# Tower Theatre

Soundcraft Si-Expression 2

# *Designer Guide*


This manual is a brief manual for Sound Designers, to explain the set up, routing and basic operation of the Tower's new digital sound desk. For most shows you will not need to do anything to the desk other than turning it on, as the outputs of Q-Lab are the only things which are routed through the desk.

This manual will also give instructions on how to plug in a microphone, and how to use it to add reverb to a scene.

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*Version 6 16th June 2023*

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## Overview

The Soundcraft Si-Expression 2 is a digital sound desk, which has replaced the analogue mixer in the Tower Sound System. It can take many more inputs, has the facility for much more audio processing and is generally a much more powerful desk. Its flexibility means it has the capacity for musicals and bands, or technically very simple plays. This guide is only intended as a simple introduction to the desk and will not touch on many of the more advanced areas of the desk.

## Differences from an analogue desk

In an analogue desk, each channel has its own fader, input section, EQ, Compressor etc. Digital desks like this one are known as 'Assignable' desks, in that there is only one set of these controls, which can be assigned to a selected channel. Pressing the SEL button on a channel (above the fader, below the ON button for the channel) will assign all the controls to that particular channel, so you can see the EQ, processing and routing for that channel.

When the controls have been adjusted satisfactorily, after, say, rolling the bass off a microphone channel with a high pass filter, pressing SEL on another channel means that the controls now pass to the second channel, while retaining the settings for the first channel.

Depending on how the desk is set up a fader could control a mic input, a stereo input, Fx sends and Returns or others. If a fader is not controlling a mono audio source like a microphone it will glow a different colour to tell you that it is not operating as a standard audio fader.

The desk has 22 channel faders but, unlike an analogue desk, that does not mean the desk is limited to 22 channels. The desk is, effectively, four times the size, as faders are set up in 4 layers: A, B, C, and D, which can be viewed by using the group of buttons marked FADERS, to the right of Fader 22, next to the L&R fader. You can move between layers with the push of a button to change which layer you are looking at. If necessary, unlike an analogue desk, you can change which fader is operating any particular input, Fx return, sub-group etc.

***On a 'standard' Tower show, once the desk has been switched on you will not need to touch it at all.***

## *Switching on the sound system*

Power up the theatre sound system by using the sequential power controller (Code: 1, 2, 3, 4)

Switch on the Audio interface (Button to the right of the front panel)

Switch on the Mac Mini, log on with the password 'towersound'

If you want to use the iPad as a remote controller for the desk, check that the Wi-Fi router is on before turning on the iPad. It is powered from the charger in the technical socket behind the sound desk.

## *Switching on the desk*

Once power to the sound system is on, the Desk on/off button (top right) will flash

Briefly press button to begin boot up

LCD screen will indicate progress

Desk is ready for use once the main menu displays

## *Switching off the sound system*

Save and quit Q-Lab

Switch off the Mac Mini in the standard way, by selecting 'Shut down' in the Apple menu

## *Switching off the desk*

### This is important as the desk is a computer!

Don't cover the On/Off button completely with your finger so that you can see how it is illuminated

Press the button and hold it until it starts flashing

Release the button

Briefly press the button again. The desk is off when the LCD screen goes blank

The On/Off button will still be flashing as the desk is in 'Standby' mode

## *Troubleshooting if the desk does not boot up properly*

**If the On/Off button is not flashing green, check:**

Main sound system power is on
Mains power lead (back left) is securely connected at both ends
Mains power switch (above power lead) is ON

**If the LCD screen displays model, version and firmware number**

The On/Off button has been pressed for too long
Switch off the desk (as above) and reboot, pressing the On/Off button briefly

## *Quick tour of the Standard Setup*

On powering up, the Desk will open in the state it was when it was last powered down. It is likely that most of the faders will be closed. The six faders to the right hand side, faders 19 to 24, should be open to '0'.

The set of buttons between faders 22 and 23 marked FADERS allows you to select which layer you are looking at. In this instance the A button is illuminated, so these are the settings for **Fader Layer A.**


Faders 17 and 18 have a purple glow, which shows they are stereo faders, and these two channels connect to the flying leads attached to the back of the mixer, so you can plug in a phone or an mp3 player via mini jack to channel 17, or a CD/Mini disk player via phono plugs into channel 18.

Faders 19 to 22 have a blue glow, which shows that they are associated with the Desk's internal reverb engines. These faders are the individual FX returns for the Desk's four internal reverb engines.

Fader 23 is the main fader for the desk's Left and Right outputs, which go to the main auditorium speakers. Normally this is left at '0', but it can be adjusted if necessary to bring down the level going to the auditorium speakers. But, ideally, it is always left at '0'. It does not control the level going to the Mezzanine, Rear, or 'Special' speakers. It is important to note that it, too, has an ON button, so it can be muted.

Fader 24 controls both the Mono output of the desk (which is separate from the main L&R output) and is the Master Stereo return for the internal reverbs. Faders 23 and 24 always retain their function no matter which Fader Layer you are looking at.

The tape strip above Faders 1 to 12 shows that, on Fader Layer A, they are connected to mic inputs 1 to 12. In this instance a microphone is plugged into the XLR socket for Microphone 11 on the mezzanine patch bay. As it is the only microphone we are using, it is the only mic channel that has the Green 'ON' light button illuminated, so all the other mic channels are muted. If you want it to go through the main speakers it needs to be selected to go to the main L&R output. Once the red SEL button for channel 11 is pressed, the controls in the centre panel become available for that channel, so you can change Input Gain and EQ etc.

In the OUT section of the main control panel, if the LR button is illuminated the mic is being sent to the main house speakers. So, it also goes through the main fader, fader 23, marked L&R.

If you select **Fader Layer B** the faders on channels 1 to 8 will move. As the fader strip *below* the faders indicates, these are outputs 1 to 8 of Q-Lab.

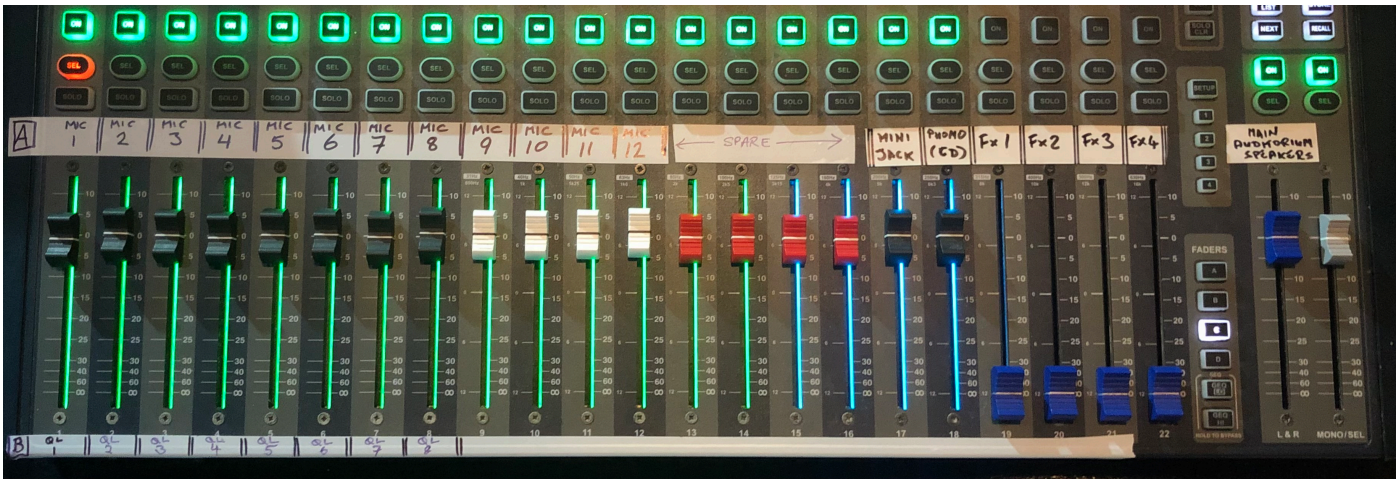

You will see that they are all set at -20. The standard output of Q-Lab is usually quite loud and the input gains of the channels are set as low as they can be, so it has been decided that setting the output channels to -20 is the easiest way to have Q-Lab coming out at a 'reasonable' level.

As on Fader Layer A, faders 19 to 22 are assigned to the reverb returns for the four FX engines, fader 23 is the main L&R output and fader 24 is both the mono output and the main FX return master fader.

If you press SEL for faders 1 or 2 on Layer B (Outputs 1 and 2 of Q-Lab) you will see that they are going to the main L&R output, so they are going to the Main Auditorium Speakers.

However, faders 3 to 8 (Outputs 3 to 8 of Q-Lab) are ***not*** sent to the main L&R output, but they are sent to separate MIX outputs 3 to 8. This is explained further in the Routing section on page 8.

**Fader Layer C** has the MIX Master sends for MIX 1 to 14 (green glow), and the FX Master Sends on faders 15 to 18 (blue glow). You are unlikely to need to adjust these, and they should all be left at '0'.



## Processing: IN, Gate, Compressor, EQ and OUT

Pressing the SEL button on a channel assigns the controls on the main panel to that channel: IN, GATE, COMP, EQUALISER and OUT. The first four controls will not be active unless the button at the bottom of each section is illuminated: HPF, GATE, COMP or EQ. You can select these singly, or, if you wish, use all of them.


IN

This section allows you to select 48V if you are using a condenser microphone in that channel. There is a phase reverse button if you are using, say, an incorrectly wired stereo source. The Gain/Trim sets the input gain for the channel. You can also have this controlled by the knob at the top of each channel section. To the far right of the desk, under the Blue Reverb section are three buttons in the 'TRIM' section. These are marked GAIN, FILT and PAN. Selecting any of these allocates that function to the knob at the top of each fader section. GAIN adjusts the input gain, FILT is the control for the High Pass Filter and PAN is for panning.

HPF is High Pass Filter, which leaves high frequency signals unaffected, but will roll off bass response. So, it will deal with mic bumps and any low frequency hum (for example, traffic noise) in the theatre.

GATE

This is a function that allows you to automatically control, say, a microphone's response when there is unwanted background noise. It allows you to set a threshold, and if the overall sound coming into the microphone falls below the threshold it will automatically fade down the level of the microphone. Gates are often used on drum kits, where you may have a number of microphones open all the time. The Gate on each microphone allows you to adjust the threshold so that it will only be active when the drums are being played. General background sound levels will not be loud enough to go over the threshold set for the drums, so the gates will stay closed. You can individually adjust the Threshold, speed of response and how much the level is taken down for the gate in each channel.

COMPRESSION

This allows you to put a top limit on how much level is going through a channel. Again, it works with a Threshold, so that if the level goes over that threshold then the level will automatically be held back. Again, the Threshold, Speed of response and the amount the signal is held back can be individually adjusted. Compressors are often used in vocal mics, and, if used in conjunction with the Gain setting in the COMP section (as opposed to Input gain), can limit the dynamic range of the vocal. So, bringing up the level on the Gain button will make the quieter sections louder, and the Compressor will make sure there is a top limit to the level. So, there is much less difference between the loudest and quietest sounds going through the microphone.

EQ

A lot of what you are likely to need EQ for can be dealt with using the HPF, but this extensive EQ section allows you to adjust high, high mid, low mid and low frequencies. You can set the frequency where you want the EQ to have effect (FREQ), how wide or how tight around that frequency you want it to operate (Q) and how much you want that frequency to be boosted or cut.

OUT

The control you are most likely to look at in this section is the LR button. When the LR button is selected for a channel it will go to the Main L&R output, controlled by Fader 23. The Main L&R output comes through the Main Auditorium Speakers.

The way the Desk is set up in the theatre means that we do not want to send everything to the Main Auditorium Speakers – different outputs of Q-Lab go to the Mezzanine, Rear or 'Special' speakers, so we will not want to send them to the Main L&R output, so the LR button will not be selected. There is more information on this in the 'Routing' section on the following page.

Also, if we are using a microphone to provide reverb for a scene, rather than using it as a PA microphone, we would not send the mic output to the Main L&R output. More information on this in the 'Reverb' section on pages 9 and 10.

More detailed information on using these widely available functions can easily be found online.

# Routing

As before, different Q-Lab outputs are sent to different sets of speakers:

Q-Lab Outputs 1&2: the main auditorium speakers
Q-Lab Outputs 3&4: the speakers on the mezzanine
Q-Lab Outputs 5&6: the speakers at the rear of the auditorium
Q-Lab Outputs 7&8: 'Special' sockets one and two on the USL and USR walls of the theatre, or from the patch bay on the mezzanine.

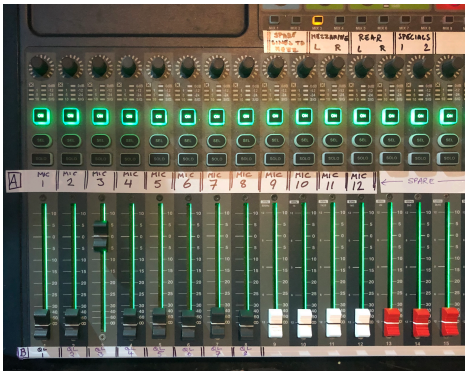
Q-Lab Outputs 1&2 go straight to the main L&R output, fader 23.

Routing of the other outputs of Q-Lab to the Mezzanine, Rear and 'Special' sets of speakers is done by using the MIX buttons.


The MIX buttons are in the middle of the desk, under the multi-coloured main control panel for In, Gate, Comp, Equaliser and Out.

In this context the MIX buttons are separate outputs from the desk, which are connected to sockets on the back of the mixer and go to the amplifiers for the Mezzanine, Rear and 'Special' speakers. Any source can be routed to these MIX outputs, for example a microphone or reverb.

Select **Fader Layer B**, where we have Outputs 1 to 8 of Q-Lab on Faders 1 to 8. If you press SEL on Channel 1 or 2 you will see that the LR Button in the OUT section is selected, which confirms they are going to the main auditorium speakers.



If you press, say, the MIX 3 button, you will see that all the fader strips now glow green. This is to show that if you open any of the channel faders it will send that channel to the MIX 3 Output.

In this instance we have Channel 3 open to '0', which shows that Output 3 of Q-Lab is being sent to MIX 3, which is routed to the Left Mezzanine speaker.

Pressing MIX 4 shows you what is being routed to the Right Mezzanine Speaker: Channel 4, which is Q-Lab Output 4.

MIX 5 is Q-Lab Output 5 on Channel 5: routed to the Left Rear Speaker
MIX 6 is Q-Lab Output 6 on Channel 6: routed to the Right Rear Speaker
MIX 7 is Q-Lab Output 7 on Channel 7: routed to 'Special' output One (stage socket USL)
MIX 8 is Q-Lab Output 8 on Channel 8: routed to 'Special' output Two (stage socket USR)

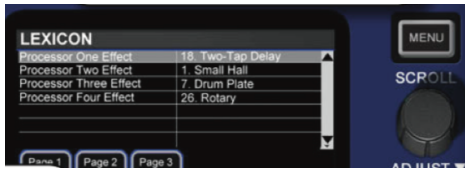
When you have confirmed the routing press the relevant MIX button again, to go back to the 'normal' view of Fader Layer B.

Obviously, other than Q-Lab Outputs 1&2 we do ***not*** want to send other Q-Lab Outputs to the main L&R output. So, the LR button will ***not*** be illuminated on the Channels of Q-Lab Outputs 3 to 8.

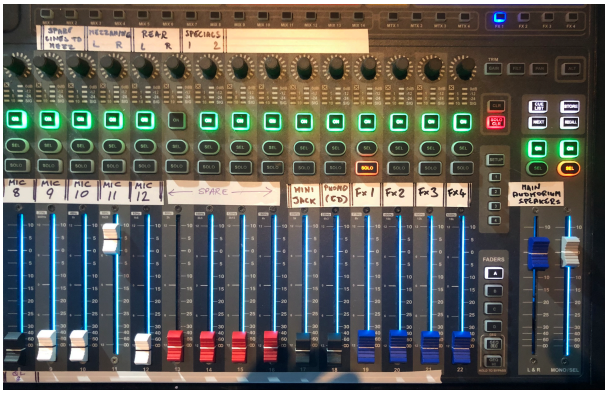
See P10 of the 'Reverb' section for sending other sources to the MIX outputs.

# Reverb

The desk contains four effects engines, FX1, FX2, FX3 and FX4, so you can have four different reverbs or delays set up for different channels. Pressing the FX button (in the Blue panel, under the Display window) brings up these four FX engines on the Display Screen. By default they are set to 'Small Hall'.




If you want to select a different type of reverb for FX1 you make sure that FX1 Engine is selected (if it is not, you can select it by scrolling to it using the 'Scroll' knob to the right of the window) and then press down the 'Scroll' knob. This brings up the other options available. Using the 'Scroll' knob you select the one that you want, and confirm by clicking down the 'Scroll' knob again.



Select the Fader layer that has the channel you want to add reverb to and, for the time being, keep the fader closed. Just below the Blue Panel are buttons FX1 to FX4.

Pressing FX1 will make all the fader strips glow blue. This shows you what is being sent from these channels to FX1. If you want to send reverb from the microphone plugged into Channel 11 on Fader layer A, opening the blue glowing fader 11 will take a send from the microphone into FX1.

Pressing the FX1 button again will take you out of the Reverb send state, and bring the Microphone channel back to its normal state as a channel fader controlling the output of the Microphone. You then need to check the Masters for the FX Returns and Sends.

In Fader layers A and B channels 19 to 22 are glowing blue. These are the MASTER RETURNS for FX1 – FX4. They should be open to '0'.

You will also need to check the FX SENDS MASTERS are set at '0'. They are found in Layer C, Channels 15 – 18. As they are associated with the FX engines, they are also glowing blue. In the FADER SETUP page of Layer C, Channels 15 – 18 are labelled FX1 to FX4 in the 'Assign FX Sends' field.

Go back to the microphone in channel 11 (in Fader Layer A), and open it up while talking into the mic and you should hear the effect of the reverb. You can adjust the amount you are sending by pressing FX1 (to the glowing blue state) and raising and lowering the relevant fader channel. Make sure you then exit FX1.

If you are using the microphone for a singer, you will want the microphone output and reverb to go to the main speakers, so the LR button in the OUT section will be illuminated on the microphone channel.

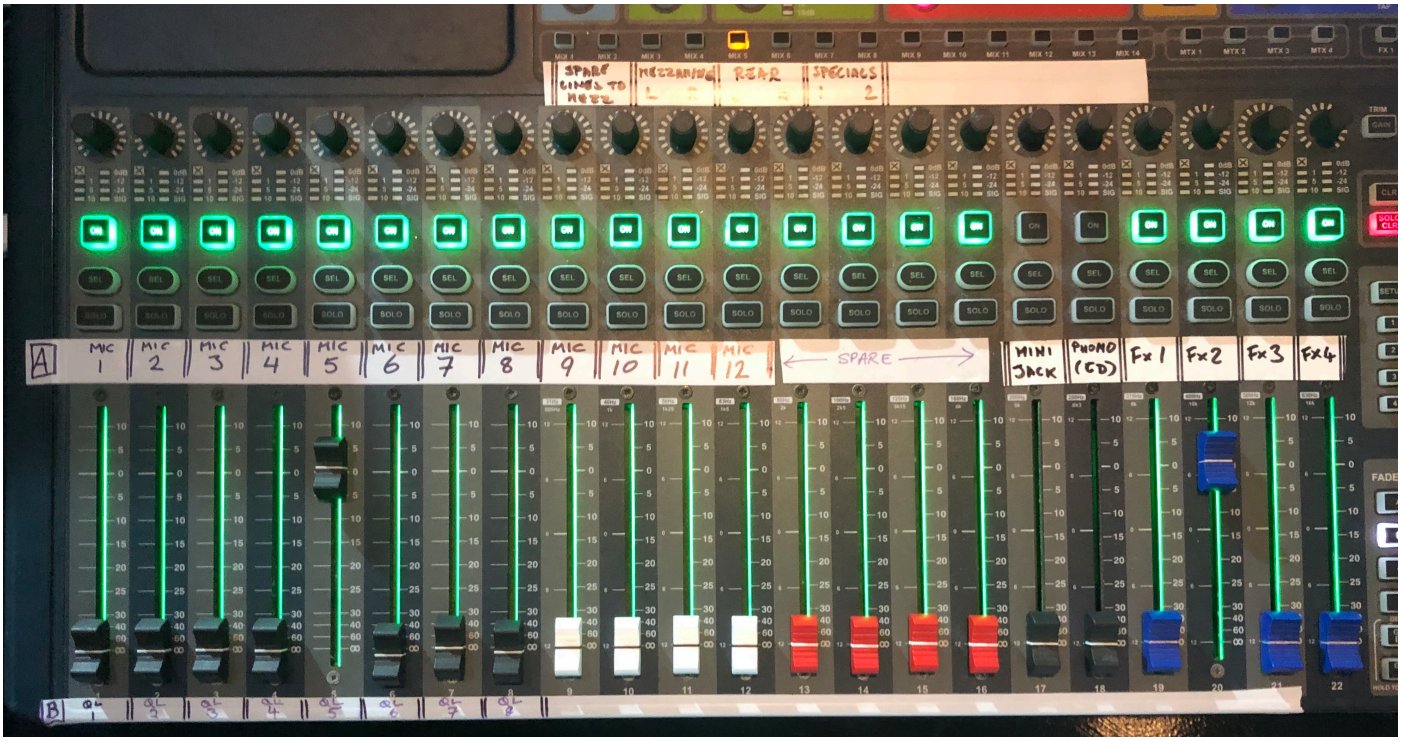
If you are using the microphone purely for reverb send (to add, say, cathedral reverb to a scene), you will ***not*** want the microphone output to go to the main speakers. So you will have to unselect the LR button in the OUT section on the microphone channel.

If you need more information on how to plug a microphone into the desk look at the section on pages 16 and 17.

## Sending Reverb to the Rear, Mezzanine or 'Special' speakers

The desk allows you to send other sources, including Reverb, to the Rear, Mezzanine or 'Special' speakers, or, if you wish, send one reverb to the Main Speakers and a different reverb to the Rear speakers.

Select Fader Layer A or B, so that the Reverb Returns are available on Channels 19 to 22. When you press MIX 5, which is the send to the Left Rear speaker, the faders will glow green, indicating they are serving the function of Post-Fade sends. If you are looking at Layer B, Channel 5's fader will already be set to '0' (Q-Lab Output 5) and opening Channel 20 to '0' will send the Return of FX2 to the left rear speaker.




Repeat the procedure with MIX 6, which is the send to the Right Rear Speaker. Again, if you are looking at Layer B with MIX 6 selected, Channel 6's fader will already be set to '0' (Q-Lab output 6) and opening Channel 20 to '0' will send the Return of FX2 to the Right rear speaker.

If you are doing this it is important to deselect FX2 from the Main L&R speakers, so that the reverb only appears from the Rear Speakers. Exit the MIX button, press SEL on Channel 20 (the Output of FX2), and make sure the LR button in the OUT section of the Control Panel is not selected.

The same principle applies if you want to send any other source, like a microphone, to the Rear, Mezzanine or 'Special' speakers.

# Making Sub-Groups

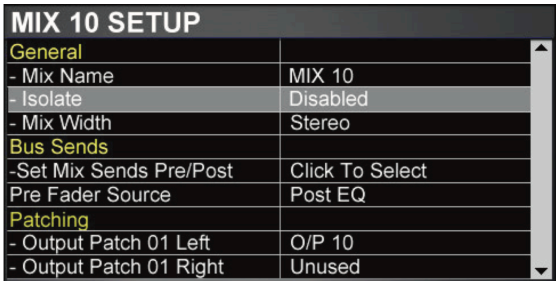
If you are working on a musical you are likely to need to make sub-groups, so that you can have, say, the level of all the microphones being used for the band being controlled by one fader, all the lead radio mics by another and any chorus mics by another. Then you can quickly adjust the relative levels of the band and the singers by just adjusting three faders.

Select the Fader Layer that contains the inputs that you want to make a Sub-Group. You will want your Sub-Group Master to have control of the outputs to the main L&R Output, so you have to de-select the individual microphones of the Sub-Group from the main L&R output. Select each microphone channel in turn and then de-select the LR button in the OUT section of the control panel. This will stop the microphone channel going straight to the main output.

You create Sub-Groups by using the MIX buttons. MIX 1 to 8 are mono and are being used to send different outputs of Q-Lab to the different sets of speakers, and 9 to 14 are Stereo. You are most likely to want to create a Stereo Sub-Group so select, say, the MIX 10 button.

The faders will now glow green, which means you are looking at their Post-Fade sends. Put the faders you want to be in this Sub-Group to 0. A quick way of doing this is by holding down the ALT button (far right of the desk, below the FX buttons), and then hitting the ON button of each of the desired channels.

To send MIX 10 to the main L&R Output press the LR button in the OUT section of the control panel while MIX 10 is selected and it will light up.



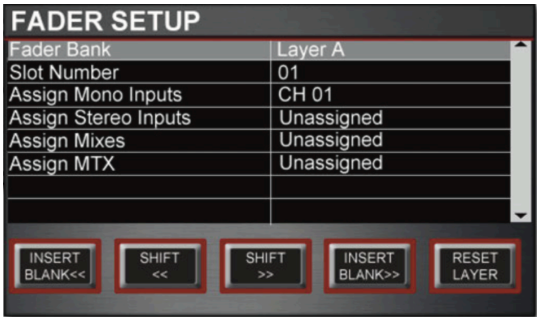

Before you exit the MIX 10 page, you need to make sure the Sub-Group is in stereo. On the Main display select OUTPUTS.

Go to MIX WIDTH and make sure Stereo is selected.

Exit MIX 10.

You now want to allocate MIX 10 to be controlled by a fader on Layer A, the top layer.

Make sure you are looking at Layer A and in the main display panel select FADER SELECT. Hit the SEL button on the fader you want to use as your Sub-Group master.




Scroll down to 'Assign Mixes'.

Click the Scroll knob, and then scroll down to MIX 10. Click again to confirm the selection.

The fader you have chosen will now turn green and will control the overall level of your Sub-Group to the main output, L&R.

The Master Sends for the 14 MIX buses are found on Layer C, channels 1 – 14. These should all be set to '0'.

# Making Mute Groups

In a live music setting you are likely to need to mute microphones when they are not being featured. If this is just a single microphone the ON button of the channel can be toggled on and off to mute and unmute as required.

If you want to do this with a group of microphones, say the mics on a drum kit, you can use a Mute Group. The Desk has 4 Mute groups, which allow you to mute and unmute each group with a single touch of a button.


The Mute Group section is to the right of the Desk, near the Main L&R fader.

Make sure you are looking at the Layer with the microphones you want to put into your Mute Group. Press SETUP in the Mute Group section.

Then press, say, 1 to set up Mute Group 1. Then press the SEL buttons on each of the channels that you want to put into the Mute Group. Once you are happy, press SETUP again to confirm your selection and take you out of Setup mode.

Now, toggling 1 on and off will mute and unmute all the microphones you have put into Mute Group 1.

# Layers and Standard Tower Set up

## Fader Layer A (inputs)

Channels 1 to 12 are mic/line inputs linked to the input patch on the Upper Mezzanine. These can be unplugged at the desk if other equipment needs to be connected in the control area.

Channel 17: mini jack input (phones, laptops etc.). Flying lead to mini jack. Routed to main L&R Outputs (main auditorium speakers). The fader glows purple to show it is a Stereo channel.

Channel 18: Phono line input (CD, Mini Disc etc.). Flying lead to phono plugs. Routed to main L&R Outputs (main auditorium speakers). The fader glows purple to show it is a Stereo channel.

Channels 19 to 22 are the Reverb Returns from the four FX engines

## Fader Layer B (inputs and outputs)

Channels 1 to 8 are the 8 feeds from channels 1 to 8 from the Q-Lab Audio Interface. Channels 1&2 are sent to the main L&R output. Channels 3 – 8 are ***not*** sent to the main L&R output, they are routed to MIX outputs 3 – 8.

Channels 19 to 22 are the Reverb Returns from the four FX engines (these are duplicates of Faders 19 – 22 on Layer A).

## Fader Layer C (MIX Master Sends and FX Master Sends)

MIX Master Sends in Channels 1 – 14. They glow green as they are Post-Fade sends.

Channels 1 – 8: Mix Master Sends for MIX 1 to MIX 8, the Mono MIX buses. MIX 1 and MIX 2 are spare tie lines to the Mezzanine, MIX 3 to MIX 8 are Outputs 3 to 8 of Q-Lab.

Channels 9 – 14 are the Master sends to MIX 9 – MIX 14, the Stereo MIX buses.

Channels 15 – 18 are the Master FX Sends for FX1 – FX4 (Glowing Blue).

## Plugging at the back of the desk

Input XLR sockets 1 – 12 have leads 1 – 12 of the multicore. The multicore is connected to the patch bay on the mezzanine as Microphone inputs 1 – 12. Obviously, these sockets can be unplugged and microphones plugged directly into the back of the desk if required.

Input XLR sockets 17 – 24 have leads 1 – 8 from the Audio Interface. These are the 8 outputs of Q-Lab.

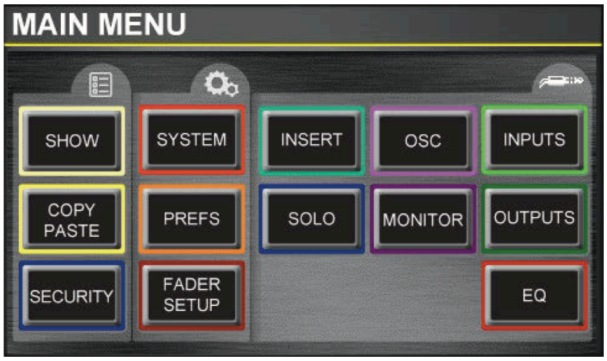
Output XLR sockets: routed as above, from MIX 3/4, MIX 5/6 through the multicore to the Amplifiers for the mezzanine and Special speakers, and MIX 7/8 to the Amplifier for the Rear speakers.

Main L&R output is connected to XLR Output sockets 15/16.

Line Inputs 1 – 4 are L&R channels of the flying leads to Mini Jack and Phono plugs.

## Main Display

Pressing 'MENU' (top right of the desk, next to the Display window) brings up the main menu.




This gives you access to options that allow you to reassign inputs and outputs, look at Fader setup and various other controls.

In practice, you are only likely to need any of these functions if you are doing a show that requires more complex routing of the desk. Even then, you are only likely to need to look at Show, Inputs, Outputs or Fader Setup.

## Desk Internal Memory: Shows and Cue List and Snapshots

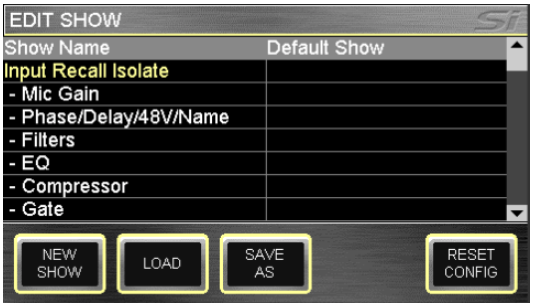
The Desk's internal memory allows you to create and recall standard set-ups. At the Tower, it is likely that most productions will only need to use a 'standard' set-up, unless, for example, it's a show that is using a lot of microphones.

If you are going to change anything in the basic routing of the desk then saving the 'standard' desk with a new name will mean that others will still have access to the original, untouched, set-up.

SHOW is the basic set-up for the desk, where allocated inputs and outputs, fader settings etc. are stored.

Each SHOW contains a CUE LIST, which, for a musical, might contain the settings needed for each individual song in the musical. These individual song settings are created with SNAPSHOTS.

Pressing 'SHOW' (top left button on the touch screen) brings up the EDIT SHOW menu.




This brings up the EDIT SHOW page of the SHOW that is currently loaded.

This page allows you to SAVE AS, which allows you to copy the current Show with a new name, so that any settings you have changed will not alter the original Show's settings.

Pressing SAVE AS brings up a QWERTY keyboard.


The current show name is displayed, and you can change the name completely, or just update it by adding a date or version number.

Press the APPLY key to confirm the new show name. It will bring up the SAVE SHOW window.


This will allow you to choose where you want the show to be saved. MMC is the desk's internal memory. You also have the option of saving to a USB stick.

It will warn you that it will overwrite all the current settings. Touching YES will save the show.

You can also LOAD a previous show, by pressing LOAD on the EDIT SHOW page. It will bring up a similar window to the SAVE SHOW window.

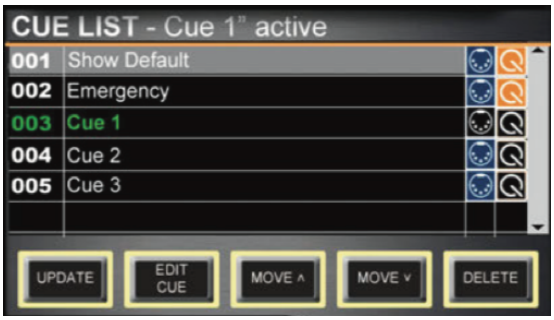
If you are loading a show from MMC, the desk's internal memory, make sure it is highlighted with the Scroll knob. Clicking the Scroll knob will open the folder, and you can scroll down the list of saved shows to find the required show. Touching the OK window on screen will confirm and start the loading process.

It will warn you that it will overwrite all the current settings. Touching YES will load the show.


The four buttons above the Main faders to the right of the desk operate the Cue List. Pressing CUE LIST brings up the list of Snapshots that exist in the show. To create a Snapshot of the current desk setting for, say, the first song in a musical, press STORE. Your newly created Snapshot will appear in the Cue list as 'Unnamed Snapshot 01'. You can rename this by touching the EDIT CUE button in the window, and enter the new name by clicking on the Scroll knob, which brings up the QWERTY keyboard.

When you are happy with the settings for the second song, pressing STORE again will enter a new Snapshot into the Cue list, which you can rename.

This is a really powerful system, as you can change settings from a song that uses all the microphones for the cast and the whole band to, say, a solo number with one singer and a piano with one touch of a button. All the microphones and instruments not used in the second song can be instantly muted.




Once you have set up your Cue List then running the show becomes very simple. When Song 1 is over then pressing NEXT (the button underneath the CUE LIST button) will move the settings onto the next song on the list. Pressing ALT and NEXT takes you to the previous song.

If you are rehearsing a different number you can use the Scroll knob to move to the song you want, and then click it down, or press RECALL. You can Move Songs up or Down the list by using the MOVE ∧ or MOVE ∨ buttons.

If you change settings during the rehearsal, pressing UPDATE will save your new settings.

# Plugging a Microphone into the Desk

You may be asked to plug a microphone into the Sound System for, say, a Q&A session.

You will need a microphone and a long XLR lead. Mics are kept in a box in the shelving on the rear wall of the Upper Mezzanine.

Ideally, you would use the AKG D5, which should be in a marked bag.

XLR cables are kept in a box next to the mics. You may need to extend the length of the cable by plugging two cables together.

To the left of the shelving unit is a patch bay. The first 12 sockets on the top row, labelled 'Inputs', are Mic Inputs 1 to 12.

Plug your XLR cable into, say, the socket for MIC 1.

Run out the cable from the Upper Mezzanine down to the stage, taking care not to create unnecessary trip hazards. Plug the mic into the XLR cable.

Go back to the sound desk. Make sure you are looking at **Fader Layer A**.


As you can see by the fader strip above the faders, channel 1 on Fader Layer A is the Mic 1 fader.

For the microphone to come out of the auditorium speakers when you open the fader you will need to:

Turn on Channel 1
Send it to the Main L&R output
Set the correct input gain for the microphone
Adjust any EQ if necessary

Pressing the Green ON light above the channel turns on channel 1. If you wish, you can use this as a Mute button – once you have set up the levels you can toggle the Mic on and off with the ON button.

Press the SEL button (just below the ON button) on Channel 1. This assigns the Central Control Panel to your Microphone Channel.


The light brown section on the right labelled OUT has the LR button just above the MONO button.

Make sure the LR button is selected, as that means Channel 1 is now being sent to the Main L&R output, to the Main Auditorium Speakers. This is controlled by the Master L&R Fader, Fader 23.

The blue IN section on the left is where you to set the Input Gain with the GAIN/TRIM knob. With Channel 1 Fader open to '0', you can slowly wind up the GAIN/TRIM knob while someone is talking into the mic. Have one hand on the fader so you can quickly bring it down if it starts to feed back. Adjust the Input Gain to a comfortable level for normal speech, but always be prepared to bring down the fader if the Mic starts to feed back.

It might be worth selecting the HPF control by pressing the HPF button. HPF is High Pass Filter, which leaves high frequency signals unaffected, but will roll off unwanted bass. So, it will deal with mic bumps and any low frequency hum (for example, traffic noise) in the theatre. Winding up the HPF knob to about 100Hz will deal with Mic bumps but should not affect the vocal quality of the speaker, but it may be more noticeable on a male speaker with a low voice.

The AKG D5 is a Dynamic Mic. There are other types of mics, called Condenser Mics, which need a 48 Volt power supply to make them work. You do this by pressing the 48V button, which is just below the meters. You cannot immediately tell that a mic is a Condenser and will need 48V, but the shape of the mic will often guide you – the Rode NT4 (right) has a classic condenser look, as opposed to the AKG D5 or Shure SM58, which are classic Dynamic mics.

When you have completed the session, fade out the mic. De-rig the mic and lead and replace them in the boxes. Return the settings on the desk to how they were at the start of the session.

# Useful Resources

'Soundcraft SI Expression 2 Review': Video review of the desk from *Guitar Interactive Magazine Issue 26*, takes you simply through the main features: Overview, plus routing, Reverb and Saving Shows and Cues (12'16")

https://www.youtube.com/watch?v=5i1-vN4lYgc

'Soundcraft SI Expression 1 mixer training part one'. First part of a three-part video training session for Sound operators in a church setting, where the majority of their work will be with live bands. Good, entry level but in-depth. Looks at fundamental differences between analogue and digital desks, and has a good overview of processing (EQ, Compressors, Gates, Reverb etc.). It's worth watching each of the three videos, which are all about 20 minutes long.

https://www.youtube.com/watch?v=9guqszaTA8g

Soundcraft Si-Expression 2 manual: Comprehensive, but not very user friendly. As with many manuals, the need to cover all features means that it is sometimes difficult to find information about commonly performed functions.

https://www.soundcraft.com/zh/product_documents/siexpression-userguide-2-08-screen-pdf

Soundcraft Si-Expression Quick Start Guide: similar

https://www.soundcraft.com/zh/product_documents/si-expression-qsg-28-11-12-pdf