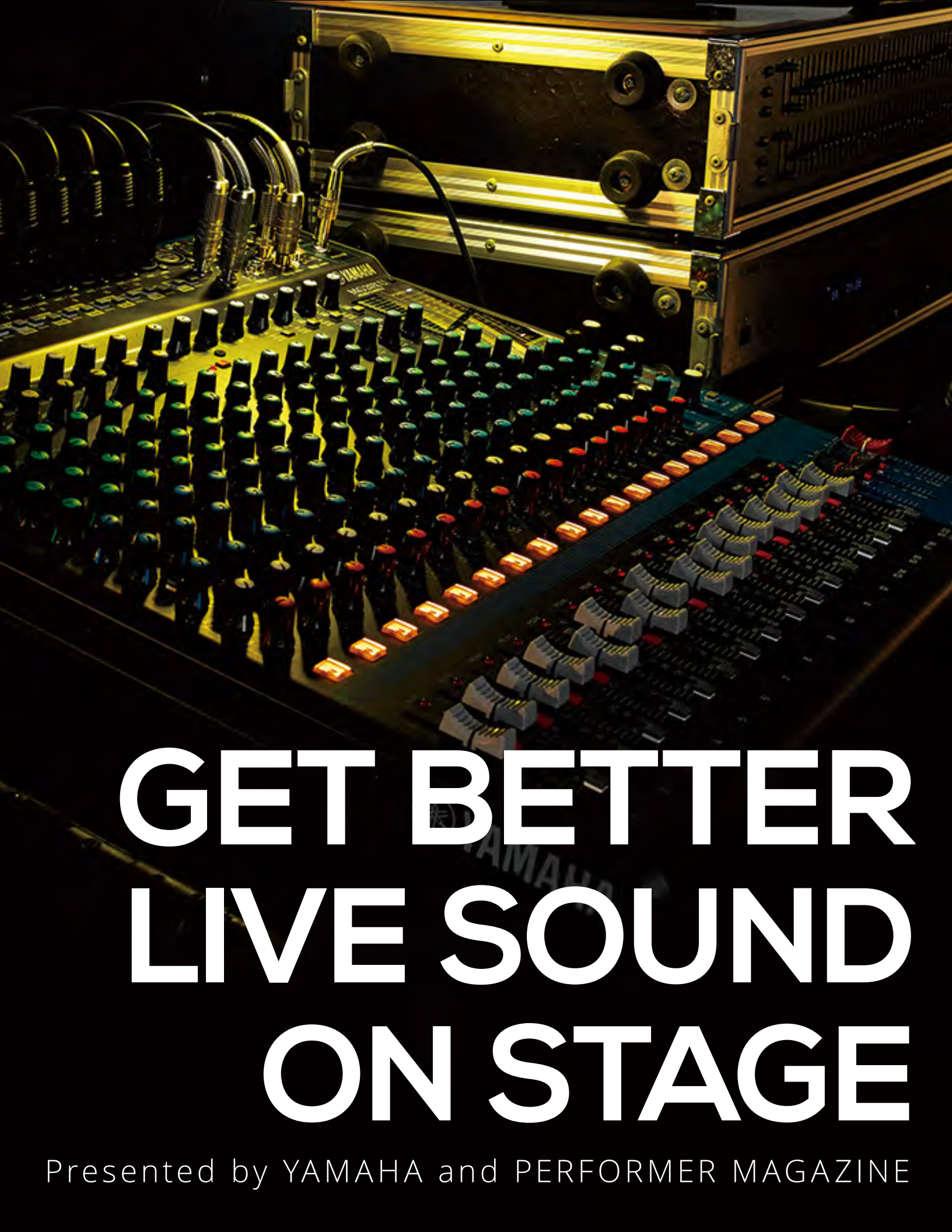

GET BETTER LIVE SOUND ON STAGE

Presented by YAMAHA and PERFORMER MAGAZINE

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SECTIONS

PART 1

What to Look for in a Compact Mixer

Welcome to our four-part guide on getting better live sound, co-presented by Performer Magazine and Yamaha. In this installment, we'll take a closer look at what to look for when shopping for a compact mixer, including what they are, who they're for, some of their basic functionality, and how they can serve as the central hub for your live sound. Yamaha has been kind enough to loan us one of the compact mixers from their wonderfully affordable XU series of analog mixers, so that we can highlight how it works, and define some commonalities it shares with other compact units.

WHAT IS A COMPACT MIXER

Put simply, a mixer accepts a combination of sound sources that are input into it, and can then output those sources after the audio sources have been adjusted. In plain English, it allows you to route all of your vocals, instruments, effects and auxiliary sound sources into one unit, control their levels and tonal characteristics, and then spit out that sound in a variety of ways (through PA speakers, headphones, into a computer for recording, etc.) Most compact mixers feature many of the same elements, which we'll explore below, and once you learn how one mixer works, you've essentially got the foundation of knowledge you'll need to adapt to any brand or style of mixer you may encounter in the future.

SO, WHO NEEDS A COMPACT MIXER?

For our purposes, we'll be focusing on performing artists, as opposed to venues with installed sound systems or complex front-of-house setups. There are quite a few scenarios when it makes sense for a band to invest in their own compact mixer. For example, your rehearsal space (be it a garage, basement, commercial rehearsal facility or otherwise) is the perfect place to install a compact mixer. It'll allow your vocalist(s) to be heard over loud drums and guitar/bass amps, and it'll afford you the ability to tweak your live sound mix during the rehearsal process, so you can get a general sense of where your parts will sit in the mix when you hit the stage.

Obviously, space can be at a premium when in a cramped rehearsal room, so compact mixers offer a small footprint that will still allow you to access all of the functionality you need, without taking up too much space.

The other main advantage of having a compact mixer on hand is that it allows bands to perform in non-traditional venues where there may not already be a PA system and sound engineer on hand. If you find yourself booked at rented venues, house concerts, churches, outdoor gigs, coffee houses, parties, etc., it may be to your advantage to put together a PA system for your band that can travel with you whenever the need arises.

THE INS AND OUTS

One challenge to figure out before you purchase a compact mixer is deciding how many inputs and outputs you'll need for your particular setup. Oftentimes bands over- and under-estimate the number of inputs they'll need. On the one hand, if you are solely using the mixer in a rehearsal situation and aren't miking drums, then including drum mics in your input list may cause you to purchase a more expensive mixer than you actually require. Likewise, neglecting to factor in live gigs may lead you to purchase a mixer with fewer inputs than you need.

Most mixers will have a combination of input types, so compare wisely when it comes time to buy. You'll often find a healthy number of XLR inputs for microphones, but may not find the optimal number of stereo or line inputs that your particular group may require. So, pay attention to the specs. Also, note that some mixers may claim a certain number of channels, but that does not always equate to the same number of mic inputs (or preamps). Again, always check the specs. Just because it says 8-channels, don't assume you'll be able to plug in 8 microphones. Some of those channels may be reserved for line inputs, stereo ins for synthesizers, or additional inputs for CD players, iOS devices and additional sound sources.

As far as outputs are concerned, make sure that whatever the compact mixer offers in outputs, you can match with the speaker system and/or powered amplifier you'll be using to complete your PA system. Balanced XLR outputs are commonplace, as are quarter inch outs for monitoring. You'll likely also want a dedicated headphone out to monitor the mix, as well, as it may be difficult to accurately place instruments in the mix when performing at full volume in tight spaces.

CHANNEL STRIPS SIMPLIFIED

OK, so you've got the right number of inputs, and now you're left starting at a seemingly endless sea of knobs, switches and faders. Relax, when you actually start to use a compact mixer, the one thing to keep in mind is that even though it may look intimidating, each channel of audio is set up in a repeating fashion, meaning that each vertical "strip" of knobs, buttons and faders does the exact same thing for each channel.

Learn what each individual strip does, along with the "master" section for overall output, and you've now mastered the entire board (well, mostly). You see, a channel strip basically does a few simple things: it allows you to set the input gain for each channel so your incoming signal doesn't clip (distort), it typically allows basic EQ settings, panning for stereo, the ability to turn on or mute/solo the channel, the ability to control fx levels (if the mixer has them built-in) and auxiliary sources, and finally the ability to control the overall volume (or level) of the sound source via a sliding fader.

Really, the channel strip is there so you can adjust

opposite:
channel strip on Yamaha MG12XU compact mixer

right:
mc/line inputs on the MG12XU

the individual channels one at a time before they get sent to your outputs. And although it may look complicated, we recommend you start with the gain down, plug in a sound source (say, a microphone), slowly adjust the gain for a good level, and then begin experimenting with each knob to learn what it does by sound, rather than what it does by theory. We know it's probably counter-intuitive to what every manufacturer wants you to do, but reading the manual last, after you've had time to get hands-on with the unit, sometimes is a good way to go.

PHANTOM POWER

Believe it or not, we've seen compact mixers with no phantom power options. So, when you're out there shopping, keep an eye out for this. If you plan on using condenser mics, look for a phantom power button, or something labeled +48 switch somewhere on the unit. Not every channel may have it, but it's usually pretty apparent, it may even have a corresponding LED to let you known when phantom power is engaged. Don't overlook this.

BUILT-IN EFFECTS

Oft-maligned, built-in effects in compact mixers have come a surprisingly long way in just the past four or five years. Today's digital effects, even in some of the most affordable compact mixers we've encountered, can be incredibly useful. We especially like the built-in reverb (the reverb algorithm on this unit is of the same type as reverbs in the SPX90, which is in the TEC Awards Hall of Fame), compression, and chorus that are easy to dial in easily with the Yamaha MG12XU we were provided. In fact, the yamaha MG series employs the award-winning SPX effects engine.

And nowadays, adding these effects per channel is usually as easy as engaging the fx section and turning a knob to the desired effect. The MG12XU even has a handy screen to see what you're doing. Don't let preconceived notions from years past cloud your opinion of today's digital fx; it may actually save you money by eliminating the need for outboard effects units.

BUILD QUALITY

One word of advice, and this carries over from the world of hi-fi: we generally (and take this with a grain of salt) advise bands to avoid anything that simply feels cheap. Now we know that there are low-cost units that may not have all the bells and whistles of their big brother and big sister counterparts. That's not what we're getting at; we're talking build quality here. We like rugged metal chassis. We like knobs that aren't wobbly and won't break off after a few subtle turns. We want real, decent sized faders that don't feel like Tic Tacs under our fingers. In general, even with the most affordable units, we want to know that our compact mixer can withstand the abuse of the studio, stage and rehearsal room. Anything less is to be avoided.

RECORDING ABILITY AND TABLET AND SMARTPHONE SUPPORT

Lastly, many of today's mixers can also double a studio devices, enabling you to record rehearsal and jam sessions straight into your DAW. We were stoked to find out that our MG12XU has a USB output and came with a workable version of Cubase. So, we can now take our 2-channel stereo mix, pop open a new session, and listen back to what we've been rehearsing. BONUS: if you have a camera connection kit, you can hook up your MG series mixer to an iPhone or iPad via USB for recording or playback. Plus there's even a free MG recording app called MG Rec&Play available for download in the App Store.

It's also a cool way to offer instant live recordings to your fans, if you're interested in that capability. There are even some mixers that offer direct support for tablets and smartphones, enabling you to directly mix on-the-fly using an app that syncs to the mixer itself. Many of these features can increase the cost of the unit, but if you want the flexibility to mix from an iPad on stage or record your songwriting sessions and gigs, these are features to be on the lookout for.

READ THE DANG MANUAL

As mentioned previously, we put this last for a reason. Just like with synthesizers, it's often a good idea to just get your hands dirty, so to speak. Twist knobs, slide the faders; learn by doing. It's truly the best way for your brain to comprehend how the adjustments you make on the board affect the sound in your mix. It's one of the best benefits of tactile units like these. Then, if there are still elements of the mixer you don't understand, whip out the manual and it'll all click into place much easier, since you'll likely have a good handle on everything surrounding that one button you can't quite figure out.

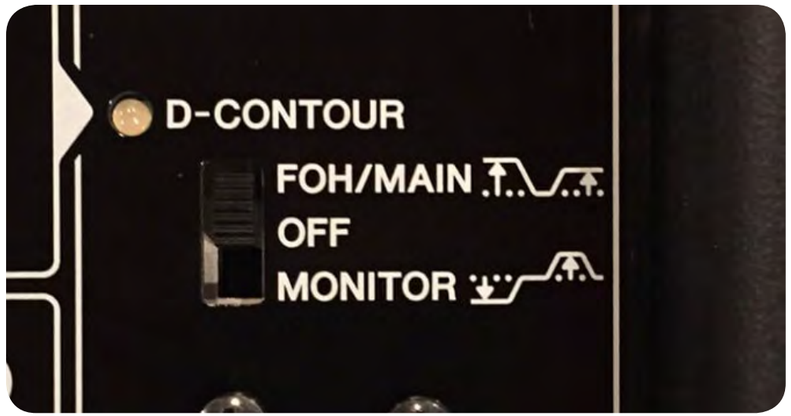
opposite:
MG12XU fader bank

above:
MG12XU output section

below:
MG12XU phantom power indicator

PART 2

How to Set Up PA Speakers



this page: switching between FOH and MAIN on the rear of your PA speakers

opposite: front and rear of the Yamaha DBR12 powered PA speakers

In Part 2, we'll take a closer look at setting up a basic PA speaker system, and incorporating it with your band's compact mixer. The systems we'll be describing here are going to be simple, and best suited for groups using PA's for band rehearsals or traditional venue gigs that don't already have installed PA systems. We'll also touch upon some additional features of PA speakers that you'll want to take advantage of.

Yamaha has been kind enough to loan us two PA speakers from their wonderfully affordable DBR line of powered speakers, so that we can highlight how they work, and define some commonalities they share with other speakers of the same type.

There are a few specific features of the DBR12's that we should highlight. For starters, the DBR12 features 1000 watts of power, but remarkably, they are INCREDIBLY lightweight and easy to transport, thanks to some crafty engineering by Yamaha and very useful built-in carrying handles. We've tested countless PA speakers before, and trust us: if you're going to be doing your own load-in/load-out, weight can become a significant factor in your purchase decision. Also a factor: the ability to easily handle the PA speakers during transport. We've been baffled by the lack of handles, the awkward aesthetics and downright terrible form factors of some of the PA speakers we've been sent for review over the years. Thankfully, the DBR12's hit the mark in every respect.

Another great feature of the DBR series is the on-board controls that allow you to select different sound contours depending on whether you're using the speaker as a main monitor or floor wedge. A super nice touch that will cut or boost the necessary frequencies accordingly for each situation. We'll talk about this more in a bit. But first...

PASSIVE VS. ACTIVE

When setting up your PA speakers, or seeking a new set of speakers for your band, it's important to make the distinction between passive and active speakers. Just as in the world of recording, where monitors come in both versions, so do speakers in the PA realm.

So, what's the main difference? Well, like the name implies, passive speakers do not require separate power cables to operate. You'll plug them directly into an amplifier using speaker cables, and you'll be all set. Now, what are the downsides, and why would we recommend you gravitate towards active speakers for your PA setup? A few reasons, chief among them being you'll likely need to add a power amplifier in addition to your compact mixer in order to properly complete your PA system with passives. That means more pieces of gear, more cabling, more expenses, more stuff to lug around, and more things in your signal path. Now this might be a great option for large halls and venue installs, but for traveling bands who need portability, it's typically a non-starter in our book.

Active speakers, on the other hand, have power amplifiers and crossovers already built in. Yes, you'll need to plug them into wall power and they may be slightly heavy (sometimes), but they can greatly reduce your set-up's complexity and speed up load-in/out times for gigs. Trust us; we've done this before. We highly recommend going the active route with your PA speakers.

THE INS AND OUTS

Once you've got your PA speakers unboxed, examine the I/O interface (typically located on the side or back of the speaker). You'll likely find a few main components:

On/Off switch: self-explanatory, but remember, if you're using active speakers and aren't getting any sound, this might be the likely culprit. And of course, make sure your power cable is plugged in to the AC outlet for each speaker in your setup.

Inputs: on our DBR12's, and many other similar types of speakers, you'll likely find line inputs for things like CD players, laptops, and other-line level instruments like synths, in addition to mic/line combo inputs that accept both 1/4" connectors and XLR in one handy input. What we like about this is you can send a signal out from your compact mixer, or simply plug in a mic and instrument if you don't have the need for all the ins and outs of a dedicated mixer (say, you're a singer/songwriter doing a coffee house gig or house concert). Don't feel overwhelmed

here: for simplicity's sake, just run the left main out from your mixer to the left speaker input and repeat for the right channel.

Levels: here you'll be able to adjust the output volume of your inputs. Pretty straightforward and something you'll enjoy about active speakers.

Outputs: active speaker outputs allow you to chain together additional speakers for floor monitoring situations, which is not only super-handy but also ultra-easy. A simple XLR chain allowed us to hook up one of our DBR12's as a floor monitor, taking output from another DBR12 we were using as an additional floor unit.

Cut-off filters: these will differ from model to model, but the main idea here is to set the desired cut-off frequency in case you're adding a subwoofer to your system. This way your mains and subwoofers will work well together and not cause a frequency headache out in the audience. Pro tip: set the High Pass on your mains to match the low pass on your subwoofer(s).

CABLE MANAGEMENT

OK, so we know the ins and outs of our new PA speakers. What do we use to hook everything up?

Our recommendation, as most active speakers will have balanced XLR inputs, is to use XLR cables from your compact mixer's main outputs, and run them to your speaker's XLR inputs. Typically speaking, though, cable management will be fairly easy as you'll be limited to what your gear has available, so just take a look at the control panel or check your manual if you're unsure. Here are the most common cables types you'll encounter:

XLR: 3-pin connector that's ubiquitous in pro audio. Used to hook up mics to mixers, and mixer output to speaker systems. Very common, you'll likely want a few XLR cables in your cable bag at all times.

TRS and TS: the other most common cable type, this is a 1/4" (sometimes 1/8" for headphones) cable that stands for tip-ring-sleeve or just tip-sleeve, depending on type.

speakON: you may encounter these types of connectors, or you might not. If your equipment doesn't feature speakON connectivity, don't worry. They're typically found on very high-wattage units and are super rugged so they can handle all that power. This type of connector is found in passive systems.

WEDGE OR POLE? WHY NOT BOTH!

One of the nice features of our DBR12's, and many PA speakers, in fact, is that they're versatile in their applications. Simply put, you can use them as pole-mounted main speakers for your PA setup, or as wedge monitors on the floor.

Setting up your speakers as mains typically just

right: be sure to look for PA speakers that are easy to transport. The DBR series features solid built-in handles.

means sliding them onto industry-standard speaker stands, and adjusting the height properly. One mistake we commonly see is PA speakers set WAY too low. We've even seen them practically on the floor! People's bodies will get in the way of the sound projection coming from your PA, and they'll actually absorb and disperse frequencies in a very unwanted (and non-musical) manner. If you can, try to set the units about 6-8 feet high – this'll help in two ways. First, you'll be able to reduce the massive, ear-bleeding volume blasting your fans at the front of the stage (where they don't really need it, since they're so close), and second, it will alleviate frequency absorption and help those highs reach the back of the room, where they would have otherwise died up front. Ever notice that when you're in the back of a club, you can't hear the singer properly? One common cure is to raise the PA speakers; it can make a world of difference in what your audience hears.

left: choosing mic/line inputs and setting appropriate levels on the rear of your PA speakers

TO SUB OR NOT TO SUB?

So far, we've only addressed using your PA speakers as mains and floor wedges, for good reason. It's been our experience (and we're sure to get lots of nasty notes on this), that in many cases subwoofers just aren't necessary. If you're in a typical band setup, and especially if you're not playing aggressive or bass-heavy music, a nice set of PA speakers is more than capable of handling just about all the sound requirements you could throw at them (including handling your low end, that's why you got 12 or 15-inch speakers in the first place, right?)

Subwoofers usually tackle the 20Hz to 100Hz spectrum, which can greatly help you achieve a full-range sound; that's true. It's also true that you can actually lower the output volume of your mains a tad when you integrate subwoofers in the equation. But if budget and van space are at a premium, skip them for now. The only times we'd really recommend subwoofers are for DJ, EDM and synth-heavy acts that truly need optimal bass reproduction in order to fully have their work come across. Otherwise, add them as needed and as budget allows.

PART 3

Routing Tips for Live Mixers

left:
handy knobs in your channel strip allow you to control your aux sends

In Part 3, we'll take a closer look at routing options when it comes to your new live mixer. Again, we're using one of the 12-channel live mixers from Yamaha's XU series of analog mixers, so that we can show how various routing applications work. There are three primary ways that most bands will be using their mixers to route audio signals: sending sound to their main PA speakers, sending sound to on-stage monitors or in-ear monitors, and routing signals to external effects devices (and then back into the mix). Let's explore how each of these would work on a typical mixer. Keep in mind this entry is designed for beginners, so if you're already running FOH for a large-scale touring band or venue, this won't be for you.

MAIN OUTPUT

The most common application for a live mixer is part of a PA system. So, it only makes sense that traditionally, what most bands will be doing with their new mixer is outputting sound to their PA speakers, either for rehearsals or stage use. This is an easy step, as most compact mixers have readily identifiable main outputs, most of which will be setup to work with balanced XLR cables. So, simply take the left and right outputs from your mixer's main outputs, and run an XLR cable to each of your left and right channel PA speakers on stage or in your practice space. That wasn't hard, was it?

AUX SENDS – WHAT ARE THEY?

OK, so getting sound to your main speakers is easy. But what else can your mixer do? Well, most mixers, both large and small, are equipped with routing options called "Aux Sends." In its simplest form, this functionality allows you to send a signal to an auxiliary location (the "aux" part). Now, why would you want to do this? There are a number of incredibly practical applications where it makes sense to take sound coming into your mixer, and send it out somewhere else, either for additional processing, effects, or simply to feed a mix to stage monitors, in-ear monitors or another monitoring source.

Take a look at your mixer's channel strips and output section. In the channel strip, you'll likely notice some "aux send" level controls,

which allow you to change the levels of that channel being fed to a particular aux send output. Your mixer may have many different aux send options, allowing you to simultaneously send signals out for external processing and monitor mixes. Conversely, your mixer may only have a few aux send options, so keep that in mind when shopping for a new compact mixer.

Now, take a look at your output section. Your mixer will likely have corresponding aux send outputs for each level control you see in the channel strip. On our Yamaha unit, for example, we see a level control for "Aux1" and a corresponding output near our main output for "Aux1". It's always a good idea to test things out in a tactile way, so you can get a real hands-on feel for what Aux1 does by simply attaching a 1/4" cable to an external monitoring device, and by turning the Aux1 knob to increase or decrease levels. Simple, right?

ROUTING STAGE MONITORS

We know what our aux options are. Now let's use them in a real-world situation. Let's say you're setting up your own stage gig. Perhaps you've rented a hall and want to make sure the sound is just right. You'll set up your main PA speakers like normal, but now let's get the aux sends in the mix (no pun intended). Most PA speakers, like the Yamaha DBR12's we've been using, can also be used as floor wedges.

So, if your vocalist needs to hear themselves better during the gig, why not use your Aux1 option to send a version of your mix to a floor wedge? What's great about this option is you can actually turn up their vocal channel to accentuate the vocals in their auxiliary monitor mix without turning up the vocals in your main mix. So, your singer can hear themselves clearly above everything else, but your audience won't be blasted with an out-of-proportion amount of vocals coming from your mains.

ROUTING IN-EAR MONITORS

The same concept applies to in-ear monitors. If you're setting up your own small compact mixer for a gig, routing a mix to a set of in-ears will work the same way. Take your Aux1 output and route that to the input of your wireless transmitter (assuming you're using a wireless personal monitoring system, of course), or to a headphone amp for wired usage. In either case, again you'll have the ability to send a specialized "monitor mix" to any musician using the in-ear setup, which can differ from the main mix being sent to the PA speakers on stage.

As you can see, getting a handle on those aux options can unlock the potential lurking in your band's new mixer.

RETURN TO SENDER

One of the more creative ways to use sends it to route audio coming into the mixer out to external processing units or effects. Get creative here. Let's take an acoustic guitar, for example, and use the panning knob to set it hard left in our main mix. Now, let's take that channel and use our Aux1 options to send its signal to a rack-mount phaser (or any device you choose), and then return that signal into an open channel on the mixer. Pan that channel hard right in the mix, and then blend the two to taste in order to create a truly spaced out stereo effect. Dial up or down each of the dry or wet signals to add interesting texture to an instrument. Or take the dry signal out of the mix completely if you like. This is where we encourage experimentation.

Aux sends can be great for applying reverb to all of your backup vocals in one fell swoop, or for doing cool things like sending audio out to a delay unit and back into an unused channel. Try new things. Make the most out of the options your mixer has, because you might be surprised by some of the happy accidents you come up with that can really add a new dimension to your stage sound.

Depending on your mixer, you may have dedicated "returns," as well, which will enable you to bring processed audio and fx back into the mixer. Our advice, as always, is to consult the manual last. Get hands-on, get tactile and learn by doing!

above: the output section of your mixer will allow you to route audio from the unit to auxiliary equipment

PRE-FADER/POST-FADER: THE KEY DIFFERENCE

One thing we haven't touched upon yet is a little button you may notice in your channel strip labeled "Pre." Now, don't get confused here. Sometimes bands who're first setting up their mixers aren't sure of what this button does, mistakenly thinking it turns on the pre-amps for their mics. This is not the case. If you see something labeled "Pre" near your Aux1 or Aux2 controls in the channel strip, this actually lets you set whether the aux send is "pre-fader" or not.

Basically, when engaged (and usually we find that aux sends are pre-fader by default), the "pre" setting will not be affected by your main faders at the bottom of the board. So, go ahead and turn up the guitar in the main mix, it won't affect what's going on in your aux send setup. Conversely, if you disengage this button, the signal will now be "post-fader," and any adjustments you make to the main fader on that channel will now also affect your aux send signal for that channel.

PART 4

Pro Mixing Tips for Better Live Sound

In our final installment, we'll go over some more useful tips to get the most out of your live mix. Keep in mind this entry, as with the other parts in the series, is designed for beginners to more moderate/advanced users, so if you're already running FOH for a large-scale touring band or venue, this might not be for you. The focus of these four parts are to make the PA setup less intimidating for band who are new to running their own live sound at gigs or in their practice spaces.

left:
full shot of the Yamaha MG16XU compact mixer

WHAT'S THE FREQUENCY, KENNETH?

One of the best pieces of advice when it comes to live mixing comes to us via Performer fave Doria Roberts, an incredibly talented Atlanta-based singer/songwriter. She shares the following tidbit on frequencies:

"Know your actual frequencies for your voice and acoustic guitar. Don't say, 'Cut the mids in my vocal' or 'I like a lot of low end for my guitar.' Say, 'Cut the 2k for vocal and boost the low end to 80Hz for the guitar to start, please. We can go from there, thanks.'"

She adds, "If you really like the sound at a venue, go ask the sound person what they did and also take notes on that room, since that probably contributed to the sound (e.g. tin ceilings, lots of wood or concrete, capacity, etc.) Use their notes as a starting point for other rooms and keep taking notes about what had to change about your original frequencies and why."

Your sound is going to differ from every other band's sound, just based on the timbre of your vocals and the tonal characteristics of your individual instruments. So, knowing which frequencies in particular work and don't work for your band's mix will make EQ'ing your live production easier for both you and the FOH staff anywhere you play.

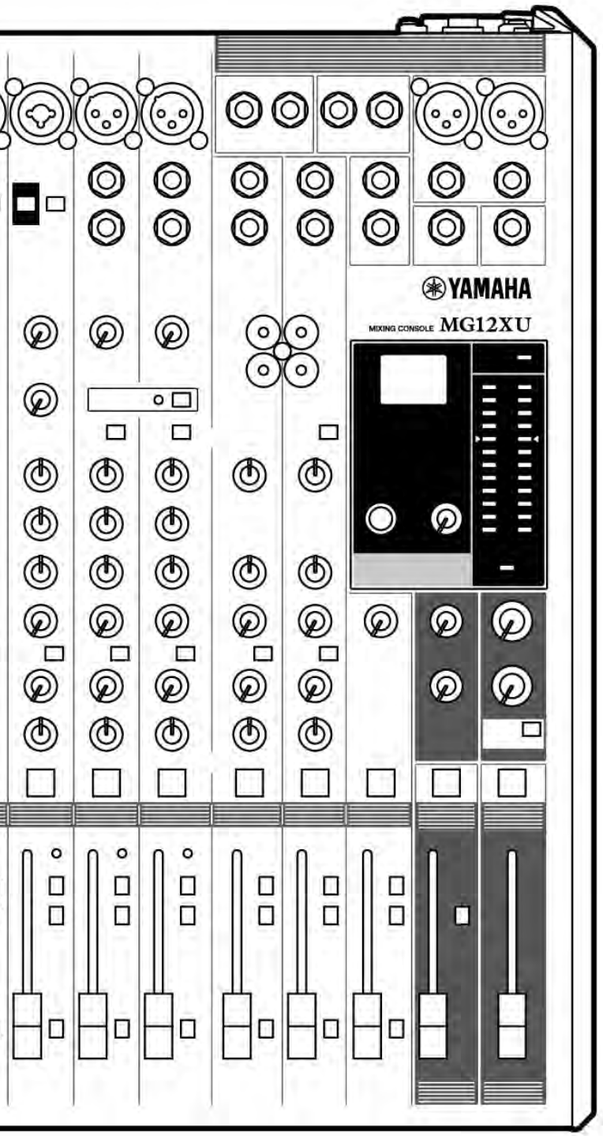
MOVING IN STEREO

Mixing a live show is a different beast than making an album in a studio. Even though the channel strip of a recording console has many similar features to a live mixer, we typically recommend mixing a live gig predominantly in mono. Yes, even though you're sending a 2-channel mix out to your PA mains, most good stage mixes we've heard, especially at small rock clubs and even mid-sized theatres, work best when most of the mix is centered.

Keep in mind that even though the DBR12's we tested have a nice throw and coverage angle, many venues don't have ideal acoustic properties, and hard-panning an instrument to the left or right channel might mean an audience member on the opposite side of the room is not hearing that instrument from their position in the venue. In an ideal world, every venue would be set up to have listeners positioned in the "sweet spot" for stereo, but this is never the case.

Focus more on the frequencies of the instruments you're mixing and how they interact with each other, as well as the overall balance of levels being sent to the main outputs.

Mixing too much stereo information when sending a monitor mix to in-ears can also be an odd aural expe-



rience for musicians on stage. Again, this isn't a clinical listening environment, and the world's not perfect. If one earbud pops out mid-song, you don't want critical audio information not reaching a band member on-stage because a certain instrument was hard-panned to that ear, and now they can't hear it. Also, many musicians who are still adjusting to in-ears after relying on wedge monitors over the years have noted that a lot of stereo information happening at once can be a major distraction – as information bouncing between the left and right ears causes their brain to focus on this, rather than the levels in the mix and other instruments they're supposed to be taking cues from during a song.

COMPRESSION: MAKE IT DYNAMIC

We're going to start sounding like a broken record, but treat your stage mix differently than your studio mix. On record, compressors and limiters can make vocals and instruments really feel cohesive and gel together. But keep in mind what they're doing is affecting the dynamics of your music. On-stage, if you've been using a lot of compression on vocal channels, try backing off or turning the compressors off completely in the mix, and A/B'ing that against what you've been used to.

You might find your live sound becomes more dynamic with the compression off entirely, relying more on your vocalists to provide dynamics through a mix of vocal technique and mic positioning during quiet and loud passages. Adding compression via on-board fx settings or an outboard unit might work in small doses to "even things out" in less-than-ideal settings, or make back-up vocals hit the board at the same level without spikes, but you may be surprised at how much more immediate your lead sound becomes without the effect.

ADDING THE RIGHT REVERB

Again, reverb is an awesome tool that can add depth and texture not only to vocals, but instruments on your recordings. Live, however, too much reverb and/or delay and your mix becomes a swampland of refracted sound and muddled textures.

Here's what we recommend: for more upbeat numbers, go shorter: 800 milliseconds is a good starting point. And if possible, utilize pre-delay to keep your original sound and the reverb from gobbling each other up in the mix. Separating the two will be key here so they're not overlapping and causing audio confusion. For ballads and slower tracks, you can get away with longer settings and different types of reverbs, like plate. Whereas for faster numbers, we'd recommend more hall-style reverb settings.

right:
digital fx controls built into the Yamaha MG12XU mixer

Remember, the room you're playing will likely add its own characteristics to the natural reverb of your performance. Some rooms are wonderful acoustic marvels; others feature so many hard angles and weird surfaces that it's nearly impossible to add artificial reverb without completely confusing your stage sound. So, if your performance space already features a nice, natural reverberation, dial back the settings on your hardware and mixer to accommodate. When in doubt, less is more in a live setting.

CAPTURE INSTANT LIVE RECORDINGS FOR FANS

One of the features we like most about modern compact mixers is the ability to run our master stereo mix straight out to a DAW via USB. This is super-handy on a unit like the Yamaha MG12XU, since it also comes with a copy of Cubase for ultra-easy recording. What this means is you can live-track your show onto a laptop on stage or even in your rehearsal facility, and offer up instant live downloads of concerts and jam sessions to your fans almost immediately after your performance concludes.

CLOSING THOUGHTS

We hope this guide has helped you with the basics of live mixers, PA speaker setup, some more advanced routing options for stage sound, and a few helpful tips about getting better live sound at your gigs. Be sure to check out the entire range of Yamaha live sound products online at www.yamahaproaudio.com and at your favorite local Yamaha dealer.

left:
stereo panning knobs located in the channel strip of your live mixer