

Headphone Mixes



Swansea College of Art

Founded 1853

MMusTech Level 4
The Studio Engineer
Handout #4



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Cue Controls

Console functions.



CHANNEL STRIP



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| <p>1 ROUTING SWITCHES select the bus outputs that the SF signal is sent to. The first eight switches also route to the 8 sub-groups</p> <p>2 SHIFT gives access to bus outputs 9-16.</p> <p>3 PAN allows the signal to be panned across odd and even buses.</p> <p>4 LF replaces the SF signal being sent to the routing switches with the signal from the LF signal path.</p> | <p>5 LEVEL adjusts the level sent to an auxiliary output.</p> <p>6 SF allows the signal feeding the auxiliary to be taken from the SF signal path.</p> <p>7 PRE allows the auxiliary signal to be taken pre fader instead of the normal situation where it is taken post fader.</p> <p>8 CUE A and B are identical in operation to the others but can be individually switched into the SF path.</p> |
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ROUTING and AUXILIARIES

The routing section takes the signal from the SF path and routes it to the bus outputs which in turn are usually connected to the inputs of a DAW or other recording device. Buses 1 to 8 also have a parallel path and feed the 8 sub-groups. These can be used to pre mix channels together for final mix down or as sends to a DAW or other recording device.

There are 16 bus outputs accessed by 8 routing buttons and a SHIFT button.

Routing can be to multiple outputs and if odd and even outputs are selected panning can be used to place the signal within a stereo image.

With multiple buses available it is possible to achieve a variation on the multi-bus compression techniques made popular by mix engineers like Michael Brauer. (See www.mbrauer.com/articles).

The LF switch moves the routing from the SF path over to the LF path and can be useful for track bouncing. If PAN is down and routing is again selected for odd and even buses then the post fade post pan LF signal is sent to the bus outputs selected.

There are 8 auxiliary outputs. The Auxiliaries can be switched to the SF path.

Cue A and B work in the same manner as the other auxiliaries but are intended mainly for use as sends to the FOLDBACK system.

Figure 1 - Cue Setup

In *Figure 1* we are primarily concerned with section 8.



Figure 2 - Cue Closeup

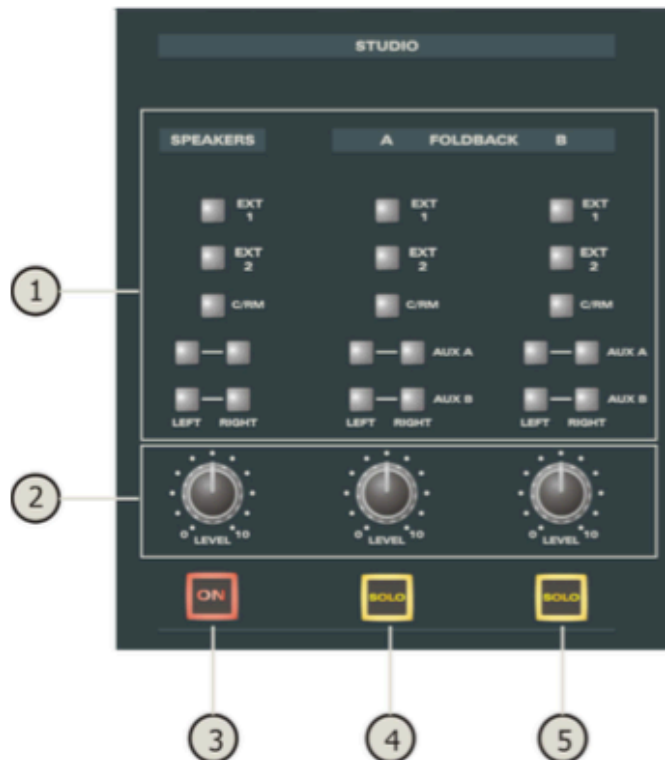
- The blue dials pictured here are the controls for the level that is being sent on its way to the headphones (eventually). Think of it as a volume dial.
- The 2 buttons labeled *SF* stand for *Short Fader*. With these buttons pushed in the signal from the short fader will be sent to the headphone mix, and with the buttons left out the signal from the long fader will be sent.
- The final button is labeled *PRE*. This button lets you choose whether you want the audio to be sent before the fader or after it. If you choose after the fader (post-fader) then the signal being sent will be affected by adjustments you make on the fader, such as turning it up and down, or muting the headphone send when you press the *cut* button. If you choose before the fader (pre-fader) then any adjustments you make at the fader will not affect the headphone mix. For this situation I always choose pre-fader.

Foldback Setup

Console functions.



MASTERS



- 1 SOURCE SELECT. These select the signals to be sent to the studio loudspeakers and foldback.
- 2 The LEVEL controls set the Studio Loudspeaker and Foldback levels.
- 3 Studio Loudspeaker ON switch. This activates the Studio Loudspeaker.
- 4 FOLDBACK 1 SOLO switch. Allows foldback 1 to be checked on the control room monitoring system.
- 5 FOLDBACK 2 SOLO switch. Allows foldback 2 to be checked on the control room monitoring system.

STUDIO SPEAKERS and FOLDBACK

This section of the master module looks after the STUDIO LOUDSPEAKER and FOLDBACK outputs of the console. In every case the same sources are available -

EXT 1

EXT 2

CONTROL ROOM (C/RM)

AUXILIARY A (AUX A)

AUXILIARY B (AUX B)

EXT 1 and 2 are external inputs to the console and could be anything you care to plug in.

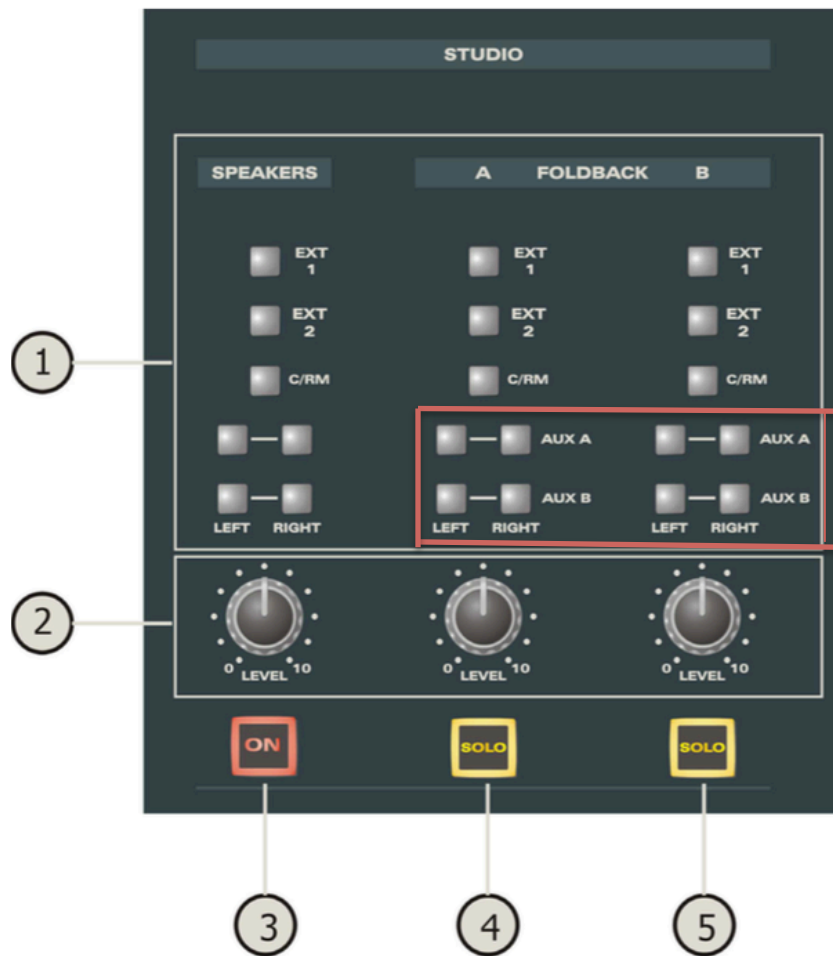
C/RM selects the control room monitor output as the source. This is used to provide a playback of the MIX to the studio speakers, or to set up a quick foldback mix, perhaps with a little help from the Aux A and Aux B buses.

CUE A and CUE B are mono sources which can be independently selected to the left and right sides of the studio speaker or foldback outputs.

Each output has a level control. The studio loudspeaker has a ON switch and the FOLDBACK outputs have SOLO switches. These enable the foldback mix to be created or checked in the control room. This is always AFL.

Figure 3 - Foldback Setup

There is actually an error on this page of the user manual:



You will notice that on the section I've highlighted that it reads *AUX A* and *AUX B*. this is not the case on the desk, it instead reads *CUE A* and *CUE B*. It would appear that somebody wasn't concentrating when they designed this picture. I mention this because this is the next part that we are concerned with. I will refer to them as *CUE* instead of *AUX* as that's what it says on our desk.

- Foldback A & B are our 2 headphone mixes. We have the option to send a number of things to these mixes, but for now we'll send Cue A to foldback A and Cue B to foldback B. Simple press in the left and right buttons for Cue A on Foldback strip A and then do the same for Cue B on foldback strip B. Now Cue A is being sent to headphone mix A and Cue B is being sent to headphone mix B.
- The dial below is a master level for each section.
- **The Speaker section in the picture isn't actually for our speakers. It's a desk function where you can hook up a set of speakers in the recording room and send audio to them. Useful if somebody want to get a feel for the track for a while without having to wear headphones. This is all besides the point as we don't have any set up in our studios.

Talkback

Console functions.



MASTERS



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| <p>1 The LEVEL control adjusts the talkback level.</p> <p>2 Pressing SLATE allows talkback to the bus outputs. This allows track identification information, for example, to be recorded.</p> <p>3 Pressing SLS lets you talk to the studio loudspeaker.</p> | <p>4 Pressing FB lets you talk to the Foldback outputs.</p> <p>In all cases pressing a talkback key will cause the control room monitors to dim. This helps prevent feedback, makes the talkback more intelligible and does not affect the console outputs.</p> |
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TALKBACK

Talkback is used to communicate with the STUDIO, the FOLDBACK system or the Bus outputs of the console. Note that the talkback to the foldback system will work even when the foldback levels are turned down. The talkback microphone may be phantom powered by connecting Link 1 on the PC10801 board.

Figure 4 - Talkback

Here is our talkback section. The red dial controls the level of our talkback as it goes into the headphone mixes. Think of it as another Cue dial that gets sent to both channels.

The picture states what each button will do; we will usually be using the button labeled *FB*.

Headphone amp

Apologies for not having any pictures or diagrams of the headphone amp.

- On button on the right (Don't press this whilst someone is wearing headphones.
- Dials on the left labeled A & B are where *foldback* A & B are picked up. This is yet *another* dial to control the output. You're going to need to keep an eye on all of these.
- Each of the section with a yellow cable plugged into it represents a headphone output. These yellow cables go to the wall-box and (in-theory) they should match up on the wall with the order they are on the amp.
- Each of these sections has a dial, guess what that does... that's right, it's yet another output dial. This one controls each individual headphone feed.
- There are two switches on each section. One switch is labeled mono, this one switches between a mono or stereo signal. The other selects which headphone mix you are sending to that particular headphone output. Select between A & B.