

CONNECTING EQUIPMENT TO YOUR MIXER

As we explained in the last section, it is the job of the mixer to accept the various signal sources, set the levels and route those signals to the correct destination.

We'll now take a quick look at where to connect the 'peripheral' equipment that you will be using with your mixer. If you have already created your own set-ups successfully in the past, you should only need to skim this part.

A. Input Devices

Microphones

All microphones should be connected via each input's XLR connectors. *Do not use line inputs.*

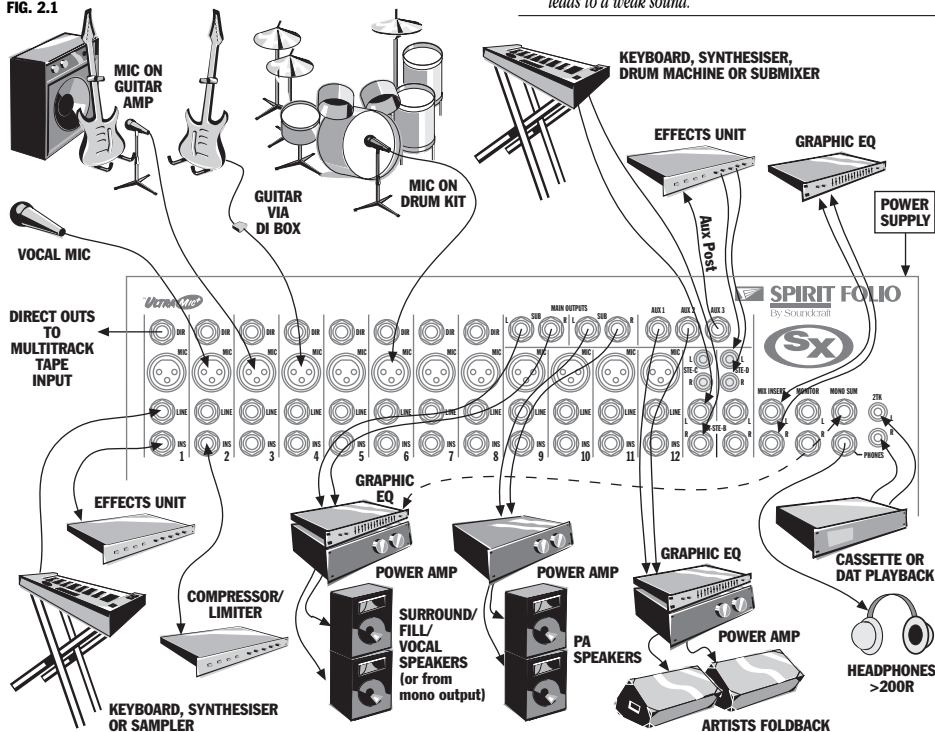
For more information on miking up individual instruments, refer to sections 4 and 6 - PA Mixing and In the Studio.

Direct Injection Box (DI Box)

- A DI Box allows you to connect a guitar or bass directly to the mixer's input, rather than miking up the instrument's amp/speaker. This technique is often preferred by musicians who require a "clean" sound. The best DI boxes are ACTIVE and require Phantom Power like condenser microphones. They should be connected to XLR mic inputs.

NB: Although electric guitars and basses may be connected to a mixer's line inputs without danger, the results will be far from ideal, because the IMPEDANCE of these instruments will not match up with typical line levels. Direct connection usually leads to a weak sound.

FIG. 2.1





Electronic Line Output Devices

- Keyboards, Drum Machines, CD Players, DAT Machines, Wireless Mic Receivers, all provide line level outputs, and should all be connected straight into the Mixer's Line Inputs. If some of your instruments are STEREO connect their left and right outputs to a spare stereo input. Alternatively connect to an adjacent pair of mono inputs and Pan the inputs hard left and right to create a stereo image.

B. Equipment Requiring Both Inputs and Outputs

External effects units

Connect the input of your effects unit marked "mono" to A POST FADER AUXILIARY OUTPUT. If you are uncertain, Post fader auxiliaries are coloured blue on Spirit mixers with the relevant channel aux pots usually marked "post". The left and right outputs from the effects unit should be connected to a pair of stereo returns, or stereo inputs if stereo returns are not available. If intensive EQ is required, use a pair of Mono Inputs. Remember, the effects signal is no different from any other audio signal – it still requires an input to the mixer.

See Section 3 Mixing Techniques or a detailed explanation of post fader auxiliaries.

NB: YOU DO NOT HAVE TO CONNECT UP BOTH THE LEFT AND RIGHT INPUTS OF YOUR EFFECTS UNIT TO SEPARATE AUXs. Most units only require "pseudo-stereo" operation and will mimic a stereo reverb or effect inside before providing a stereo output to the mixer's returns.



Signal Processors

Connect signal processors, such as compressors to the insert jack using a special insert 'Y' cable. This allows the signal to be sent and returned to the mixer using only one connector.

Refer to section 7 for wiring information.

It is also possible to connect the processor to the console without using the insert jacks by connecting an instrument direct to the processor first. However, the advantage of using processors in the mix/group or channel inserts is that any level changes made by the processor can be monitored by the mixers meters.

NB: A signal processor can be used in a channel to control one audio source, across a group to control a number of audio sources or across the entire mix.



Tape machines

Multitrack machines are used for initial track-laying in either studio or live recording situations.

For more sophisticated work, a stand-alone machine offers better sound quality and greater versatility than a cassette multitracker. The new generation of digital multitracks are also very attractive, but analogue, open-reel multitracks are also capable of professional sounding results. Aim for a minimum of eight tracks if your budget will allow.

Mastering Machines

Your final mix should be recorded on the best quality machine that you can afford. A recording is only as good as the weakest link in the chain, and a good cassette machine is fine for demos, but for more serious work, consider a DAT machine or perhaps a second hand, open-reel 2-track.

C. Output Devices

Amps and Speakers (Monitor and FOH)

Studio Monitoring

A high-powered hi-fi amp of around 50 watts per channel is fine for home recording, but to ensure adequate head-room you should consider a well-specified rack mount amp. Similarly, a pair of accurate hi-fi speakers will do the job, but for more serious work we would recommend purpose-designed nearfield monitors. Always remember that no matter how good the recording or performance, a poor monitoring set-up will not allow you to make qualitative judgements about the mix.

Headphones

When choosing headphones for monitoring, you'll obviously want a pair that give the best sound reproduction for the price. But, bear in mind that in order for you to fully concentrate on the mix, the headphones should exclude outside noise - therefore open-back designs will be of little use.

Furthermore, you could be wearing the headphones for several hours at a stretch so comfort is essential.

NB: Make Sure that the IMPEDANCE of your headphones matches the specification of your mixer.



PA Work

PA work requires high-powered, rugged, and honestly specified amps and FOH (Front of House) speakers. The power rating of the system will depend on the size of venues you will be playing. See PA Mixing, Section 4, for more information.