

TouchMix-30 Pro

FOR HOUSES OF WORSHIP

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Application Guide

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QSC

AET Application Engineering Team

BEYOND MIXING

Great to Use on a Campus with Multiple Spaces

In the video about Free Chapel in Southern California, Technical Director Matt Lowe shares his appreciation for how TouchMix™ consoles elegantly serve the diverse requirements of the multiple spaces that he oversees on the church campus. He mentions that his volunteers are not intimidated by the console — due in large part to it feeling just like the iPad® or Android® tablet that they use at home or at work — so they're already comfortable with it.

That comfort level encourages aspiring sound techs to explore ever more complex mixing tasks guided by the built-in Wizards and Presets for equalization, dynamics processing and effects. Those Wizards and Presets are part of what sets this console apart from others on the market, and even Matt's more seasoned operators have embraced them. Through them, they find that the console isn't lacking any of the capabilities they expect from a larger console. To take the phrase "user-friendly" one step further, the console allows each operator to choose between a "Simple" or "Advanced" operational mode. That's a feature I've not found on any other console. Ever. It means that we have a console that can in effect serve two types of operators — the beginning sound tech and the seasoned pro.

As with most digital consoles, the sound operator can access all functions of the console from anywhere in the room using a wireless tablet, while the musicians on the platform can mix their own monitors using their smartphones. They also appreciate the simplicity of recording the pastor's message onto a thumb drive, as well as the mixer's ability to do multitrack recording and playback to or from a USB drive. That multitrack feature allows the seasoned operator to do virtual soundchecks, and the less experienced operators to practice mixing as their schedule allows. And if you happen to be using QSC loudspeakers, you get to take advantage of some presets tailored specifically for those models on the mixer outputs. **That's a lot to take in, so let's step back and consider what Matt just said.**

The events held in each space that a church sound tech is responsible for have different technical requirements and, by their nature, differing levels of complexity. In choosing a console, one must consider not only the technical merits of each device for each venue, but also weigh the skills of the people who will be driving each of those consoles. For example, the skill set and technical needs of those serving in the Children's Ministry or Youth Room may be quite different than what is needed to drive a system in the main Worship Center.

So let's take a closer look at the TouchMix-30 Pro to see how it might fit in various sound systems that you're responsible for. Ask yourself how your beginning sound techs would adapt to using it, as well as how you and other more seasoned techs that serve alongside you would view it. There is a surprising amount of flexibility built into this console.

Who Took My Faders?

The first thing you will likely notice when you see a TouchMix console is that there are no physical channel faders. Instead, the control surface is a responsive multi-touch screen with great graphics. Maybe you or your volunteers are coming from the analog console world and you are used to being able to quickly grab several faders or a knob to fix something in the mix. Granted, if your mix is complex, with lots of channels to manage, and you frequently need to adjust several channel faders at a time, then you will be more comfortable working on a console that has physical faders to grab.

But I would suggest that in a majority of settings — smaller churches, youth rooms, fellowship halls, etc. — the mix requirements aren't nearly that complex. And for those users, QSC engineers employed a technique they call the Touch and Turn interface.

I tend to live by the motto "When All Else Fails, Read the Directions," so when I first started to explore this console I hadn't read the manual to know about this feature, but rather stumbled onto using the encoder wheel to adjust various parameters.

And it makes a lot of sense. Touch a fader or a knob or an auxiliary send slider and then, rather than slide my fat finger on the touchscreen, I found that adjusting the encoder wheel was not only faster but more precise.

As you get comfortable with it, using that feature will become second nature. You will find that you do both — one time you will slide your finger on the control there on the touchscreen, and another time you will touch the item and then use the encoder wheel. It's a truly elegant interface.



Simple by Design

Church tech volunteers are a funny lot. In my past life as a tech team leader, most of the volunteers I have served alongside really wanted the opportunity to sit in the “hot seat,” to mix the service in the main worship center. But they needed a lot of training to deliver a consistent, quality mix week after week. The TouchMix-30 Pro gives aspiring sound operators the ability to grow into using more advanced features, building their confidence along the way, and it does so through Presets for EQ, dynamics and FX, Wizards and Advanced versus Simple operational modes.

“The TouchMix-30 Pro gives aspiring sound operators the ability to grow into using more advanced features.”

Presets

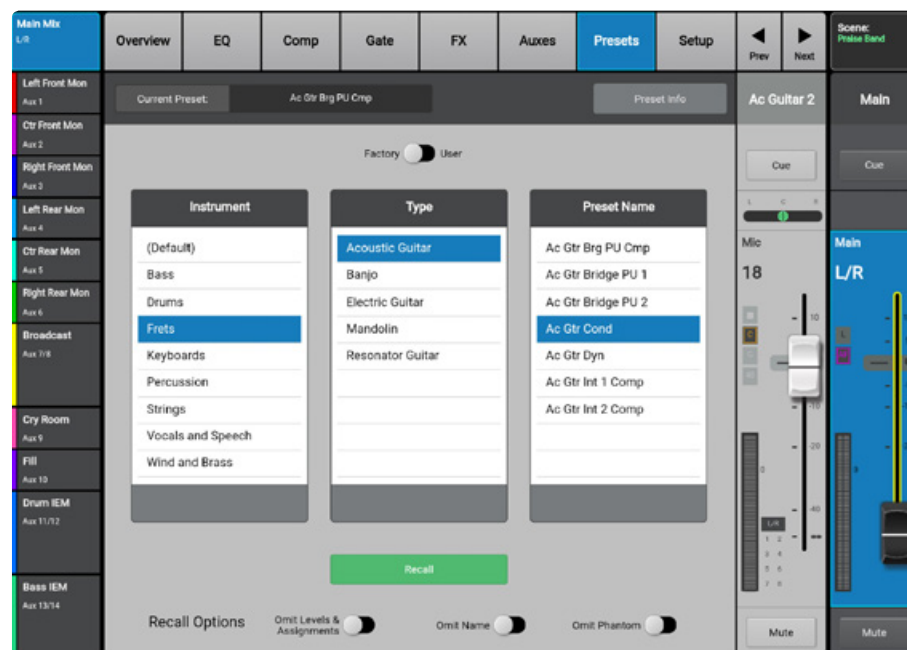
Presets are available for equalization, dynamics processing and effects. They offer a great starting point, and ultimately help the inexperienced sound tech to learn how to properly use those tools. They have also proven to be a time-saver for the more experienced techs. The Presets have been carefully developed, fussed over and refined by engineers and musicians working together (imagine that) to come up with settings that make sense and actually work. Okay, so at first my defensive mechanism jumps in and says “now wait just a moment there ... I’m a degreed professional and want to make my own settings thank you very much.”

But then it dawns on me that although I’ve been doing this for a few decades and during brief moments of silliness think that I’ve finally figured some things out, truth is that I’m still learning. At least I’d better be. If I’m no longer teachable, maybe it’s time for me to do something else. So, if I can learn something from the time and genuine care that the team at QSC has invested in developing these presets, I would be wise to learn from them rather than reject them.

And frankly, the presets just might show a seasoned pro some new tricks, possibly approaching EQ on a particular instrument in a way that they would have never considered before. I asked how these presets were developed and got the inside story. When QSC designers were working on those presets, they really did their homework. They rented out a sound stage, brought in talented musicians along with loudspeakers and microphones typically used for live sound, and very carefully crafted the settings for those presets.

And they didn’t stop there. Once they were comfortable with those settings, they also brought in some seasoned audio engineers to listen and give their opinions. Those engineers smiled at what they were seeing and hearing. Some even admitted that they would have approached the EQ and effects settings for those instruments in very much the same way. Of course, even the presets can be adjusted to your heart’s content, so they can give us a great starting point that we can further refine to fit our own needs and preferences.

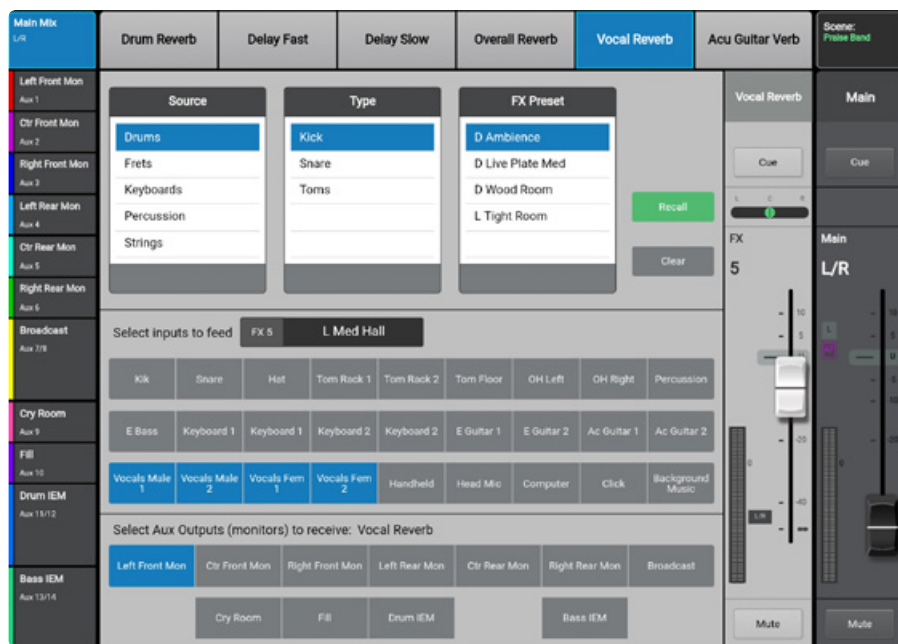
Presets



FX Wizard

With multiple choices for reverb, delay, and time modulation effects, which to choose for a particular voice or instrument on a per-song basis can at times be a challenge. The FX Wizard presents you with logical choices for the sound tech to consider. If you learned to mix on analog consoles with outboard effects processing, you understand something about signal flow. Sending to a processor and returning its output to the mixer makes sense to you. But there are many operators who are puzzled by effects routing and have no idea what effect to use. The TouchMix FX Wizard helps in three ways.

FX Wizard



First, it helps you choose which effect to use. Need to find the right reverb for an acoustic guitar? Just select Frets & Acoustic Guitar in the wizard and it will show you only the FX presets that make sense for acoustic guitar. Second, the Wizard also shows a list of buttons that correspond with the mixer inputs. Just touch the guitar's input channel and you've got acoustic guitar going to the reverb at a preset level (which you can adjust to taste). Third, if the guitarist wants to hear reverb in their monitors, that's a single button as well. Not only is it simple, but it's really fast for those occasions when you have limited setup time. And by the way, these effects really sound sweet. In the good old days we might have \$3,000 worth of effects units sitting in the rack next to

the console just for a good reverb sound and some delay. The smooth reverb and echo effects offered in this console rival the sound quality of those predecessors.

Gain Wizard

Understanding console gain structure can be a challenging concept for the beginning sound tech. Their first question might be "why" do we even need to bother? The foresight to add a Gain Wizard to this console was a smart idea.

Let's say that your volunteer has gone through the soundcheck and even a rehearsal, and based on the training you have provided they have the console gain structure working well. Now the service gets underway, the worship team is playing harder and the praise team is singing a full 10 dB hotter than they gave you even during rehearsal. So now your tech's channel gain structure has issues. All they need to do is to touch that Gain Wizard button and it will show them which channels need attention, and on a per channel basis how much they need to adjust the trim control for each mic preamp to bring the levels back to where they should be. The seasoned sound tech has been through that process countless times. They know what to expect and they know how to deal with it quickly and efficiently to get the gain structure back in line. Your volunteer sound tech remembers you telling them what to do, but now you're not there standing next to them to get them out of trouble. Gain Wizard to the rescue.

Gain Wizard



Using Scenes

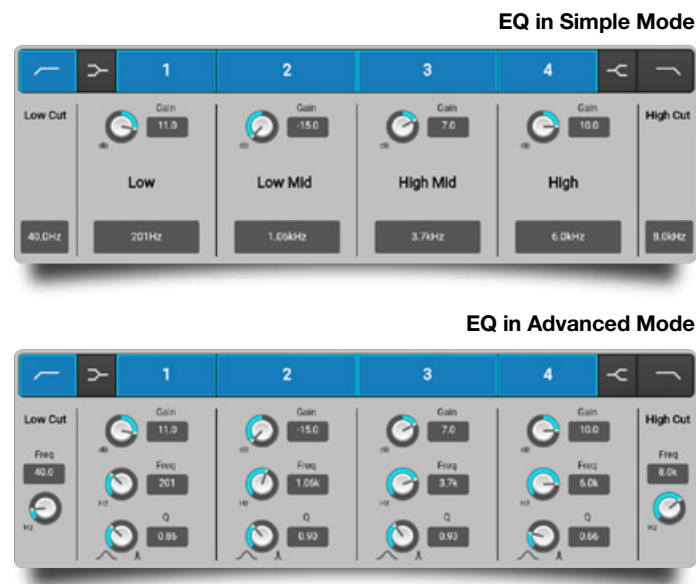
Anyone using a digital audio console these days knows about using Scenes to store a snapshot of the console settings. Some scenes might capture the settings for a Sunday service while others capture those for a midweek service. For that matter, I know sound operators who will build a different scene for each song in the worship set, or even multiple scenes during each song. The point is that the scenes are there for you to use in whatever way helps you. My friend David shared an effective way to use scenes in a busy house of worship setting.

“By using the scenes, we have been able to train people to use the system for their events during the week. These include the warmup/practice for our Sunday contemporary service, for midweek traditional services, deaf church services, contemporary evening services led by the youth, and a home school group using our facilities for drama a couple of times a year. They are able to make changes without impacting the other group's settings.”

As you grow into using more and more scenes, you will find that there are certain channels that you don't want to change when you recall a scene. Those channels might include the teaching pastor, or the worship leader, or the lectern mic, or an announcement mic. To keep the settings on individual channels so they won't change when you recall a scene, you can choose to “safe” those specific channels.

Advanced Versus Simple Operation Mode

The Advanced operating mode works as its name suggests – all features of the console are available to the operator. And the hands of a seasoned operator will feel comfortable adjusting all of the parameters that they are used to working with on other consoles. But the TouchMix-30 Pro is not just another console. There are a number of features built into its design that will help the less experienced operator stay out of trouble as they learn more about mixing. For example, engaging Simple mode hides some of the controls (like the bandwidth and frequency of a channel EQ). Displaying fewer options can make the console seem less intimidating for the casual operator. Below is a screen shot comparing Simple versus Advanced for the channel EQ.



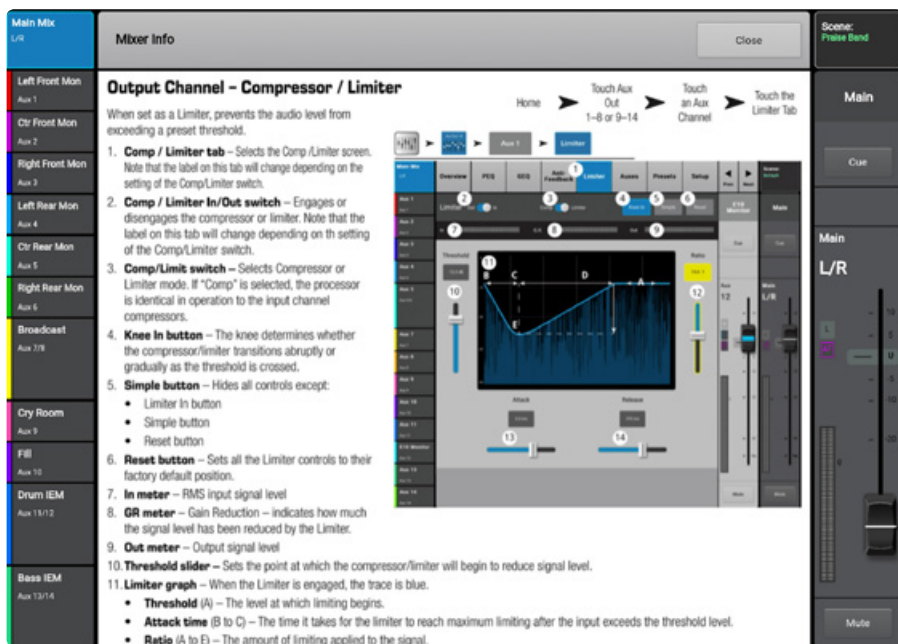
You will notice that it turns the channel EQ into a four-band boost/cut only unit with preset frequencies and bandwidth, much like entry-level analog consoles. It's important to remember that switching into Simple mode does not alter the values of any Advanced mode controls (in this case, the bandwidth and frequency), so you will still want to keep an eye on what your trainee is adjusting. Of course, those hidden settings can still be adjusted by temporarily turning off Simple mode. The Simple/Advanced mode is global, and applies to all channel EQs as well as to compressors, gates, the FX sends, and settings on each of the effects processors.

Efficient Navigation

The workflow of the TouchMix-30 Pro truly is intuitive and user-friendly, and that makes it a good fit even for the aspiring sound engineer. You're never more than a couple of button pushes away from anywhere in the console that you need to go. And you will quickly discover the Home button is your friend. Especially for the beginner, if they ever get "lost" in the menus, teach them to hit Home and they will be transported back to familiar territory.

Speaking of not getting lost, as you sit at the TouchMix-30 Pro console, touch the button labeled Info. That will bring up basically the entire user's manual for the console in a well thought out system of navigation. And get this, that manual can be displayed in six different languages! By the way, does your church share their property with another ministry? Like maybe your services are on Sunday morning, but you allow another ministry to use the building on Sunday afternoon or on Saturday. Stay with me here. If that other church happens to be a Spanish-speaking church, then show their sound tech how to change the language of the console from English over to Spanish. The console's digital silkscreen stays in English, but the entire help file switches to the other language. I just thought that was a nice touch. Okay, I know that I shouldn't get excited about something as simple as an Overview screen. I mean, doesn't every digital audio console have one? But some have a better layout than others, and this one is actually useful.

Info System



Channel Overview Screen

Your aspiring sound techs will appreciate that Overview screen because they can see at a glance everything they need to know about each channel – channel EQ, compressor, gate, FX sends, Aux sends, pan, PFL, digital gain, and even delay. And your seasoned techs will learn to speed read the information as they scan each channel. Assignments for programmable mutes, subgroups, DCAs, main Left/Right mix, and the record/playback options are accessed by touching the Setup button on the channel. There are indicators on the Overview screen, however, to show the status of those parameters. If I'm adjusting feeds to the effects buses or need to dig into the effect's parameters, I'll touch the FX menu at the top of the channel that I'm working on and drill down from there.

Channel Overview Screen



How many times have you heard a request from a vocalist on the platform asking, "Could you please put some reverb in my monitor?" To which you respond "Sure, just give me a minute" as you think through all the steps you need to do to make that happen. With the TouchMix-30 Pro, touch the effect module that you want to send, and at the bottom of that screen you will see a section labeled "FX Returns to Monitors," with a slider to let you send that effect to any of those auxiliary sends.

Everything the Pro Needs

The pro audio tech knows what they want in a console. They want it to be fast to drive, with controls placed where they need them and expect them, replete with all the tools they depend on to bring out best of the song, and they want it to sound great. (Did I mention the console has class-A microphone preamps?) The console's small form factor belies the fact that it has a feature set similar to much larger digital consoles. In fact, for many small churches, the TouchMix-30 Pro could readily serve as their main sound mixing console.

For starters, there are eight subgroups and eight DCAs at your fingertips, ready to streamline the mixing process. There are 14 (!!!) mono auxiliary sends, and those can be linked to provide up to seven stereo aux sends. You can also route auxiliary sends 11-12 as well as 13-14 to a pair of stereo headphone outputs. This is in addition to their line-level XLR outputs for each aux send. That should be enough to pamper most music teams, who by the way will be able to control their personal monitor mixes via their own iPhone or Android devices. There are six effects (FX) sends, in addition to those aux sends, available on each channel's Overview screen. Each of these features deserves further explanation. So let's explore further.

Mobile Device Control

The iPad® app gives your sound tech full access to all the console features, with the same operational paradigm as is shown on the console's touchscreen itself. The app is basically the console in your hand. Everything you can do on the console you can also do on the app, which by the way is available for both iOS® and Android™. Those features are multitouch, which allows one to move multiple faders at the same time and also to “pinch” to change the bandwidth of a parametric EQ. You can even set it up so that the console's built-in touchscreen shows one page of the console while the tablet shows another page. Sweet.

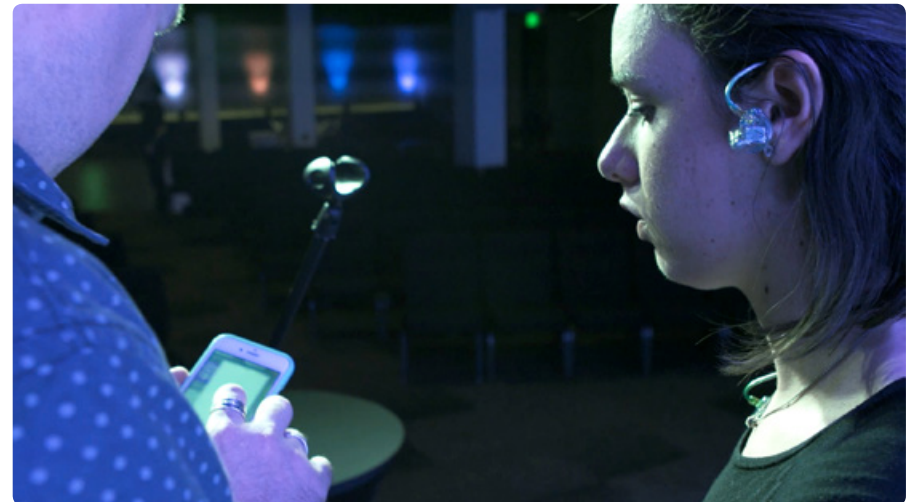
Here's another scenario that I wouldn't have thought of on my own. My longtime friend David shared how they are using their TouchMix console. Although his church has a fixed sound booth, they place their TouchMix console on the platform, and then mix the services wirelessly from the booth using a tablet. Placing the console on the platform means they no longer need a mic snake or long cable runs back to FOH. They just plug directly into the console on the platform. Although his church is small, they have other locations on campus where they need to use a console. So, they simply “borrow” the console from the platform in the worship center and move it temporarily to the other location to use for the event. Afterwards, they return the console to the main platform, reconnect the cables, recall a scene, and it's ready to go for the next service.

At under 18 lb (8 kg), the mixer is highly portable. There is a padded carrying tote available, and the entire package is smaller than most carry-on luggage.



For off-site events like a choir tour or taking a vocal ensemble to sing at the shopping mall, they can again place the console just to the side of the platform, connect their mics to the console, and then feed the outputs either to the facility's loudspeaker system or bring their own powered speakers. Of course, trying to mix a service from the side of a platform isn't the best scenario, but remember that you can use the tablet app to let your sound tech mix from anywhere out in the audience area.

The tablet app helps with training as well. One industry pro discovered a great way to use the remote control app as a training tool during a service. He would put the aspiring sound mix engineer in the hot seat to mix the service, while standing nearby with the tablet just in case a quick correction was needed. Kind of like the second set of brake pedals on a driving school car. Now the first time that young engineer happens to see a fader move without their touching it, they're going to freak out a bit. But that's OK. A knowing smile that you just “saved” them from making a big mistake should be enough to reassure them.



Individual Monitor Control

The iPhone app can allow a player on the platform to mix their own monitors. That frees up an already busy (and possibly less seasoned) sound tech to focus on the FOH mix and let the players mix their own monitors. The system can handle up to 13 devices (either iOS or Android) at a time.

Now, giving any musician control over their own monitors might strike fear in the heart of an otherwise sane FOH mixer. But rest easy. The iPhone app can be set to limit each player's access to certain controls so they don't accidentally go adjusting something (like a mic preamp or channel EQ), settings that they shouldn't be messing with anyway. All they really need is up and down control of each channel for their own monitor mix, and each iPhone app can be adjusted to the individual player's needs.



I should mention that there are multiple ways to gain access to the controls you need to adjust. For example, you can adjust the auxiliary sends from multiple screens – the channel overview screen, the aux send tab, and the auxiliary overview screen. You are typically only two clicks away from any feature that you need.

Compressors and Expanders

The graphics for the compressor and gate/expander on each channel provide a great illustration for how those devices are acting upon the signal on each channel. QSC engineers thought through the compression and gating process and have presented an intuitive way of viewing what is happening to the signal. This, by the way, is a great teaching feature.

Compressor Screen



Gate/Expander Screen



As I dug deeper into this console's features, it dawned on me that each of those helpful features – like 12 bands of feedback suppression, six bands of parametric EQ plus high and low pass filters, and 31-band graphic EQ, and compressor/limiter and delay out to 100 milliseconds – is available on every console output. There's even a de-esser included with the compressor, along with a sidechain capability.

Seriously, those features are available on all of the auxiliary sends, plus of course the main stereo outputs. That just struck me as remarkable. Dangerous, of course, in the hands of someone who shouldn't go messing with those settings, but there if and when needed by a more seasoned mixer. How does that help? Well, if you are using floor monitors on the platform, then you may need a way to ring them out so they are less susceptible to feedback. That much EQ on each output should be adequate to tame most floor wedges. And that limiter can be setup for speaker protection just in case something happens (e.g., runaway feedback, a dropped mic, etc.) that could take out a midrange driver. I'll share more about the feedback suppression and the Room Tuning Wizard in a moment.

FX Returns to Monitors is on each FX Module



What Makes the TouchMix-30 Pro a Good Choice for the Novice?

Over time, the aspiring engineer will start to explore the big console features of the TouchMix-30 Pro, and that will help them more easily transition to a bigger console used in the main auditorium. Here's a perfect example of the benefit to using EQ presets that I mentioned earlier. Those who have been working with sound systems for a few years know that learning to use channel equalization takes time. A lot of time. Learning what to listen for, learning to identify "problem" frequencies in a certain instrument or voice, even recognizing what frequencies would be of no benefit to mess with on that instrument takes time to learn. So it would be logical to assume that any experienced sound tech would not boost the channel EQ at 80 Hz on a flute microphone, but in reality, a novice sound tech hasn't yet learned to think that way. And they just might try it. If you teach them to use the EQ presets, they won't go down that road.

Case in point. I was at a church one day working with their sound system, and selected a channel to see what EQ adjustments had been made. I was startled to find a +9 dB boost at 300 Hz and a -12 dB cut at 315 Hz, both with a one-half octave bandwidth. The resulting curve showed virtually no change because they were essentially chasing

their tail with the EQ. Why? Because they were twiddling knobs desperately hoping to improve the sound. They knew something was wrong but weren't sure what to do about it. The EQ Presets designed into the TouchMix-30 Pro give the aspiring sound tech a fighting chance to make more intelligent decisions about using EQ. The TouchMix-30 Pro answers that need by offering over 100 equalization presets carefully crafted to refine the sound of a wide range of instruments. Let's say that your sound tech is working with an acoustic guitar that just doesn't sound great, but they don't know why. They could go exploring on their own, but I have seen the results of such unguided exploration and it can get messy.

It doesn't happen overnight. The young engineer will make mistakes and will learn to refine their approach to channel EQ over time. But these presets will not only encourage them along that path; they can accelerate the beginner's learning curve. I can't stress this enough. As soon as you start using your TouchMix-30 Pro, do yourself a favor – explore the presets for EQ and for FX. You will be pleasantly surprised at what you learn and how those presets improve the sounds you are presenting to your listeners. Then continue your study by figuring out "why" those presets work so well. Church Tech Director Matt Lowe has found that the TouchMix-30 Pro "... can serve as a great stepping-stone for novice operators and yet it's not lacking in the go-to features that more seasoned sound techs want and depend on to refine their mixes."

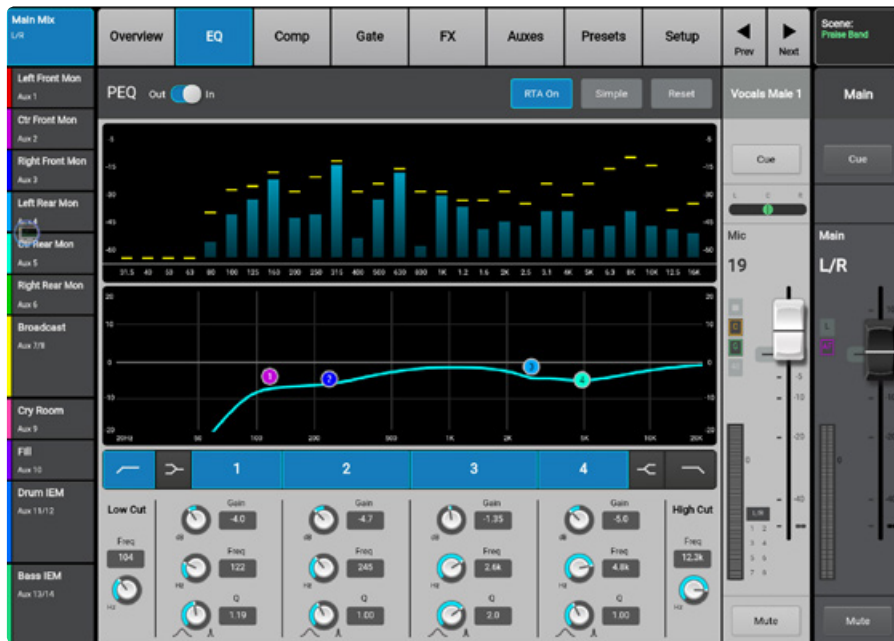
“The TouchMix-30 Pro can serve as a great stepping-stone for novice operators and yet it's not lacking in the go-to features that more seasoned sound techs want and depend on to refine their”

Matt Lowe, Technical Director, Free Chapel O.C.

Real Time Analyzer (RTA)

As you explore the TouchMix-30 Pro, try out the built-in Real-Time Analyzer. Navigation to the RTA is extraordinarily simple. First off, there are actually two RTA's to work with – one that is available on each input channel (right above the EQ screen) and another that can be assigned to display the response of any output. Both of those will display the signal directly off the console. You can also set up a measurement mic, plug it into the Talkback mic input and display the acoustic energy in the room at the mic location.

Real-Time Analyzer (RTA)



When I'm mixing, I often connect the RTA to the solo bus so that whenever I hit "solo" (aka, PFL) on a channel, the RTA will display just that signal. That function is a simple button click on the TouchMix-30 Pro. You can take it a step further. If you have a tablet to work with, get it communicating wirelessly with the console and then set the output RTA so that it follows the solo bus, while the console's built-in touchscreen displays the RTA for individual channels. You will have the best of both worlds with two RTA's to check on as needed.

Tablet Support Stand



Audio Recording – Recording the Message

Nearly every church tech that I've ever talked to records at least the message during each service. By recording directly to a USB jump drive, you can walk that over to the bookstore for their needs, or you can hand it to the presenter so they have a recording for their own review. Or you can hand it to the person who manages the church's web site so they can upload the message to the Internet for members of your congregation who weren't able to attend the service.

32x32-Channel Direct-to-USB Drive Recording



During weekly band rehearsal – you do have weekly band rehearsals, right? – your worship leader or band leader may learn to love the fact that you can easily record the worship team specifically so they can ask you to play it back to listen for parts they need to work on more. That's what musicians do in a recording studio to make sure that what they are playing works. No reason why players in the worship team shouldn't take that opportunity during rehearsal to refine their parts. Or how about the times when you need to bring in a substitute player for a weekend? Maybe one of your musicians will be out of town for work or vacation, and you need to easily show a substitute player what the part should be.

Case in point. My old friend, Gerry, shared his story of how recordings of the band can help in unexpected ways. "My band had to bring in a substitute drummer for several gigs and he nailed it with just a single rehearsal because I was able to give him recordings of our whole show." At a wedding, we need to capture the moment with an audio recording. Friends and family will want to have that recording to refer to over time.



**32x32-Channel DAW Interface
for macOS® and Windows® Computers**

TouchMix-30 Pro's Recording Screen



Memories are so important. What about the feelings and stories captured during a funeral where family members and close friends reflect on the life of their loved one? Capturing those moments in a recording is every bit as important as your pastor's message last Sunday, maybe even more so. The bottom line is that the TouchMix-30 Pro makes capturing those events truly simple with the built-in two-channel recording capability, storing the files directly onto a USB drive.

Playing Tracks

It wasn't so long ago that Special Music performed during the offering involved a solo vocalist singing along with a pre-recorded accompaniment track. I don't see that as often these days, but it's good to know that the TouchMix-30 Pro can provide that function directly from a USB drive at a moment's notice. Whenever appropriate, I like to play music softly over the loudspeaker system as people start to arrive for the service. It creates a welcoming, restful setting as people enter the room. Whenever I teach beginning sound techs about mixing, I remind them that part of their role is to ensure that their listener hears exactly what they need to hear at the moment they need to hear it and not know how it happened. Well, that includes even the walk-in time and the walk-out time. Whether your church likes to use music streamed from the Internet, or an MP3 player plugged into channels 29-30, or a USB drive connected directly to the console, the TouchMix-30 Pro offers easy access to any of those options.

Recording Music and Using Multitrack Stems

I'll let you in on a secret. Musicians and/or tech teams in large churches have been using carefully chosen multitrack backing tracks for decades to make the sound of their music larger than what they can do with their small team. They add elements to a mix that aren't actually on the platform. Like maybe one song has brass parts or a Hammond B3, and your church doesn't have a brass section or a Hammond (which would be a travesty). With multitrack "stems" you can add just the elements you need for each song.

I mixed FOH at a large church in Dallas for a few years where on Sunday mornings we had a 30-piece orchestra with strings, brass, woodwinds, and percussion along with a rhythm section. And even in that setting our keyboardist often recorded our own string section in the church's studio and then we blended those string tracks in with the sound of our own live string players. Using those stems added fullness to the sound of the strings or other sections. They could also be used to add rhythm parts or percussion that weren't practical to achieve another way. In the past this was done utilizing DAW (Digital Audio Workstation) software or a separate digital multitrack playback machine to feed those parts to the console. Those channels would be fed individually to the main FOH console, or submixed on a laptop computer by someone on the platform, often the keyboardist. Having access to a multi-track machine used to be cost prohibitive, but today that capability is built right into the console. You can record and playback those multiple tracks directly from a USB drive connected to the console. No computer required!

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No computer required – that is unless you prefer to use one. One of the unexpected features of the TouchMix-30 Pro is that it provides a 32x32 channel direct-to-DAW interface via the Type B USB port on the back of the console.

Think that through for a moment. The console gives you 32 channels of high quality inputs, with 24 Class-A mic preamps, allowing you to capture sound quality that rivals more expensive consoles. Add a USB cable to link the DAW software on your computer (Mac or PC) and now you're tracking through the same console. Just like any great

recording console, you can still satisfy the monitoring needs of the players with 14 mono (7 stereo) aux sends, and even add reverb or delay to the vocalist's headphones using the FX sends.

For the church sound tech, that makes it easy to track songs through the console right into your computer, and then play back those tracks through the same console. There are a host of times where that could be useful, like for ...

- doing a virtual soundcheck
- using that virtual soundcheck to let your volunteers practice mixing
- recording your own multitrack stems
- recording your typical service so you can mix it down that afternoon
- your worship team producing their own recording project in-house

You might be surprised to learn how many of your favorite worship albums were actually recorded not in a great recording studio, but right in the worship center, using very simple equipment. The capability of this TouchMix-30 Pro console will surprise you. (Frankly, it surprised me, and I've been doing this for a while.)

If your church isn't already using them, bringing your team into the world of using multitrack stems during live worship can be a lot of fun. Whether it is right for your house of worship is a decision you will need to make, but we want to make sure that you are aware of the capability and how the TouchMix-30 Pro can help you make it come to life.

DAW Utility

The screenshot shows the 'DAW to TouchMix' utility window. At the top, there are dropdown menus for 'TouchMix Drive' (set to 'Off'), 'Session' (set to 'BLUES BAND SET 1'), 'Name' (set to 'BLUES_SESSION'), 'Destination' (set to 'G:\AUDIO PROJECTS'), and 'Export Format' (set to '32-bit integer'). Below these is a 'TouchMix Tracks' section with a table of 32 channels. Each channel has a checkbox, a name, and a dropdown menu. The channels are: Ch 1 (Vox), Ch 2 (Drums), Ch 3 (Vox), Ch 4 (Vox), Ch 5 (Vox), Ch 6 (Vox), Ch 7 (Vox), Ch 8 (Vox), Ch 9 (Vox), Ch 10 (Vox), Ch 11 (Vox), Ch 12 (Vox), Ch 13 (Vox), Ch 14 (Vox), Ch 15 (Vox), Ch 16 (Vox), Ch 17 (Vox), Ch 18 (Vox), Ch 19 (Vox), Ch 20 (Vox), Ch 21 (Vox), Ch 22 (Vox), Ch 23 (Vox), Ch 24 (Vox), Ch 25 (Vox), Ch 26 (Vox), Ch 27 (Vox), Ch 28 (Vox), Ch 29 (Vox), Ch 30 (Vox), Ch 31 (Vox), Ch 32 (Vox). At the bottom, there is a warning message: 'Sorry there is not enough available space. Please choose a new destination or make more space before proceeding.' and a 'Export' button.

Using Multi-Tracks as a Training Tool

In many churches, a volunteer may only be on rotation once a month, and that is just not enough time to learn how to mix. But if they have a multitrack recording of their worship team, they could practice to their heart's content anytime the console is available.

The tracks that your volunteers are working with should be “raw” so they can practice adjusting channel EQ along with creating a musically balanced mix. That is also a perfect opportunity for the volunteer to explore the preset EQ settings – to discover the options that work well for various vocals or instruments, to hear how they improve the sound, and then to test their wings with their own EQ changes.

Once they become comfortable with that channel EQ process they can further develop their knowledge and their comfort level by using compressors and expanders and various effects. The only thing missing is the feedback.

But wait, why stop there? Okay, I know this may sound sneaky, but maybe as the tech team leader you should intentionally capture some occasional feedback on a couple of the mics so that your trainee can learn to listen for it and quickly find the problem channel and solve it.

You didn't hear it from me, but you might even intentionally capture some other problems, like hum or buzz from a guitar amp on a certain channel that is only there for a short while.

Can you see how those sneaky steps would afford you further teaching moments? For example, (1) they get to hear, identify and locate the channel(s) with the problem, (2) you can talk with them about how to resolve that problem (e.g., using a ground lift switch on a direct box), and (3) you could even show them how using a gate/expander would help lessen the impact of that problem if the ground lift switch didn't resolve it.

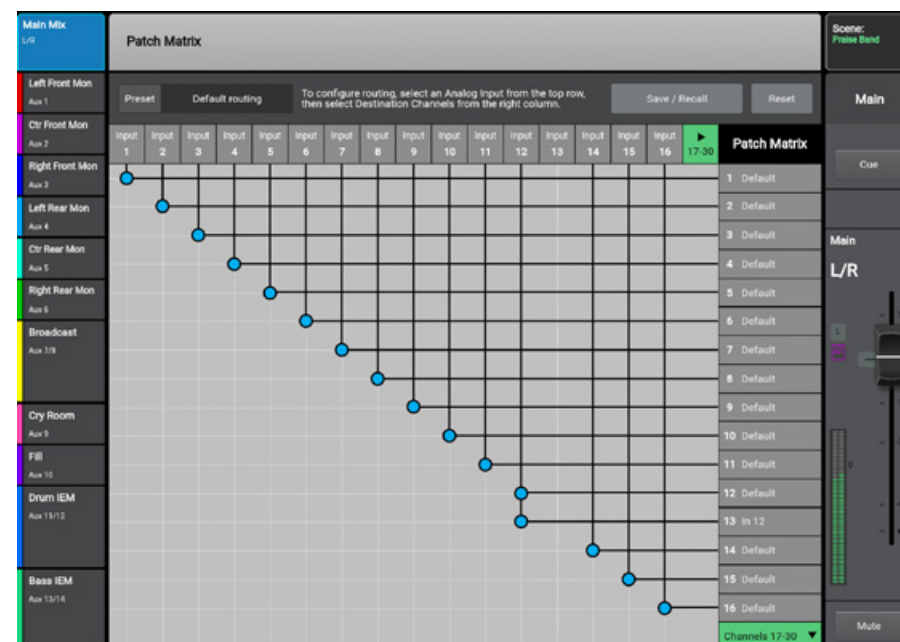
The tech team leader can sit beside the volunteer at first to make sure that they're on the right path, and then later simply check in on them to encourage them in how they are doing with the process. Now think how important that simple process is to building a bond between the tech team leader and the volunteers serving alongside them. Seriously, that is priceless. Who would have thought that a console could be the focus around which that bond is built? They might even find out what your favorite coffee is.

Input Patch Matrix

For most sound systems, the patching of inputs on the platform to channels on the console should be one-to-one. In other words, plugging into mic input #1 on the platform will show up on channel #1 of the console, input #2 goes to channel #2, and so on. However, there are special cases when a seasoned audio tech might want a mic on the platform to come up on a different channel of the console. The touch-and-route channel Patch Matrix makes it easy to rearrange inputs or even “mult” inputs, and unlike

some digital console, its associated matrix graphics are easy to understand. Clearly this feature is something that we may not want the novice volunteer operator to mess with, and it is possible to restrict access to such features. Still, it is good to know that such settings can be changed at will by someone who knows what they are doing and why they are doing it.

Patch Matrix

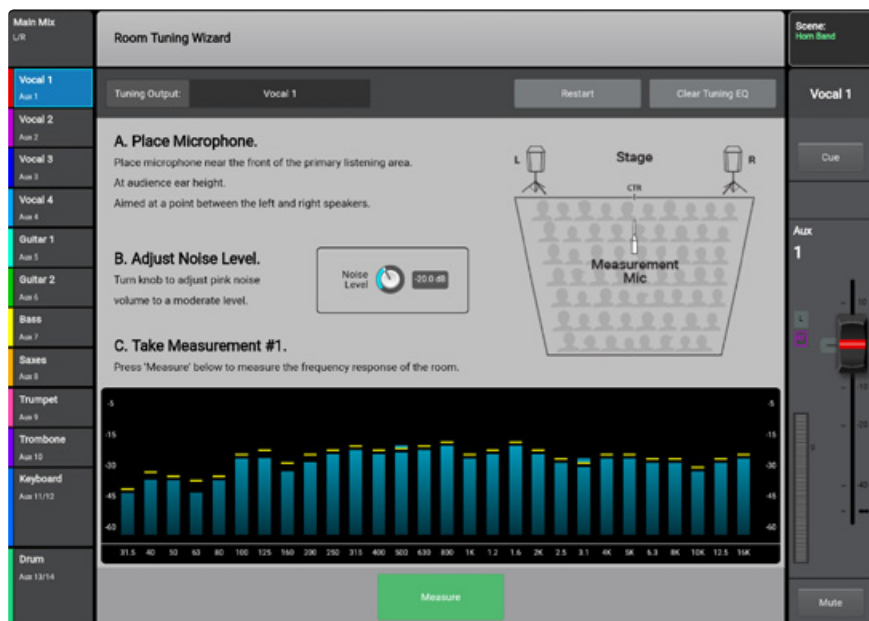


Room Tuning Wizard

Sometimes it's the loudspeakers. Sometimes it's the room. Whatever the reason, sometimes the system just doesn't sound right. The question is what can you do about it. You know what your loudspeakers sound like in your own house of worship, but remember that the moment you go set them up in another auditorium, the acoustics of that space will have an impact on how you might approach tuning that system. Think of the next time you find yourself getting ready for a men's ministry event at a local conference center. Or you're packing the church van to take the sound gear out on a choir tour where you will be performing in several different locations over the next couple of weeks.

Here is where reality sets in. You get to the site and only have a short time to set up, with no time to use your measurement platform. No worries. Engage the Room Tuning Wizard in the console and let it help you dial in the frequency response for the loudspeaker system. No, it won't really replace your investment in measurement gear, but in the scenario that I've just described, sometimes all you can do is all you can do. Be thankful that the console gives you the tools to do it. By the way, the process only takes a couple of minutes and you'll be up and running.

Room Tuning Wizard



Anti-Feedback Feature – Icing on the Cake!

With a well-designed, properly installed, high quality loudspeaker system, driven by a seasoned sound tech, issues with feedback are rare. But let's face it – a lot of church sound systems fall short of those design goals. And even with a well-tuned system, sometimes the system is driven by beginning sound techs who might not catch the start of feedback on a particular mic, or even know which channel is the culprit. It can take someone long enough to find it that the feedback can “take off” and get painfully loud for the congregation before it is resolved by the correct fader move.

Anti-Feedback Wizard



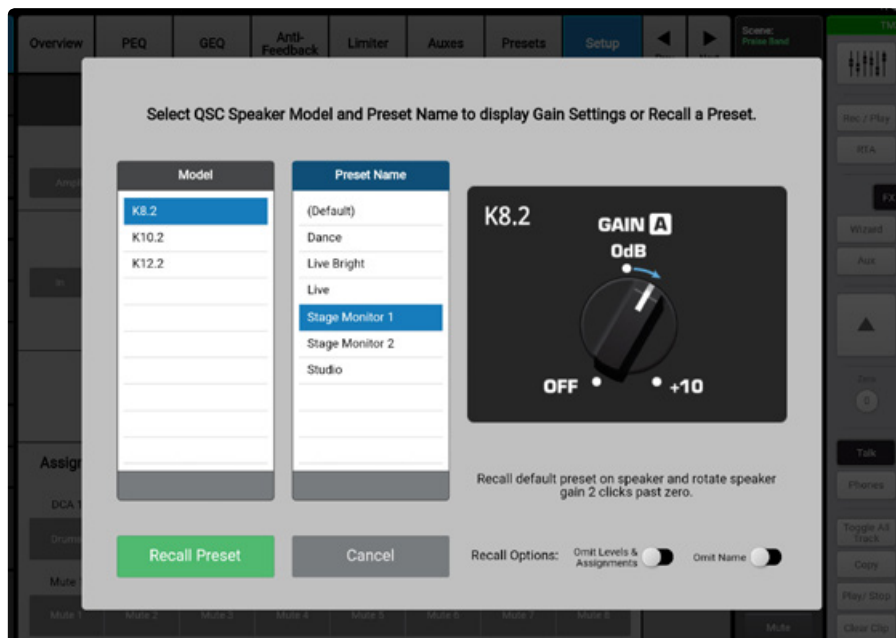
The benefits of an at-the-ready Anti-Feedback feature are obvious. But such devices need to do that job without degrading the sound quality. Frankly, I have never been much of a fan of automated feedback suppression filters in general because most tend to negatively affect

the sound quality of the loudspeaker system. You can hear them working, and with some the resulting sound seems “processed” or unnatural, and that shouldn't be. So, I approached my investigation of this feature on the TouchMix-30 Pro with a kind of “prove it” attitude. But after hearing, using, and actually measuring the results of this feature on the TouchMix-30 Pro, I was genuinely surprised how well it works. This is clearly one of the best operating feedback suppression filters that I've touched. I wouldn't hesitate to use it. Did I mention that there are twelve super narrow-band notch filters available on every output? Read that again. Every output. That includes not only your main loudspeakers, but also the choir monitors and each of the stage monitors. Makes me smile.

Using TouchMix with QSC Amplifiers and Loudspeakers

Finally, there is a helpful information panel for those using QSC loudspeakers (models in the E, K, K.2, KW, or KLA series), or GXD amplifiers. Your TouchMix can recommend gain settings that will optimize your system gain structure. Touch any of the output tabs and choose Setup. It doesn't make those adjustments for you, but it does show how to set the power amp gain control.

Presets for QSC Loudspeakers



Go Get One

This is going to shock you, but when I saw the first advertisement for the TouchMix series of consoles a few years ago, I remember thinking to myself "Why do we need another digital console?" To my detriment, I didn't take it seriously. Now that I've had a little time to dive into the console on my own, I am genuinely impressed.

Don't make my mistake. This TouchMix-30 Pro is a serious contender for a ton of applications. I can think of a myriad of locations where I could specify either the TouchMix-30 Pro or its little brothers, the TM-8 and TM-16. Those smaller consoles, by the way, offer the same operational paradigm and functionality that the TouchMix-30 Pro has, making them a great choice for more modest input and output applications. Understand that we have only grazed the surface of what this console is capable of. If you haven't had the opportunity to get your hands on one of these consoles yet, you need to get to a QSC dealer and try it for yourself.

Approach it with an open mind. I think you will find that it's everything I have said it is and more. Enjoy the process.





Curt Taipale heads up ChurchSoundcheck.com, a thriving online community dedicated to helping technical worship personnel, as well as the Church Sound Boot Camp series of educational classes held throughout the U.S. He has taught literally thousands of sound team volunteers, tech staff and musicians. Curt authored three chapters in the *Yamaha Guide to Sound Systems for Worship*, and multiple articles featured in *ProSoundWeb*, *Live Sound International* and *Technologies for Worship*. His book called *The Heart of Technical Excellence* helps house of worship pastoral staff better understand the role of their tech team.

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