Tower Theatre

Soundcraft Si-Expression 2

Operator Guide

This manual is a brief introduction for Sound Operators, with instructions on switching the desk on and off, and some basic troubleshooting.

There are also instructions for plugging a microphone into the desk for, say, a Q&A session.

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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. This guide is intended as a simple introduction to the desk for Sound Operators.

Usually, the sound plot for a play will be from the Q-Lab project that the Designer has created, and the system is set up so that the operator does not need to adjust anything at all on the desk.

If there is a problem, then it is necessary to understand a little about the operation of the desk, so that you have an idea where to look during troubleshooting.

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 channel 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.

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'

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

Before opening the show project, run the 'Loudspeaker Test' Q-Lab Project, which is on the Desktop. This will let you know all speakers are working correctly.

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

If the 'Loudspeaker Test' project ran correctly then the show project should operate correctly. However, if the 'standard' settings have been changed and something is not working you may have to investigate further.

The desk will come on with the state it was last turned off. There are four 'Layers' of Faders; it will probably open up on the top one, Fader Layer A.

The first 12 faders on **Fader Layer A** are for microphones. Most shows will not use a microphone, so they will all be closed.

To check that the Q-Lab Outputs are properly set up you need to look at **Fader Layer B**.

Press button B in the FADERS section, which is between Fader 22 and the L&R fader.

Fader Layer B has the Faders for outputs 1 to 8 of Q-Lab. They should all be set to -20: this is because a standard Q-Lab project is quite loud, and this allows us to run the main L&R Fader at '0'.

Check the faders for Q-Lab Outputs 1 to 8 are all set at -20.

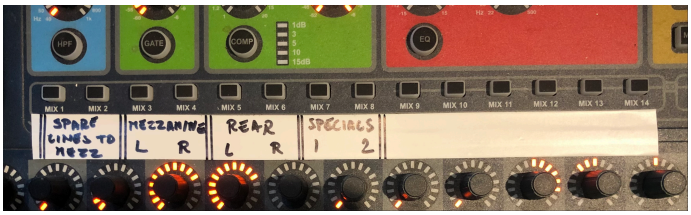
Check that Channels 1 to 8 on the desk are all ON (the green ON button is illuminated).

Check that the main L&R Fader (Fader 23) is ON (the green ON button is illuminated) and set to '0'.

Q-Lab outputs 1 & 2 go to the Main Auditorium Speakers, via the main L&R outputs, which go through the main L&R Fader. Pressing the red SEL button on channel 1 will allow you to check Q-Lab Output 1. In the OUT section of the main control panel, the L&R button should be illuminated, to confirm that Q-Lab output 1 is being sent to the main house speakers. You can also check this on Channel 2, for Output 2 of Q-Lab.

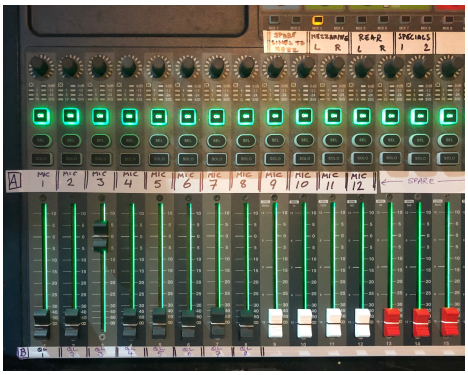
Q-Lab outputs 3 to 8 ***do not*** go to the Main Auditorium Speakers, so, when you press the SEL button for Channels 3 to 8 the L&R button should ***not*** be illuminated.

Q-Lab Outputs 3 to 8 are sent via MIX buttons 3 to 8. 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.



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

You can check the routing of Q-Lab while you have Fader Layer B selected.



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.

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.

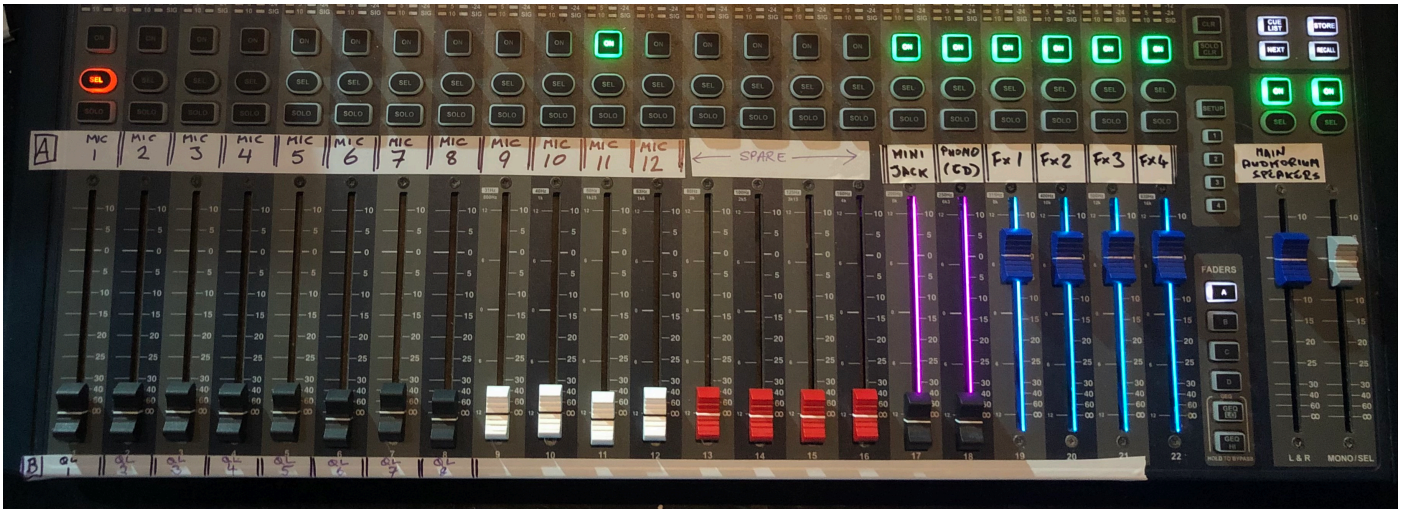
XLR cables are kept in a box next to the mics. You may need to extend the length of the cable by plugging two cables together.

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