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Allen & Heath AH-QU-SB

Allen & Heath QU-SB Digital Mixer User Manual

Portable 18-In/14-Out Digital Mixer with Remote Wireless Control

1. INTRODUCTION

The Allen & Heath QU-SB is an ultra-compact digital mixer designed for remote control via an iPad, offering a portable solution for various audio applications including live bands, AV installations, and studio recording. This manual provides detailed instructions for setting up, operating, and maintaining your QU-SB mixer.

2. KEY FEATURES

- **Compact Design:** Ultra-compact digital mixer optimized for iPad control.
- **Input/Output Configuration:** 16 mono inputs (TRS + XLR), 1 stereo input (TRS), and 12 on-board mix outputs (LR, mono mix 1-4, stereo mix 1-3), plus 1 stereo Matrix out (TRS).
- **Expandability:** Expandable up to 32 mono inputs and 24 outputs using dSnake remote audio racks via a single Cat5 cable.
- **Monitor Mixes:** Supports up to 11 monitor mixes (4 mono + 7 stereo).
- **FX Engines:** Features 4 FX engines with 4 dedicated FX sends/returns, utilizing the iLive FX library.
- **Control Groups:** Includes 4 mute groups and 4 DCA groups for flexible control.
- **USB Audio Interface:** Integrated 32x32 USB Audio Interface for seamless computer connectivity.
- **Qu-Drive:** Direct multitrack recording and playback to USB drives.
- **AnalogIQ Preamps:** Recallable AnalogIQ preamps with zero-crossing detection and advanced 1dB step gain stage for optimal audio transparency.
- **Remote Control:** Full control via Qu-Pad iPad app, Qu-Control app, and Qu-You personal monitoring app for Android and iOS.

3. SETUP AND CONNECTIONS

The QU-SB is designed for straightforward setup, primarily relying on network connectivity for control.

3.1 Physical Connections

Connect your microphones and line-level sources to the appropriate inputs on the rear panel. The QU-SB

features 16 local inputs (XLR/TRS combo for Mic/Line) and one stereo TRS input. Outputs include 12 local mix outputs (XLR) and a stereo matrix output (TRS).



Figure 1: Front view of the Allen & Heath QU-SB, showing the 16 mic/line inputs, stereo input, and mix outputs.

The 16 mic inputs provide phantom power, which can be controlled remotely via the Qu-Pad app. Line inputs are on TRS jacks, while mic inputs are on XLR connectors.



Figure 2: Rear view of the Allen & Heath QU-SB, highlighting the power input, network port, and USB connections.

3.2 Network Setup

The QU-SB requires an external Wi-Fi router for wireless control via iPad. Connect the mixer's Network port to your Wi-Fi router using an Ethernet cable. Ensure your iPad is connected to the same Wi-Fi network.

3.3 USB Connections

The mixer features a USB port for Qu-Drive direct multitrack recording/playback and another USB port for connecting to a computer as a 32x32 USB Audio Interface.

4. OPERATING THE QU-SB WITH QU-PAD

The Qu-Pad app provides comprehensive control over all mixer functions. Download the Qu-Pad app from the Apple App Store.

4.1 Input Channel Processing

Each input channel offers extensive processing capabilities:

- **Trim & Polarity:** Adjust input gain and phase.
- **High-Pass Filter (HPF):** Remove unwanted low-frequency rumble.
- **Gate:** Control noise and dynamics.
- **4-Band Parametric EQ:** Shape the tone of your audio with precision.
- **Compressor:** Manage dynamic range.
- **Delay:** Compensate for microphone placement or other timing issues.
- **Ducker:** Automatically reduce the level of one audio signal when another is present (useful for voice-overs).



Figure 3: The Qu-Pad app interface on an iPad, showing channel faders and processing controls.

4.2 Output Processing

Output channels also feature robust processing:

- **Insert:** For external effects.
- **4-Band Parametric EQ:** Fine-tune the overall mix.
- **1/3 Octave Graphic EQ:** For room equalization.
- **Compressor:** Control overall output dynamics.
- **Delay:** Compensate for speaker placement in larger venues.

4.3 Effects and Routing

The QU-SB includes 4 stereo iLive FX engines with a comprehensive library of reverbs, delays, and other effects. Flexible routing allows you to send and return effects to any channel or mix.

4.4 Scene Management

Save and recall up to 100 scenes, allowing you to store complete mixer configurations for different songs or events. This includes preamp settings, EQ, dynamics, and routing.

4.5 User Permissions and Apps

The QU-SB supports multiple user profiles (Admin, Standard, Basic) with varying levels of access. Additionally, the Qu-You app allows individual musicians to control their own monitor mixes from their mobile devices (up to 7 instances simultaneously), while the Qu-Control app offers a simplified interface for essential live mixing functions.

5. RECORDING AND PLAYBACK (QU-DRIVE)

The integrated Qu-Drive system allows for direct multitrack recording and stereo playback to a USB hard drive. This is ideal for capturing live performances without needing a computer.

- **Multitrack Recording:** Record up to 18 tracks directly to a USB drive.
- **Stereo Playback:** Play back stereo audio files from a USB drive.
- **Virtual Soundcheck:** Use recorded multitracks for virtual soundchecks, allowing you to fine-tune your mix without the band present.

6. ADVANCED FEATURES

- **Automatic Mic Mixer (AMM):** Ideal for conferences and panel discussions, the AMM automatically manages microphone levels to prevent feedback and ensure clear audio.
- **Signal Generator:** Built-in signal generator (pink noise, white noise, sine wave) for system testing and calibration.
- **Real-Time Analyzer (RTA):** Visual feedback of the frequency spectrum, aiding in room equalization and identifying problematic frequencies.
- **Spectrogram:** Provides a visual representation of frequency over time, useful for identifying resonant frequencies in a room.
- **ProFactory Mic Presets:** Developed in collaboration with leading microphone manufacturers (Shure, Sennheiser, Audio-Technica), these presets provide optimized starting points for various microphones.

7. SPECIFICATIONS

Feature	Detail
Item Weight	12 pounds
Product Dimensions	10.6 x 21.7 x 10.6 inches
Item Model Number	AH-QU-SB
Hardware Interface	USB

Power Source	Corded Electric
Number of Channels	32 (expandable)
Connectivity Technology	USB

8. MAINTENANCE

To ensure the longevity and optimal performance of your Allen & Heath QU-SB mixer, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to clean the exterior. Avoid abrasive cleaners or solvents.
- **Ventilation:** Ensure proper ventilation around the unit. Do not obstruct the ventilation openings.
- **Firmware Updates:** Regularly check the Allen & Heath website for firmware updates to ensure you have the latest features and bug fixes.
- **Storage:** Store the mixer in a cool, dry environment away from direct sunlight and extreme temperatures.

9. TROUBLESHOOTING

If you encounter issues with your QU-SB mixer, consider the following general troubleshooting steps:

- **No Power:** Check the power cable connection and ensure the power outlet is functional.
- **No Audio:** Verify all input and output connections. Check gain staging, mute statuses, and fader positions within the Qu-Pad app. Ensure phantom power is enabled for condenser microphones.
- **Network Connectivity Issues:** Confirm your Wi-Fi router is powered on and functioning. Ensure your iPad is connected to the correct Wi-Fi network and the QU-SB is connected to the router. Try restarting the router and the mixer.
- **App Freezing/Crashing:** Close and restart the Qu-Pad app. Ensure your iPad's operating system is up to date.
- **Distorted Audio:** Check input gain levels to prevent clipping. Inspect cables for damage.

For more detailed troubleshooting, refer to the comprehensive online manual available on the Allen & Heath website.

10. WARRANTY AND SUPPORT

The Allen & Heath QU-SB is covered by a manufacturer's warranty. For specific warranty terms and conditions, please refer to the documentation included with your product or visit the official Allen & Heath website.

For technical support, product registration, and additional resources, please visit the [Allen & Heath Support Page](#).