QSC™ TouchMix™

Application **Guide**

for Musicians & Bands

AET Application Engineering Team

Do you need TouchMix?

- Are you a performing musician?
- Would you like your live shows to sound like a professionally mixed concert?
- Would you like to have multi-track recordings of your shows?
- Do you and your band-mates struggle with hearing yourselves on stage?
- Do you have problems with feedback during performances?
- Are you a better musician than a sound engineer?

If you are answer yes to most of these questions, you've come to the right place because the QSC TouchMix series mixers have a solution for you.

WHAT'S IN THIS GUIDE

There are two sections to this guide. The first section will explain how to perform some tasks that are common to almost any live performance, whether you're a solo performer or a ten-piece band. Topics include mixer selection, setups and presets, features. The second part of the guide demonstrates several real-world applications of TouchMix mixers, ranging from solo performer gigs to club concerts.

Which TouchMix is right for you?

In the entire history of audio mixing consoles, nobody has ever been sorry they got a mixer with a few more inputs and outputs then they needed. So it's probably a good idea to consider your current needs and then give yourself a little room to grow.

The TouchMix digital mixer series—Top left: TouchMix-16; Top right: TouchMix-8; Bottom: TouchMix-30 Pro

PRE-FLIGHT: SETTING UP YOUR TOUCHMIX AT HOME TO SAVE TIME AT THE GIG.

Setting up your TouchMix before the gig will give you more time to fine-tune things during sound check. Here's how to do it.

What you'll need: the band's **patch list** and your TouchMix mixer.

Build a Mix Using Factory Presets

What is a Channel Preset?

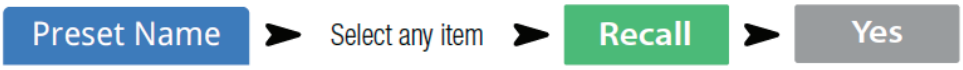
A Channel Preset is an assemblage of settings for a single channel that are saved and can be recalled for use at a later time. A Channel Preset includes settings for the channel EQ, compressor, and gate. The channel name, phantom power setting, and level settings are also stored with the preset but may be omitted from a preset recall by setting the Recall Options switches at the bottom of the presets screen.

Your TouchMix includes over 120 channel presets that were programmed to work with common microphones in real, live sound applications by skilled and experienced concert-sound mix-engineers. And they work. Those who have used TouchMix-30 Pro report great results using the presets with little or no modification. You can also save your own channel presets to the mixer's internal memory or to an external USB storage device.

To select channel presets:

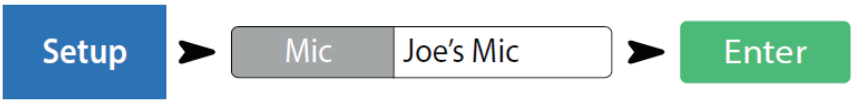
1. Make sure that the **Factory / User** switch is in the **Factory** position.
2. In the left window you'll see a list of instrument categories. When you touch an instrument category name a list of specific instruments appears in the middle window.
3. Select an instrument. The right window will display a list of options for the instrument selected. Some options may include gates and compressors as well as optimizations for various types of microphone or pick-up or for different styles of music. Select the one that seems best for your application.

To learn about the selected preset:

To recall the preset: 

You've just dialed in the settings for an input channel. You'll also notice that the channel has been given a name that corresponds with the instrument you selected. You can leave the name as is or rename the channel.

To name a channel:



Go to the next channel:

Repeat the process until you've set up all the channels you need.

Auxiliary Outputs

What is an Auxiliary?

In addition to the Main L/R (left/right) output mix, your TouchMix mixer is capable of four (TouchMix-8), eight (TouchMix-16) or 14 (TouchMix-30 Pro) additional output mixes.

These auxiliary mixes are typically used to drive stage monitor speaker systems or in-ear monitors (IEM) for performers. They may also be used for a recording mix, audio feed to video, or a send to an overflow area. In any case, it makes sense to label the auxiliary outputs to help you keep them straight during use. Type in a name for the output—it could be the name of the performer who gets that mix or it could be something like *Singers* or *Horns* or *Video* or *Patio*.

To name an auxiliary output:

The name will be displayed on the aux mix selector buttons on the left side of the screen.

Auxes can also be linked, making two mono mixes into one stereo mix.

TouchMix-30 Pro—Auxiliary outputs 11/12 and 13/14 are duplicated on TRS headphone jacks located on the rear panel. Although the mixes can be separate, linking them as stereo pairs makes them suitable for driving wired in-ear monitors (IEM).

TouchMix-8— Auxiliary outputs 3/4 are duplicated on a TRS headphone jack located on the rear panel.

TouchMix-16— Auxiliary outputs 7/8 and 9/10 are on TRS headphone jacks located on the top panel. Each of these unbalanced stereo outputs may also be configured as a single balanced mono line-level output (see the Aux output channel Setup tab).

Effects

Audio effects (FX) such as reverb, delay, chorus, pitch shift (pitch change) and pitch correct are essential in modern audio production.

The TouchMix-30 Pro has six multi-effects processors or "engines" while the TouchMix-8 and TouchMix-16 have four. All of these engines can be configured to be one of six different effects: Lush Reverb, Dense Reverb, Chorus, Mono Delay, Stereo Delay, and Pitch Shift.

Each of these effects has multiple presets. For example. the reverb processors have presets that simulate rooms and halls of various sizes, as well as reverb plates. There are also brighter and darker sounding variations.

Along with the above effects, there is a Pitch Correct effect that can be assigned (inserted) to any one of the input channels.

Using the FX Wizard

Less-experienced users will find that the FX Wizard simplifies a setup process that can be confusing, while skilled operators will find it an incredibly fast way to get the sound most of the way there.

With the FX Wizard you can quickly do these tasks:

- select an effect that's right for the instruments or voices you want to enhance
- bring the instruments or voices into the effect
- adjust the overall amount of the effect that will be heard
- send the effect to monitors as you desire.

To select and assign effects (FX) using the Wizard:

Select an effects preset. TouchMix will show only those effects that work for the source and type of input you selected. Thus, any effect you select using the wizard will be a valid one although it may or may not work in the context of your mix.

1. Use the Master Encoder or touch-and-drag to scroll up and down the list to see all the selections. Select one item from each list.
2. Touch **Recall**. The preset is now loaded and its name is displayed below the **Type** window.
3. Decide which input channels should go to this effects engine.

Send inputs to the FX processor

4. The **Wizard** screen will display buttons with the names of the inputs. Touch a button to send its input to the effect. Use the **FX Master** fader to adjust the amount of effect in the main mix.

Send the effect to monitors

5. Does the performer want to hear the effects in the stage monitors or in-ear monitors? If so, it's easy to do—just use the **Select Aux Outputs (monitors) to receive:** buttons to route the effect to a monitor.
6. There are more effects available, so just touch one of the tabs at the top of the screen to set them up.

Mute Groups

It is often useful to mute some of the inputs and outputs but not all of them. For example, you could mute everything but a stereo input for break music. Or there may be a part of your show where the band leaves the stage while one member remains for a solo number. Mute groups let you mute preselected inputs and outputs with a single button.

To set up mute groups:

Select channels to be assigned

To name the mute group:

Set up additional mute groups as needed. Touch **Close Edit** to finish.

To use mute groups:

NOTE: Mute groups can be assigned to **User** buttons. See the User Buttons section in the TouchMix user guide.

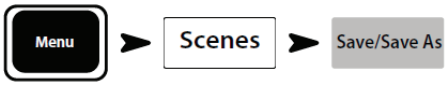
NOTE: When a channel is muted by a mute group, its **Mute** button on the **Home** screen looks like this:

Save Your Work As a Scene

You've put some effort into setting up your mix, so now would be a great time to save it. A **Scene** is a snapshot of all the settings on the mixer.

TIP: It's a good idea to save your scene with the outputs muted or levels down.
Why? Because when you recall the scene in the future, the gain settings on the power amplifiers or powered loudspeakers may be different. Recalling a scene that has output levels turned down or muted will prevent surprises, such as sudden blasts of feedback. Recall the scene, then bring up the outputs as needed.

To save your scene:



To name your scene:

To select where to save your scene:

Remote Control: Using wireless devices to control your TouchMix

The free TouchMix app, available from the App Store and from Google Play, allows you to use your smartphone or tablet with your TouchMix mixer so you're not tied down to one spot. You're not even tied down to the stage or the back of the room. Instead, you're free to operate the mixer anywhere within Wi-Fi range.

The TouchMix-8 and TouchMix-16 come with a USB Wi-Fi adapter dongle but can also optionally connect to an external Wi-Fi router through a USB-to-Ethernet adapter. The TouchMix-30 Pro requires an external Wi-Fi router.

Tablet mixing

The TouchMix app on a tablet offers all the operability that the mixer's touchscreen does. You can roam the room to check the mix and make adjustments in real time. Or if you're one of the performers, you can control the mixer from your position on stage.

Individual monitor mixes

You can set up levels of secure access to allow individual band members control over their own monitor mixes via their respective auxiliary outputs. No more need for complaints, frantic hand gestures, or miscommunication between musicians and the sound engineer.

Sound Check: How to sound check like a pro

Verify your connections

At this point we're not worrying about how anything sounds—just make sure that everything is connected the way you intend it to be. That way you won't have to trace connections while the performers are waiting around on stage—that's not a good look.

- Make sure all inputs are making it to the mixer.
  Check your mic and instrument cables and your snake (if you use one), and make sure they're connected to the mics and instruments and to the mixer inputs. It's easy to overlook something!
- Make sure all outputs are getting to the speaker systems.
  Check the cabling from the mixer to the amplifiers or powered loudspeakers. You can use the mixer's internal noise generator to provide a test signal for audibly verifying that audio is getting to the loudspeakers.

Output setting starting point

Using TouchMix with QSC Amplifiers and Loudspeakers

If you're using QSC E, K, K.2, KW, or KLA Series loudspeakers or GXD amplifiers, your TouchMix mixer can recommended output level settings to help optimize your system gain structure, and it also offers output presets for different applications.

For main L/R outputs:

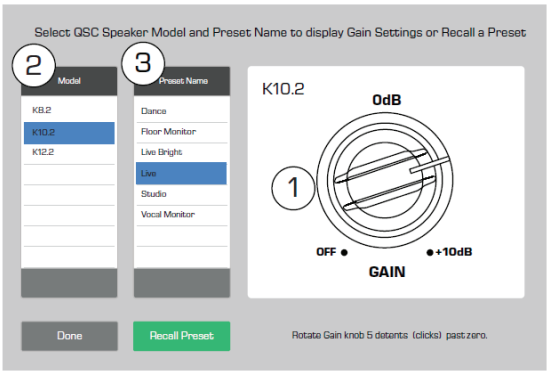
Select an amplifier or loudspeaker series.

For aux outputs:

Select an amplifier or loudspeaker series.

Loudspeaker Gain and Preset Pop-up

In addition to displaying the recommended gain setting ① for the selected loudspeaker ②, the pop-up displays a choice of presets ③ for the loudspeaker. For most QSC loudspeakers there also are options that optimize the loudspeaker for live sound reinforcement, stage monitor use or dance music playback.



In the pop-up, all you need to do is:

1. Touch the button associated with your loudspeaker or amplifier
2. Adjust your equipment as instructed
3. Select the preset you want to use with your loudspeakers
4. Touch **Recall Preset**.

These settings give you the optimum signal to noise performance and get the most from your QSC loudspeakers or amplifier. The mixer's output meters will indicate when you're "running out of speaker." Note that you will see the **Limit** light on your loudspeakers come on as the mixer drives them harder during louder portions. This is normal and is just the speaker's internal DSP doing its job.

Select a QSC Loudspeaker Preset

The GXD Series amplifiers and K.2 Series loudspeakers both have presets for various applications. The TouchMix mixers have the same presets. Make sure you use only one or the other; do not use the TouchMix presets if you have presets set up in the GXD or the K.2 loudspeakers or vice-versa.

E Series—QSC's GXD series amplifiers include voicings for QSC E Series loudspeakers. If you are using any other amplifier, you can apply E Series voicings in the TouchMix. If you do, make sure that any equalization in the amplifiers you are using is bypassed or set to flat.

K.2 Series—The K.2 presets may also be recalled from the channel **Preset** screen. They are same as those available in the **Gain and Preset** pop-up. The K.2 presets available in the TouchMix are identical to the factory ones available in the K.2 loudspeakers. Again, use either the preset in the loudspeaker or in the mixer, but not both. To use one of the TouchMix mixer's K.2 presets, simply set your K.2 loudspeakers to the factory default setting and leave it there. Then select the preset in the mixer.

To recall a loudspeaker preset:

For main L/R:

For aux outputs:

QSC GXD Amplifier Settings

If you are using a QSC GXD amplifier, you can optimize the gain and sensitivity for use with your TouchMix. See *Output Channel – GXD Amp Settings* in the TouchMix user manual.

Tips and tricks for using effects

QSC offers some engaging online educational videos to help you learn how to master the art of adding effects in a mix.

For a video on the TouchMix FX Wizard, visit this web page:
https://youtu.be/FaqLW0yrJKM

For a video on setting up and using advanced FX, visit this web page:
https://youtu.be/6SJrUpvbkEs

Multi-track recording: Capturing your performance and what to do with the tracks

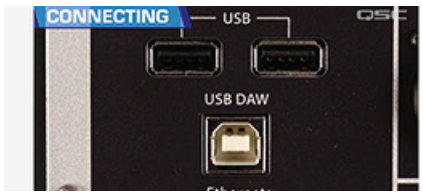
QSC videos also offer training on recording with TouchMix mixers.

For a video introducing the multitrack and stereo WAV file recording capabilities of the TouchMix models and offering tips and tricks on getting good recordings, see
https://youtu.be/NzOkcUTvbjs

For info on advanced recording and playback, see this video:
https://youtu.be/AZF8vG-iyqw

TouchMix-30 Pro in the studio: Using the mixer as a DAW interface

Use your TouchMix-30 Pro in the studio! For a video on what the TouchMix-30 Pro can do working with a digital audio workstation (DAW), see **https://youtu.be/ZmfTYm9MahM**



SOLO PERFORMER

A solo artist knows his or her own style and sound. If you're a solo artist, TouchMix allows you to not only find that sound but also save it for future performances. This example depicts a setup for a solo guitarist/vocalist using a TouchMix-8 mixer.

This example shows the mixer feeding a pair of powered loudspeakers, as you might do in a coffeehouse or small club. But the TouchMix in this case could just as easily be feeding a house system in a concert hall. Any venue, any size!

Even the performer who has never set up a mixer before can achieve remarkable results, thanks to TouchMix's built-in selection of presets and effects (FX) for voices and instruments. Once the mixer is set up as desired, the configuration can be saved as a scene for instant recall when needed on subsequent gigs.

Channel presets (solo)

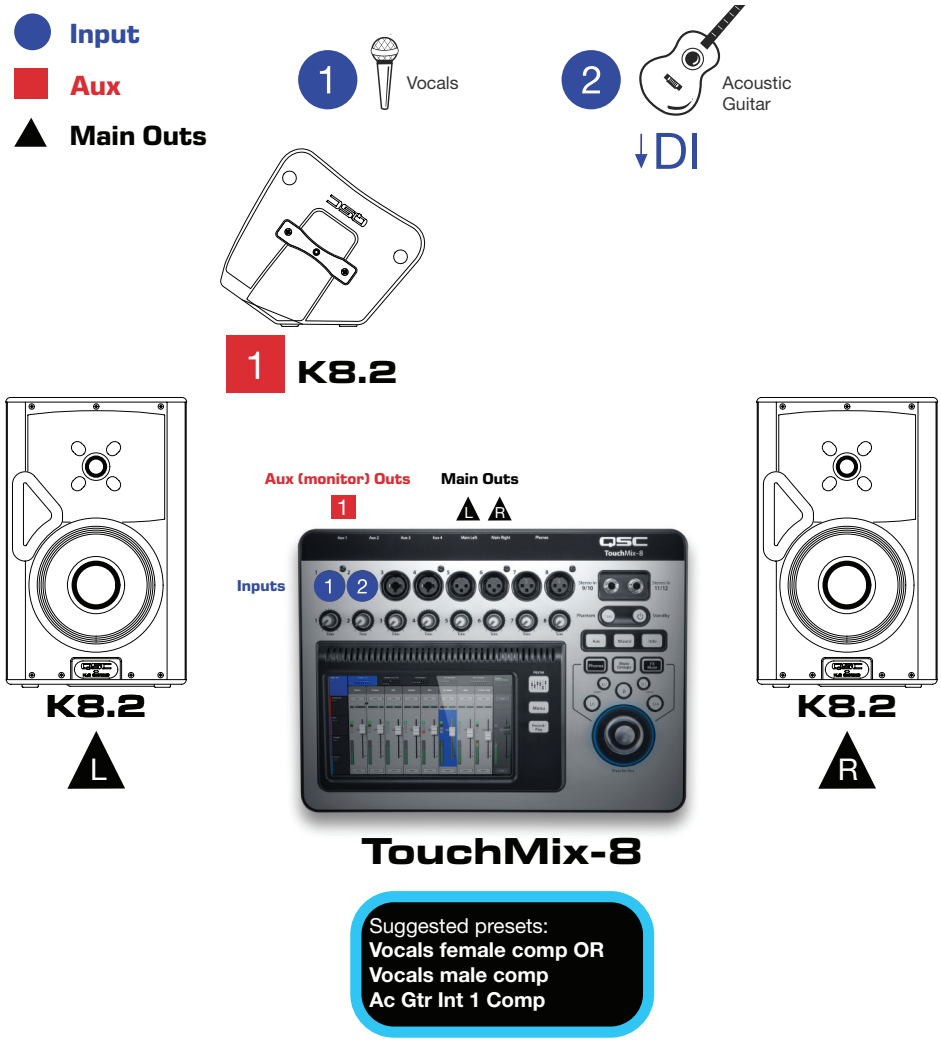
Let's see how we can use some channel presets. Under **Vocals and Speech > Music**, TouchMix offers two solo vocal presets: **Vocals Female Comp** and **Vocals Male Comp**. They have subtly different EQ curves for female and male vocalists, respectively, along with compression and limiting settings appropriate for singers.

TouchMix offers seven acoustic guitar presets that you can audition and choose from. Select the one that best matches your instrument. Touch the **Preset Info** button for a short description of the highlighted preset.

Choose the preset that seems right for you, but feel free to make any changes you want!

FX Mute via footswitch

Hey, it's totally a solo act, right? The performer is his or her own sound person. So it's convenient to set up a MIDI footswitch and connect it to a USB port on the TouchMix mixer. In the main menu, go to MIDI Setup and configure one of the eight MIDI channels to toggle the FX on the vocals—on for singing, off for talking to the audience.



What you'll use—TouchMix Wizards and features for the solo performer

- Room tuning Wizard
- Anti-feedback Wizard
- **Live** or **Live Bright** loudspeaker profile for **QSC K8.2**
- **Stage Monitor 1** or **Stage Monitor 2** loudspeaker profile for **QSC K8.2**

DUO

This example is a setup for a vocal duo with guitar and keyboard. It includes two vocal inputs, plus a direct injection (DI) for the acoustic guitar and a stereo input for the keyboard. An iPod is plugged into the stereo inputs 9 and 10 to provide music during breaks.

Both members of the duo get their own monitor mix.

Mute groups

A song in the repertoire uses the keyboard and Vocals 1, but not guitar or Vocals 2. Another song is just keyboard and Vocals 2. Sometimes you'll want to mute a mic or instrument, or some combination of them, to reduce unwanted noise or prevent feedback. etc. TouchMix features Mute Groups, to which you would assign and save these combinations of muted channels so you can recall them quickly later

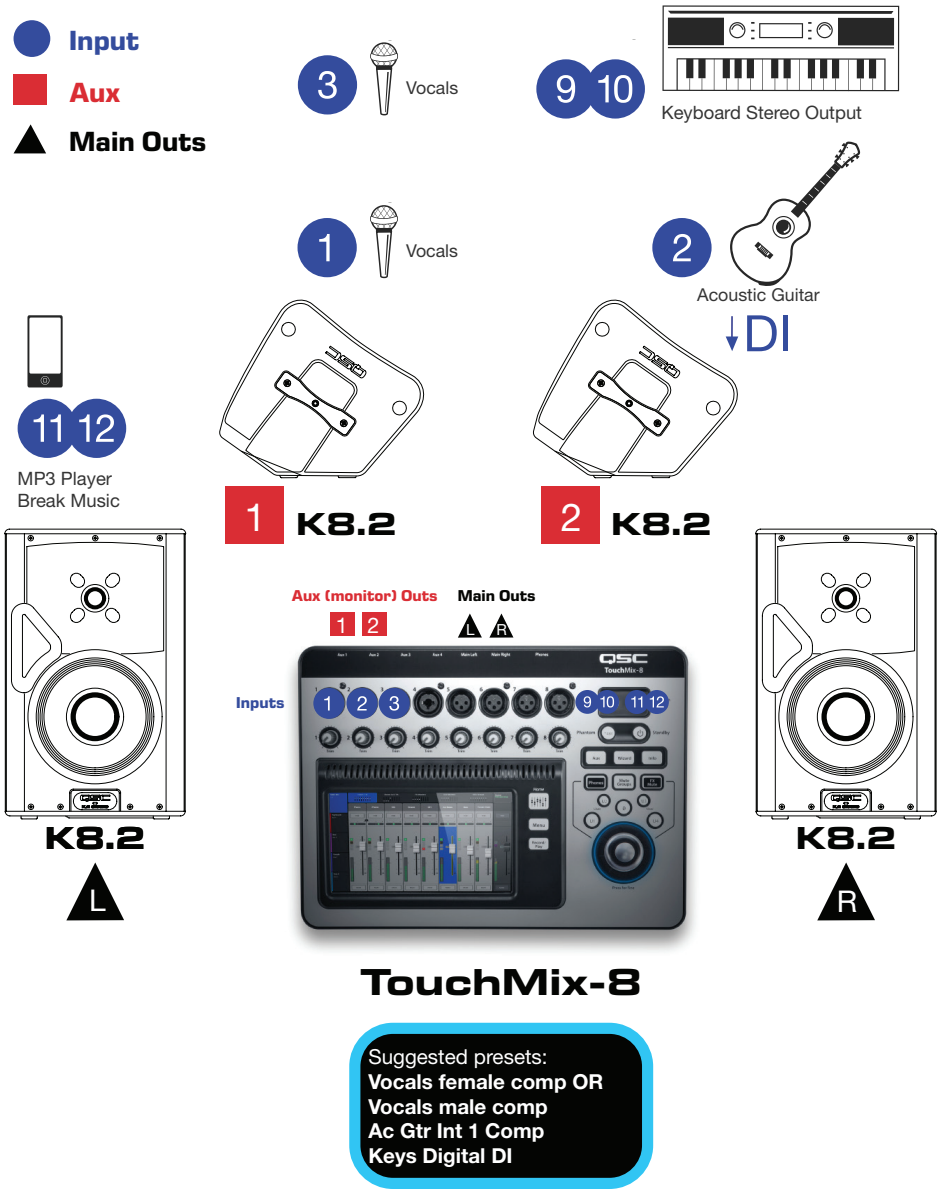
Mute groups can also be selected via MIDI, which allows you to select and engage them via a footswitch, just like FX Mute.

Wizards (duo)

Press the **Wizard** button.

Press **FX Wizard**. You'll see four FX channels, any of which you can simply assign to vocals, drums, or other instruments, and you can select which mixer channels to send to the effects, and also how much.

Vocals tend to improve with a judicious use of reverb, and a bit of chorus can thicken up an acoustic guitar. Feel free to experiment!



Suggested presets:
Vocals female comp OR
Vocals male comp
Ac Gtr Int 1 Comp
Keys Digital DI

What you'll use—TouchMix Wizards and features for the performing duo

- Room tuning Wizard
- Anti-feedback Wizard
- **Live** or **Live Bright** loudspeaker profile for **QSC K8.2**
- **Stage Monitor 1** or **Stage Monitor 2** loudspeaker profile for **QSC K8.2**

SMALL GROUP

Factory scene: Songwriter

Let's explore TouchMix's scene capabilities. The mixer comes with several factory-installed scenes that you can use as examples of how it can be configured, or as starting points for arriving at your own mix more quickly.

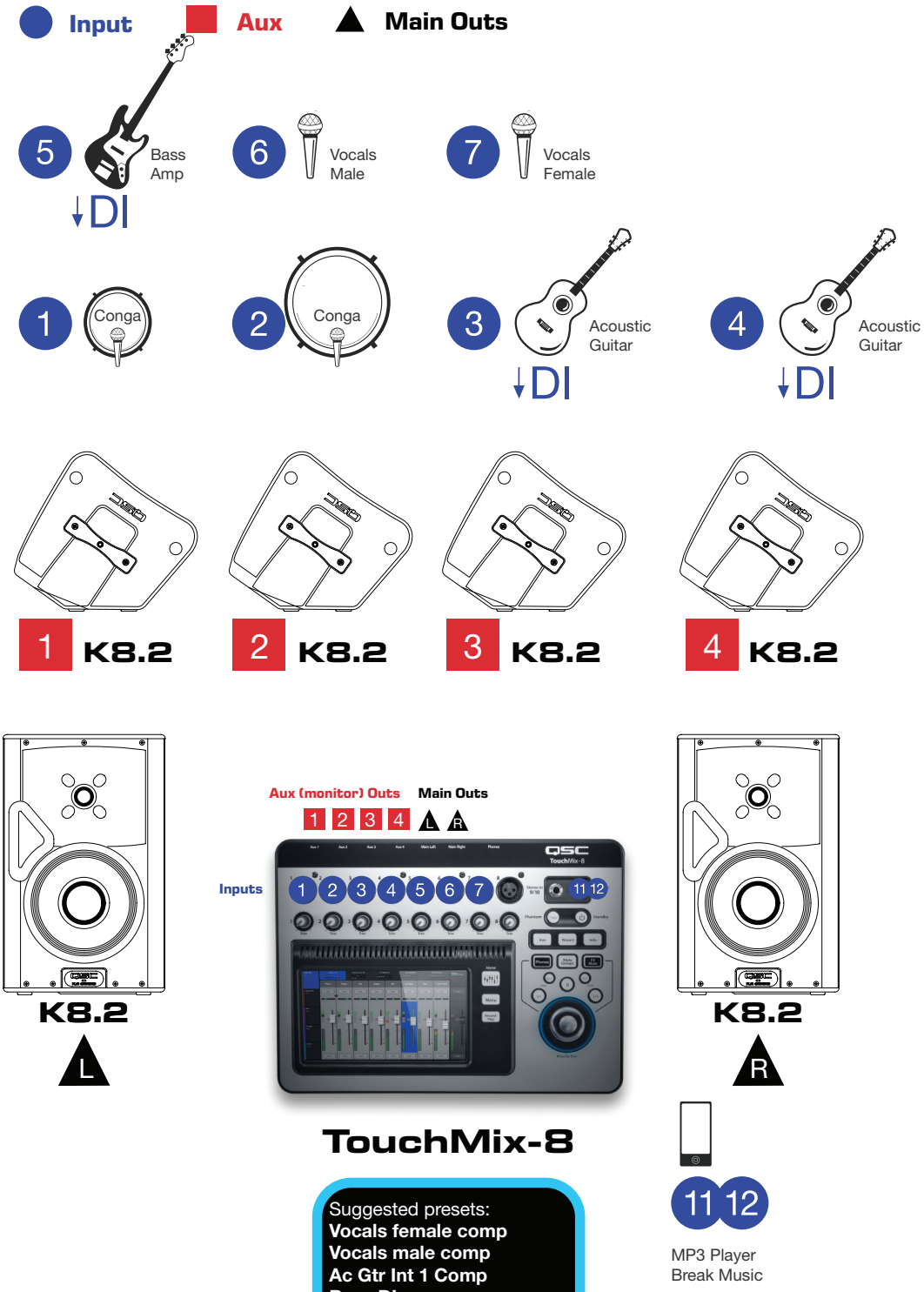
The scenario:

A four-person group comprising a male and a female vocalist—each of whom play acoustic guitar—along with an electric bass and a percussionist playing congas.

This calls for the scene *Songwriter*. Scenes are accessible from the menu screen or by touching the button at the upper right of the home screen. The table on the next page lists the channel presets the Songwriter scene pulls up, highlighted in cyan.

This scene and others are meant to offer you a quick starting point with some suggested settings. As you can see, other similar presets are available, and you can fully tailor all settings and save them to internal memory or external storage as a new scene.

The factory scene does not include any effects settings, but you are free to make full use of the on-board digital FX processing. (These settings are saved to any scenes that you create.) For example, vocals usually benefit from some added ambiance, such as reverb.



Suggested presets:
Vocals female comp
Vocals male comp
Ac Gtr Int 1 Comp
Bass DI comp
Conga Hi Dyn
Conga Lo Dyn

What you'll use—TouchMix Wizards and features for the small group

- Room tuning Wizard
- Anti-feedback Wizard
- **Live** or **Live Bright** loudspeaker profile for **QSC K8.2**
- **Stage Monitor 1** or **Stage Monitor 2** loudspeaker profile for **QSC K8.2**

The *Songwriter* scene channel presets

Channel / Name	Instrument	Type	Preset Name
1 / Congas	Percussion	Conga High	Selections: • Conga Hi Cond • Conga Hi Dyn Comp • Conga Hi Dyn
2 / Conga Lo	Percussion	Conga Low	Selections: • Conga Lo Cond • Conga Lo Dyn Comp • Conga Lo Dyn
3 / Acoustic Guitar 1	Frets	Acoustic Guitar	Selections: • Ac Gtr Brg PU Cmp • Ac Gtr Bridge PU 1 • Ac Gtr Bridge PU 2 • Ac Gtr Condw • Ac Gtr Dyn • Ac Gtr Int 1 Comp • Ac Gtr Int 2 Comp
4 / Acoustic Guitar 2	Frets	Acoustic Guitar	Selections: • Ac Gtr Brg PU Cmp • Ac Gtr Bridge PU 1 • Ac Gtr Bridge PU 2 • Ac Gtr Condw • Ac Gtr Dyn • Ac Gtr Int 1 Comp • Ac Gtr Int 2 Comp
5 / Bass	Bass	Electric	Selections: • Bass DI Comp • Bass DI Slap 1 Comp • Bass DI Slap 2 Comp • Bass Dyn • Bass Slap Dyn 1 • Bass Slap Dyn 2
6 / Male Vocals	Vocals and Speech	Music	Vocals Male Comp
7 / Female vocals	Vocals and Speech	Music	Vocals Female Comp
8			

Profile: The Performing Singer / Songwriter

User Profile

The user is a musician performing solo or in a smaller group in a variety of smaller venues. Even at lower volume levels the expectations are high for quality sound and production value.

The Problem

"I record my songs with my DAW at home and I have lots of EQ, compressors and effects available so I can get things to sound the way I want them to. But when I play out live, I just can't get the sound I want. I don't play that loud but even so, I'm always fighting with feedback and boomy sounding acoustic guitar."

"Speaking of recording, I'd really like to record my live performances but when I hook a recorder up to the stereo output on my little analog mixer, it just doesn't sound very good. How can I get great sounding live recordings?"

"I suppose I could get one of those high-end digital mixers with all the EQ and effects built in, but they're too big, too expensive and I don't really know how to run everything."

The Solution

Getting great live sound for an "unplugged" performance takes more technology than one would think plus a good deal of expertise to make it all work. Fortunately QSC has included both the technology and the expertise in the TouchMix.

- All the signal processing capability you need to sound like a concert artist. While the TouchMix is about the size of a laptop computer, every channel has EQ and dynamics processing (compressor and gate) like that found on large concert sound consoles. And there are four on-board effects processors modeled after the "go-to" processors concert engineers rely on.
- Built-in expertise. You might not be a seasoned concert sound guy but the TouchMix will help you sound like one. It includes over one hundred channel presets that were carefully tuned to work in live sound situations with typical instruments and microphones. Not sure what effect to use? There's an FX Wizard that helps you through the process of selecting and routing just the right reverb, delay, chorus or pitch change for every instrument or singer on your stage. Confused about setting input and output gain? There's a Gain Wizard to help with the inputs and a built-in aid for matching the output level with QSC powered speakers and amplifiers.
- How about recordings that combine the energy of a live performance with the quality of a studio session? Ever have one of those nights where you're playing your best and wished you had a recording? The TouchMix makes it easier than ever to capture a live performance to multi-track. All you need is a qualified USB hard-drive. After the gig you can mix down right on your TouchMix or import the tracks to your favorite DAW software.

Serving Suggestion

The following stage plot for an 'unplugged' group based on the TouchMix factory scene "Songwriter."

Using the Factory Scene

Your group is probably not exactly like this one so you may need to make some changes to the scene.

- Recall the appropriate channel presets to match your instrumentation.
- Go to the FX Wizard (**Wizard > FX Wizard**), then select and assign effects.
- Go to the Aux Output Set tab and name your monitor outputs.

Why?

As you use the presets, you may see and hear some things that seem a bit unusual.

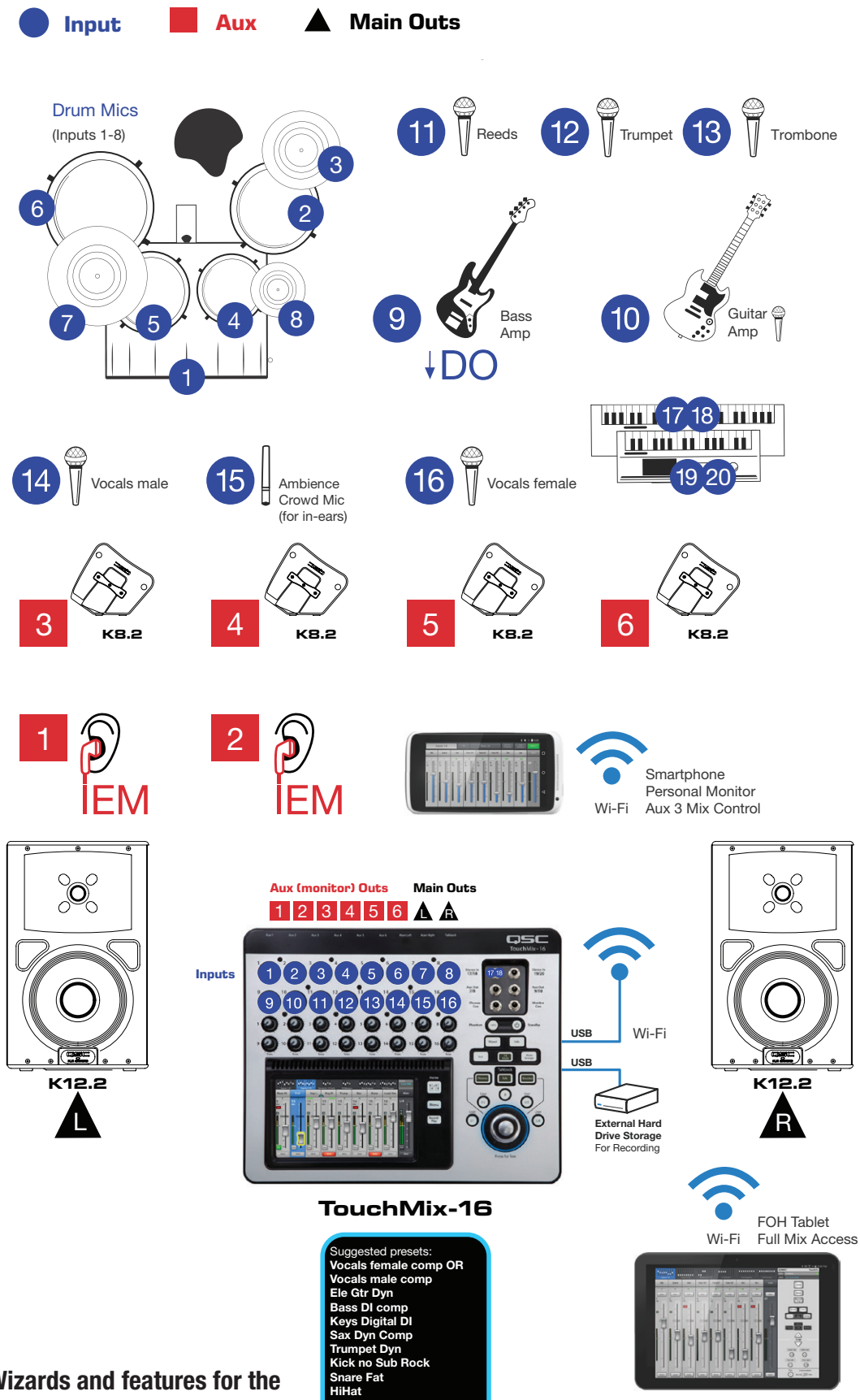
- The low frequencies are rolled off in many of the instrument presets. That's because only a few instruments (for example, bass and kick drum) really produce desirable bass in a live setting. For other instruments, rolling off the lows gets rid of rumble, boominess, and low frequency feedback.
  As a result, the bass that belongs in your mix will be clear and articulate.
- **Important:** With the presets, some instruments may sound a bit thin by themselves. But the important thing is how the instrument sits in the overall mix.

BAND

Using a factory scene as a starting point

Next, let's look at a nine-piece band comprising the following:

- Male vocal with in-ear monitors
- Female vocal with in-ear monitors
- Electric guitar
- Keyboards
- Bass
- Drums
- Trumpet
- Saxes & flute
- Trombone



What you'll use—TouchMix Wizards and features for the band

- Room tuning Wizard
- Anti-feedback Wizard
- **Live** or **Live Bright** loudspeaker profile for **QSC K12.2**
- **Stage Monitor 1** or **Stage Monitor 2** loudspeaker profile for **QSC K8.2**

The drums have some elaborate miking. The lead vocalists have in-ear monitors, so there's a mic to capture ambience and audience response. All tracks are being recorded live to an external hard drive for later mix-down on a DAW. The two keyboards have stereo outputs; one is used mostly for its piano and organ patches and the other is a digital synthesizer used for other patches. The keyboardist is also the band leader and uses the TouchMix app on his smartphone. The phone links to the mixer via WiFi so he can tailor his own personal monitor mix. At front of house (FOH), the sound engineer has a tablet also running the TouchMix app and connected through WiFi, so she can check the sound quality and mix from anywhere in the room. The bass player's rig runs direct into the board. The three wind players share a wedge monitor.

There happens to be a factory scene that offers most of what this band needs: **TM16 Horn Band**.

This preset has two male vocal presets on channels 14 and 15 but we only need one. So we'll use 14 for the vocal and plug the audience mic into 15. This will allow the two vocalists to hear the room and the audience in their in-ear monitors. Touch channel 15 to open up its settings. Touch Presets, then touch (Default). Touch Recall, and when the mixer asks if you want to recall the preset "Reset," touch Yes. This clears the male vocal preset and sets the channel to default settings.

Wireless apps for custom monitors

Other players can use their smart-phones to adjust their monitor mix, too, using the TouchMix app. The sound engineer assigns the various aux mixes to the band members' personal WiFi devices.

Recording the band

The external hard drive plugs directly into a USB port on the TouchMix mixer. The sound engineer has armed channels 1 through 16, and also the stereo pair 17 and 18. In **Transport control**, she touches **Play** just before the band's introduction. This could be the start of a live album project; the multi-track recording can be mixed down later on a DAW.

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

CLUB CONCERT

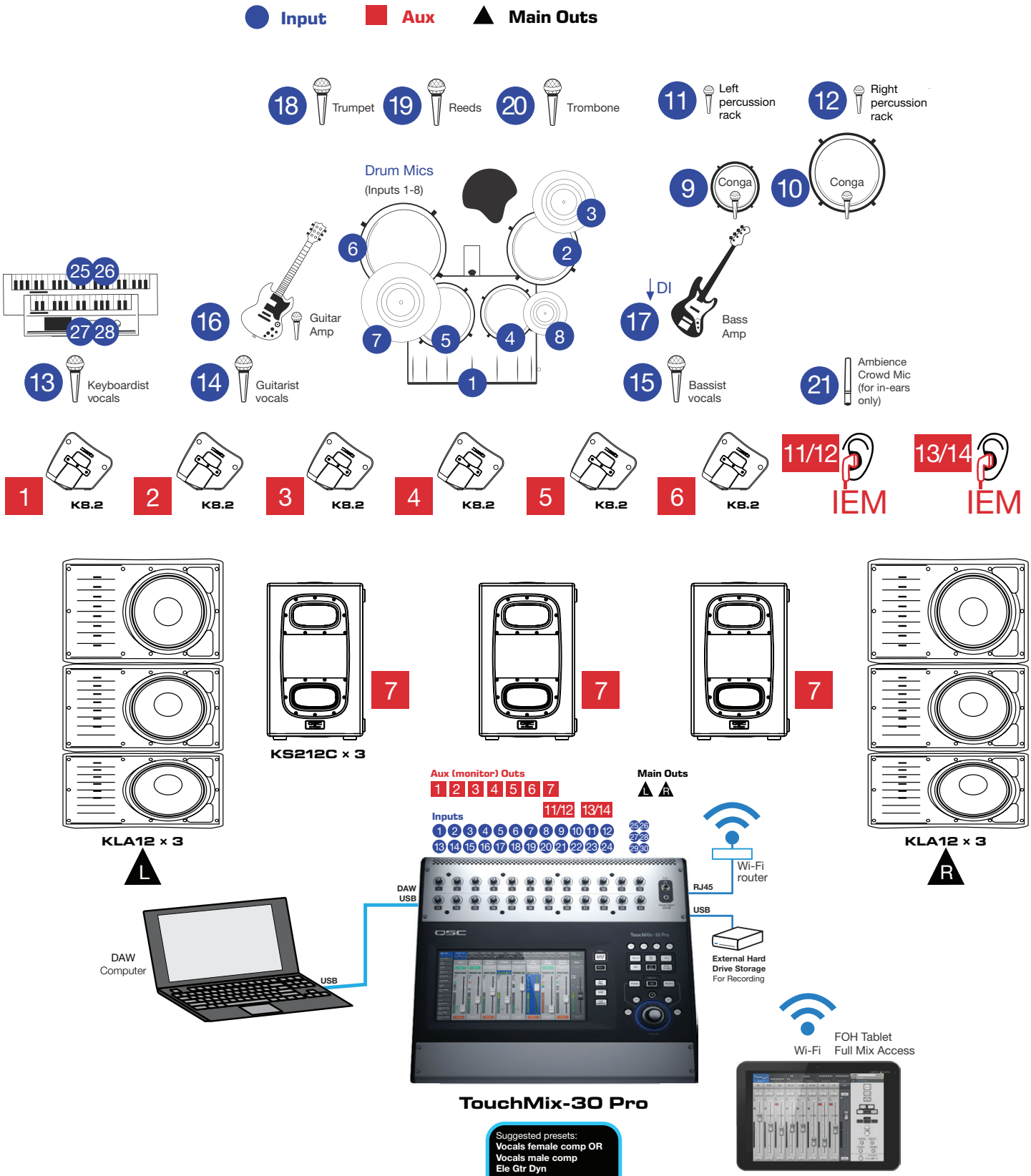
The TouchMix-30 Pro is considered a small-format digital mixer, but its capabilities are huge. In this scenario we're looking at the console as the nerve center and creative nexus of the sound reinforcement system in a club concert hall that seats up to about a thousand audience members. The band on stage has eight members: a guitarist/vocalist, a keyboardist/ vocalist, a bassist/vocalist, a drummer, a percussionist, a trumpeter, a saxophonist, and a trombonist.

You'll recognize the drum miking scheme from the previous scenario; the drummer also uses stereo in-ear monitors. The percussionist has a high and low conga set, along with racks left and right with claves, tambourine, Vibra-Slap, and other miscellaneous percussion instruments. The keyboardist uses two stereo inputs on the mixer plus a vocal mic. The guitarist's amp is miked and he has a vocal mic as well as stereo in-ear monitors. The bassist goes direct and also has a vocal mic. The trumpet, sax, and trombone each have a dynamic mic. An audience/ambience mic feeds the aux buses used by the in-ears but nothing else.

Powered K8.2 floor monitors go to the keyboardist, bassist, percussionist, trumpeter, saxophonist, and trombonist. They are fed by aux outputs from the mixer.

The house system uses left and right hangs of KLA12 powered line array loudspeakers fed from the mixer's stereo main outputs. A set of KS212C cardioid subwoofers are fed from an aux out so the engineer can select what channels belong in the subs.

A WiFi router connects to the mixer's RJ45 Ethernet jack. The engineer therefore can mix from anywhere in the room on a tablet and is not bound to the seat at the mixer. And the band's live performance is captured in separate digital tracks on an external hard drive.



What you'll use—TouchMix Wizards and features for the club concert

- Room tuning Wizard
- Anti-feedback Wizard
- **Normal** loudspeaker profile for **QSC KLA12**
- **Stage Monitor 1** or **Stage Monitor 2** loudspeaker profile for **QSC K8.2**

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