Configuring an mLAN network for live mixing: Monitor mixes

One challenge facing an audio engineer is providing suitable foldback monitoring for the stage. The simplest form is to provide the same "front of house" mix to on-stage speakers at a reduced volume, but this is often unsatisfactory. Vocalists usually want to hear themselves louder than the rest of the band, and especially to have any backing vocalists singing in harmony to be quieter. Backing vocalists will need to hear themselves louder, but still be able to hear the main vocal line, and drummers need to hear the whole band. This requires separate monitor mixes, and is often achieved through the use of external mixers, wired in parallel with the main front of house mixer. It is however possible with the 01x to achieve both at the same time, as well as take a separate multichannel recording mix - thus performing the main three functions of mixing in one. The secret is (as is often the case) in the routing.
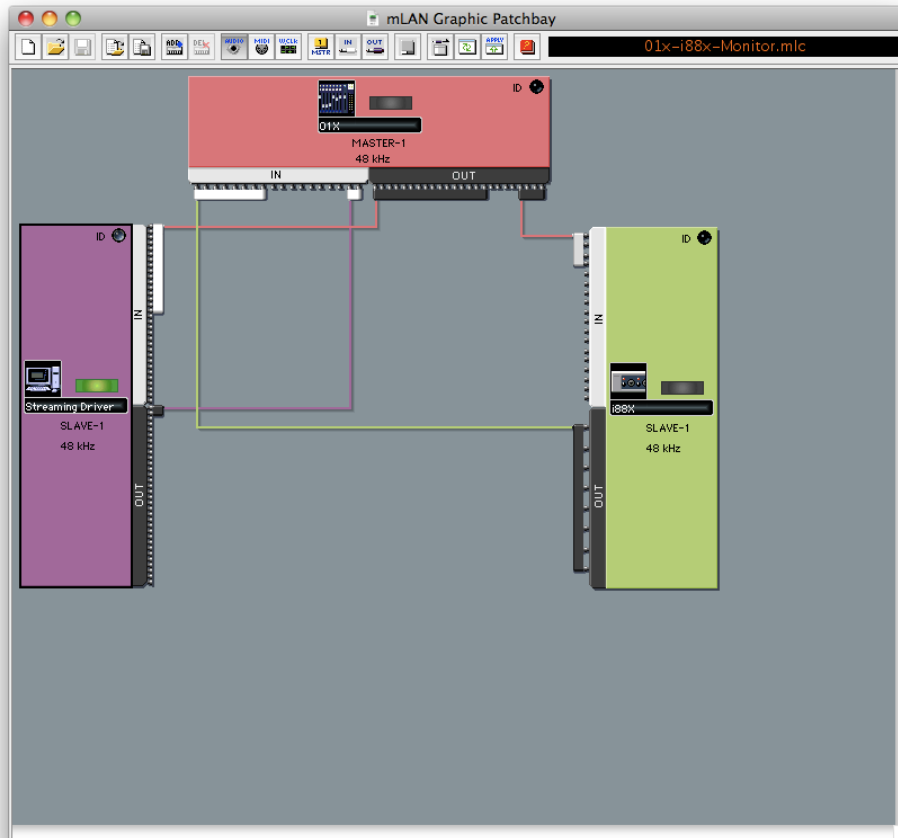
Required equipment:

01x
i88X (or other mLAN interface with analogue outputs)
Compatible computer running Studio Manager and Graphic Patchbay

Patching

The key is in correctly patching the outputs of the 01x to the inputs (which are in fact the outputs) of the i88X. Set up an mLAN network of mixer, interface and computer, and run Graphic Patchbay.

One thing to remember is that the physical input jacks on the interfaces form the output on the i88X in the Graphic Patchbay (green block). So the eight sockets on the i88X into which you plug mics and instruments are the black OUT connectors on the green box, and the 8 analogue output sockets are the white IN connectors. The 01x is sort of similar, in that the 8 physical jacks are connected to the first 8 black OUTs, but slightly confusing the mLAN inputs (9-24) are INs 1-16 on the Graphic Patchbay. INs 17 and 18 are the monitor/headphone returns from the computer. In my example, I have the 8 physical jacks on the i88X connected to mLAN 9-16; I have channels 1-16 (physical 8, plus mLAN 9-16) connected to the computer (as DAW inputs), and I have outputs 1&2 (stereo out) from the computer patched back to the 01x inputs 17&18.

The important thing from the point of view of monitor mixes is that outputs 21-24 from the 01x are patched to inputs 1-4 of the i88X: these correspond to the physical outputs 1-4 on the unit.

Routing

Next the routing needs to be adjusted. Normally on the 01x, the AUX 3&4 outputs are routed to the stereo sockets, and AUX 1&2 are connected to the internal effects processor. This allows channel inserts to be made, and **this function will be lost** with this modification.

To re-route the AUX channels, run Studio Manager and select the 01x. In Setup, set the MIDI control channel to 4, and then synchronise. You now have control of the functions of the 01x - to test, move an on-screen fader and see if a physical fader moves, and vice-versa.

In the Window menu select Patch Editor. In the AUX 1 line, click the white box beneath 21. 22 will be automatically selected for AUX 2, as they come in stereo pairs (but can be controlled separately). Click the white where AUX3 and 23 meet.
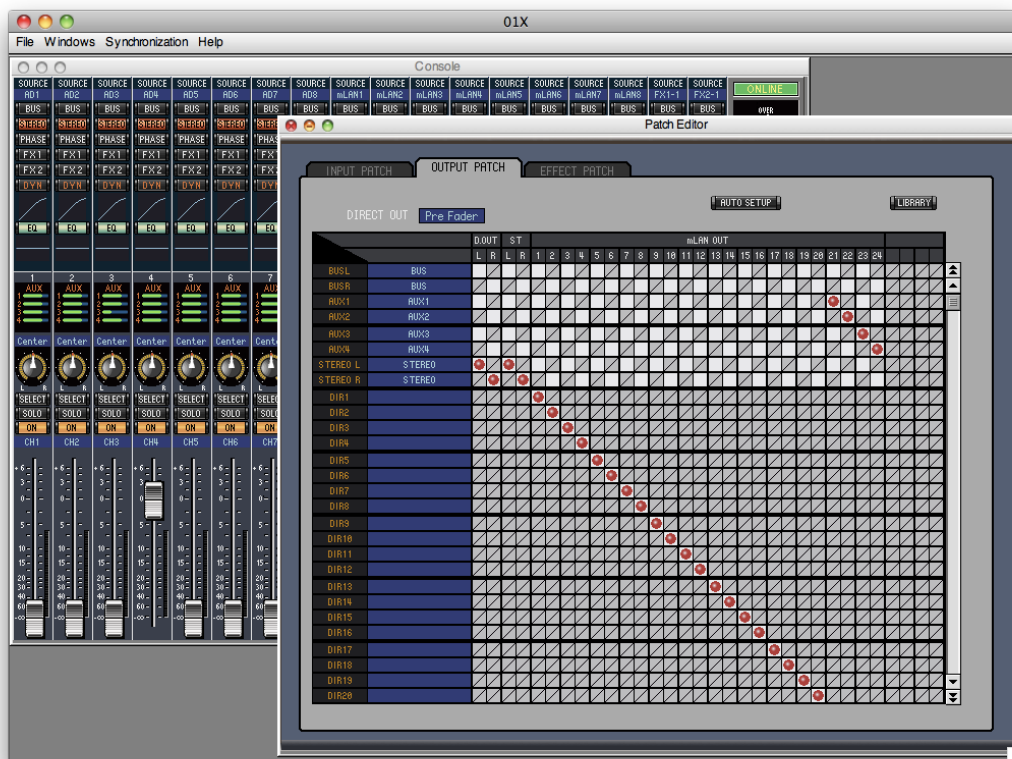
In the background you can see the Console view, and above the pan pot on each channel are four green bars: these show the level being sent to each AUX channel.

Mixing your Monitors

To adjust the monitor levels on the 01x, you need to be in INTERNAL mode, and select the channels you want to control. Then press the SEND button,

and the display will show the level for each channel going to AUX1. These are adjusted by turning the pan pot - a press will set that channel to 0 dB.

Repeated presses of SEND cycle through the send level for AUX 2-4, and then the PRE or POST fader setting for each channel in each AUX. It's important to set these to PRE if you don't want the monitor mix being affected by the overall output levels - which you probably don't!
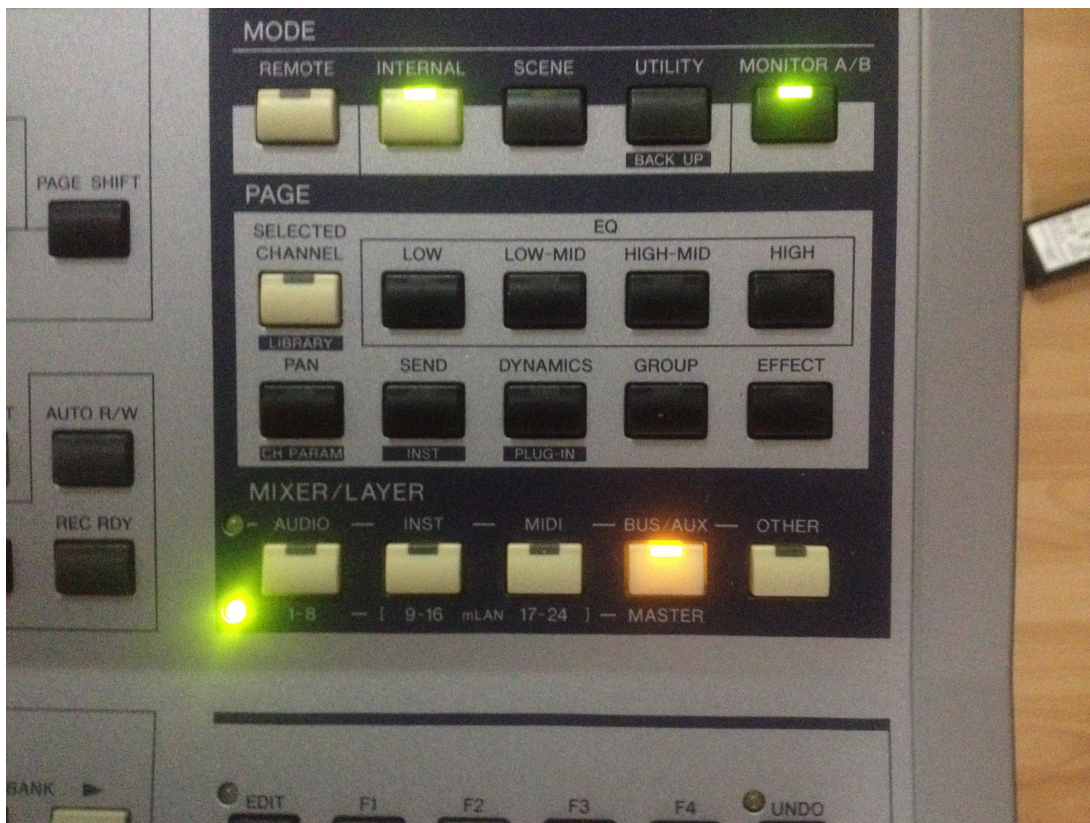

Using the SELECTED CHANNEL button

allows you to see the parameters for two AUX channels at once, on a channel by channel basis.

Here, channel 1 is sending the same signal level (0dB) pre fader to both AUX1 and AUX2. In reality, you will probably have different amounts going to the different monitors.

Finally, switching to the MASTER bank

gives you control over the final output to the each AUX - an overall volume control for each monitor speaker.

All that remains is to plug your monitor speakers in the Analogue OUT sockets 1-4 on your i88X, and set the right levels for each. Obviously this is a bit more work than using an external mixer, but if you are working with a band on a regular basis, you will be able to set the levels and more or less forget them, just adjusting the overall output according to the acoustics of the venue.

Naturally, this also works in a recording studio situation where you might be supplying the separate mixes to a headphone amp.