

## TWEAKING A SILVERTONE 1484 BY JEFF BOBER

Hi Jeff,

The first decent amp I owned was a Silvertone Twin-Twelve 1484 I bought from my guitar teacher in 1967 for \$100. At some point I traded it, but I've missed it. Now I'm in my second childhood, so I just got one that appears to have been made in 1965. It has all the original components and needs a cap job and general maintenance. The reverb and tremolo work fairly well, but could be stronger. Do you have any suggestions for making this amp all it can be? I just want the amp to be as robust as I can make it, so I can crank it up and enjoy the sound. I know the 1965 Jensens won't take a lot of abuse, so I would play through another cabinet with relatively new speakers when cranking it up.

Are there any different values you'd suggest for the 100  $\mu\text{F}$  150 VDC filter caps or any of the other components? In addition to the filter caps, there is a 5-10-20  $\mu\text{F}$  450 VDC can cap. I can't find a source anywhere that has those values. Do you know of one? Or if not, what available can cap would you suggest? Also, are there any mods you'd suggest?

I've been working on amps for about three years now, and I'm at the point where I can do basic amp troubleshooting, cap jobs, etc. If I'm not comfortable attempting anything you suggest, I'll take it to an experienced amp tech. Thanks!

—Dave Ellis

Hi Dave,  
Thanks for writing. I actually owned a 1484 head years ago and wish I still had it. Just the fact that you could turn the volume control off and turn the reverb control up to get nothing but cavernous, sci-fi reverb made it cooler than most other amps. Another cool fact: The 1484 is almost identical to the higher-powered 1485 favored by Jack White. The 1485 has four 6L6 output tubes, double the power, and four *more* speakers! Yes, the 1485 had six 10" speakers. But hey, those two vintage 12" Jensens in your amp are pretty sweet, too.

You mentioned the amp needs a cap job. In 1484s, the filter capacitors in the initial section of the power supply are crucial. This power supply employs a very nontraditional voltage-doubler type of circuit. In fact, it employs *two* voltage-doubler circuits running off two separate secondary taps of the mains transformer. These circuits are placed in series and the voltages add to develop the 480 VDC plate voltage stated on the schematic. If these capacitors are dried out and underperforming, the proper voltages will not develop, resulting in low plate voltage

and low output. Replacing the four 100  $\mu\text{F}$  150V caps in the voltage-doubler circuit generally improves performance.

If you can source a slightly higher capacitance or higher voltage, feel free to do so. While the original capacitors are mounted in an area that initially may have been a tight squeeze, newer capacitors are physically smaller so you might be able to install higher-value capacitors in the same space. Substantially larger capacitance values, however, may adversely affect the amp's tone and response, so don't go overboard.

Regarding the 5-10-20 "Twist Lock" can cap in the power supply: Sorry, I don't know where to find any. Through an extensive search, you may find a New Old Stock (NOS) version somewhere, but I'd strongly recommend properly re-forming the cap. Even then, its performance may be suspect. Instead, I'd recommend installing discrete 5, 10, and 20  $\mu\text{F}$  450V caps. (If you can't find a 5  $\mu\text{F}$  450V cap, an 8  $\mu\text{F}$  would work fine.)

Remove the wires from each terminal of the can cap and connect them to the positive side of the appropriate replacement caps. Don't forget to

connect any applicable resistors between the appropriate capacitors. Connect all the negative leads to ground (it's generally best to keep ground connections as close to the original capacitor as possible, but space doesn't always allow for this). If there's room to install a terminal strip for all these cap connections, that would be great, but I doubt there will be. Just remember to do neat work, keep leads as short as possible, insulate as necessary, and find a way to anchor the caps to something rigid via wire ties, silicone glue, or some other appropriate method. Also, while you're there, you should replace the 100  $\mu\text{F}$  50V cap in the bias supply. If this cap is bad or weak, it will cause additional hum in the output stage.

The 1484's output transformer is a bit small, so I'd be careful not to run the amp at high volumes for extended periods. That said, there is a simple mod that will give you more gain, as well as two different-sounding channels. R22 and R23 on the schematic are the cathode resistors for the second 12AX7 in the circuit. Parallel a 0.47 capacitor across R22 and a 2.2  $\mu\text{F}$  capacitor across R23 (watch the polarity—positive side toward

the tube). This will increase gain in both channels, with channel 1 being brighter and channel 2 being more full bodied.

Here's another quick mod. The 1484's standby switch is different than most: It does not disable the high voltage—it simply cancels the signal going to the output tubes. Try removing the switch and replacing it with a 1 Meg linear pot. Connect the two wires that were attached to the switch to the pot, one on the wiper and one on the CCW leg. Turning the pot all the way down will yield the same result as the original standby switch, while turning it up will control the amount of signal going to the output tubes.



Back in the day, if the Silvertone 1484 wasn't enough, you could crank up its big brother—the mighty 1485. This beast sported six Jensen 10" speakers and pumped out 120 watts of vintage tube tone. Photo courtesy of Fargen Amplification

Hopefully, the capacitor mod will give you more gain in the front end so you don't have to push the output stage so hard. That said, there's nothing like the sound of output tubes distorting, so if you need to crank it, go ahead. Luckily Mercury Magnetics makes replacement transformers for these amps, too.

There you go. I'll bet Jack White doesn't have these mods! PG



JEFF BOBER, one of the godfathers of the low-wattage amp revolution, co-founded and was the principal designer for Buddha Amplification. Jeff launched EAST Amplification in 2010, and he can be reached at pgamp-man@gmail.com.