ALLEN&HEATH

Getting Started Guide | Issue 1

1. IMPORTANT - Read before starting

Safety instructions

Before starting, read the **Important Safety Instructions** 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 this product is determined by the firmware (operating software) that runs it. Firmware is updated regularly as new features are added and improvements made.

(i) Check <u>www.allen-heath.com</u> for the latest version of 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 at www.allen-heath.com/legal. You agree to be bound by the terms of the EULA by installing, copying, or using the software.

General precautions

- Protect the equipment from damage through liquid or dust contamination.
- If the equipment has been stored in sub-zero temperatures allow time for it to reach normal operating temperature before use at the venue.
- Avoid using the equipment in extreme heat and direct sunlight. Make sure the ventilation slots are not
 obstructed and that there is adequate air movement around the equipment.
- Clean the equipment 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.

Powering on and off

It is important to always power the **mixer on first**, before powering on any connected equipment such as amplifiers or powered speakers.

When shutting down, turn off amplifiers or speakers, ensure you have stopped any recording and finished any transferring of data, then shutdown the mixer from the Home screen before turning the **mixer off last**.

Register your product

Register your product online via www.allen-heath.com/register.

Further information and support

Please refer to the Allen & Heath website for further information, knowledgebase and technical support.

(i) Check for the latest version of this Getting Started Guide.

2. Packed items

Check you have received the following items:

- Qu Digital Audio Mixer
- IEC mains lead
- Safety booklet

3. Contents

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4. Introduction

The Qu range of 96kHz digital audio mixers are designed to combine ease-of-use with powerful processing, making them ideal for a wide range of applications and suitable for technical and non-technical users alike.

All Qu models feature the same XCVI core, providing 32 mono and 3 stereo channels, 12 mixes, 4 matrices, 6 FX engines, plus an SLink port for connection to the Everything I/O ecosystem of remote expanders.

There are 3 frame sizes in the range, each with a different number of fader strips and local input/output sockets.

Each frame size has a Dante enabled variant indicated by a 'D' suffix, for a total of 6 models.

	Qu-5 Qu-5D	ეი- <u>ტე</u> ეი-ტ	Qu-7 Qu-70
Faders	16 + 1	24 + 1	32 + 1
Mic/Line Combi Inputs	16	24	32
XLR Outputs	12	16	20
19" Rackmount	Rack ear kit available	-	-

Dante variants

The **Qu-5D**, **Qu-6D** and **Qu-7D** all include a dedicated Dante etherCON port alongside the SLink port. This can be connected to a Dante network or to any other Dante enabled device for 16x16 channels of 48kHz or 96kHz audio.

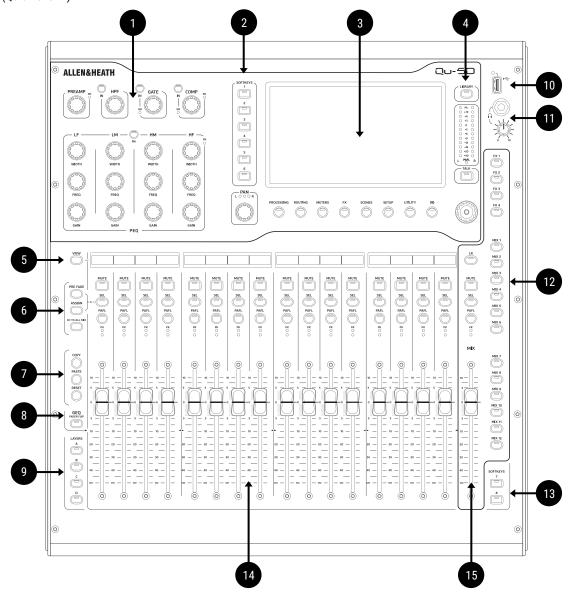
Features

- 96kHz XCVI Core variable bit-depth up to 96bit, <0.7ms latency
- 38x Inputs to Mix (32x Mono/Linkable, 3x Stereo)
- Stereo Main LR Output
- 12x Mixes (6x Mono/Linkable Aux/Group, 6x Stereo Aux/Group)
- 4x FX Sends
- 4x Mono/Linkable Matrix Mixes
- 16, 24 or 32 x XLR/Jack 'Combi' Mic/Line Input Sockets
- 2x Stereo Line Input Sockets (each 2x TRS)
- 1x XLR Talkback Socket
- 12, 16 or 20 x XLR Output Sockets
- 2x TRS Output Sockets
- 1x AES3 Stereo Digital Output Socket
- 128x128 SLink Port for Everything I/O expansion and system connections
- 16x16 48/96 kHz Dante interface (Qu-5D, Qu-6D or Qu-7D only)
- Stereo Headphone Output
- 7" Capacitive Touchscreen
- 17, 25 or 33 x 100mm Motorised Faders
- 4x Customisable Channel Strip Layers
- 8x SoftKeys
- 12V Lamp Socket
- Configurable single/dual Footswitch Connection
- Configurable Chromatic Channel Meter LED's
- IEC Mains Connection with Worldwide PSU
- RJ45 Network Socket

- USB-A For stereo audio record/playback and data (2 Channels @48/96kHz, 24bit)
- USB-C Audio interface for multichannel record/playback (32x32 @48/96kHz, 16/24bit)
- SD Card Slot for multichannel audio record/playback
 - (16 Channels @96kHz, 32 Channels @48kHz, 24bit)
- Input processing Trim, HPF, Gate, Parametric EQ, Compressor, Channel Delay
- Mix processing Graphic EQ, Feedback Assistant, PEQ, Compressor, Channel Delay
- Fully patchable Insert points
- 6x Multi-FX Engines with dedicated Stereo Return Channels and PEQ
- 32 Channel, zero latency, DEEP Automatic Mic Mixer
- 31/61 Band Real Time Analyser
- Feedback Assistant with 8 simultaneous detectors
- Gain Assistant
- 300 Scene memories per Show
- Channel Safes, Global/Per-Scene Recall Filters
- FX, Processing and Channel Libraries
- User Permissions to restrict operator access
- DAW Control emulation via USB or TCP/IP
- Compatible with ME personal monitoring range
- Remote control via free apps Windows/MacOS/iOS/Android

5. Surface

(Qu-5D Shown)



1. Processing controls

In/Out keys and rotary switches to control processing for the currently selected channel.

2. SoftKeys 1-6

SoftKeys can be assigned custom functions by the user and their function can be changed on a scene-byscene basis. For the full list of available functions, refer to the user guide.

3. Screen keys, Touchscreen and Touchscreen rotary control

The touchscreen displays and allows adjustment of all mixer settings and parameters. Use the Screen Keys and on-screen tabs to navigate, then touch to select parameters and use the touchscreen rotary control to adjust them.

4. Library, PAFL meter and Talk key

The Library Key illuminates when a library is available for the screen being viewed and is used to store or recall settings and parameters.

The 12 segment PAFL meter displays the level of the signal being sent to headphones, which by default with no PAFL keys pressed is the Main LR mix.

The Talk key is used to activate talkback to a mix or output.

5. View Key

Press to cycle through the information displayed on the fader strip LCD displays and show the current SoftKey assignments on screen.

6. Routing Keys

Hold Pre Fade or Assign keys and use Sel keys on the fader strips to toggle pre/post fade send level and assignment to the currently selected mix.

Press and hold the Ch To All Mix key to show and adjust all destinations for the currently selected channel across the fader strips.

Hold both the Ch To All Mix key and either the Pre Fade or Assign keys, then use the Sel keys on fader strips to toggle pre/post fade send levels and assignments to any mix from the currently selected channel.

7. Copy/Paste/Reset Keys

Press and hold the Copy key then press a processing In key, channel Sel key or Mix key to copy processing parameters or sends to a mix.

Press and hold the Paste key then press a channel Sel key or Mix key to past processing parameters or sends to a mix.

Press and hold the Reset key then press a processing In key, channel Sel key, Mix key or push a fader towards 0dB or -inf to reset parameters or sends.

8. GEQ Fader Flip Key

Press when a Mix channel is selected which has GEQ enabled to display and adjust bands across fader strips. Press multiple times to cycle through all bands and exit the mode.

9. Layer keys

There are 4 layers of fader strips which are all freely assignable.

10. Qu-Drive port

The Qu-Drive (USB-A) port can be used to record/play stereo audio direct to/from a USB drive, transfer Show/Scene/Library data and update firmware.

11. Headphone output and headphone level control

12. Mix Select Keys

Press a Mix select key to display send levels to that mix on the faders.

13. SoftKeys 7-8

SoftKeys can be assigned custom functions by the user and their function can be changed on a Scene-byscene basis. For the full list of available functions, refer to the user guide.

14. Fader Strips

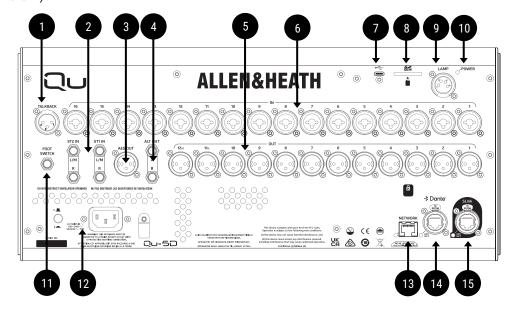
Freely assignable fader strips, each with LCD display, Mute/Sel/PAFL key and 100mm motorised fader.

15. Mix Fader Strip

The Mix fader strip always controls the currently selected mix and includes Mute/Sel/PAFL keys and a 100mm motorised fader.

6. Rear Panel

(Qu-5D Shown)



- 1. Talkback microphone input
- 2. Local Inputs TRS line level
- 3. AES3 digital stereo output
- 4. Local Outputs TRS line level
- 5. Local Outputs XLR line level
- 6. Local Inputs XLR mic/line level
- 7. USB-C port

Class compliant USB audio/MIDI interface for multichannel recording and playback and MIDI communication.

8. SD Card slot

For multichannel recording or playback using SDHC memory cards.

9. Lamp connection

12V 4-pin XLR lamp socket.

10. Power LED

Illuminated only when powered on and all voltage rails are good.

11. Dual footswitch connection

For connection of a single or dual footswitch. Can be assigned custom functions. For the full list of available functions, refer to the user guide.

12. Mains power inlet and switch

13. Network port

For connection to a dedicated (recommended) or existing network for remote wired or wireless control of the mixer.

14. Dante port (Qu-5D, Qu-6D, Qu-7D only)

For connection to a 48kHz or 96kHz Dante network or other Dante enabled devices. A 'Control Network Bridge' option allows the Dante port and the Network port to be bridged for control messaging.

15. SLink port

Intelligent digital audio port with up to 128x128 channels supported. Enables connection to the Allen & Heath 'Everything I/O' ecosystem of 48kHz or 96kHz expanders, system-to-system connections and personal monitoring devices.

7. Audio I/O and Expansion

The Qu has built-in 'local' input and output sockets. Local inputs include mic/line inputs on XLR with associated preamp and ADC and line level TRS connections with ADC. Local outputs include both XLR and TRS line level analogue outputs with associated DAC, as well as a stereo digital AES output on XLR.

In addition to the Local I/O, Qu features multiple digital I/O connections. These are presented to the user in the same way as the local sockets and can also be used in the same way, as sources for input channels and destinations for outputs, or for channel insert points.

USB-C and Qu-Drive (SD Card and USB-A)

Qu features a built-in, class compliant audio/MIDI USB-C interface which can be used without drivers on any device/OS that supports class compliant audio/MIDI devices.

For improved performance, software compatibility and enhanced system options, a Windows driver can be downloaded from https://www.allen-heath.com.

The USB-C audio interface is bidirectional with 32 inputs and 32 outputs running at either 48kHz or 96kHz. It can be used with all leading DAW's and professional audio software for multichannel recording and playback.

Qu-Drive can record or playback up to 16 channels at 96kHz or up to 32 channels at 48kHz directly to or from an SD Card. Use SDHC Cards, Class 10, UHS 1, up to 32GB for best results.

Alternatively, Qu-Drive can record or playback stereo audio directly to or from a USB storage device connected to the USB-A port.

(1) Record and playback patching for USB-C and Qu-Drive is presented as simply 'USB' in the Qu. Playback can only be from either USB-C or Qu-Drive at any one time, with Qu-Drive taking priority.

SLink Port

The SLink Port is used to connect to the Everything I/O range of A&H digital stageboxes/expanders (https://www.allen-heath.com/everything-i-o/) for bidirectional multichannel audio and, where possible, control preamp and SRC options. It can also be used to connect directly to another SLink port or GigaACE option card in a mixer to transmit and receive multichannel audio.

SLink is not a protocol itself, but an intelligent port which switches mode depending on the first device connected and can run one of three protocols at one time. It carries out Sample Rate Conversion when required as the Qu always runs at 96kHz internally for all processing and mixing.

For more information and examples of possible SLink configurations, refer to the 'SLink Connections' document available to download from https://www.allen-heath.com/.

Protocol	Sample Rate	Total Possible Inputs	Total Possible Outputs
dSnake (+ME)	48kHz	40	20 (+40 ME)
DX	96kHz	32	32
GigaACE/GX	96kHz	128	128

- (i) Expanders do not alter the number of processing channels available in the mixer core but increase the number of input and output sockets available for use in the system.
- Control of preamps in an expander is always from the mixer the expander is connected to. Unless using Dante DT expanders with a Qu-5D, Qu-6D or Qu-7D, where multiple mixers can control the same preamp.
- (i) For all digital audio connections using network connections, use CAT5e (or higher specification) STP cables up to 100m long.
- (i) Refer to https://www.allen-heath.com/ for cable requirements, recommendations, and a list of CAT cables available to order.

8. Control of the mixer

The audio processing core of the Qu is controlled by the 'control layer' comprising local 'surface' control, network control and MIDI control.

With all Allen & Heath digital mixers, the audio core and control layer are kept somewhat separate to prevent any issue with the control network from having an impact on audio.

Changes to the core are made from the control layer and any changes to the core are reflected back to the control layer. In this way the current state of the mixer core is always visible and accurate.

Local 'Surface' control

The Qu has two main operational concepts;

- Press the green Sel key of a fader strip to select a channel and adjust its processing using the dedicated surface controls or through the Processing screen.
- Press a blue Mix key to display send levels to that mix across the fader strips.

The touchscreen area includes screen selection keys and a dedicated rotary control. Select a screen using the screen keys, then touch on screen to navigate and action any on screen buttons. Select a value parameter on screen, and the touchscreen rotary will illuminate to show it can be used for adjustment.

Copy, Paste and Reset keys are provided which can be held when touching channels, processing parameters or scenes on the screen for easy duplication or resetting of parameters and data.

The dedicated Library key illuminates whenever viewing a screen that has an accompanying Library. This allows storing of user data and recall of factory and user data.

SoftKeys can be set to control specific functions and parameters and their functions can be changed on a scene-by-scene basis if required.

The headphone level is an analogue control for the headphone amplifier.

(i) Refer to the relevant firmware reference guide available from https://www.allen-heath.com/ for more information on the navigation and features of the installed firmware.

Network control

There are 2 remote control apps available for the Qu series:

- **Qu-MixPad** for the engineer Provides control over almost all parameters and settings of the mixer, including many setup functions.
- Qu4You for the performer
 Provides easy to use control over a single mix, allowing control of monitoring levels without the risk of affecting other performers' mixes.

These require that the device running the app and the Qu itself are clients on the same network and in the same address range.

The Qu's network port can be connected to a LAN port on a router, access point or switch, or directly to the device. By default, the Qu is set to receive an address via DHCP. If no address is assigned, it will assign itself an address automatically. It is also possible to set a static address for the Qu.

Devices running apps can then be connected to the same network and their addresses set within the same range.

- A total of 8 remote apps can be connected to an Qu at one time, with up to 2 of these being Qu-MixPad.
- All Qu Network settings and the number of currently connected devices can be found in the Setup > Network screen.
- For more information on app connection and functionality, please refer to the in-app help document and firmware user guide.

MIDI control

MIDI (Musical Instrument Digital Interface) is a standardised communication protocol that enables digital devices to communicate and allows one piece of equipment to control another.

The Qu sends and receives MIDI over USB (via the USB-C port) as well as over ethernet (using MIDI over TCP/IP via the network port).

Messaging can be broken down into two sets of bi-directional messages. Those that are used with Qu mixing parameters (i.e. level control of Qu audio channels), and those used to control external software or equipment (i.e. to control a DAW).

When connected to a device using the USB-C port, the Qu will appear as a class compliant MIDI input and output device. This can be used with software directly or through use of the Allen & Heath MIDI Control application.

To connect a device to the Qu over a network, Allen & Heath MIDI Control can be used. All other clients used for network communication should be configured to send messages to the Qu's IP address and use port 51325.

Refer to the Qu MIDI Protocol document available from https://www.allen-heath.com for details on MIDI messaging for the Qu series.

Download the most recent version of the Allen & Heath MIDI Control app from https://www.allen-heath.com and refer to the associated help document for information on installation, setup and use.

9. Technical Specifications

Inputs	Mic/Line Inputs	Balanced Combi XLR/Jack, fully recallable preamp
	Input Sensitivity	-60 to +0dBu
	TRS Inputs	-20dB Pad (Fixed)
	Preamp Gain	OdB to +60dB, 1dB steps
	Maximum Input Level (XLR/Jack)	+16dBu Mic input / +30dBu TRS pad input
	Input Impedance	>1.5kΩ MIC / >20kΩ TRS
	THD+N, Unity gain 0dB	0.002% -92dB (20Hz-20kHz, AES Direct Out, @0dBu 1kHz)
	THD+N, Mid gain +30dB	0.004% -88dB (20Hz-20kHz, AES Direct Out, @0dbb 1kHz)
	Phantom Power	+48V (+3V / -2V)
	Stereo Line Inputs	Balanced, 2x 1/4" TRS jack
		Nominal +4dBu
	Input Sensitivity	
	Trim Maximum Input Lavel	+/-24dB
	Maximum Input Level	+21dBu
	Input Impedance	>6kΩ
Outputs	XLR Outputs	Balanced, XLR
	Outputs A and B	Balanced 1/4" TRS Jack
	Source	Fully patchable
	Output Impedance	<75Ω
	Nominal Output	+4dBu = 0dB meter reading
	Maximum Output Level	+22dBu
	Residual Output Noise	-88dBu (muted, 20Hz-20kHz)
	AES Digital Output	Balanced XLR 2 channel,
		96kHz sampling rate (Default with SRC Bypassed)
		Switchable output sample rates, 44.1/48/88.2/96kHz
		$2.5 Vpp$ balanced terminated 110Ω
SLink	Connection	Neutrik EtherCON (RJ45)
	dSnake mode	40 input, 20+40(ME) output channels, 48kHz
	DX mode	32 input, 32 output channels, 96kHz
	GigaACE/GX	128 input, 128 output channels, 96kHz
	Inputs	Fully patchable
	Outputs	Fully patchable
	Sync/SRC	Assignable as audio clock source, 48kHz<>96kHz SRC
	(0.50.0.60.10.70.1)	
Nante	([] -5 (-6 and (-/ only)	16 input 16 output channels 48/96kHz operation
Dante	(Qu-5D, Qu-6D and Qu-7D only)	16 input, 16 output channels, 48/96kHz operation
Dante	Inputs	Fully patchable
Dante	***	·
	Inputs Outputs Sync/SRC	Fully patchable Fully patchable Assignable as audio clock source, 48kHz<>96kHz SRC
	Inputs Outputs Sync/SRC Qu-Drive	Fully patchable Fully patchable Assignable as audio clock source, 48kHz<>96kHz SRC USB-A or SD Card, recording or playback
	Inputs Outputs Sync/SRC Qu-Drive Stereo Record (USB-A)	Fully patchable Fully patchable Assignable as audio clock source, 48kHz<>96kHz SRC USB-A or SD Card, recording or playback 2 channel, WAV, 48/96kHz, 24-bit, fully patchable
	Inputs Outputs Sync/SRC Qu-Drive Stereo Record (USB-A) Stereo Playback (USB-A)	Fully patchable Fully patchable Assignable as audio clock source, 48kHz<>96kHz SRC USB-A or SD Card, recording or playback 2 channel, WAV, 48/96kHz, 24-bit, fully patchable 1/2 channel, WAV, 44.1/48/96kHz 16/24-bit, fully patchable
	Inputs Outputs Sync/SRC Qu-Drive Stereo Record (USB-A) Stereo Playback (USB-A) Multitrack Record (SDHC)	Fully patchable Fully patchable Assignable as audio clock source, 48kHz<>96kHz SRC USB-A or SD Card, recording or playback 2 channel, WAV, 48/96kHz, 24-bit, fully patchable 1/2 channel, WAV, 44.1/48/96kHz 16/24-bit, fully patchable 16 channels 96kHz, 32 channels 48kHz, 24-bit, WAV, fully patchab
	Inputs Outputs Sync/SRC Qu-Drive Stereo Record (USB-A) Stereo Playback (USB-A) Multitrack Record (SDHC) Multitrack Playback (SDHC)	Fully patchable Fully patchable Assignable as audio clock source, 48kHz<>96kHz SRC USB-A or SD Card, recording or playback 2 channel, WAV, 48/96kHz, 24-bit, fully patchable 1/2 channel, WAV, 44.1/48/96kHz 16/24-bit, fully patchable 16 channels 96kHz, 32 channels 48kHz, 24-bit, WAV, fully patchab 16 channels 96kHz, 32 channels 48kHz, 24-bit, WAV, fully patchab
Dante SB Audio	Inputs Outputs Sync/SRC Qu-Drive Stereo Record (USB-A) Stereo Playback (USB-A) Multitrack Record (SDHC)	Fully patchable Fully patchable Assignable as audio clock source, 48kHz<>96kHz SRC USB-A or SD Card, recording or playback 2 channel, WAV, 48/96kHz, 24-bit, fully patchable 1/2 channel, WAV, 44.1/48/96kHz 16/24-bit, fully patchable 16 channels 96kHz, 32 channels 48kHz, 24-bit, WAV, fully patchab 16 channels 96kHz, 32 channels 48kHz, 24-bit, WAV, fully patchab
	Inputs Outputs Sync/SRC Qu-Drive Stereo Record (USB-A) Stereo Playback (USB-A) Multitrack Record (SDHC) Multitrack Playback (SDHC)	Fully patchable Fully patchable Assignable as audio clock source, 48kHz<>96kHz SRC USB-A or SD Card, recording or playback 2 channel, WAV, 48/96kHz, 24-bit, fully patchable 1/2 channel, WAV, 44.1/48/96kHz 16/24-bit, fully patchable 16 channels 96kHz, 32 channels 48kHz, 24-bit, WAV, fully patchab 16 channels 96kHz, 32 channels 48kHz, 24-bit, WAV, fully patchab SDHC, 32GB, UHS-I, Class 10 for maximum channels, 48/96 kHz, 2
	Inputs Outputs Sync/SRC Qu-Drive Stereo Record (USB-A) Stereo Playback (USB-A) Multitrack Record (SDHC) Multitrack Playback (SDHC) SD Card	Fully patchable Fully patchable Assignable as audio clock source, 48kHz<>96kHz SRC USB-A or SD Card, recording or playback 2 channel, WAV, 48/96kHz, 24-bit, fully patchable 1/2 channel, WAV, 44.1/48/96kHz 16/24-bit, fully patchable 16 channels 96kHz, 32 channels 48kHz, 24-bit, WAV, fully patchab 16 channels 96kHz, 32 channels 48kHz, 24-bit, WAV, fully patchab SDHC, 32GB, UHS-I, Class 10 for maximum channels, 48/96 kHz, 2 bit USB-C connection, USB 2.0 Core Audio compliant, ASIO/WDM for
	Inputs Outputs Sync/SRC Qu-Drive Stereo Record (USB-A) Stereo Playback (USB-A) Multitrack Record (SDHC) Multitrack Playback (SDHC) SD Card USB Audio Streaming	Fully patchable Fully patchable Assignable as audio clock source, 48kHz<>96kHz SRC USB-A or SD Card, recording or playback 2 channel, WAV, 48/96kHz, 24-bit, fully patchable 1/2 channel, WAV, 44.1/48/96kHz 16/24-bit, fully patchable 16 channels 96kHz, 32 channels 48kHz, 24-bit, WAV, fully patchab 16 channels 96kHz, 32 channels 48kHz, 24-bit, WAV, fully patchab SDHC, 32GB, UHS-I, Class 10 for maximum channels, 48/96 kHz, 2 bit USB-C connection, USB 2.0 Core Audio compliant, ASIO/WDM for Windows
	Inputs Outputs Sync/SRC Qu-Drive Stereo Record (USB-A) Stereo Playback (USB-A) Multitrack Record (SDHC) Multitrack Playback (SDHC) SD Card USB Audio Streaming Send (upstream)	Fully patchable Fully patchable Assignable as audio clock source, 48kHz<>96kHz SRC USB-A or SD Card, recording or playback 2 channel, WAV, 48/96kHz, 24-bit, fully patchable 1/2 channel, WAV, 44.1/48/96kHz 16/24-bit, fully patchable 16 channels 96kHz, 32 channels 48kHz, 24-bit, WAV, fully patchab 16 channels 96kHz, 32 channels 48kHz, 24-bit, WAV, fully patchab SDHC, 32GB, UHS-I, Class 10 for maximum channels, 48/96 kHz, 2 bit USB-C connection, USB 2.0 Core Audio compliant, ASIO/WDM for Windows 32 channels, 48/96kHz, 24-bit

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8/8

TCP/IP Ethernet for Control and MIDI

Issue 1

Mute Groups / DCA Groups

Network

MIDI USB-C and TCP/IP

Footswitch Single or Dual, Momentary or Latching

System 38 input, 28 bus, XCVI Core

Measured balanced XLR in to XLR out, 0dB gain, 0dBu input

Dynamic Range 110 (

Frequency Response +0/-0.5dB 20Hz to 20kHz

Headroom +18dB Internal operating Level 0dBu

THD+N, Mic/Line routed to Main L/R Out

Unity gain, 0.005%, -87dB (20Hz-20kHz)

+18dBu = 0dBFS (+22dBu at XLR output)

Meter Calibration

OdB meter = -18dBFS (+4dBu at XLR out)

Main Meter Type 2x 12 segment, fast (peak) response, follows PAFL

Channel Meter Type Chromatic Channel Metering, fully programmable colour/brightness

Peak Indication -3dBFS (+19dBu at XLR out), Multi-point sensing

Sampling Rate 96kHz

Bit Depth XCVI custom bit depths, up to 96-bit Latency <0.7ms, Local Mic Input to Main L/R

Operating Temperature Range 0 deg C to 40 deg C (32 deg F to 104 deg F)

Mains Power 100-240V AC, 50/60Hz

Max Power Consumption 70W / 75W / 90W / 95W / 105W / 110W

(Qu-5 / Qu-5D / Qu-6 / Qu-6D / Qu-7 / Qu-7D)

Input Source

Processing Channels 1-32

Fully patchable

ST1 / ST2 / USB Channels Fixed patch, ST1 / ST2 / USB1&2

USB Global Source Qu-Drive or USB-C Streaming (Auto Switching)

PolarityNormal/InvertTrim-24 to +24dB

High Pass Filter 12/18/24dB per octave 20Hz – 2kHz

Insert Fully Patchable (Digital/Analogue/-10dBV level)

Delay Up to 341ms
Gate Patchable Sidechain

Sidechain filter Hi-pass (20Hz-5kHz), band-pass (120Hz-10kHz, Q=1), Lo-pass

(120Hz-20kHz)

Threshold / Depth -72dBu to +18dBu / 0 to 60dB

Attack / Hold / Release 50µs to 300ms / 10ms to 5s / 10ms to 1s

PEQ 4-Band fully parametric, 20Hz-20kHz, +/-15dB

Band 1, Band 4 Selectable Shelving (Baxandall), Bell, HPF/LPF 12dB/octave

Band 2, Band 3 Bell

Bell Width Variable, 1.5 Q to 1/9th octave

Compressor Patchable Sidechain, Ducker mode, DEEP options, +18dB Makeup

gain

Sidechain filter Hi-pass (20Hz-5kHz), band-pass (120Hz-10kHz, Q=1), Lo-pass (120-

20kHz)

Threshold / Ratio -46dBu to 18dBu / 1:1 to infinity
Attack / Release 30µs to 300ms / 50ms to 2s

Knee Soft/Hard

Detector response Peak/RMS switchable
Parallel Path Compression dry/wet -inf to 0dB

Channel Direct Out Follow Fader/Mute/Mute Group/DCA (Global)

Direct Out Source Post-Preamp, Post-HPF, Post-Gate, Insert Return, Post-PEQ, Post-

Comp, Post-Delay

Direct Out Level trim -inf to 10dB (per channel)

Mix Insert Fully Patchable (Digital/Analogue/-10dBV level)

Processing Delay Up to 682ms

Feedback Assistant Automatic feedback suppression, 16 filters per mix, 8 concurrent

detectors

Filter Cut OdB to 18dB

Automatic Filter Width 18 to 116 Q Manual Filter Width 6 to 640 Q

GEQ 28 bands 31Hz-16kHz, +/-12dB Gain, Constant 1/3 oct, DEEP options

PEQ As Input PEQ
Compressor As Input Compressor

FX Internal FX 6x FX engines, Send>Return (4 dedicated FX send) or Inserted (with

Wet/Dry)

Types SMR Reverb, Stereo Tap Delay, Gated Reverb, ADT, Blue Chorus

Symphonic Chorus, Flanger, Phaser

6x Dedicated Stereo FX returns Fader, Pan, Mute, Routing to LR/Mix, 4-Band PEQ

Audio Tools PAFL PFL or stereo in-place AFL, 0 to -24dB Trim, PAFL Delay Up to 682ms

Dedicated input, Assignable to any mix, Preamp/Trim Control, 20Hz-

20kHz 12dB/oct HPF

Signal Generator Assignable to any input or mix, Sine/White/Pink/Bandpass Noise

RTA 2x 31-Band 1/3 oct (Stereo) or 61-Band 1/6 octave (Mono), 20Hz-

20kH

AMM Type 32 Channel, Gain Sharing Algorithm

Sidechain Filter HPF / LPF 250Hz / 5kHz (12dB/octave)
Priority -15dB to +15dB per channel

Dimensions Qu-5 / Qu-5D Width x Depth x Height

Talkback

& Weights Unit only 440 x 476 x 213 mm (17.3" x 18.7" x 8.4")

Packed in shipping box 570 x 640 x 310 mm (22.5" x 25.2" x 12.2")

Unpacked weight 10 kg (22 lbs)
Packed weight 12.6 kg (27.8 lbs) **Qu-6 / Qu-6D** Width x Depth x Height

Unit only 609 x 476 x 213 mm (24" x 18.7" x 8.4")
Packed in shipping box 740 x 640 x 310 mm (29.2" x 25.2" x 12.2")

 Unpacked weight
 13.5 kg (29.8 lbs)

 Packed weight
 16.5 kg (36.4 lbs)

 Qu-7 / Qu-7D
 Width x Depth x Height

Unit only 800 x 476 x 213 mm (31.5" x 18.7" x 8.4")
Packed in shipping box 940 x 670 x 320 mm (37" x 26.4" x 12.6")

 Unpacked weight
 16.7 kg (36.8 lbs)

 Packed weight
 20.8 kg (45.9lbs)

Limited One Year Manufacturer's Warranty

Allen & Heath warrants this 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. 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.

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