Squier Guitar Practice Amp - Champ 15G - Repair

This practice amplifier belongs to my granddaughter and I was using it to test some guitar pedals I built for her. All the control potentiometers had issues and needed to be looked at. This is a 15 Watt solid state amp.

The amp was made by Fender and there seems to be a number of Champ 15's built over the years with different circuitry. Fender also makes a 15 Watt practice amp under their own name called a Fender Frontman 15G. The circuitry is also different from this Champ 15G. The PC board used in this Squier appears to have been used in other models as well as there is unused space available to mount other components, possibly for a second channel and/or other features.

I was able to find a poor copy of the schematic on line for this Champ 15G. I could not find any user manual for this particular amp.

The amp has six control potentiometers. They are Gain 1, Gain 2, master Volume, Treble, Mid and Bass. The circuit uses two dual TL074 op. amps. and a µPC1188H 20 Watt power amplifier module. I was a little puzzled why they would have two gain controls with a single input amp. They call it dual cascading gain controls. It looks like the Gain 2 pot has to do with the control of the intentional distortion circuit that is built into the amp. There are 2 clipping diode (1N4148) in this circuit.

You cannot conveniently get at the pots to spray them with cleaner. Access is by the bottom of the pots. I removed the PC board to get at the pots. It turned out I had to remove the PC board anyway to replace the Gain 1 control. Removing the board isn't a big job. You do not have to de-solder anything. You need to disconnect the speaker and wires going to the fuse. They both use push on connectors. The power transformer also has to be unbolted from the chassis and the knobs have to be removed. All the pots cleaned up ok except for the Gain 1 control. This had to be replaced. I did not know where to get the exact replacement pot or if they are still available. All the pots are of poor quality. I used a pot I had that was not the same but better quality and it worked fine. It did not connect directly to the PC board like the original did. The Gain 1 control is 10 KΩ "B" taper.

I was going to do some in-depth tests on this amp but decided against it. Things get very hot very quickly when you push it. The power transformer is also tiny. I did look at a clean output at 12.5 Watts and some hum was present. I assume it was starting to stress the power supply. I don't know if this hum is

noticeable at this level as I was measuring it across an 8 Ω resistive load. At lower power levels it looked OK.

Replacing one pot and cleaning the rest were all I did to this amp. In my opinion it sounds pretty good when listening at a reasonable level and operating clean through its no name 10 inch speaker. I have no opinion with internal distortion added as I did not try this.

Here is some additional information:

Pots Used In This Amplifier			
Gain 1	B10K	Treble	B50K
Gain 2	B250K	Mid	B10K
Vol	A50K	Bass	B50K

Test Equipment Used

HP 204D Oscillator
HP 400EL AC Voltmeter
HP 3400A True RMS Voltmeter
8Ω Resistive Load
INSTEK Oscilloscope OS-622B

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Home Page www.ve6kq.com