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-7 at www.allen-heath.com/register

Firmware and Reference Guide
This introduction is intended to give you an overview of the SQ-7 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.

Ventilation
The SQ uses fans for cooling. Adequate space must be left for air flow around fans and vents when in use.

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.

<table>
<thead>
<tr>
<th>SQ Range</th>
<th>SQ-7 Specific</th>
</tr>
</thead>
<tbody>
<tr>
<td>48 input channels with preamp, HPF, PEQ, gate, comp, delay</td>
<td>192 fader strips (32+1 faders, 6 layers)</td>
</tr>
<tr>
<td>32 output channels (LR, 12 mono/stereo Mix, 3 Stereo Matrix)</td>
<td>32 local mic/line input sockets</td>
</tr>
<tr>
<td>8 stereo FX with dedicated return channels</td>
<td>3 local stereo line input sockets</td>
</tr>
<tr>
<td>8 Mute groups, 8 DCA groups</td>
<td>16 XLR + 2 TRS output sockets</td>
</tr>
<tr>
<td>Source patching (Local, SLink remote, Option card, USB)</td>
<td>16 assignable SoftKeys</td>
</tr>
<tr>
<td>Output socket and Insert I/O patching</td>
<td>8 assignable Soft Rotaries with LCD Displays</td>
</tr>
<tr>
<td>Multi-channel USB streaming and direct to USB drive recording</td>
<td>Talkback mic input, dual footswitch control, wireless control</td>
</tr>
</tbody>
</table>

SLink Port Compatibility

<table>
<thead>
<tr>
<th>SLink Port</th>
<th>Sample Rate</th>
<th>Protocol</th>
<th>Max Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>DX168, DX164-W, DX Hub</td>
<td>96kHz</td>
<td>DX</td>
<td>100m Cat5e or higher</td>
</tr>
<tr>
<td>AR2412, AR84, AB168</td>
<td>48kHz</td>
<td>dSnake</td>
<td>120m Cat5e or higher</td>
</tr>
<tr>
<td>ME-U, ME-1, ME-500</td>
<td>48kHz</td>
<td>dSnake</td>
<td>Cat5e or higher</td>
</tr>
</tbody>
</table>

Accessories

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQ-BRACKET</td>
<td>Detachable Metal Bracket for iPad/tablet</td>
</tr>
<tr>
<td>AP11334</td>
<td>Water repellent polyester dustcover with printed logo for SQ-7</td>
</tr>
<tr>
<td>AR84</td>
<td>8 XLR input, 4 XLR output, dSnake Remote AudioRack (Rackmount)</td>
</tr>
<tr>
<td>AR2412</td>
<td>24 XLR input, 12 XLR output dSnake Remote AudioRack (Rackmount)</td>
</tr>
<tr>
<td>AB168</td>
<td>16 XLR Input, 8 XLR Output, dSnake Remote AudioRack (StageBox/Rackmount)</td>
</tr>
<tr>
<td>DX168</td>
<td>16 XLR Input, 8 XLR Output, 96kHz DX Remote AudioRack (StageBox/Rackmount)</td>
</tr>
<tr>
<td>DX164-W</td>
<td>16 XLR Input, 4 XLR Output, 96kHz DX Wall Mount Audio Expander</td>
</tr>
<tr>
<td>DX-HUB</td>
<td>Remote Audio Hub with 4 DX Link ports (Rackmount kit available)</td>
</tr>
<tr>
<td>AH9650</td>
<td>100m drum of EtherFlex Cat5e with locking Neutrik EtherCon connectors</td>
</tr>
<tr>
<td>AH9981</td>
<td>50m drum of EtherFlex Cat5e with locking Neutrik EtherCon connectors</td>
</tr>
<tr>
<td>AH9651</td>
<td>20m of Neutrik EtherFlex Cat5e with locking Neutrik EtherCon connectors</td>
</tr>
</tbody>
</table>
Mono/Dual Footswitch Connection

Local XLR Outputs

Talkback Mic Input

Local Stereo Line Inputs

Local Mic/Line Inputs

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.

Fader Strips and Layer Select Keys

6 layers of 32 faders provide 192 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.

Ident Strip

LCD displays show channel name and colour for each of the 32 strips. Press the ‘View’ key to see secondary information such as input source.

Channel (Pre/HPF/Gate/Comp)

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

Channel (PEQ/GEO)

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

Pan Control

Master Strip and Mix Select Keys

Press a blue ‘Mix’ key to present its sends on the 32 faders and its master on the master fader strip. Select ‘LR’ to work with the main LR mix and channel faders.

FX Send Select Keys

Press a blue ‘FX’ key to present its sends on the 32 faders and its master send on the master fader strip.

Headphone Output and Level Control

Main Meter

Displays the LR Mix or selected PAFL signal level.

Talk Key

Momentary or latching switch for the talkback microphone.

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

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

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

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

Use Setup screen to assign functions for quick access to often used parameters.

Local Mic/Line Inputs

Local Stereo Line Inputs

Talkback Mic Input

Local XLR Outputs

Select Keys

Local TRS Jack Outputs

AES Digital Output

Mono/Dual Footswitch Connection

Mains Power Input and Switch

I/O Port - Option Card

Multi-format multi-channel digital audio

USB-B Port

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

Network Port

Connect to a router for network/wireless control

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 (27).
ii. Connect input sources using (20), (21) and (22).
iii. Connect outputs (23) and (24) to amplifiers, speakers or line level inputs on other equipment.
iv. If required, connect digital I/O such as AudioRacks or Computers using (25), (28), (29) and (31).
v. If you are using a footswitch, connect this (26).
vi. Switch on the SQ using the push switch (27).
vii. Power on any connected amplifiers or powered speakers.

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 (27).

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.

I/O

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

LR Mix FX

Press a blue ‘LR’, ‘Mix’ or ‘FX’ Key to present send levels for the selected Mix on the 24 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.

Sel

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.

Processing

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 PAFL

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.

Pre Fade Assign

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.

CH to All Mix

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.

Copy Paste Reset

Hold the ‘Copy’ Key and press an ‘In’ Key (4) (5), a ‘Sel’ Key (2) (7), to copy parameters. 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.
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.

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.

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