

Qu Network port   Cat5 cable
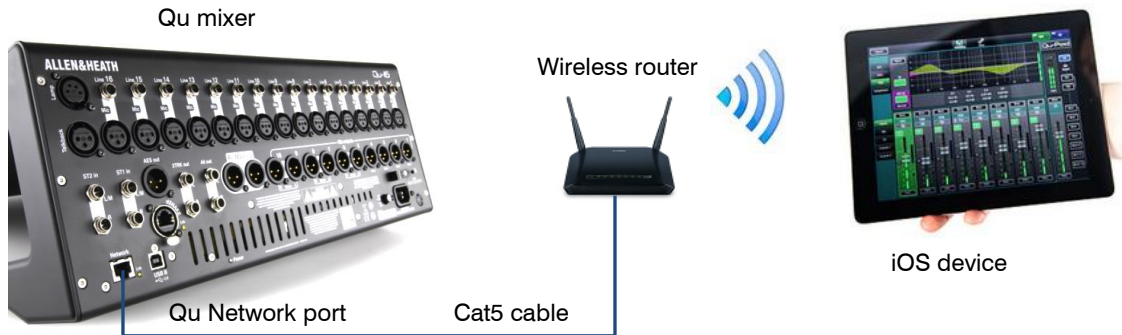
Choosing a wireless router - For best performance use a dual band (2.4 and 5GHz) wireless router (wireless access point) with auto channel selection.

Setting up the Qu mixer Network - The default setting is DHCP enabled. This is recommended as it means that the mixer gets it network IP address automatically from a DHCP enabled router. Go to the mixer **Setup** / **Network** screen to check that DHCP is enabled.

Setting up the wireless router – The default settings of many routers are immediately compatible with the Qu mixer so you should be able to connect quickly. However, if you wish to change settings then you will need to access the router setup utility by connecting it to a PC or Mac using a wired LAN (network) connection. Follow the instructions provided by the wireless router manufacturer.

Wireless router DHCP settings – Check that the router is set for DHCP so that it automatically allocates a compatible IP address to your iOS device. This is the default setting for most routers.

Wireless security -To prevent other people accessing your Wi-Fi we recommend you enable WPA/WPA2 encryption and set a wireless key (password).

SSID - This is the name broadcast by the wireless router to help identify it in the network list you will see in the device Settings Wi-Fi page.

Positioning your wireless router – It is important that your iOS device operates within the specified range and in line of sight of the wireless router. 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.

Connecting to the wireless router - Make sure the iOS device Wi-Fi is turned ON in its Settings screen. Choose your wireless router from those shown in the Network list. Enter the password to connect to the router. After a few moments a tick should appear to show it has successfully connected to the wireless network. Check that the icon in the top toolbar shows good Wi-Fi signal strength.

Note – To prevent unauthorised control of your Qu mixer we strongly recommend that you set a router password to protect your wireless network.

Note - The iOS device remembers the network settings. To prevent it connecting again in future without the password, for example if you have given a guest engineer access your Qu with their own device, select your network in their device Settings Wi-Fi menu and use the 'Forget this network' function.

If you experience connection problems or drop outs – You may suffer interference from other wireless networks or equipment in the area. Try rebooting the router to pick up a different channel, or change its band (2.4 or 5GH).

Qu Mixer Requirements - The Qu mixer firmware and app feature release version numbers must be the same, for example V1.6 firmware will not run with the V1.7 app. However, the maintenance version numbers do not need to be identical, for example Qu-Pad V1.70 would run with Qu mixer V1.71. Refer to the Allen & Heath web site for more information and to download the latest Qu mixer firmware.

Wireless devices – Qu-Pac supports Apple iOS devices including iPhone4 or later, iPad, iPad Mini or iPod Touch running iOS7 or later.

Note – Current firmware supports up to two iPads running **Qu-Pad**, and up to 8 iPhones, iPads or iPod Touch devices running the **Qu-You** monitor app. However, the maximum number of devices running a combination of Qu-Pad and Qu-You is 8.

Qu-Pad is an engineer's mixing tool giving you the freedom to walk the room or stage and control the sound where it is needed. For example, for discrete mixing at corporate events, for live show mixing in music bars where space and layout do not allow a permanent FOH mix position, or for a band to sound check out front and then mix from side of stage.

LR mix selected, CH preamp shown   CH PEQ shown   Custom Layer setup
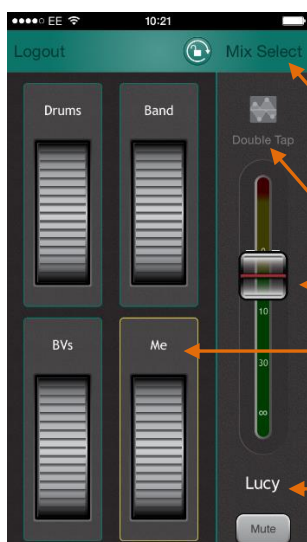
Qu-You provides personal monitor mix control for musicians and performers on stage. The engineer can still keep an eye on and control each mix at the Qu mixer at any time.

Touch to select a mix. Once selected it can be locked to this mix to prevent accidental selection of a different monitor mix. You can also set processing preferences using this page.

Double tap to open the master processing (PEQ, GEQ, Comp).

Master fader and mute for the selected mix.

Channels can be assigned to up to 4 local groups, each with its own thumbwheel level control.

Double tap a wheel to access its channel levels, pan and meters.

The currently selected mix name is displayed.

Connect to the wireless network – Connect and power up the wireless router. Wait a few minutes for it to establish its broadcast. Connect the iOS device to this network.

Start the app and log in to the Qu mixer – The app opens in its Login page. You should see your Qu mixer in the list if it is recognised on the wireless network. Select this and touch Connect.

More information – Read the app Help Manual by touching the **?** button on its Login page for further instructions on how to set up and operate it. Refer to the Knowledgebase and Digital Community on the Allen & Heath web site.

8.3 Qu-Control

Qu-Control is a custom assignable screen to present just the few controls needed for basic operation. For example, to control background music source and level within a music bar. It can be associated with the Qu 'Basic User' with permissions set by the 'Admin' user so that only this screen is available for non-technical bar staff to adjust the background music. Access to the live mixing and setup functions can be locked out for the Basic User.
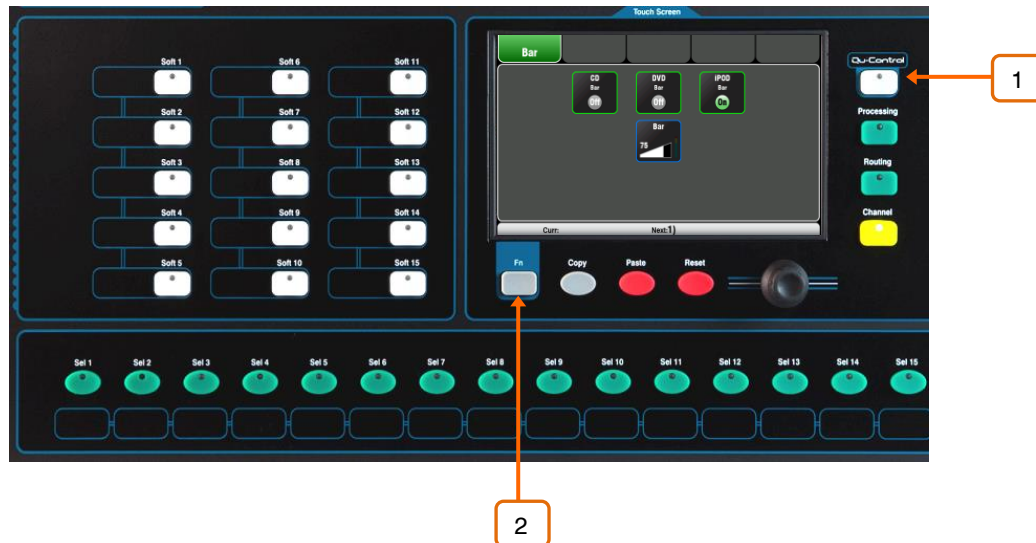

1   **Qu-Control key** - Press to open the Qu-Control screen. This presents buttons and level controls configured by the Admin user. If none have been configured the screen will be blank. Tabs allow access to up to 5 custom screens.

Touch a button to toggle its state. Touch to highlight a level control and adjust it using the screen rotary.

2   **Setup page** - Press the **Fn** key to open the Qu-Control setup page for the currently active tab. This is only available to the Admin User.
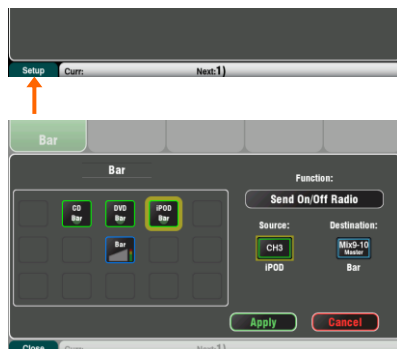
Functions can be assigned to up to 15 positions arranged as a grid of 3 rows with 5 columns. If a position is unassigned then it will appear blank in the user screen.

Touch to open the Function list. You can choose mutes, level or assignments (On/Off) associated with channels or mixes.

Send On/Off Radio lets you assign a selection of buttons to operate in 'radio mode' where pressing one will turn the others off.

Touch and spin the rotary to scroll through the channels or mixes. Once you have finished assigning the screen press Apply to save and exit or Cancel to exit without saving.

Note – Qu-Control settings are stored to USB device as part of the Show file. They are not stored in Scene memories.

User Permissions - Three user profiles are available. The 'Admin' User can set access for the 'Standard' and 'Basic Users. Various parameters can be blocked and passwords can be set. Go to the **Home / User** screen to set user permissions or log in as a different user.

Example: Admin User   Engineer in charge of the installation
            Standard User Mixes live shows, blocked from setup functions
            Basic User   Controls background music only

9. Qu-Start

This section provides a quick guide to get you started mixing with Qu. For more information please refer to other sections in this guide and to the Qu Mixer Reference Guide available for download from www.allen-heath.com/key-series/qu-series.

User

Firmware

Touch and hold for 2 seconds

Touch to name
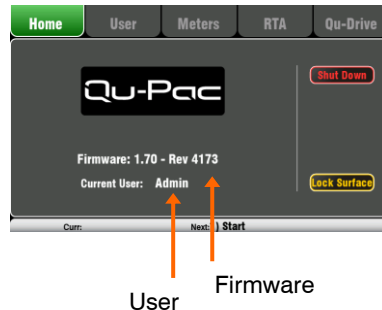
Things to check before starting:

Mixer firmware version – View current version on the **Home** screen. Go to www.allen-heath/key-series/qu-series to check you are running the latest version. Download and update using the **Setup / Utility / Firmware** screen if you are not.

Qu-Pad and Qu-You app versions – The app versions must be the same as the mixer firmware version. If not, the app will not connect to the mixer. The Apple Store will always have the latest version available for free download.

Network and Wi-Fi settings – Plug a router (wireless access point) into the Qu Network port. Check that DHCP is enabled in the **Setup / Control / Network** screen. Check that your router has a password set. The Qu wireless network should be independent of any other Wi-Fi or Internet access in the building.

Current User – View this on the **Home** screen. Qu has three User Profiles. Admin user has access to everything and is typical for the mixer owner or senior engineer. Standard and Basic users have restricted access as set by Admin. Passwords can be set.

Setting a known starting point:

To completely reset the mixer you can perform a power up System Hard Reset. Only do this if absolutely necessary. This clears all the memories (Scenes, User Libraries and User Profiles) and resets all settings to factory default.

To zero the board as a start for setting up a new session or event you could use the Reset Mix Settings function on the **Scenes** page. This is a special Scene that resets all current mix parameters to factory default. It does not affect the memories and system settings and preferences. Touch and hold for 2 seconds and then confirm.

**To set your preferred starting point** you could recall a Scene you previously stored.
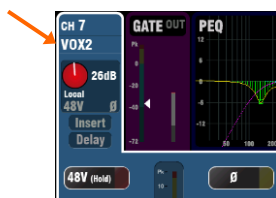
Preparing the mixer for your session:

Name the channels and mixes – Working from your plot sheet, use the mixer **Processing** screen to enter names with up to 6 characters. The Qu-Pad app can also be used to enter names.

Name and assign audio Groups – Use the Group **Processing** screen to apply names. Use the channel **Routing** screen or **Channel** screen virtual fader strip to toggle the routing assignments on or off. If you are sub grouping channels to the main mix remember to turn off the assignments of those channels to the LR mix.
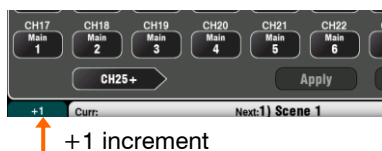
Name and assign the Matrix sends – Use the Matrix **Processing** screen to apply names. Use the Matrix **Routing** screen **Fn** key Matrix View page to work with its send levels and routing.
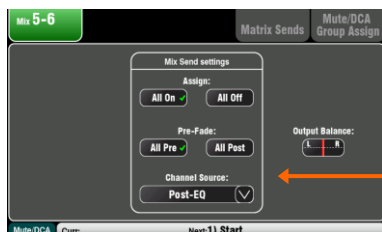
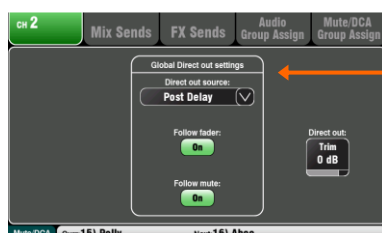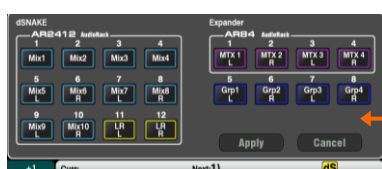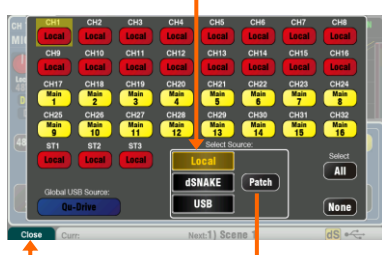View Front or Back panel

Choose the FX preset

+1 increment

Patch input sockets

Check the Mix and FX routing – Use the channel and master Routing screens to set the routing assignments, the pre/post fader and channel source settings. You can set all On or Off, and All Pre or Post using the master screens. Typical setting is Pre fade, Post EQ for stage monitors, and Post fade, Post All for effects sends.

Choose and name the FX channels – Go to the FX screen to set up the 4 built-in FX units. Use the Fn key Library page to select and recall the FX type and preset.

Use the Back Panel view to check the FX patching. Effects such as reverb and delay use Mix->Return patching.

Use the FX Return and FX Send Processing screens to enter names for the FX.

Name and assign the Mute and DCA Groups - Use the Routing screen Fn key Mute/DCA page. It can be useful to assign a mute or DCA group to the FX returns providing a quick way to silence or reduce the effects between songs.

Patching inputs and outputs – The reset default patch is simple one-to-one mapping of local sockets to the channels, and a traditional patch of outputs suitable for the typical PA application. However, Qu offers flexible patching letting you route signals anywhere you want.

Many of the patching screens use the Fn key as a '+1' increment to let you quickly step through a range of sockets. Most require confirmation to Apply or Cancel the changes you make.

Patch the inputs – Use the input Processing screen Fn key Source page to choose one of three sources to each of the mono and stereo input channels:

'Local' (red) selects the mixer rear panel socket. Choose this if you are plugging your stage sources directly into the mixer or using an analogue snake.

'dSNAKE' (yellow) selects a remote socket from an AudioRack connected to the mixer dSNAKE socket via a Cat5 cable digital snake. AR2412, AR84 and AB168 AudioRacks are available from Allen & Heath. Touch 'Patch' to take you to the Setup /I/O Patch / dSNAKE In screen if you want to remap AudioRack sockets to different channels. The default is one-to-one mapping.

'USB' (blue) selects either the Qu-Drive multitrack playback or USB B Streaming return from computer as the channel source. Choose this by setting the Global USB Source button.

Patch the outputs – Use the Setup / I/O Patch Surface screen to patch any of the available Qu output sources to the mixer rear panel Alt Out and AES out sockets.

Use the Setup / I/O Patch / dSNAKE Out screen to patch Qu outputs to any of the connected AudioRack sockets.

Input channel Direct Outputs can be patched for different applications, for example USB recording, ME-1 personal monitoring or channel Ducker trigger. Think about how you want to use the direct outputs and set your source preference in the Routing screen of any input channel. This setting is global and affects all direct outputs. Available patching:

If you are using the optional ME-1 personal monitor system - Go to the Setup / I/O Patch / Monitor screen to patch Qu outputs to the 40 ME-1 sends. It is typical to send the input channel direct outputs. Recommended direct out setting is post delay, pre fader, post mute.

Patch the USB outputs – Use the **Setup / I/O Patch / USB Audio** screen to patch any of the Qu outputs to the Qu-Drive multitrack and rear panel USB B streaming port. These share the same patch. USB streaming uses all 32 outputs. The Qu-Drive multitrack recording is fed from the first 18 outputs. Qu-Drive stereo recording is fed from outputs 17-18.

Typical live multitrack recording is to use the Insert Sends so that live mixing does not affect the recording. You may wish to change this to Direct Outputs for studio recording.

Assign the SoftKeys – 15 Qu-Pac front panel keys can be user assigned for various functions such as mute, tap tempo, scenes, Qu-Drive transport and more.

Assign these using the **Setup / Control / SoftKeys** screen. Use the rotary to scroll through the list of options.

SoftKeys

Custom Select Layer

Assign the Custom Layer – 16 Qu-Pac front panel custom Sel keys can be user assigned for any combination of channel, FX, mix, DCA and MIDI select, for example to allow quick select of just the channels you are using for your show.

Assign these using the **Setup / Control / Custom Layer** screen. Use the **Fn** key as a '+1' increment to let you quickly step through a range of assignments. The reset default is CH1-16.

Assign the Qu-Pad app Custom Layers – If you are using the iPad app for wireless mixing you can assign up to 3 custom layers to present the fader strips and SoftKeys you are using in the order you prefer. Select the **Setup** icon in the top toolbar.
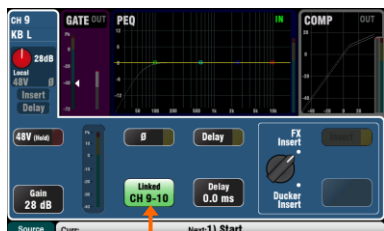
Setting a starting point for the processing:

Start by using the **Processing** screen Preamp page Linking button to link parameters of odd/even pairs of channels for stereo operation. For example, stereo keyboards or backing tracks. Adjusting Pan on one channel will set the width for the pair.

There are several ways to quickly set up the input and mix channel processing ready to start your sound check:

Copy / **Paste** / **Reset** – These keys provide a powerful tool for quickly setting up your processing. They work in a similar way. Press and hold the key down. While holding it, press or touch another item to perform the action:

+ Front panel **Sel** key = all related processing (not preamp)
+ **Channel** Select box = all related processing (not preamp)
+ **Processing** 'In' button = just that block, eg PEQ
+ **Processing** top of screen = just that block
+ **Channel** Mix Select Mix button = its mix levels, pan, assign

These actions do not affect channel linking or ducker settings.

Reset - Sets related parameters to factory default. For example PEQ flat, Gate out, Mix levels off, pans mid, assignments on.

Copy / **Paste** – Hold Copy and press/touch the item to copy it. Then hold Paste and press/touch the channel **Sel** key, Select box, or Mix button to paste it to. You can quickly paste settings to multiple channels or mixes. For example, to copy CH2 PEQ only to CH3, 4 and 5:

> Copy+CH2 PEQ top of screen, then
> Paste+CH3, then CH4, then CH5 **Sel** keys
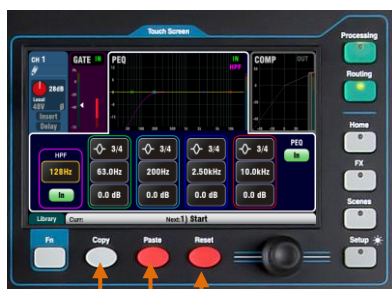
Reset parameters
Paste parameters
Copy parameters
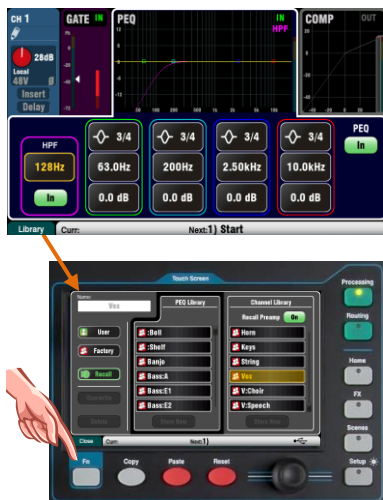
Libraries – Use the **Processing** screen **Fn** key to open the Library page for the related block, for example the PEQ.

Factory Libraries provide examples and a typical starting point. They cannot be overwritten or deleted. User Libraries can be stored, named and edited.

The Channel Library recalls all processing (Gate, PEQ, Comp, Delay) for the input channel. Turn on 'Recall Preamp' if you want this to also include the preamp settings (Gain, Pad, 48V, Polarity). Channel libraries do not include the linking or ducker settings.

Channel libraries can provide a very quick and complete way to set a starting point before sound check once you have named your channels.

Saving the settings:

Scene memories – Once you have set the mixer up ready for the session go to the **Scenes** screen to name and store the current mix settings as a scene.

You could name and store a scene as a template starting point for future shows, different scenes for each band after you sound check them, theatre show cues, recording sessions and so on.

You can store up to 100 scenes within the Qu mixer. You can copy and clear existing scenes. To copy a scene hold down the Copy key and touch a scene in the list. Then hold down the Paste key and touch the scene position to copy to. This copies all scene parameters, its name and filter.

Scene Safes – This function protects all parameters of a selected channel or mix from being overwritten when a scene is recalled. For example, walk-in music, DJ or presenter. This means that any changes you make on those channels after the sound check has been stored will not be lost when you recall that scene later. Use the **Scenes** / **Safes** screen.

A dot shows one or more assigned

Groups of parameters

Global Scene Filter – This function protects selected parameters of all channels or mix from being overwritten when any scene is recalled. For example, the SoftKey or Custom Layer assignments that you may make after sound check, or the LR mix processing including GEQ which you may change as the audience fills the room. Use the **Scenes** / **Global Filter** screen. This presents a grid of buttons to block different groups of parameters for different channel types.

Per Scene Filter – This is similar to the global filter but protects selected parameters being overwritten when just its related scene is recalled. Each scene has its own filter. This can be a powerful tool, for example when recalling cues in a theatre show, or effects changes during songs. You can copy and clear individual scene filters.

The reset default is no Safes or Filters set.

Show memories – A Show stores everything including the current mix settings, all 100 scenes, libraries and setup.

Shows are not stored within the mixer. They are created directly to a USB drive in the Qu-Drive socket.
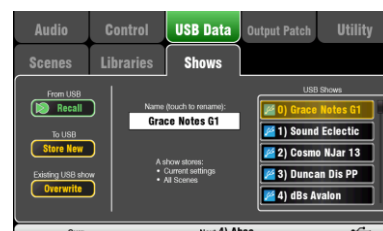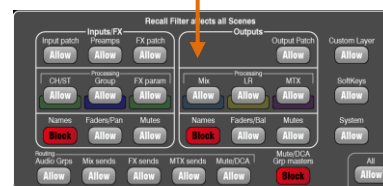
Note – Do not edit file names or locations on the USB key.

Archiving and transferring data via USB – You can use a USB device such as key or drive to archive Qu settings or transfer them between Qu mixers. Memories are compatible for all Qu models.

Start by formatting the USB device on the Qu mixer. Use the **Setup / Utility / Qu-Drive** screen Format function.

Note - This will erase any existing data and create a Qu directory on the device. You only need to format the USB device once on the Qu mixer. Do not attempt to edit the Qu data or file names using a computer. Keep the USB device for use with the Qu mixer only.

Go to the **Setup / USB Data** screen to transfer Scenes, User Libraries and Shows files.

Mixing with Qu-Pac:

Qu-Pad app – This is an engineers tool that lets you mix using wireless iPad control via a Wi-Fi router plugged into the Qu Network port. You can connect up to two iPads running Qu-Pad.

Qu-You app – Lets musicians mix their own monitor mix using wireless iPhone, iPad or iPod Touch control via the router. It prevents access to the main LR mix and cab be locked to one mix. You can connect up to 8 iOS devices running Qu-You.

Note – The maximum number of devices you can connect at any one time is 8. For example, one Qu-Pad and 7 Qu-You.

Use the Qu-Pad Custom Layer and Qu-You assignable group wheels to customise the layout to the way you want to work. Refer to the app Help page.

Reset default for the SoftKeys:

1-4 = Mute Group 1-4
5-13 = unassigned
14 = PAFL Clear
15 = Talk

Live mixing screens

Assignable SoftKeys and Custom Layer
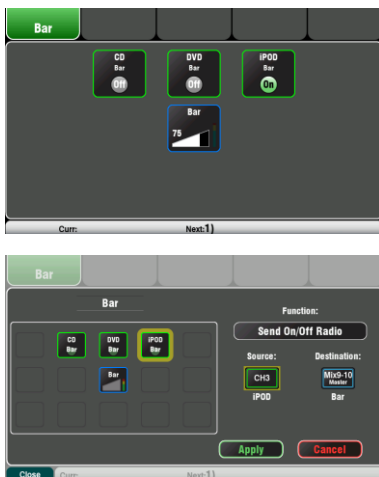
Qu-Pac front panel – Part of the design brief for Qu-Pac was to be able to access every channel and function from the front panel. This means you can mix simple shows or conferences without the need for an iPad, and also gives you a backup if you experience Wi-Fi interference problems.

User assignable SoftKeys can provide quick access to important functions for your event.

The User assignable Custom Select Layer can provide quick access to any combination of channels, FX, mixes and DCAs you are using for your event.

Qu-Control – This screen can be customised by the Admin user to allow very simple control of just a few controls. For example, venue bar staff looking after background music during the day. You can set up the User Permissions to lock out all other functions for these users.

User Permissions

There are three User Profiles:

Admin – Has access to everything. Can configure the mixer and set permissions for the other users.

Standard – Can control the live mix but is locked out of system setup functions.

Basic – Can control faders and mutes only, or be locked out of everything except the Qu-Control screen.
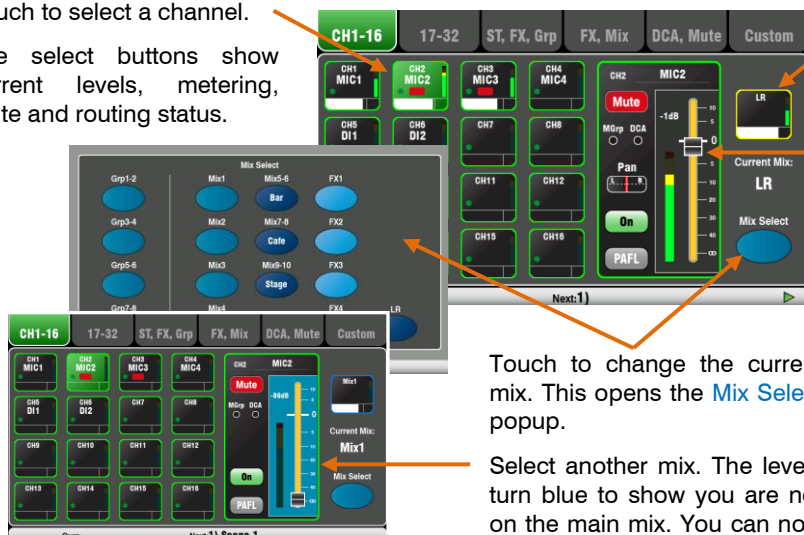
Passwords can be set for each of these three users. A scene range and login scene can be set for the Standard and Basic users.

There are three screens for live mixing. These follow the currently selected channel:

Channel – This is the main mixing screen. It replaces the fader section of the other Qu mixer models with an on-screen 'Virtual Fader Strip' and Select buttons arranged in tabs to access every input channel, FX, mix and DCA masters.

Touch to select a channel.

The select buttons show current levels, metering, mute and routing status.

Touch to change the current mix. This opens the Mix Select popup.

Select another mix. The levels turn blue to show you are not on the main mix. You can now adjust the sends to that mix.

Touch to select the current mix master.

Touch the Fader and use the rotary to adjust its level for the selected channel to the current mix.

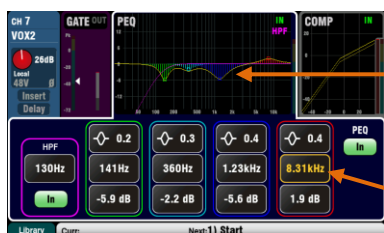Touch Pan and use the rotary to position the signal between L and R.

Touch to toggle Mute, the routing On/Off to the current mix, and PAFL headphones monitoring.

The lower toolbar shows Scenes, Qu-Drive and system status.

Note – Remember to return to the LR mix once you have finished adjusting a mix.

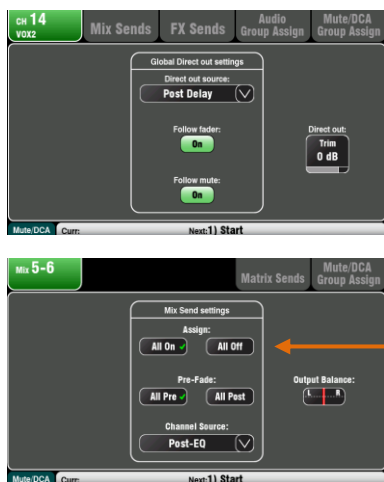**Processing** – This screen lets you access the processing for the selected channel or master.

Touch the top part to open the related parameters in the section below. The top part can also be used with the Copy/Paste/Reset keys to quickly copy or reset different processing blocks.

Touch a parameter box to highlight it, then use the rotary control to change its value.

Use the **Fn** key to open any available extra pages for the current processing view:

> Preamp = Source select (input patching)
> Gate, PEQ, GEQ, Comp = Library

FX Parameters – Select an FX Send or Return and open the Processing screen to view and work with the effects parameters. Use the **Fn** key to open the Library page to change the FX type and store or recall presets.

Routing – This screen lets you access the channel and mix sends and routing options.

Input Routing = Global Direct Output source option
Direct Out Trim level for each channel

Mix Routing = All sends to the mix On or Off
All sends to the mix Pre or Post fader
Channel source (global for each mix)
Stereo mix output balance control

You can also use the Routing screen **Fn** key to access the Matrix sends while a Matrix is selected, or the Mute/DCA group assignments and naming while anything else is selected.

USB recording and playback:

USB B Streaming – Connect an Apple® Mac or Windows® PC computer to the rear panel USB B port to stream up to 32 channels of audio in both directions and send MIDI messages.

You can download the Allen & Heath DAW Control driver (for Mac computer only) to convert the Qu MIDI Strip messages into HUI or Mackie Control protocol. Download the Allen & Heath Qu Windows driver to stream standard MIDI messages to a PC.

Set the Qu MIDI channel number using the **Setup / Control / MIDI** screen.

Patch recording sources

Qu-Drive recording direct to USB drive – You can record stereo or 18-track multitrack direct to a USB storage device plugged into the front panel Qu-Drive port.

Note - Qu-Drive recording requires the USB storage device to support high sustained transfer rates. Not all USB devices will guarantee flawless performance. To find out more please refer to the 'Understanding Qu-Drive and USB' document in the Qu Knowledgebase on the Allen & Heath web site. Use the USB storage device with the Qu mixer only. Do not use it for other applications.

Format the USB device on the Qu mixer before recording using the **Setup / Utility / Qu-Drive** screen. This clears the drive and sets up the Qu directory structure.

Patch the sources to record using the **Setup / I/O Patch / USB Audio** screen. Use the rotary to spin through available sources to each of the 18 tracks. Press the **Fn** key '+1' to increment quickly through the tracks. Choose channel sources to be from Insert Sends or Direct Out.

Stereo recording uses the same source as multitrack CH17 and 18.

Record Stereo or Multitrack using the **Home / Qu-Drive** screen. Recording creates WAV files in Qu directories on the USB device.

Note – Do not edit the name or contents of files on the USB device. To avoid errors, we recommend you reformat the device on the Qu mixer before your next session if you copy or delete files using a computer.

Play back Stereo or Multitrack using the **Processing** screen Preamp page **Fn** key view. Choose 'USB' as the source to the channels. Select 'Qu-Drive' as the Global USB Source.
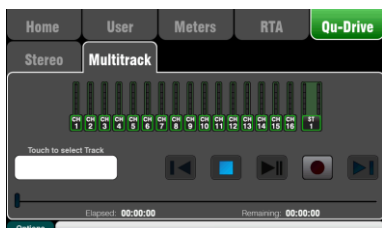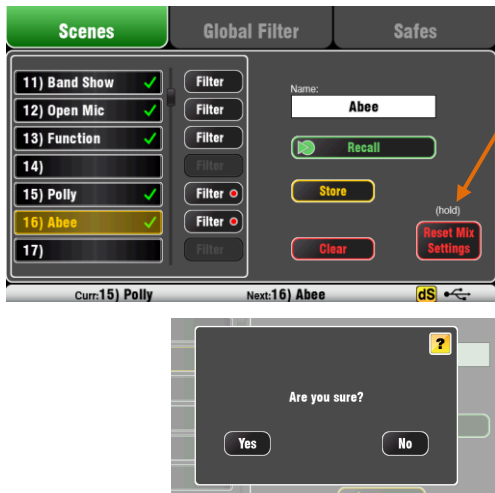
Patch recording sources
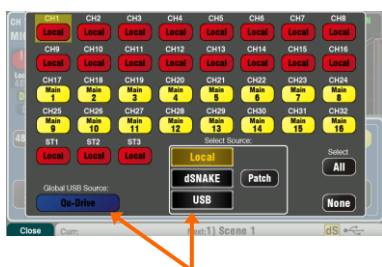
Refer to the Qu Mixer Reference Guide for further information on these and additional Qu functions.

10.Resetting the Mixer

There are two ways to reset the Qu settings to give you a known starting point:

10.1 Reset Mix Settings – A starting point for mixing

This button in the **Scenes** screen resets the mixer to a known starting point for mixing. It provides a quick way to reset the processing, mixes and patching before a show or after another user has finished with it.

All Scene parameters are reset to a factory default. Parameters that are not stored in scenes are not affected. This reset does not affect existing scenes and libraries stored in the mixer.

If you want to keep your current settings then save these as a Scene before resetting the mixer.

Note - This reset is not affected by the Global filter and Safes settings but it does clear these.

Touch and hold the **Reset Mix Settings** button for 1 second until the confirmation screen appears. This 'resets the board' ready for mixing:

- All preamps are patched and have nominal mic gain set and phantom power switched off, a good start for vocal microphones,

- All EQ is switched in and set flat ready to start adjusting tone,

- Gates and compressors are switched out but have their parameters set ready for being switched in for applications such as drum gating and vocal compression,

- Channels are assigned to the mixes and FX with their faders and send levels turned down ready to start dialling into the mix,

- The mixes are set pre-fade and sourced post-EQ, pre-compressor ready to be used as monitor sends.

- The FX master and return faders are turned up and default reverbs and delay patched ready for you to hear the effects as soon as you raise a channel send.

- The Mix master faders are turned up ready to hear sound when you raise a channel send. The main LR master is turned down to avoid unexpected loud level in the PA.

- The Groups are unassigned and their master faders turned down.

- The Matrix sends are assigned and their master faders turned down.

Refer to the Qu Mixer Reference Guide for further information on the reset functions.

Creating your own start settings – You can start by resetting the mixer and then editing the patching, levels and parameters to suit your starting preferences. Name and store this as a **Scene**, for example Scene 1 "Reset Board".

10.2   System Hard Reset

Hold for 5 seconds
while powering up
the mixer

A power up reset is available if you need to fully reset the Qu mixer settings and memories. This could be done to clear the system out before sending the mixer to a client, or if you suspect a system problem.

To reset mix parameters before starting a show or sound check, use a Scene or the Reset Mix Settings function.

Note – A hard reset clears all current settings, all Scenes, User Libraries and User Permissions.

First turn off the system including amplifiers and powered speakers.

To hard reset the Qu mixer - Press and hold the touch screen Reset and Setup keys together and then power up the mixer. Keep the keys pressed for at least 5 seconds while the mixer boots. Release the keys.

The hard reset:

- Resets the current settings the same as using the Scenes screen 'Reset Mix Settings' button.

- Resets non-scene parameters and user preferences to a factory default.

- Clears scene recall Safes and all Filters.

- Clears all memories including Scenes, User Libraries and User Permissions.

- Resets the Network IP address and the touch screen calibration.