QSC™ TouchMix™

Application Guide
for Event Production and Corporate AV

AET Application Engineering Team

DON'T BE FOOLED BY THE SMALL PACKAGE.

Inside each QSC TouchMix mixer is a versatile and powerful set of features and functions—with all the capabilities an experienced operator expects in a professional digital mixer, combined with an intuitive and efficient work flow and user interface that makes mixing easy.

Among the key features of TouchMix that help you create a better mix faster for Production and Corporate Events are:

- Presets—Suites of settings optimized for a variety of common vocal applications, microphones and instruments.
- Wizards—Quickly set up the powerful set of on-board digital effects, routing signals and input gains optimally.
- Power under the hood - 4 band parametric EQ with shelving, compressor, and gate on all inputs; 1/3 octave graphic EQ, notch filters and limiter on all outputs (auxes and main), speaker delay on all outputs, 4x 32-bit floating point stereo DSP engines for delays, reverbs, chorus, etc.) All DSP and effects available on all channels and output simultaneously.
- "Touch and turn" work flow (touch the screen, turn the knob) for fast, accurate and tactile control.
- Multi-level security lockout features to allow password protected, or limited access to mixer functions.
- Expanded flexible Wi-Fi capabilities allows three types of Wi-Fi connection options including external router for frequency-dense environments.
- Advanced options for Aux output pick-off points (Pre/Post channel strip, dynamics and fader) for control and flexibility.
- MIDI over USB (foot switch, etc).
- Programmable User Buttons for "one-touch access" to a specific screen or mixer function.
- App—Control your mix or your monitors remotely using a smart-phone or tablet. You can even give each performer or presenter real-time remote control over his or her monitor mix.
- Multi-track recording—Record your live events to an external hard drive in high-quality 32-bit WAV files—no computer necessary. Mix them down later on TouchMix or import the tracks for post-production on your DAW.

Indeed, TouchMix can address a wide range of production and corporate AV applications. Let's explore …

Channel presets

Channel presets in the TouchMix are a quick and convenient tool for setting up individual mixer channels for specific uses, such as male or female vocals, various popular instruments and microphones, etc., with suitable parameters that should work well in most situations but also can be tailored as needed.

TouchMix presets aren't just put together theoretically, in isolated laboratory conditions; they are the results of thorough testing with a variety of performers and presenters in live situations using different types of microphones, sound reinforcement configurations and musical instruments. They really work! Novices get off to a good head start on a great mix, and pros can get their mixes set up quicker.

FX Mute

Sure, the singer sounds big and spacious with a bit of reverb added in. But when she's introducing the next song or giving a shout out to her loyal fans, those same effects can sound weird and out of place. So TouchMix features an FX Mute button (also available remotely from a wireless tablet via the TouchMix app (more about that a couple pages down), or from a MIDI foot switch through a USB port) to switch off the effects when you don't want them and switch them on when you do.

Wizards: FX and Gain

TouchMix features two "Wizards"—one to help set up the internal effects (FX) available and the other to help set gain structure optimally.

If you're a novice at mixing live audio, the FX Wizard will help you get started in applying effects to the audio to enhance the sound of respective channels, based primarily on what type of voice or instrument they carry. Even if you're a seasoned pro, the FX Wizard can help shave several minutes off your setup time.

For example, when you select the type of instrument or voice you have assigned to a channel, the FX Wizard will present a list of recommended effect presets. Touch Recall to load those settings into the mixer. You may use those settings as is, or you might opt to tweak them to your preferences.

The Gain Wizard helps you set the individual input analog gain trims to avoid clipping and distortion. The Wizard compares the peaks of the signals coming out of the analog preamps with the maximum signal levels of the A/D converter stages and indicates how much you should turn down particular input trims to prevent overdriving.

Wireless control

Control the entire mix remotely using smart-phones or tablets, or grant permissions to individual performers so they can adjust their own monitor mix. Connect wirelessly using the included USB Wi-Fi dongle or an external Wi-Fi router.

For tablet devices, TouchMix can allow either complete control or control over selected aux mixes (monitors). For smart-phone devices, the operator can configure TouchMix to allow control of specific aux mixes—allowing band members, for example, control of their own monitor mixes. The TouchMix apps for iOS (iPhone, iPod, or iPad Touch) and Android are free and available from the App Store or Google Play Store.

The TouchMix app on a smart-phone lets users remotely control aux (monitor) mixes. On a tablet the app also allows full mix control (below).
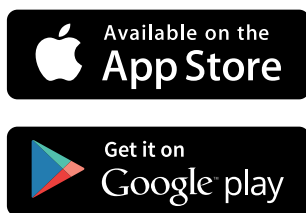
Multi-track recording

Corporate and institutional events often require audio recordings of the proceedings for legal or archival purposes. Celebrations such as wedding receptions and corporate product launch events are often video recorded and need high-quality multi-track audio to create a professional video. TouchMix offers full multi-track digital recording to an external USB storage drive. You can mix down later on TouchMix, or import it to a computer-based digital audio workstation (DAW).

On the TouchMix you can record non-stop for up to roughly three hours (due to file size limitations; the mixer will give you a message about ten minutes before you reach the limit); for longer recording projects, simply stop at a good time during the performance and restart the recording.

NOTE: The USB storage device must be FAT32 formatted, and its performance is critical for good recording results. Visit **qsc.com** to see a list of qualified storage drives.

The TouchMix-8 can record up to 14 tracks, and the TouchMix-16 can record up to 22 (all inputs plus the main stereo mix simultaneously), in ultra-high-quality 32-bit 44.1kHz or 48 kHz WAV file format. Recording is easy and intuitive. Arm (that is, select) the individual channels you want to record. Touch **Play**, and you're recording!

To transfer audio files between the TouchMix and your computer-based DAW, download the free QSC DAW Utility available for Mac and PC at **qsc.com**.

CONFERENCE PANEL DISCUSSION

The scenario: A panel discussion at a conference with five panelists, plus a moderator. A screen and projector plus stereo audio feed for presentations from a laptop at the lectern. There is a seating area for the audience with mics on stands in the center aisle, and a roving hand-held wireless mic, for audience interaction. A monitor in front of the lectern and another in front of the panelists' table allows the presenters to hear audio, especially from their computer presentations, from the audience mics, and from the room multimedia source. The mixer of choice is a TouchMix-16.
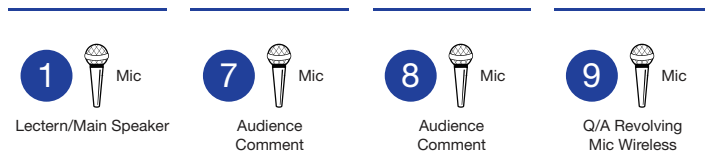
Optionally, the moderator—without even being an audio pro—may control the mixer remotely from his or her tablet, using the TouchMix app and a wireless LAN connection to the mixer.

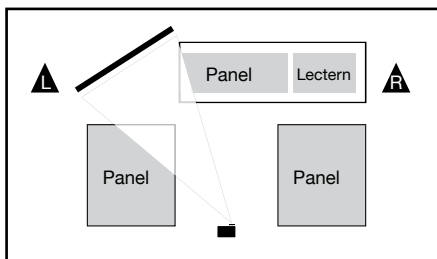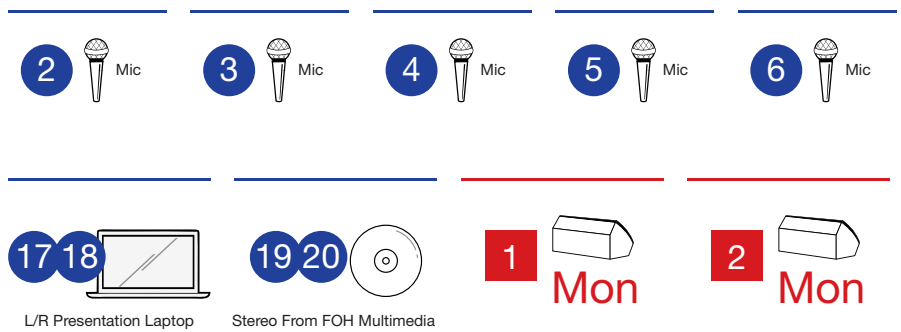## Channel presets for Conference speakers

Let's see how we can use some channel presets. Under **Vocals and Speech > Speech**, TouchMix offers four vocal presets: **Hand-held**, **Head mic**, **Lavalier**, and **Podium**.

For the panelist mics, inputs 1 through 6, select **Podium**. For the two audience mics on stands, also select **Podium**. For the roving audience mic, select **Hand-held**. Touch the **Preset Info** button for a short description of the highlighted preset Select the preset that seems right for your mic and/or application. Feel free to fine tune your channel EQ and Dynamics settings to further tailer the sound.

● **Input**   ■ **Aux**   ▲ **Main Outs**

1 Mic — Lectern/Main Speaker
7 Mic — Audience Comment
8 Mic — Audience Comment
9 Mic — Q/A Revolving Mic Wireless

Panel Mic's

2 Mic   **3** Mic   **4** Mic   **5** Mic   **6** Mic

17 18 L/R Presentation Laptop
19 20 Stereo From FOH Multimedia
1 Mon
2 Mon

Aux (monitor) Outs 1 2   **Main Outs** ▲ ▲

Inputs 1 2 3 4 5 6 7 8 9 17 18 19 20

USB — Wi-Fi
USB — External Hard Drive Storage For Recording

L   R
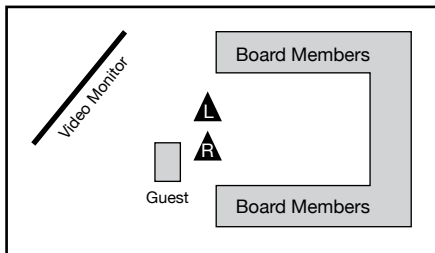
FOH Tablet Full Mix Access
Wi-Fi

BOARD MEETING

A meeting of a board of directors, governors, et al, generally requires a microphone for each member and officer, as well as one for a guest. A pair of powered loudspeakers provides sound coverage so that all can be heard. A large video screen displays the agenda and any multimedia presentations, slide shows, etc., and audio from the multimedia source goes into stereo inputs 19 and 20. Optionally, the presiding officer—even if he or she is an audio novice—has control over individual mics or other audio inputs through the TouchMix app running on a tablet connected to the TouchMix-16 via wireless LAN. For legal and archival purposes, the operator records the meeting onto an external hard drive.

Presets
For all 13 mic inputs, use **Vocals and Speech > Speech > Podium**.

Mute groups
Certain mics or combinations of mics may be unnecessary from time to time—most likely the guest mic. Because it is good practice to reduce gain or even mute mics that are not in use, you can set up mute groups to make switching from one arrangement to another fast and reliable. For example, one mute group could enable only the officers' mics; the next could enable the entire board; another could enable the board plus the guest mic, and one more mute group enables only the guest mic and the president/chairperson.
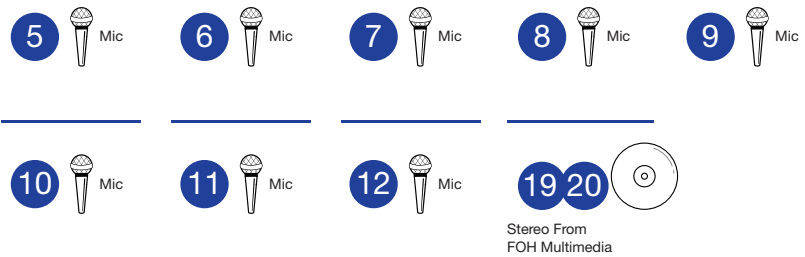
● Input   ■ Aux   ▲ Main Outs

Primary Members

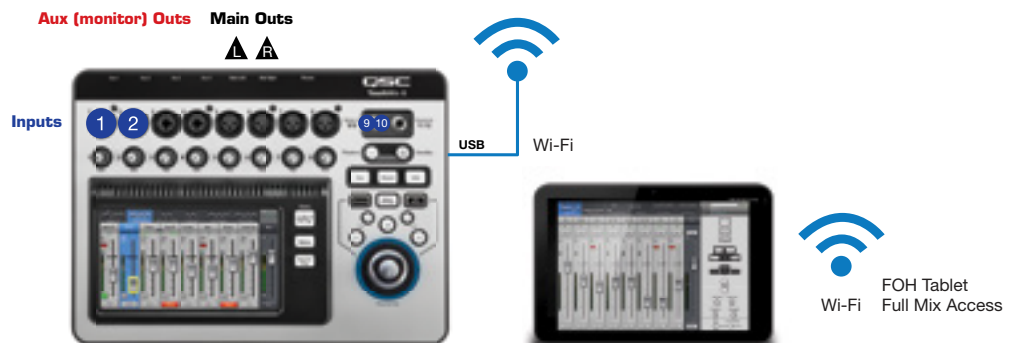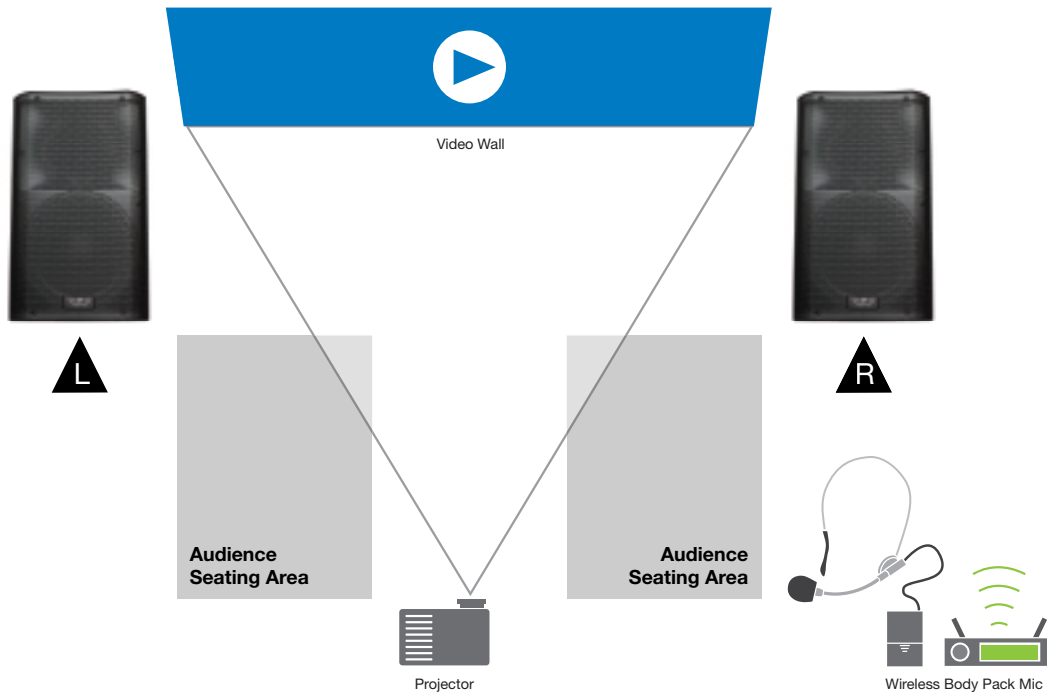| (1) Mic	(2) Mic	(3) Mic	(4) Mic	(13) Mic
President/Chairperson	Secretary	Leagal Counsel	Treasurer	Guest

Board Members

(5) Mic	(6) Mic	(7) Mic	(8) Mic	(9) Mic

(10) Mic	(11) Mic	(12) Mic	(19)(20)	

Stereo From FOH Multimedia

Aux (monitor) Outs   Main Outs

Inputs: 1 2 3 4 5 6 7 8 9 10 11 12 13

L

USB   Wi-Fi

USB

External Hard Drive Storage For Recording

R

Wi-Fi   **FOH Tablet** Full Mix Access

Video Monitor

Board Members

L
R

Guest

Board Members

• Enabled   x Muted   MG Mute Groups

	President	Secretary	Legal	Treasurer				Board Members					Guest	Multimedia
Inputs	1	2	3	4	5	6	7	8	9	10	11	12	13	19/20
MG1	•	•	•	•	x	x	x	x	x	x	x	x	x	x
MG2	•	•	•	•	•	•	•	•	•	•	•	•	x	x
MG3	•	•	•	•	•	•	•	•	•	•	•	•	•	x
MG4	•	x	x	x	x	x	x	x	x	x	x	x	•	•

TRAINING SESSION

This scenario is a training session with an instructor wearing a lightweight headset mic and wireless body pack. She runs her course from a laptop, which provides a stereo feed to the mixer. A roving wireless hand-held mic allows audience questions. The instructor easily operates the TouchMix-8 mixer remotely, through a wireless LAN connection from a tablet running the TouchMix app.

Suitable channel presets would be **Vocals and Speech > Speech > Head Mic** for the instructor and **Hand-held** for the roving mic.

Video Wall

L

R

Audience
Seating Area

Audience
Seating Area

Projector

Wireless Body Pack Mic

● **Input**

■ **Aux**

▲ **Main Outs**

1 Instructor
Wireless Body Pack

2 Mic
Audience Q/A
Wireless Roving Mic

9 10 L/R Stereo Presentation Laptop

Aux (monitor) Outs   **Main Outs**

Inputs

1 2   9 10

USB   Wi-Fi

Wi-Fi   FOH Tablet
Full Mix Access

SALES MEETING/PRODUCT LAUNCH

A well-done product roll-out event can be a visceral experience, with thumping sound and dazzling multimedia.

This one calls for a left-right line array hang (four KLA12 and a KLA181 sub on each side) for sonic impact, mixed on a TouchMix-8. An MC at stage left uses a mic on a stand (Input 2; use preset **Vocals and Speech > Speech > Podium**) to introduce the featured presenter, who wears a lightweight headset mic and wireless body pack (Input 1; use preset **Vocals and Speech > Speech > Head Mic**). Stereo multimedia audio comes in on inputs 9/10.
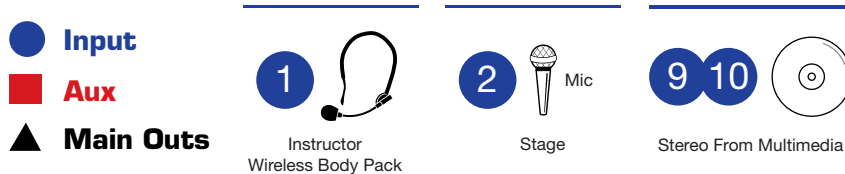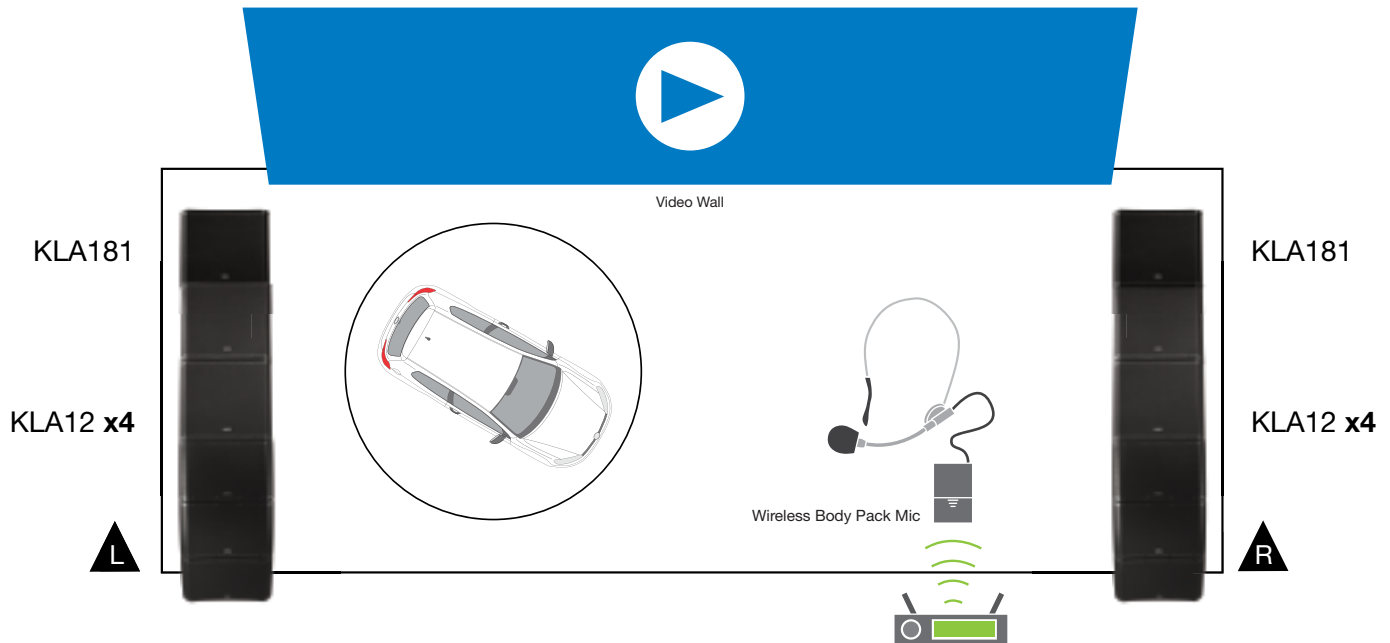
OUTDOOR EVENT

This features a small band and a DJ on a small outdoor stage, like a gazebo or porch. The lead vocal mic doubles as an announce mic for the festivities. This could be an informal wedding reception, a company picnic or a similar occasion. The mixer: TouchMix-16.
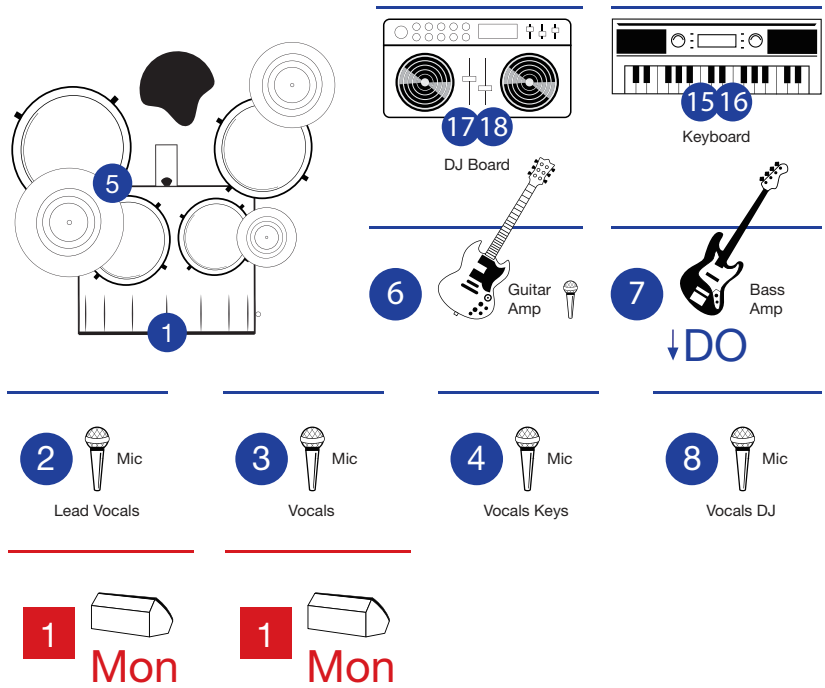
Channel assignment

A kick drum mic goes to Input 1, with preset **Drums > Kick, no sub > Kick no Sub Rock**. The lead vocals are in Input 2, with preset **Vocals and Speech > Music > Vocals Male Comp** or **Vocals Female Comp**, as appropriate; this mic will also be used for announcements, so use the **FX Mute** for speech.

Three more vocal mics go into Inputs 3 through 5, with presets to match their function. The electric guitar amp is miked into Input 6, and the bass amp goes direct into Input 7; select suitable presets from under **Frets**. Stereo outputs from the keyboard run into Inputs 15 and 16 (select a preset from **Keyboards**).

The DJ mic runs into Input 8, and the DJ console plugs into the stereo Input 17/18.

● **Input**   ■ **Aux**   ▲ **Main Outs**

DJ Board — 17 18

Keyboard — 15 16

6 — Guitar Amp

7 — Bass Amp — ↓DO

5

1

2 — Mic — Lead Vocals

3 — Mic — Vocals

4 — Mic — Vocals Keys

8 — Mic — Vocals DJ

1 — Mon

1 — Mon

Aux (monitor) Outs   1 2

Main Outs   ▲ L   ▲ R

Inputs   1 2 3 4 5 6 7 8   17 18   15 16

USB — Wi-Fi

USB — **External Hard Drive Storage** For Recording

L

R

FOH Tablet Full Mix Access
Wi-Fi

Visit the QSC TouchMix page at **http://qsc.com/products/mixers/touchmix_series/** for videos, support, user docs, product registration, and more!

VIDEO TRAINING SERIES
An engaging, self-guided video tutorial series

Part A: Mixer Navigation

Part B: Simple vs. Advanced Modes

Part C: Preset Libraries

Part D: FX Wizard

Part E: Advanced Effects

Part F: Gain Wizard

Part G: Recording Functions

Part H: Advanced Recording and Playback

Part I: Firmware Update

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QSC™
qsc.com

AET
Application
Engineering
Team

+1.800.854.4079 or +1.714.957.7100
Outside the U.S. +1.714.754.6175
Fax: +1.714.754.6174

QSC, LLC
1675 MacArthur Boulevard
Costa Mesa, CA 92626 USA