

How to order your effects

Using signal flow to create a unique electric sound

By Scott Laird

You've just unpacked your first electric violin! How cool. You plug it into your amp and turn up the volume. Great, it sounds like a loud violin! Now, how do you get it to sound unique, like the electric violins you've heard on recordings? The answer is in the effects you add and the order in which you add them. You have just entered into the world of "signal flow."

Signal flow is one of the most important concepts in playing electric instruments. It is the "flow chart" of the signal (or sound) as it travels from your instrument to the amplifier. In order to create a sound that is unique, electric musicians will place effects boxes between their instrument and amplifier, which are connected by cables. Each of these boxes, or "effects," will manipulate the sound of your instrument in some distinct way. The good news is there is no right or wrong order to place the effects, but there are some important considerations when making your decisions.

There are numerous effects to choose from, but they all fall into basic categories:

- Dynamics devices impact volume and can include volume knobs, volume pedals, and compressors.
- EQ devices impact tone and can include tone knobs, graphic equalizers, and parametric equalizers.
- Sweeping filters sound like they're moving and are usually controlled by a foot pedal (for example, a wah-wah).
- Distortion pedals give instruments a crunchy tone.
- Time-based effects double your signal in some way and include delays, chorus, flangers, and others.
- Pitch-altering effects change your pitch in a variety of ways.
- And finally, room effects give the impression that you are performing in some room other than the one you are in (such as a concert hall) and are known as reverb.

Some of these effects may already be found on your electric violin, on your amp, or both. These may include a volume knob (that impacts the gain, or magnitude of the input signal) and a tone control (that impacts the tone quality of your instrument). Some amps are even equipped with such basic effects as distortion or reverb. If so, you'll probably have an easy time making those sound great.

Ordering your Flow

Think of your setup as a flow chart or signal chain. If you just have a violin and an amp, your flow chart will look like this: violin → amp. Everything that leaves the violin impacts what goes into the amp. As you add effects, each one impacts the next. So, if your setup has violin → distortion → wah-wah → amp, the distortion will impact the sound of the wah-wah, and they both impact what goes into the amp.

It's a good idea to learn the sounds of each effects box individually and then put them together for even cooler results. Remember, there is really no right or wrong order for your effects, but here are a few general tips:

Dynamics devices impact your gain and really work best at the front of your signal chain (closest to the instrument). Also, EQ devices shape your tone and work well toward the beginning of the signal chain. Reverb can simulate the acoustics of a room and works best when placed at the end of the signal chain.

A good working order to use for your effects chain is as follows:

1. Dynamics devices
2. EQ devices

3. Distortion
4. Wah-wah
5. Time-based effects
6. Reverb
7. Final volume (the master volume on the amp).

Many electric string players use “multi-effect processors” that have all of these effects in one unit, and the effects will often be automatically placed in this order.

Experiment with these effects to decide the order that works best for you and your desired sound. Give it a try and put your new signal-flow knowledge to good use by finding that unique electric stringed instrument sound that defines you and your music!

Scott D. Laird
Educational Specialist
D’Addario Bowed Strings