VXi: Input Mixer & Router Basics

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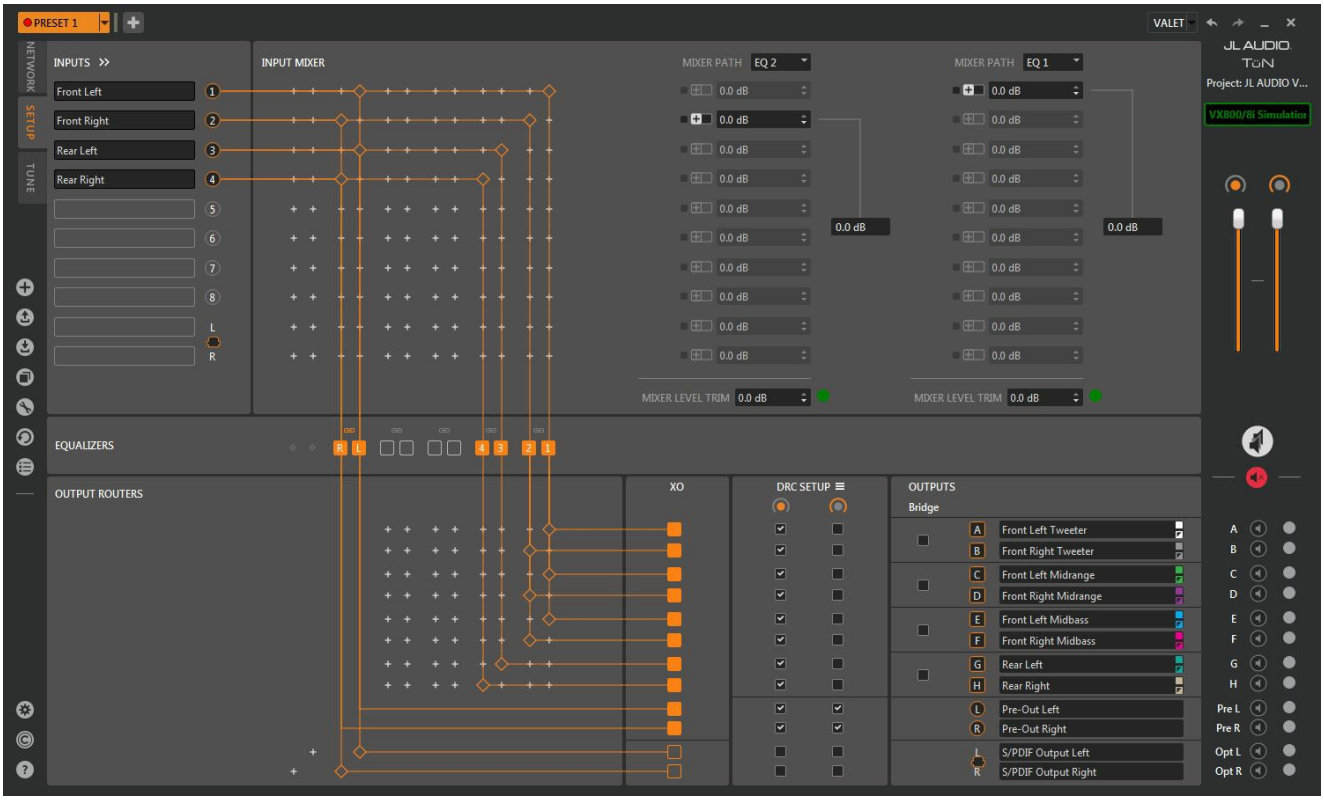

The sophisticated Mixer and Router functions of the VXi amplifiers make it possible to configure your system, based on your available source unit outputs and your amplifier channel configuration. JL Audio TüN™ software is used to set up these functions in one of two ways:

1) Simply identify your system's input and output configurations from the Setup Tool, and TuN™ auto-populates the Input Mixer and Router. You can view the resulting Mixer/Router configuration in the "SETUP" tab, where you can make changes, reroute signals to different EQs or outputs, or configure more channels where needed.

2) Bypass the Setup Tool and configure the functionality of the Mixer and Router manually. You will name the Inputs, decide whether and how they are mixed, which EQ Bank they are assigned to, which VXi Outputs they will feed, and name the Outputs.

In order to dig into these functions further, let's define some important terms first.

In this article, **"Inputs"** refers to the input connections of the VXi amplifier. Input connections can be named, for easy reference.

"Mixer" refers to the mechanism for combining multiple signals into one signal. For example, a left input signal and a right input signal can be combined into one mono signal.

"EQ Bank" is a processing block in the that applies user-defined frequency response equalization to a signal, or group of signals. Each channel and preout of a VXi amplifier has an equalizer bank. The design of the VXi amplifiers permit a wide range of equalizer routing options so that you can equalize all output channels from a single pair of EQ Banks, or assign one EQ Bank per output channel... or any combination in between. EQ Banks are presented in reverse numerical order, from left to right. This order is deliberate in order to keep the mixer connection graphics orderly. EQ Banks are adjusted in the "TUNE" tab. For more details, see the Graphic Equalization and Parametric Equalization articles.

“Router” refers to the mechanism for routing audio signals, from the various inputs of the VXi amplifiers, through its EQ banks to its outputs. As you will see, there is a lot of flexibility in how you can map the signal flow.

“**Outputs”** refer to the output channels of the VXi amplifiers. Each output can be named, for easy reference. The VXi amplifiers offer one output per channel (labeled A, B, C…H), plus a pair of analog pre-outs and a pass-through digital output. In the “TUNE” tab, each analog output has the following processing blocks assigned to it: High-Pass Filter, Low-Pass-Filter, Speaker Distance, Additional Delay, Polarity, All-Pass Filter, and Level Trim. Level Trim is also available for the digital output.

Now that we have defined the terms used to describe the VXi amplifier signal routing and mixing functions, let’s turn to how to use the interface to create your desired signal flow.

At first glance, the interface might look a little intimidating, but soon you will realize that routing a signal is usually as simple as two mouse clicks. The mixer itself is made up of a grid of “+” icons. When a “+” above the EQ Banks is clicked, it creates a link from an “Input” to the corresponding “EQ Bank”. A second click on the grid below the EQ Banks, creates a link to one of the “Outputs”.

Let’s look at a simple scenario using a VX800/8i amplifier, where two channels of signal need to be run through EQ1 and EQ2 and out through outputs A & B.

Beginning with Input 1 there is a row of eight “+” icons. Hover over the last icon and a temporary grey line will show a preview of the signal path from Input 1 to EQ 1. (Figure 1).

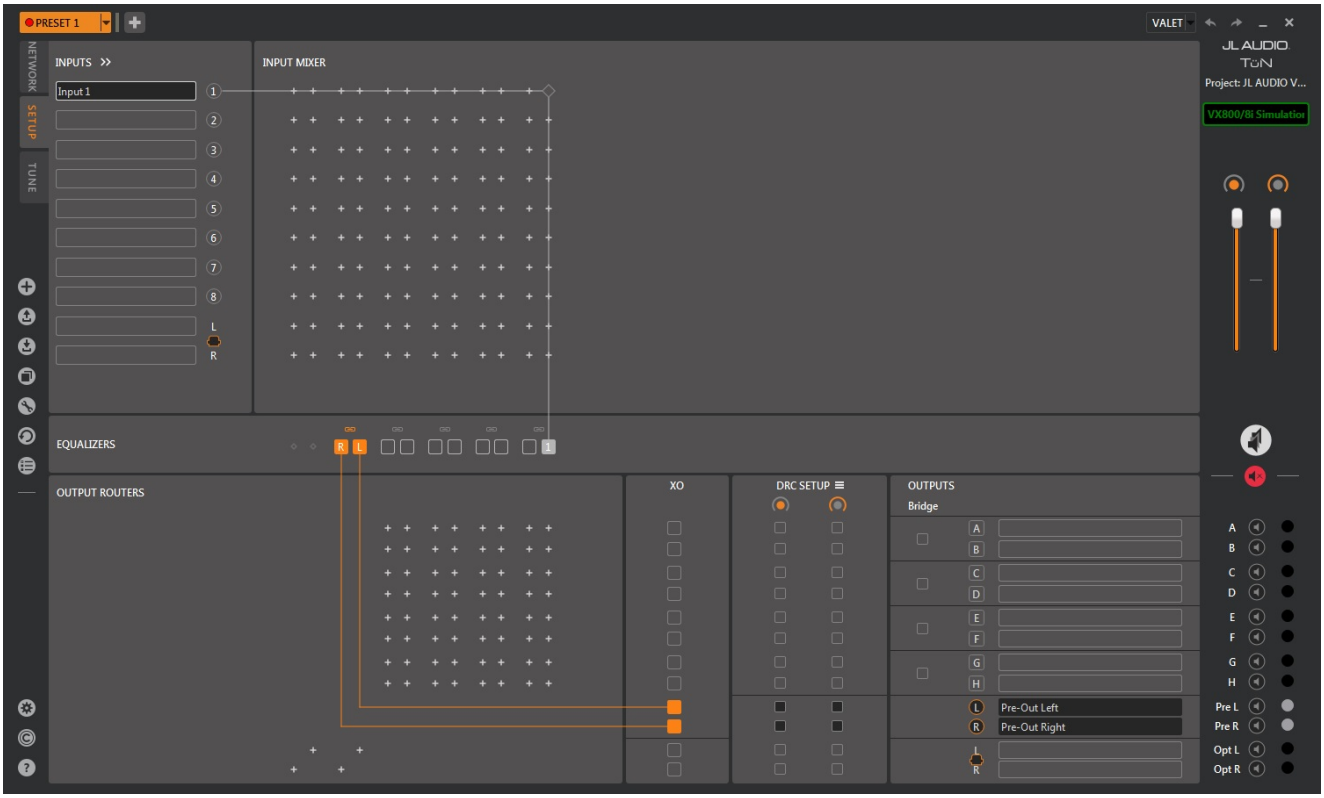

Figure 1

Click the “+” logo and the signal path turns orange and confirms that the audio signal is now routed to EQ 1. (See figure 2, “Click 1”)

To set the Outputs, follow same process at the OUTPUTS section. Find the “+” icon that links EQ1 to Output A and click it. (See figure 2, “Click 2”)

There should now be an orange signal path running from Input 1 to EQ 1 to Output A.

For the right channel (or input 2) go to the second from last “+” icon which links up with EQ2 and click. (See figure 2, “Click 3”)

Click on the “+” icon linking EQ2 and Output B and the routing is finished. (See figure 2, “Click 4”)

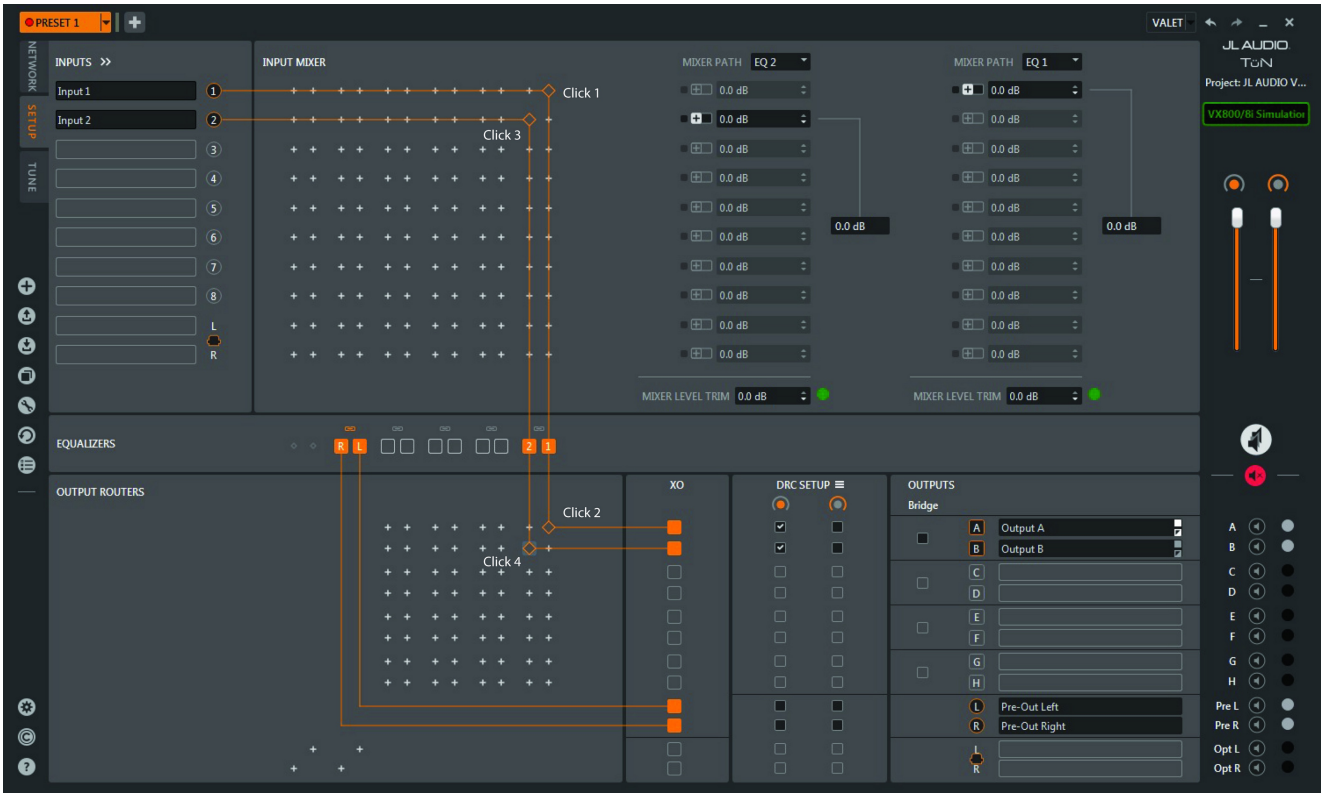

Figure 2

There are now two channels of input with separate EQs, each running to Outputs A & B.

Always remember: Click to connect, Right Click to Delete.

REALLY IMPORTANT: Router, EQ Bank and Mixer configurations exist within each PRESET! This means you can create different Presets within a Project, each with a different Router, EQ and Mixer layout... or you can make them all the same, if you prefer. This flexibility allows you to use the VXi amplifier with multiple sources, for example. It also allows you to create PRESETs that activate or de-activate, or even re-purpose Outputs. You can also compare different input mixing schemes for derived center channels and surround channels. Read the article on Presets for more information.