



THE PRE EQ PATCH

“WHY IS IT CALLED A VOLUME PEDAL PATCH?”

By Mike Brown

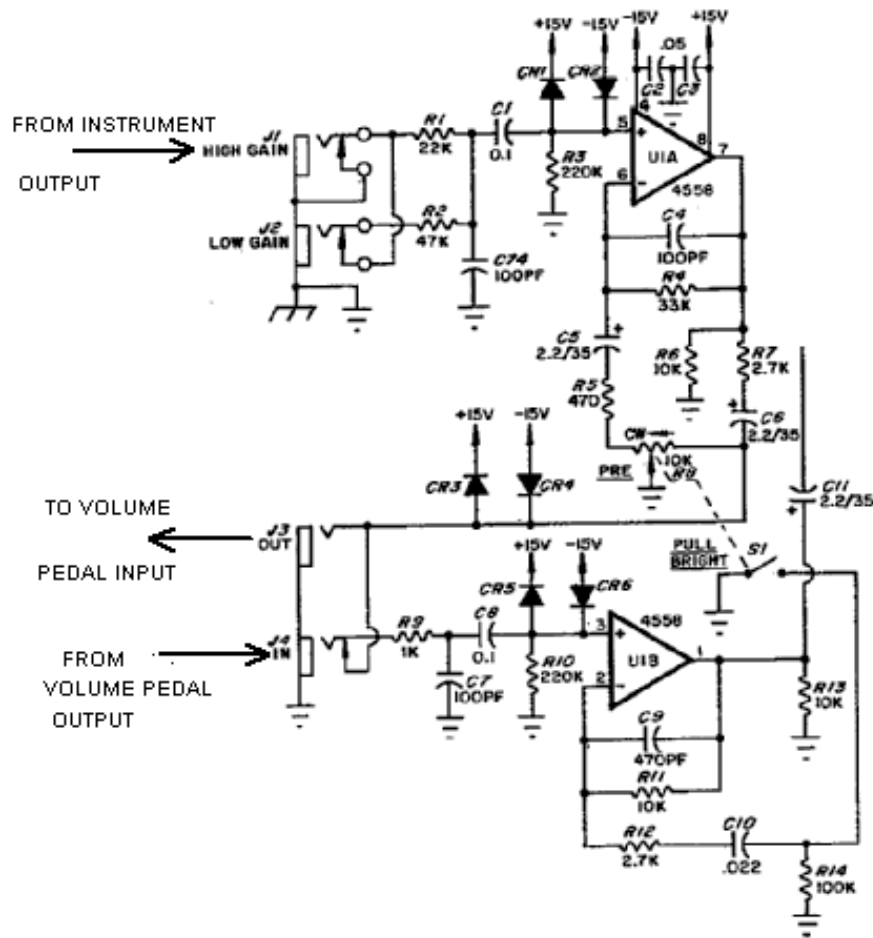
Since Peavey Electronics first introduced the Session®500 steel guitar and fiddle amplifier back in 1980, we have been the only company to offer an interesting solution to the problems that are encountered when using potentiometer based pedals for controlling the volume of the amp. Although our “volume pedal” or “pre eq patch” point has been a standard feature on every steel amp since the Session®500, players may not be aware of this unique method of “inserting” their volume pedal into the circuit on the various models that have been introduced since that time. On the Session®500, this insert point was labeled “PEDAL-IN & OUT”. On the Vegas™ 400 and the Nashville™ 400, it was labeled “PRE EQ PATCH-IN & OUT”. On the Session®400 Limited, this insert point is labeled “PRE EQ PATCH-SEND & RETURN”. On our latest models, the Session®2000 and Nashville™1000, this insert point is labeled “PRE EQ PATCH-SEND & RETURN”. Although they are all labeled with different names, the purpose and results are the same.

A typical volume pedal patch is made between the guitar and the amplifier input. However, doing so could cause the tone of the guitar to change as the pedal is moved up and down with changing volume requirements, because this patch introduces a varying resistance as seen by the guitar pickups. The Peavey® pedal patch allows the user to insert a volume pedal into the active pre-amp circuit, thus increasing the performance of the volume pedal. Because the volume pedal is patched in after the first pre-amp stage, no signal degradation occurs regardless of the pedal volume setting. The volume pedal changes only the volume without affecting the tone or character of the guitar voice.

This is how the circuit works. When an instrument signal is routed through either the high gain or low gain inputs (10db gain difference between the two types), it is routed through a first order high-pass filter that blocks DC into and out of the first operational amplifier (IC chip) for protection. A 20 hertz low pass filter is in place to provide better signal to noise ratio of the circuit. In this first stage of the circuit, we have designed in various electronic component circuits to reduce noise so that it won't be amplified through the remaining signal path. When the audio signal hits the pre gain control potentiometer, the level of the signal that is to be routed through the remainder of the circuit is dependent upon the setting of this control. At this point in the circuit, the signal is routed out of the OUT jack via shielded cable, through the volume pedal and back into the circuit through the IN jack using a second shielded cable. NOTE; When the volume pot is in the fully up position (no sound), the wiper of the pot is sent to ground. When the volume pot

is in the fully down position (sound), the signal is then audible through the circuit). The pedal volume pot acts in the same fashion as the PRE GAIN control on the amplifier. The IN jack is of the “normaling” type, which remains closed until a ¼” plug is inserted for the returned signal. At this point in the circuit, additional noise filtering is applied and a 1.56Mhz. low pass noise filter is employed to shield radio frequencies from entering the circuit. In addition, a high pass filter blocks frequencies below 10 hertz.

At this point in the circuit, a second first order high-pass filter blocks DC current into the second gain stage before signal is routed through the remainder of the preamplifier.



This “pedal patch” is exclusive to Peavey® steel guitar amplifiers and it works! If you have any questions, please contact me toll free in the U.S. at 1-877-732-8391 or by e-mail at mikebrown@peavey.com