ALLEN&HEATH SQ-5

AP11089 Issue 2

Introduction

Safety

Before powering on the SQ, read the safety instructions sheet (AP9240/CL1-1) that is supplied along with this guide. For your own safety and that of the operator, technical crew and performers, follow all instructions and heed all warnings included in these documents and printed directly on the equipment.

Registration

To be kept informed of updates, the latest firmware and new releases for the SQ range, register your SQ-5 at www.allen-heath.com/register

Firmware and Reference Guide

This introduction is intended to give you an overview of the SQ-5 hardware and outline operating principles. Visit www.allen-heath.com to obtain the latest version of firmware and reference guide. The latest firmware is required if you intend to use any SQ Apps with your SQ.

Features

The SQ is a high resolution 96kHz audio mixing console. It has been designed using the latest technology to provide the most detailed and accurate sound quality, along with a range of options for expandability and integration.

SQ Range
48 input channels with preamp, HPF, PEQ, gate, comp, delay
32 output channels (LR, 12 mono/stereo Mix, 3 Stereo Matrix)
8 stereo FX with dedicated return channels
8 Mute groups, 8 DCA groups
Source patching (Local, SLink remote, Option card, USB)
Output socket and Insert I/O patching
Multi-channel USB streaming and direct to USB drive recording
Talkback mic input, dual footswitch control, wireless control

SQ-5 Specific
96 fader strips (16+1 faders, 6 layers)
16 local mic/line input sockets
3 local stereo line input sockets
12 XLR + 2 TRS output sockets
8 assignable SoftKeys
Rack mountable

SLink Port Compatibility	Sample Rate	Protocol	Max Length	
DX168, DX16-4W, DX Hub	96kHz	DX	100m	Cat5e or higher
AR2412, AR84, AB168	48kHz	dSnake	120m	Cat5e or higher
ME-U, ME-1, ME-500	48kHz	dSnake		Cat5e or higher

Accessories

SQ-5-RK19	19” Rack Mounting Kit (12u)
SQ-BRACKET	Detachable Metal Bracket for iPad/tablet
AP11332	Water repellent polyester dustcover with printed logo
AR84	8 XLR input, 4 XLR output, dSnake Remote AudioRack (Rackmount)
AR2412	24 XLR input, 12 XLR output dSnake Remote AudioRack (Rackmount)
AB168	16 XLR Input, 8 XLR Output, dSnake Remote AudioRack (StageBox/Rackmount)
DX168	16 XLR Input, 8 XLR Output, 96kHz DX Remote AudioRack (StageBox/Rackmount)
DX164-W	16 XLR Input, 4 XLR Output, 96kHz DX Wall Mount Audio Expander
DX-HUB	Remote Audio Hub with 4 DX Link ports (Rackmount kit available)
AH9650	100m drum of EtherFlex Cat5e with locking Neutrik EtherCon connectors
AH9981	50m drum of EtherFlex Cat5e with locking Neutrik EtherCon connectors
AH9651	20m of Neutrik EtherFlex Cat5e with locking Neutrik EtherCon connectors

① Touch Screen, Screen Select Keys and Screen Encoder

View processing and access the routing and setup menus using keys below. Touch to select a parameter and use the rotary to adjust values.

② Fader Strips and Layer Select Keys

6 layers of 16 faders provide 96 assignable strips for access to any combination of channels, returns, masters and DCAs. Each strip has fader, mute, select and PAFL keys, peak and signal meter.

③ Ident Strip

LCD displays show channel name and colour for each of the 16 strips. Press the 'View' key to see secondary information such as input source.

④ Channel (Pre/HPF/Gate/Comp)

Physical controls for the selected channel. Preamp, HPF frequency, Gate threshold, Comp threshold.

⑤ Channel (PEQ/GEQ)

Physical controls for the selected channel. EQ band select keys and parametric controls. Use the 'Fader Flip' key to present selected mix GEQ on faders.

⑥ Pan Control

⑦ Master Strip and Mix Select Keys

Press a blue 'Mix' key to present its sends on the 16 faders and its master on the master fader strip. Select 'LR' to work with the main LR mix and channel faders.

⑧ FX Send Select Keys

Press a blue 'FX' key to present its sends on the 16 faders and its master send on the master fader strip.

⑨ Headphone Output and Level Control

⑩ Main Meter

Displays the LR Mix or selected PAFL signal level.

⑪ Talk Key

Momentary or latching switch for the talkback microphone.

⑫ SQ-Drive Port

Record/play audio direct to/from a USB drive. Transfer scene, show and library data using a USB key. Update SQ firmware.

⑬ ST3 Input

3.5mm stereo jack input, can be used for connection to an external background music device.

⑭ Pre Fade and Assign Keys

Hold 'Pre-Fade' and press 'Sel' to toggle channels pre or post fade to the mix. Hold 'Assign' and press 'Sel' to route channels to the selected mix.

⑮ CH to All Mix Key

Press and hold to present all sends to mixes for the currently selected channel. The ident strip displays mix names.

⑯ Copy/Paste/Reset Keys

Used to copy, paste or reset processing blocks or channel parameters.

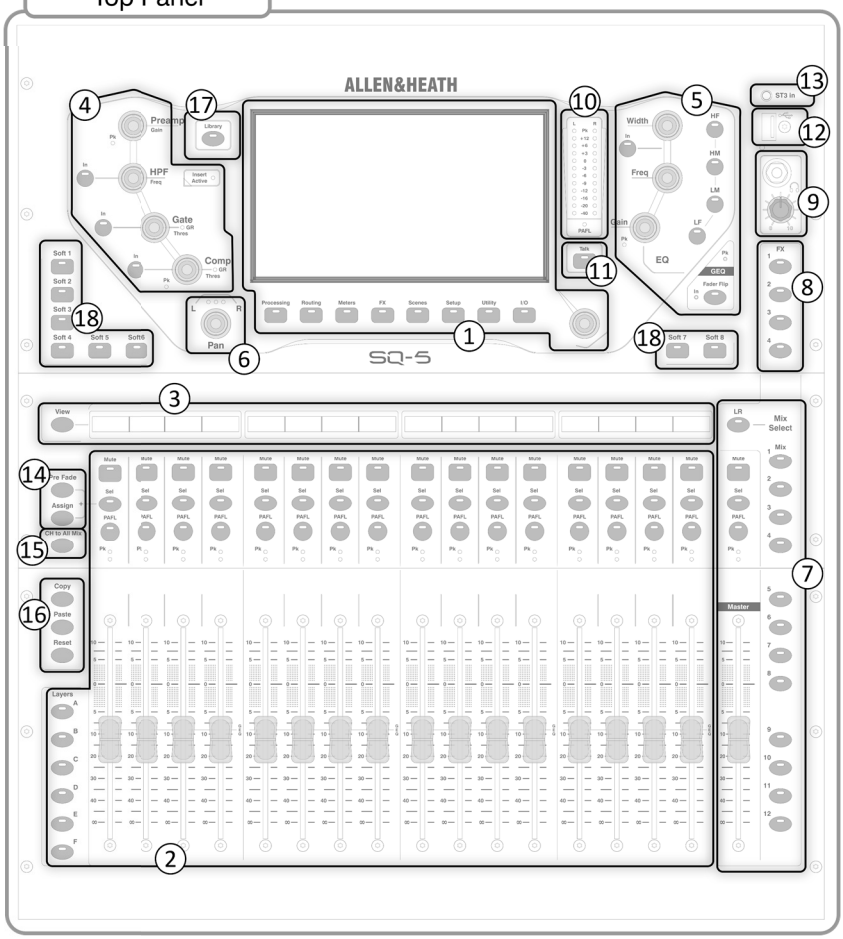
⑰ Library Key

Opens different libraries to enable save and recall of presets for channel/mix/FX processing.

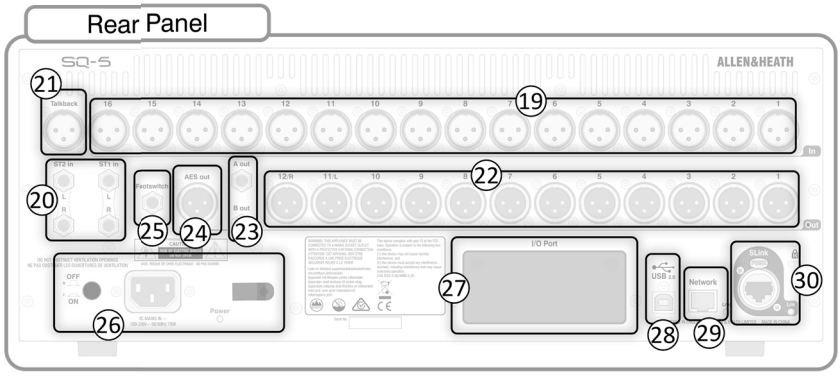
⑱ Assignable SoftKeys

Use Setup screen to assign functions such as mutes, tap tempo, scene recall, SQ-Drive control and more.

Top Panel



Rear Panel



⑲ Local Mic/Line Inputs

⑳ Local Stereo Line Inputs

㉑ Talkback Mic Input

㉒ Local XLR Outputs

㉓ Local TRS Jack Outputs

㉔ AES Digital Output

㉕ Mono/Dual Footswitch Connection

㉖ Mains Power Input and Switch

㉗ I/O Port - Option Card

Multi-format multi-channel digital audio

㉘ USB-B Port

Connection to a computer for multi-channel audio and MIDI I/O

㉙ Network Port

Connect to a router for network/wireless control

㉚ SLink Port

For connection to Allen&Heath remote audio racks, including AB, AR and DX ranges, as well as the ME personal monitoring system

Powering On

i. Connect power lead (26).
ii. Connect input sources using (19), (20) and (21).
iii. Connect outputs (22) and (23) to amplifiers, speakers or line level inputs on other equipment.
iv. If required, connect digital I/O such as AudioRacks or Computers using (24), (27), (28) and (30).
v. If you are using a footswitch, connect this (25).
vi. Switch on the SQ using the push switch (26).
vii. Power on any connected amplifiers or powered speakers.

Setup

To reset all mix, parameter and routing settings go to the 'Scenes' screen (1), then press and hold the 'Reset Mix Settings' button. This will 'zero' the desk without deleting saved scenes or libraries.

To check or alter patching, go to the 'I/O' screen (1) and use the matrix to patch from Local/Digital Inputs to SQ input channels, and to patch SQ outputs [LR/Mix/Group/Matrix/DirectOut] to Local/Digital Outputs.

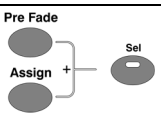
Workflow

Press a blue 'LR', 'Mix' or 'FX' Key to present send levels for the selected Mix on the 16 Fader Strips.
Use the Layer Keys (2) to move through the 6 layers of faders and adjust individual levels.
The Master strip (7) controls the master send level of the selected Mix/FX.

Select a strip by pressing the green 'Sel' Key on a Fader Strip (2) or the Master Strip (7).
The physical controls (4), (5) and (6) can now be used to adjust parameters for the selected strip.

Go to the 'Processing' screen to see an overview of the processing for the selected strip.
Tap on any part of the processing to see a detailed view, then touch a parameter on-screen and use the touch screen encoder (1) to adjust.

Mute Keys are illuminated when a strip is muted.
By default, PAFL (Pre/After Fade Listen) Keys allow you to route one channel at a time to the PAFL bus/Phones output. PAFL settings can be changed in the 'Setup' screen.



Mix sends set to 'Post Fade' follow the LR send levels. To toggle channels between 'Pre Fade' and 'Post Fade' for the selected Mix, hold the 'Pre Fade' Key and use 'Sel' Keys.
To assign or un-assign a strip from the currently selected mix, hold the 'Assign' Key and use 'Sel' Keys.

Pressing and holding the 'CH to All Mix' Key will display the send levels for the currently selected strip across the main fader strips.

Press the 'FX' Key to see and adjust FX engines.
Use the 'Library' Key (17) to recall FX types and presets - change parameters by selecting on-screen and using the touch screen encoder.
FX busses 1 to 4 (8) send to FX engines 1 to 4 by default.
FX Return channels can be routed to Mixes in the same way as stereo input channels.

Hold the 'Copy' Key and press an 'In' Key (4) (5), a 'Sel' Key (2) (7), or on-screen processing to copy it.
Hold the 'Paste' Key and press a 'Sel' Key (2) (7) to paste the copied processing to another channel.
Hold the 'Reset' Key and press an 'In' Key (4) (5), a 'Sel' Key (2) (7), or on-screen to reset parameters.

Storing and Recalling

A 'Scene' is used to store or recall a mix. A 'Show' comprises multiple scenes and all settings.
Press the 'Scenes' Key to access the list of scenes in the current show.
Use a combination of scene filters and 'Safes' to decide which settings/parameters/strips are affected when a scene is recalled.

Powering Off

i. Power off any connected amplifiers or powered speakers.
ii. Navigate to the 'Home' screen and select 'Shut Down'
iii. Switch off the unit using the push switch (26).

Connections			
Balanced mono/stereo inputs	Mic or line level	XLR	1=Gnd, 2=+, 3= -
ST1 and ST2 Inputs	Line level	¼" TRS Jack	Tip= +, Ring= -, Sleeve=Gnd
ST3 Input	Line level	3.5mm Jack	Tip=Left, Ring=Right, Sleeve=Gnd
Balanced XLR Outputs	Line level	XLR	1=Gnd, 2= +, 3= -
Balanced Jack Outputs	Line level	¼" TRS Jack	Tip= +, Ring= -, Sleeve=Gnd
SLink	RJ45/EtherCON. Use Cat5e or higher. Refer to individual expansion unit instructions.		
AES Stereo Digital Output	Digital	XLR	Use 110Ω AES Cable
Rear USB Connection	USB-B, Conforms to USB 2.0 standard		
Network Connection	RJ45, Use Cat5e or higher		
Footswitch	¼" TRS (dual) or TS (mono) Jack		

Further Information and Support

There are many support resources available through our website including user guides, knowledgebase articles and access to the Allen & Heath Digital Community.

For local language support, please contact the Allen & Heath distributor for your region.

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. The warranty does not cover fader wear and tear.

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. 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.

CE

SQ Series products comply with the European Electromagnetic Compatibility directive 2014/30/EU and the European Low Voltage directive 2014/35/EU.

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

SQ-5 Introduction | AP11089 Issue 2

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