Starting Vibroclone II... "Super-Vibe"

My first Vibroclone was a 1x15 blackface era AB763 Vibroverb Clone, and that one came out great. I followed such a high degree of attention to detail that I think I not only captured the tone of a real Vibroverb, but I also made an amp that (to the average amp hound), would pass all but the closest of visual inspections. (The serial number and date codes are the only telltale signs that it's not the real deal. It's completely built to the bone stock specs of a real 1x15 Vibroverb.

For my next Vibroclone II project, I'm going for a different kind of Vibroverb Clone, the brownface 6G16 Vibroverb. Additionally I'm also going to throw in enough changes to make this one "my own" custom amp design. The base chassis I'm starting with is a 40 watt 76 Super Reverb, (the last year before the silverface Super Reverb got the high wattage transformers). The cabinet being used is a "real" blackface super reverb cabinet equipped with the chassis's four 1976 10" CTS Alnico speakers.

Basically, the end product is going to be a Brown 6G16 Vibroverb pushing sound through 4x10 speakers (instead of the original 2x10 configuration). This is going to be an amp that never existed in Leo's inventory. And at least for now, I'm going to dub it the **"Super-Vibe"**...

"Super-Vibe" Update...

Well, this one has been slow going mostly because I haven't been able to really dedicate a weekend to sit down and just really dig into it for 16-20 hours. It's all been 20 minutes here, 15 minutes there...

But I've removed the original Super Reverb circuit card and all the plastic silverface wiring. I took all the components out of the Super Reverb circuit card for reuse (except for caps, those get tossed). I'll probably take this board and re-populate/rewire it at a later time to AB763 spec. I'm wondering how small of a chassis I could slip it into, but that's a winter time brain teaser...

I ended up getting Forbon circuit card material from Jason Lollar and G-10 material from Mike over at Tonezoneonline.com , neither of which were really the same as the original Fender circuit card material. The Forbon was the right stuff, but it was thicker than the original circuit card material and the G-10 is a shinier expoxy based fiberboard.

Since Mike was willing to transfer my original 6G16 design layout to the G-10 and mount the eyelets with a one day turn around, I ended up using that just because it was more convenient. I'll probably use the Forbon in my next project(s) since I snagged enough from Jason for two complete AB763 sized cards (and bias circuit cards).

As of now, I've wired the entire board with solid core #20 cloth over plastic wiring from radiodaze.com for the safety of plastic insulation and the asthetic looks of the cloth covering.

I'm going with 715P Orange drops for the tone caps and sprague atoms for the cathode bypass caps throughout the amp. The only exception being channel one. Since I never use the normal channel in two channel amps, I decided to voice it differently. There instead of the .1-.047 Vibroverb spec combination, I'm using .022-.022 Mallory 150's. The Mallorys should give me a little more brown sound and the twin .022's add to the vintage tone by voicing the channel to the spec of the tweed bassman tone stack.

As I said, in the initial idea for this amp, it's going to have the brown vibroverb circuit, but it's also going to have enough twists in the design to make it my own custom setup.

Originally, I was going to go with the non-mid control setup on this amp, just like I did on the black vibroverb I did. But I changed my mind so that I wouldn't need to go buy another faceplate, since this one already is going to sport a blackface super reverb faceplate. And I'm also going to keep the bright switches for the same reason (they're already there and the faceplate it cut for them). I may or may not use the channel #1 bright switch for a different use.

For those that aren't aware, the brown vibroverb layout is kind of an oddball as fender designs go. It's actually the only amp I've ever seen that mounts the tone caps horizontally on the circuit card. I'm not sure why, but it seems to work out ok with Orange Drops. But using .1 Mallory's or Blue Paktron's would never work in this layout, they would just be physically too long to fit.

I'm going with .1 .047 and 250pf in the trem channel. In the normal channel I want to use a .02 .02 combination for some variation between the two. And after using the **Duncan Amps Tonestack Calculator**, it looks like if you go with the .022 .022 500pf instead of the .022 .022 250pf, it flattens out the blackface style mid scoop to more of a Marshall/Tweed Fender profile. So I think I'll try that first and see how I like it.

Well, I'm still at it... I've got everything topside re-wired up in full blackface dress. The only difference is that I used white cloth covered wire where it normally would be yellow.

The Radiodaze price on cloth covered wire made it hard to justify paying one of the many price gougers out there .75 a foot. (They just don't carry yellow yet).

Anyway... I'm ready to start on the doghouse now. Does anyone know off the top of their head if the 6G16 power supply is any different from the standard AB763 doghouse?

From the topside, the only differences are the ground layouts. But I've got that all diagramed out from my previous BF vibroverb project.

WOW! BIG DIFFERENCE!

I didn't bother to look until just now...

Looks like my existing 20mfd/525v's and 70mfd/350v's gotta go.

Now I've got to find out what the closest thing available to the original set of five 16mfd/450v's that were used in the original. Then I have to see if I have a couple 10k-1w's laying around.

If I swap out the components here, am I going to be ok driving this with the super reverb PT's voltage levels?

NOTE: Found that Mouser lists 16uF./475v. Vishay/Sprague Atoms as Cat. #75-TVA1803.1 Same diameter, but shorter than the 20/500. Good for the doghouse.

There are two pots that I'll no longer need with the 6G16 design. The bias pot (since the 6G16 is cathode biased) and the hum balance pot (left over from the silverface era).

I want to save the pots for other projects, so I don't want to just leave them in there.

NOTE: Keystone makes metal plugs that can be used to fill the missing pot holes and they are sold by Mouser. Page 449 on the latest catalog. They call them “hole plugs”.

In my BF Vibroverb clone I went the no mid control route. But in this one I'm going to keep the mid controls and bright switches.

So I’m just leaving everything as is and hooking it up the same way as they are connected in an AB763 Super Reverb layout, including all the same resistor/cap values. I’m also leaving the bright switches in place.

The only thing that appears to need to be changed is the trem intensity pot value 50k to 250k.

As far as I know, there isn't a source on the planet for 350k 70k tap pots yet. Ted W "is" having a run made and I already have an order in with him for them when they finally arrive. (Originally they were supposed to be available back in like July, but apparently his original deal with CTS fell through).

In the mean time, mine's gonna have the mid control and the presence switches in place and working. Once I get the other pots I may swap them out just to see what difference they make. (I've heard the change described as making the treble control "livlier", but I'm not exactly sure what that translates to in actual tonal difference...?)

This has been a VERY part time project, but it's finally coming down to the wire. (No pun intended).

All I have left to do is the heater wiring. Then I'll be able to pop the tubes in, bias, and give it a test run.

It's always the simple stuff that bites me in the @ss...

I just could NOT figure out why the second power tube wouldn't light up. Voltages were there on the pins INSIDE THE CHASSIS...

I added the twin 100 ohm grounds at the pilot light, just in case that was my problem, but nothing changed. So out of frustration I flicked the offending tube with my finger and gave it a nice little expletive... And imagine my suprise when it glowed for a second, and then faded out again...

I sat there shocked for a second, and then I flicked it again... Same result... So I grabbed it and moved it from side to side only to watch it glow while I was holding it and watch it fade out as soon as I let go...

Loose pins..., that's all it was. I tightened them up and like magic, I actually have two power tubes glowing now! Arggggggggggg!

Ok things are MUCH better now, but I'm not completely fixed yet. I have the rectifier, power tubes, phase inverter, and the tremolo tube lighting up now. But the Reverb send, reverb return, V2, and V1 are still dark.

I'm thinking this won't be too hard to figure out now.

If you look at the 6G16 Layout over on SchematicHeaven.com now (in the Fender Section), I've added an expanded view of the circuit card and components as a 2nd page to that particular pdf document.

On the 3rd page, I also added a layout drawing of the doghouse.
(My 6G16 clone is still down at the moment...).

Well, I'm one BIG step closer to finishing the Super-Vibe.

Turns out I had cold solder joints on two of my heater wire connections. 1 on the reverb return tube and 1 on channel #2's preamp tube. Both of which were invisible to the naked eye. After I resolved both of those, whoo doggies! I got sound!

So I removed my bench speaker and popped it into the super reverb cabinet running a quad of CTS alnicos, to give it a test ride and WOW! It sounds remarkably like my bassman although I haven't A/B'ed them yet. The tone is really warm, compressed, and tweedy sounding.

Now like I said, it's not completely fixed yet. Right now the tremolo doesn't appear to be working. When I switch it on, I'm not getting any change to the signal at all. The tubes don't fluctuate in intensity and I'm not hearing any difference.

I took it over to Mike Kropotkin's place to see if he could double check my work and it turns out that I was having the same problem Tom had with his. (A leftover 4.7k resistor from the old AB763 design that needed to be a 470k).

Trem is now working brilliantly

So my 6G16 "Super-vibe" using a silverface superreverb chassis and OT is now pushing its brown era tone through a 4x10 of CTS alnico speakers. And it lives in a blackface super reverb cabinet that I got for a song off

of eBay. Currently it's using a RI BF SR faceplate.

Sweet !