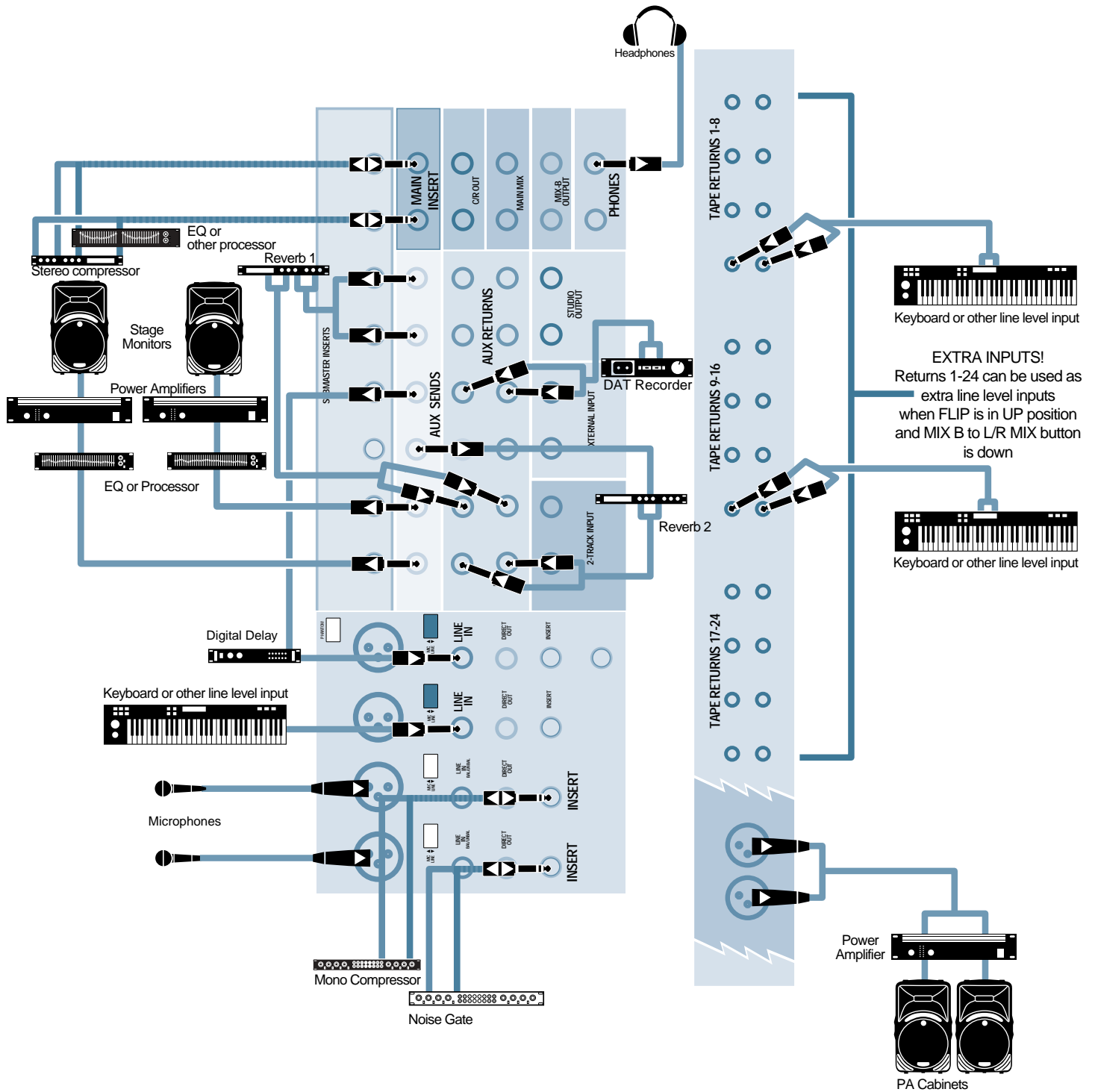


8-Bus PA Applications



The Mackie 8-Bus series was designed from the ground up to function both as a multitrack recording console and for sound reinforcement applications. We'll discuss recording applications at the end of this section. In SR service, it can handle front-of-house monitors, both simultaneously, as well as providing an independent stereo recording mix along with the standard SR chores. In general, the MAIN L/R bus will be used for the house mix, and AUX Sends will be feed monitors and effect processors as needed.



If you've had experience with live sound mixing, you understand the importance of the pre-fader solo function – to hear what's coming into a channel before you put it into the mix for the whole audience to hear. The solos on the 8-Bus are post-fader as it comes from the factory. If you'll be using yours primarily for live sound applications, you might consider making the PFL Solo modification described in the 8-Bus owner's manual.

Setup

We strongly suggest that you go over the 8-Bus controls in the Anatomy section of this book. There are some unique terms and functions that we'll be discussing here. You should be familiar with them.

Inputs

Normally inputs will be coming from mics or direct boxes, with an occasional line-level source such as a keyboard or a guitar processor. To use the Mic and Line inputs, be sure the FLIP button at the top of the channel strip is in the MIC/LINE position (up). And while you're there, don't forget to adjust the TRIM, following the now famous Level-Setting Procedure.

Main Outputs

Refer to the hookup diagram on the previous page. The MAIN outputs are connected to the front-of-house speakers through the main power amplifiers. You might choose to put a graphic equalizer and/or compressor/limiter in-line between the mixer and the amplifier for more control over the house mix.

Monitors

Any of the AUX SENDS are suitable for feeding the stage monitors. Juggle those outputs between your monitor mix and effects requirements. Since the AUX 1 and AUX 2 outputs are balanced and differential, they're better suited for the typically long cable run between the house mixing position and the stage (where the power amplifiers are usually located) than

the other AUX outputs, which are impedance balanced, fine for connecting to balanced-input units in the effects rack. For monitor mixing, switch the AUX 1-2 sends to pre-fader by pressing their associated PRE button.

Effects

We've shown two reverbs and a digital delay, and just to prove that there's no fixed relationship between sends and returns, we've fed Reverb 1 from Sends 5 and returned its output to Aux Return 2. Reverb 2 gets its feed from Send 3 and it returns through Aux Return 1.

There's a good reason for this, of course. Sends 3 and 5 share the same knob, with the SHIFT button selecting whether the channel signal is sent to AUX 3 or AUX 5. Therefore, the third knob down always controls the Send to a reverb, and the SHIFT button selects which of the two reverbs gets used for that channel. Set one unit up for a short, bright reverb program and the other for a longer, darker program. Use the SHIFT button to select which reverb program is appropriate for a particular channel's source, and the third SEND knob will control that channel's reverb level. No need to remember to turn one knob for the bright reverb and another for the dark reverb.

The delay is fed from AUX Send 4 and its output is returned to a channel Line Input. This allows EQ to be applied to the delayed signal, and also allows more flexibility in assignment of the delay output.

For example, you could send vocals to the delay, and assign the delay return channel to the same subgroup as the vocals. This way, the vocal delay effect will follow the subgroup fader.



Another reason to return the delay to a channel is so that its output could be sent to one of the reverbs by turning up the AUX 3/5 Send on the delay channel. Send the vocal to the delay (turn up its AUX 4 knob), then add reverb to the delay channel to get a pre-delay on the vocal reverb. Send a keyboard channel directly to the same reverb for a non-delayed reverb effect.



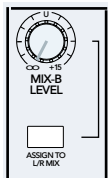
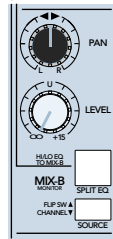
You can create feedback around the delay by turning up its own send (AUX 4) on its return channel. This is sometimes a desirable effect (for repeated decaying delays), but when the gain around the feedback path becomes greater than unity, it'll take off and HOWL! Be very careful when feeding a processor signal back on itself.

Mo' Inputs

You thought that 32 inputs would be plenty when you bought the console, but then the keyboard player won the lottery and showed up at the gig with three new samplers with eight separate outputs each, which of course you can't trust him to mix. We slipped in some extra inputs that you can use to cover yourself nicely. Here are a number of possibilities:

Mix-B

Connect those sampler outputs to the TAPE RETURN inputs. Now you have 32 (or as many as your mixer has channels) more inputs to the stereo mix. You can adjust them using the MIX-B PAN and LEVEL controls.



Assign MIX-B to the L/R MIX by pressing the button in the MIX-B MONITOR section just above the meters. The MIX B LEVEL knob above the MIX B ASSIGN button is the Master for this extra mix.

You can even apply EQ to these MIX-B inputs by splitting the channel EQ. See page 40 for more details.

AUX Returns

Unused AUX RETURNS can be used for additional line inputs. All AUX RETURNS can be routed to the MAIN L/R mix, and in addition, AUX 1 and 2 can be assigned to subgroups.

Submaster Inserts

In a pinch, you can use the SUB INSERT RETURNS as extra line inputs. Insert a plug to the first click only, or use a homemade cable with a TRS plug wired as an unbalanced connection with the signal going to the ring rather than the tip.

Buy Something Mackie

Expand your Mixer with the Mackie 24E 24-channel Expander Console. It's no longer made, but can be found on the used market if you look around. It adds 24 more full input channels. Better yet, buy several.

Making a Simultaneous Recording

You're all set up, ready to go, when the band's manager comes up to you with a DAT machine and

says, "The producer wants us to send him a recording of tonight's gig," and you say, "OK, I'll patch it in to the house mix," and he says, "No, we need a separate recording mix so we can get all the stuff you'll have turned down in the house because this band plays so LOUD." You roll your eyes and go, "You should really get a remote truck," he rolls his eyes and goes, "Here's the tape. Make it happen and we might hire you next time."

Mix-B To The Rescue

Piece of cake. Use MIX-B! Just plug the stereo recorder inputs into the MIX B OUTPUT jacks. Select CHANNEL as the MIX-B input by pressing all the MIX-B SOURCE buttons down. This sends all the channel signals to the MIX-B.

L/R Mix is still your house mix, the AUX buses are for effects and stage monitor mixes, and MIX-B provides an independent mix for the stereo recording.

Mixing the Recording

Use the MIX B LEVEL and PAN controls for your recording mix. You'll probably want to leave the SPLIT EQ buttons in the normal (up) position. This applies the channel EQ to both the main L/R signal and to MIX-B.

If you want to have independent control of the recording and house equalization, use the EQ SPLIT button. This divides the channel EQ into two sections, with the Hi and Low shelving sections going to MIX B and the middle parametric sections remaining in the main signal path.

Effects in the Recording

If you want to use effects in your recording mix, you'll need to return them through channel Line Inputs rather than AUX RETURNS. The MIX B LEVEL on those channels becomes the effect return for the recording mix. Since MIX B SOURCE is pre-fader (unless you've made the MIX-B Source modification shown in the owner's manual), you'll have independent control of the effect return level in the house, monitor, and recording mixes.

Monitoring the Recording Mix

Select MIX-B as the source for one of the Phones outputs. With the recorder output connected to the EXTERNAL INPUT jacks, press the EXTERNAL Phones select button to check the playback.

Meters for Recording

It's true, there are no meters on the MIX-B buses. The ultimate reference is the meters on the recorder. If you can't see the recorder from where you're sitting, there are a couple of patches to get metering of the record level:

- Since you're not using the CONTROL RM or STUDIO outputs, you can use the monitor section for metering. Simply engage the Mix-B Switch (only) in the MONITOR SOURCE section to send MIX B to the MAIN meters.
- If you have two free submaster buses, patch the MIX-B outputs into a pair of submaster insert returns. Push the 1/4" plug only halfway (to the first click) into the Insert Jack. Set the submaster faders to -6dB to compensate for the insert point gain difference. Now those two submaster meters will display the MIX-B levels. Feed the recorder from the SUBMASTER OUTPUTS and you have a copy of your record level meters on the console.
- If you have the optional meter bridge fitted and you have two extra inputs, patch the output of MIX-B into the open channels (either Line In or Tape In, depending on how you have set the global source switch on the meter bridge), and set the levels at unity. You can now feed the recorder from the two channels' DIRECT OUTPUTs and watch those two channel meters to monitor the recording level. Make sure all the bus and AUX assign switches and controls are off for the channels you're using for MIX-B monitoring so you don't accidentally assign your recording mix back into the house or monitor mix. A bonus with this connection is that you can add a little overall EQ or compression to the recording via the channel inserts.
- You may want to keep the extra circuitry out of your recording signal path. If so, just mult the MIX-B outputs to both your recorder and to the patch point for metering. Use a pair of Y-cables.

Making a Simultaneous Multitrack Recording

You can make this simple or you can make it too complicated. The simple way is to patch each channel INSERT Output to its own track. That way, mixing the multitrack recording will be just like mixing the show. Insert a TS plug halfway into the INSERT

jack (to the first click) to get a clean direct output from each channel you're sending to the recorder.



Since the DIRECT outputs come after the EQ and fader, it's really preferable to take the recording signal from farther upstream. Chances are when you mix in the control room, you'll want different EQ settings than what you were using for the house mix, and it's difficult to undo equalization once it's applied.



If you're already using the INSERTs for signal processors, you can get creative using Y-cables to split the signal at the INSERT Output. You could in theory pass the channel signal through the recorder, returning it to the channel from the recorder's output, but this is risky. If for some reason the recorder goes bonkers mid-show, you could lose that channel in the house mix until you discover the problem and re-patch. In the meantime, the audience, who doesn't care a hoot about the recording, will be staring at you, and that's not a good feeling.