

Disclaimer: 300Guitars.com assumes no responsibility for any accidents occurring as a result of performing this mod.

Wow, THAT'S scary stuff! In addition, the PC board used in this amp is not quite mil-spec, and a lot of heat will lift traces, so you really need to have your soldering chops together. The PC Board is double-sided, and if you work it right, you can do all of your work from the top by reflowing the solder on the component leads, pulling the component legs out one by one with needle-nose pliers while the solder is still molten, and cleaning the holes up with Solder Wick. HINT: cut your Solder Wick on a diagonal to create a point that can reach into the hole to grab the solder on both sides. When reinstalling components, you can solder normally from the top side.

You will need to purchase one each of the following items for this mod:

- 2.7K 1/4-Watt or 1/2-Watt Resistor
- 30K 1/4-Watt or 1/2-Watt Resistor
- 220K 1-Watt Resistor
- .68uF 50V or 100V Polyester Capacitor
- 500pF 500V Silver-Mica Capacitor
- Quality Replacement Speaker ([Jensen](#) Mod 6/15 or [Weber Signature 6](#))
- 12AX7 Tube (any good USA or Russian tube, I used reissue Tung-Sol)
- 6V6 Tube (ditto, I used Electro-Harmonix)

These parts can be easily purchased on-line from any reseller of guitar amp parts. You may also be able to purchase these from your local guitar amp repair tech. Weber speakers are available directly from Weber VST. Mod kits are also available for \$58.00 + shipping from [dBm Pro Audio Services](#). Contact dBm at dbminfo@dbmproaudio.com. The kit from [DbM Pro Audio](#) includes: Three resistors: 220K/1W, 2.7K 1/2W, 30K 1/2W. Two capacitors: .68uF/50V Polyester radial, 500pF/500V Silver-Mica radial. Two tubes: 12AX7WA Sovtek, 6V6EH and One Speaker: [Jensen Mod 6/15](#). Instructions to perform the mods are included.

Here is a list of the mod steps. I will comment on what each step of the mod does:

- 1) Change R2 to 2.7K/.25W
- 2) Change R8 to 220K/1W
- 3) Change C3 to .68/50V polyester



Steps 1, 2, and 3 raise the preamp stage gain and apply a [Marshall](#)-style voicing to the preamp. Step 3, replacing the ubiquitous 22uF cathode cap on the front end, rolls off the bass frequencies and tightens up the amp response. You won't miss these lows, because the 6" speaker cannot deliver them anyway. What you WON'T miss is the Intermodulation Distortion, that "rolling" sound as the bass frequencies compete for power. The reason you don't miss the bass frequencies in a Marshall is do to sheer power and the 4 x 12 cabinet, plus healthy power supply caps, which provide that "thump" attack on the low strings.

4) Change R19 to 30K: R19 is a 15K resistor that sits at the bottom of the fixed tone stack, acting as a fixed midrange control. Doubling the value to 30K gives a nice gain boost and fattens the tone by increasing mids. There are some amps, like the Peavey Classic 20, that use this additional resistance on a BOOST switch, sometimes also called "Fat" or "Thick" (like me).

5) Change C1 to 500pF/500V Silver-Mica: This cap is at the top of the tone stack and controls treble pass. The treble

“control” is fixed at about “3” via two resistors. This is fine. Any more treble and the tone would be too “frazzy”. Replacing this cap shifts the treble corner frequency down an octave to also pass the upper-mids, yielding a nice, biting attack.

6) Remove R7 (2.2K)- This is the negative feedback resistor. Not needed. Dispensing with it makes the amp feel a bit “bouncier” and more lively. Negative feedback is used to control distortion and gain. We want all we can get.

7) Replace the original Chinese tubes with Tung-Sol 12AX7 and E-H 6V6: Chinese tubes are mediocre at best, I don’t care who tests and brands them. The stock tubes are just as bad. You can use ANY brand you want, but I cannot vouch for the results.

😊 Replace the original speaker with a [Jensen](#) Mod 6/15, or Weber Signature Alnico or Ceramic 6: I used the [Jensen](#) Mod 6/15. It improves the upper-bass/low-mid definition and does not sound as harsh as the original.

One cool thing [Fender](#) did was to silk-screen the PCB with component location numbers, so this is a “paint-by-numbers” mod. Here we go:

Start by discharging the filter caps. Turn the unit on, plug in your guitar, turn up the amp, strum the open strings and let them ring while shutting off the amp. When the notes die out, the caps have used their charge.

Remove the rear cover; pull the speaker leads off the speaker. Remove the cable clamp screw holding the speaker cable. Also remove the tubes. Remove the four screws holding the chassis in, and slide it straight back and out of the cabinet.

First, swap the speaker. Four screws hold it in. This is self-explanatory. Locate the board and replace the components. **DOUBLE-CHECK YOUR WORK!** Even as an experienced tech, I do this myself, and I’ve caught myself making mistakes on occasion. **ALWAYS** check your work. Insert the new tubes after you’ve reinserted the chassis into the cabinet. Note that the chassis-mounted part of the tube shield for the 12AX7 might fit tight on some tubes. Just be gentle and treat it like a fair maiden, and your tube (meaning the 12AX7) will eventually slide in. Yes!!! 😊 Just make sure you match up the pin positions first.



Don’t screw everything together yet. Fire up the amp and plug in your guitar. If you get sound out, you are OK. If it is dead, then chances are some of your soldering might not have made it through the double-sided PC board. It happens. Reflow your solder joints and try it again. When all is working, screw everything back together.

Let’s assume everything is golden and it works. Just turn this baby up to “12” (that’s one more than [Spinal Tap](#)) and ROCK! All pickups sound great with this mod, but [PAF-style humbuckers](#) and [P-90’s](#) are a really treat for the ear. My favorite test? Tune to open “G”, get the capo out, and pretend I’m Keith, minus the 40+ years of drug abuse, of course. I also have yet to climb a coconut tree.

Have fun!

[John R. Frondelli](#) is the Technical Services Director at [dBm Pro Audio](#) In New York. He has been a technician for 30 years and has repaired, restored and custom built all types of musical equipment. Part of his client list includes Bob

- [Eliminate Unwanted Feedback From Your Telecaster](#)
- [Fender Custom Color Finishes](#)
- [Gretsch Trestle Bracing](#)
- [What Are Active Pickups?](#)
- [Tendonitis And Guitar Players: A Natural Cure](#)
- [Hand Strength For Guitar Players: Eliminating Hand Fatigue](#)
- [Demystifying the Phase Inverter](#)
- [Basic Guitar Maintenance](#)
- [Resistor Color Codes Explained](#)
- [Capacitor Reference Chart](#)
- [Preamp Tube Gain Factors And Substitution Chart](#)
- [Impedance - Speaker Cabinet Wiring](#)
- [Guitar String Construction – How They’re Made](#)
- [The In’s and Out’s of Tremolo](#)
- [What is RoHS Compliance, and What Does It Mean To Musicians?](#)
- [Gibson Mini-Humbucker vs. Gibson Firebird Pickup](#)
- [DIY: Hot-Rodding The New Fender Champion 600!](#)

• Recent Forum Posts

- [Kathleen Edwards & Colin Cripps - Back To Me](#)
- [Blackface Princeton Reverb](#)
- [Blackstone Appliances mosfet Overdrive](#)
- [Evans Amps](#)
- [Yamaha AES1500 and TV Jones](#)

• Subscribe

Enter your email address:

Subscribe

Delivered by [FeedBurner](#)



Guitar Amplifier Speaker

Huge selection of Guitar Amplifier Speaker items.

[Yahoo.com](#)

Speaker-of-the-Year

Designed For Your Lifestyle. High End Stereos. 30-day, No Risk Trial.

[RoundSound.com](#)

Klipsch Speaker Review

Find Klipsch Speaker Review. Get it Online, Quicker, Easier.

[KlipschSpeakerReview.GizmoCafe](#)

Shop Amplifier Cases

Buy Guitar Amps & Gear for Less. Free shipping on orders over \$99.

[MusiciansFriend.com](#)

Marine Audio Equipment

Boss, JBL, Jensen & Poly-Planar Blowout Prices & Five-Star Service

[www.TurtleMarine.com](#)

Search

• **Archives**

[open all](#) | [close all](#)



[April 2008](#)

(15)



[March 2008](#)

(33)



[February 2008](#)

(28)