

Eden WT800 Service Notes

8/19/13

Eden E-WT800-C S/N 6809ED027 E-TW800C No Output Start 1:15PM Stop 6:15PM

Pulled the top cover off, gave initial inspection, then removed both the left and right channel output modules, to see if there's any failed silicon on them. Both were ok, so installed the modules again. While I had the modules removed, I powered up the chassis, found the Output Limit LED's lit, but didn't investigate, thinking it's related to there being no modules installed.

While putting the modules back in, I found of the power supply PCB assy's # 8-32 Pem Standoff's have pulled out from the chassis, and protruding out of the chassis. Looking to see if I couldn't tighten those up by drawing them in with their mounting screws, I found the two IC regulators that mount towards the center of the preamp board had it's TO220 15V regulator blown in half, mechanical failure, would be my diagnosis, from those two front Pem Standoff's.

On the preamp board, I also found an audio IC JRC J2048 blown in half. I don't know how many more bad IC's there are, but it wouldn't surprise me to find more.

Now in order to repair this.....I'm going to need to remove those two mounting screws, then probably remove the power supply board itself, which will be a total pain in the ass, and replace these broken standoff's with an alternative hardware to function as the hold-down method.

Pulling the power amp modules back out, as I will need space for disassembly.

I believe I labeled all the transformer wires that were plugged into the power supply PCB. By the time I finally had the board disconnected, I found several more wires that I didn't label....meaning they weren't plugged in....or, if they were plugged in (or supposed to be plugged in), I've no idea where they go!!!

The failed # 8-32 spacer is just a tad over 0.400"....the distance is critical, as the 7815T & 7915T voltage regulators are screwed down to the floor of the PCB, and the leads are bent and soldered in at the top corner of the board. It's stressing the parts leads....one of them had failed mechanically. I started with the same height, made up with # 6-32 x 0.875" fillister head screws, centered with # 6 nylon shoulder screws, metal flat washer, then a # 6-32 x 0.250" standoff, followed by some washers. I had to remove one of the washers in order for the leads of the regulators to reach all the way thru the PCB from the chassis floor.

One of the two rear facing PS board mtg screws had a Pem Standoff that is loose, but it wasn't to the extent of the other ones that had outright failed up front. So, I have the board mechanically stable again. Then, re-installed the transformer wiring.

On the +/- 15V system, I powered it up with the Tektronix PS503A feeding the input to the regulators. I found two more IC's that were reading negative on their outputs, but.....even with the IC removed, I still see similar voltage.

The markings on the chip is 72D and J024B. So, I was wrong about what the chips are. 72D may be TL072. Checking the schematics for the preamp board. Yup.....everything is TL072's. U9B, which was the one that had blown in half, has nearly fully negative voltage on it's output. The voltages at Pins 5 & 6 are near 0V, so I'm not getting a reason yet for this.

The preamp schematic I have for this shows this is AC coupled on both the inputs and outputs. It's the line amp stage following the Master Volume control. So, is the feedback resistor open? There is no feedback resistor on U9B, and the schematic I have doesn't reflect what I have on the bench.

Also, I am getting no voltage to the regulators. What I need now, is another of these Eden amps that is working.....same version, so I can see what isn't connected! Right now, I don't have a clue, though I'd guess I don't have the appropriate transformer connections to give me the low voltage bipolar supplies.

I found the low voltage AC secondary winding w/ center tap, and the connections they need to plug into on the power supply board. THEY WERE NOT CONNECTED when I took this apart.! There's also another wire that's jumpered, where the short jumper isn't connected anywhere. I think I need to see how this is fully wired up. But, for the moment, I have output happening again.

This has been shooting in the dark, for a great deal of the time.

8/20/13

Eden E-WT800-C S/N 6809ED027 E-TW800C No Output Start: 12:30PM
Stop 1:45PM

Meanwhile, I need to check across the street for an identical version of the Eden WT800 bass amp, to verify the connections and the couple IC's that may or may not be correct. I looked closer, and found that last disconnected wire was supposed to go to the XLR direct output, and it's associated with the GND/Float switch. So, all the wires have been identified.

Connected to speakers, both in Stereo and Bridge Mono. I thought Bridge was 1+/2+, but I didn't get any output. Rang out the circuit, and found it was 1+/1-, and used that relay to connect the second channel to the 1- terminal. Everything worked in Bridge Mono as well. Now checking to get the Fan to switch on, as it never did come on while I was playing thru the amp. So, put it into Bridge Mono, 8 ohm load, and ran burst pink noise into it, seeing around 3A AC Mains levels under drive. That was enough to close one or both of the thermal switches and turn the fan on. Let it burn in while I put the top cover back on. I never did find the missing Pem Nut from the left side for the top cover screw.

So, total labor hours to bill on this are: 6-1/4 hrs labor invested. I'll bill for 4.5 hrs plus the two voltage regulators and the power supply PCB mounting hardware.

9/19/13

Eden W-800-C Bass Amp AuntieM, No Output Start 11:30AM Stop 12PM

After multiple powerings of the Eden amp without any issues, I plugged in the speaker and bass, set for Bridged Mono, and found there's a nasty lingering distortion. Switched back to Stereo, checked both channels, and still hear the same thing, so powered down, and will swap out the tube, and see what that does. I didn't hear this the other day when I was burst testing the amp, but....I was using pink noise, while I only hear this distortion on the decay of notes played.

Changing the input tube cured that. Sounds ok now. Put it back together, finished the invoice, emailed it to AuntieM.

4/18/14

Eden WT-800 Asset # 3061 'Scratchy sounding' Start 1:10PM Stop 2:40PM

I exercised all the connectors in the unit, as well as the IC sockets & all the pots. Pulled both amp modules out to inspect, and they looked ok top and bottom. Powered the amp up, listened to it first with burst pink noise in Stereo mode, then with bass, also in Stereo mode with the Ampeg 4 ohm speaker attached, then put it into Bridge Mono mode, same speaker, and it rocks. I can never get the G string on this Carvin bass to respond right, but it has decent bottom and mid on the other 3 strings. It sounds good enough to my ears, so I'll take this one back now, after I put it back together, replacing the top cover # 4 screws with # 6 self-tapping FHMS's. I didn't stop to re-drill the top cover.

Took the amp back to Ryan, after writing up the report.

Eden WT-800 Asset # 3064 'Scratchy sounding' Start 2:50PM Stop 3:20PM

Pulled the top cover off...I recognize my mechanical work on this one, having tapped the top chassis flanges for \$ 6-32 & C'SK'ng the cover for the # 6 FHMS heads. Moved the amp over to the repair bench for check-out.

I looked at my service notes from 9/21/09 on this amp, when it had little or no output. I had the amp completely apart back then, made repairs on both amp modules's fractured solder joints (6-pin connectors), cut away anodizing for the controls to get grounded...Eden made feeble attempt to do that, I completed the task. I had the signal cutting in and out by flexing the chassis, and after a lot of misc. PCB servicing, that problem ceased, and became solid. I had the power supply board out as well, though all was ok there....they never bothered with cleaning the flux off their boards! I had also standardized on chassis hardware on this one, and had composed the hardware list & changes needed.

Stopped to go listen to problem on the Eden I just serviced. Input jack noise, and bass breaking up badly. I didn't hear that over here, and don't know why, but....wasn't there a ground lug or lead that had to get seated between the shield before. I forgot about

that, and maybe that's what's happening? Gotta look. I also need to pull the preamp board out to have a surgical look at this.

Eden WT-800 Asset # 3061 'Scratchy sounding' Start 3:30PM Stop 4:30PM

After I took this amp back apart and looked close...sure enough....there is a film capacitor, with one lead connected to the insulated ground terminal of the input jack, and the other lead hanging loose, with the thought that by putting it between the insulated M6 shield, the insulated jack and the insulated anodized front panel, the lead will magically connect to chassis ground!! I went further by not remembering it was there, so it wasn't clamped between anything, and just loosely touching the M6 shield, making a lot of racket!

Luckily, by pulling the shield off, taking my scrapers and cutting away the anodizing in the area where the M6 shield would make contact, I prepared a grounded surface for the front panel, and also scraped away the coating on the M6 shield, tried to get the lead between the shield and the panel, but could only get it between the insulated jack body and the shield. I also scraped away the coating from under the head of the rear screw that takes the shield to chassis ground.

The net result when I put it all back together, the gain control, the enhance control and the input jack by way of the cap all make good solid contact to ground, and the noise we heard earlier is gone completely.

I'll have to address all this on the rest of the Eden's when they get back. I had explained the backwards philosophy of joining painted or anodized surfaces together, and believing that because they are metal clamping them tightly together makes good ground continuity. HAH!!

So, now back to the second Eden. It may just be the same issue with this amp.

Eden WT-800 Asset # 3064 'Scratchy sounding' Start 4:30PM Stop 5:20PM

I already have the shield removed, so need to remove insulation from the shield, as well as from the anodized panel around the jack & gain control, and around the screw.

Took care of all that, so I put the shield back in, got the cap lead placed between the jack body and the shield, tightened everything down, checked it with the ohmmeter, all looks good. Finished reseating connectors, then plugged it in to give a listen. The volume control was a bit scratchy...had to exercise it a lot to work out the contact noise, but it sounds ok after doing so. Listened to it in Stereo and Bridge Mono.

Put the cover back into place, wrote up the paperwork, and took the unit back to the Guitar Dept.

4/22/14

Eden WT-800 Asset # 3064 'Scratchy sounding' Start 1PM Stop 2:15PM

Pulled the amp back apart, removed the Rt Ch amp module, touched up some solder joints on the emitter resistors. Pulled up the power supply PCB assembly to look at the connections from the amp, and all looked ok there. The wiring between the Binding Posts and the phone jack (which is what Ryan used) was hand-wiring, all solid. I remounted that module, and moved to the Left Ch module. Touched up some solder joints on emitter resistors. On the floor of the chassis, a pair of 5W bathtube resistors that had once been glued to the floor have come undone, and the previous fix by someone else, who didn't bother to scrape away old glue, came undone as well.

I scraped away all the old glue from the resistors and the chassis, applied a new gob of

RTV, but really need a C-clamp to hold it down in place. Don't have that, so for the moment, I have my Wiha Bladed screwdriver wedged between the resistors and the bottom of the preamp board to force it down while I see if I can track Carlos down and borrow a clamp from him. Couldn't find Carlos...went as far as the warehouse, found a C-Clamp and another pair of clamps, but none were deep enough to reach the resistor location.

So, had to resort to using the spring-loaded Bogen clamp I have here, with a short length of molding to serve as a clamping arm, and set that into place. So, until the glue dries tomorrow, and I see if it will hold, I can't go any further on that amp.

4/23/14

I checked the glue-up on the pair of resistors I had clamped to the chassis floor of the Eden. They feel secure (for now) as a result of them being clamped while setting up, so I'll be able to re-assemble the amp and see what Ryan was hearing. I suppose I should try and inject some Caig DeOxit into the Gain control...requires removing the shield again to do that.

Eden WT-800 Asset # 3604 Amp cuts out...Gain Control Start 2:30PM Stop 4:20PM

Pulled the clamp off that I had used yesterday to glue the resistors to the chassis floor. Put the left ch heat sink assembly back into place, connected it up, powered up & plugged the bass into it, starting with the Left Ch (right side facing front). No output until I turned the gain control up enough, then it cut in. Same noisy shit I was hearing yesterday, so I'll try the quick fix first, seeing if I can seep enough DeOxit into the pot. If that don't do it, I gotta take the preamp board out.

That worked on the Gain control. I had more gritty problems on the Balance control, but fortunately that pot is with lead wires, open side up, so I was able to seep in DeOxit and exercise it.

The Sweep EQ controls....the LF control was acting up a lot, distorting sometimes. I hope I can solve it with DeOxit, and not have to rip the board out. I do have to take the upper Freq Board off to get at it though. Which means LED alignment problems on the way back in.

Got that cured with just DeOxit being seeped into the controls. Thought I was done, until I heard the Left Ch crap out, after the Right Ch was solid. I messed with the phone jack connection, exercising the connection until the distortion stopped. Contact corrosion. Pulled the amp back over to the bench, cleaned the contacts first with alcohol & round scrub brush, followed by DeOxit, scrubbing away at the contacts. Now checking the results.

First note distorted....exercised the jack again, and it was gone. Weird. I'm sending it back, as I don't find it happening with the Banana jacks.....and I don't have any replacement phone jacks for this at present, unless I order some or rob some from the last WT-800 chassis that's been sitting on the shelf for the last couple years.

Returned the amp to inventory.

5/22/14

Eden WT-800 Bass Amp Asset # 3207 'Bad Sound' Start 4:20PM Stop 4:50PM

Pulled top cover off for beginners. Removed the two power amp modules for inspection. Removed the shield around the input stage, so I can sand the M6 steel shield for solid grounding to the bypass cap lead folded up from below the PCB, that must make contact with this shield. There is good grounding on the inside of the anodized panel from previous efforts..factory perhaps?

I'll re-seat the IC's in this area before putting the shield back into place. Got that part done. Re-seated all the IC's on the preamp board.

I need to re-solder the 6-pin headers on both power amp modules, as well as some solder joints on the output stage. Both PCB's are uncleaned...flux everywhere.

5/23/14

Eden WT-800 Bass Amp Asset # 3207 'Bad Sound' Start 10:15AM

Clean-up & solder repairs on the two power amp modules. Got both modules cleaned, and solder repairs made. I lifted up the power supply PCB assembly, to see if there's any fractures on it....all in good shape. I resealed all the IC's on the preamp board. The power resistors are firmly glued to the chassis floor on that one circuit (hate that method!).

Now, I need to clean and exercise the rear panel output phone jacks, as that was a problem on the last WT-800 Amp for some stupid reason. No trouble with the Dual Banana jacks, which was how I was hooking up, and missed the distortion / sound problems the jacks were imposing.

Cleaned the jacks with alcohol & Caig DeOxit. I still have yet to power this amp up and work thru the controls, and see what I need to deal with on the preamp. Also, what's the bias on this? On the WT800C amp module (3 output pair), they call for 7mV per string between the upper & lower emitters. I'll take a look on this one.

Powering up the Eden to see what I've got in bias, offset, etc. Bias was 7mV on both sides on one pair, other pair was around half-that. Exercised the controls, cleaned all the rear panel phone jacks with alcohol & Caig. DeOxit. Checked the output jacks while playing bass, disconnecting & re-connecting the jacks, jiggling the jacks without hearing what I heard on the previous WT-800.

No issues with the input jack that I heard, hammering on the bass and trying to get that to screw up. Both channels work, all the controls are quiet. Sounds good in stereo, and awesome in Bridge Mono. While I had the DMM across the output stage pair (for DC bias), in Stereo, that voltage change wasn't much while playing, but in Bridge Mono, lots of potential....and the AC Mains current goes up considerably (each amp driving 2 ohms in that mode. Really needs to be an 8-ohm load for Bridge. It got the fan to go into hi speed, let it cool, it dropped down to idle (not running), so the fan temp control function is working.

Put the cover back on. Left side middle bottom screw missing a pem nut. I didn't pull it back apart to put a clip nut into place.

8/25/14

Eden WT-800 Bass Amp AuntieM # E-WT800C Crackling Sounds Start 1:15PM
Stop 4:30PM

Checking database. Replaced IC regulators & hardware issues 8/20/13 then no output from a bad AC Mains Triac 9/19/13. No history of crackling noises on this amp, but plenty with C/S's amps.

Pulling cover to see what's up. Powered up, after first looking things over. With the Master Volume turned down all the way, there's substantial buzz coming thru, which goes away as I turn the volume up. I shouldn't be hearing this at all. Where it's coming from???? The Right Ch has DC or noise on the pot, which ISN'T on the Left Ch. I can't exercise it out, so it may be DC, or bad solder joints.

Adjusting the AC Mains does affect the hum pickup with the pot down, so there's also loop area that I'm dealing with. That could well be with the shielded cables and the long green wires that I assume are shields.

Powered down, and re-seating all the connectors for starters. Reseating everything I could unplug, made no difference.

Gotta pull the front panel PCB's out to see what's up.

The PCB is all LEAD-FREE Solder. The Desoldering Iron IS USELESS!!! The I/O header pins are all cold solder joints, the Master Volume control was installed using 18" of solder, and I destroyed solder pads removing it. Now have to patch it back together. I applied Caig DeOxit in the process, but...I don't know if that was the fault. I suspect not.

Getting this re-built so every I/O is solid may totally destroy the board!

I got out a 4-pin female mating connector, and then tackled all the 4mm spaced 0.062" sq pin headers, de-soldering and re-soldered the lot of them across the rear of the PCB.

Tomorrow, I'll apply +/- 15VDC to the board and see if I have DC on the Master Volume pot or not.

8/26/14

Eden WT-800 Bass Amp AuntieM # E-WT800C Crackling Sounds Start 10AM

Powered up the PCB after checking schematic to find where the Master Volume output appears. I don't see the noise on the pot anymore, but with the board open on the bench, I had lots of hum pickup. Time to re-install the board to see if anything has changed..

Nothing has changed. The Right Channel side of the Master Volume pot is still screwed up. I need to change that pot...only what do I have for a replacement? There is an Eden WT800 in here, not functional (or at least not restored), that doesn't have the pot soldered to the board. Now, I went thru hell getting that pot pulled to clean, then re-installed and patched back together, so this is gonna be a bitch this time around!

And, the hum is still there big-time.

Swapping IC's following the pot made no difference...problem remains on the Right Ch side of the pot.

I pulled the other WT800 amp apart, lifted out the preamp board, managed to get the Master Volume pot unsoldered from that board...encountered Lead-Free solder again, but managed to feed Leaded solder onto the joints and de-soldered with the PACE. It's a Dual Gang 100KB...LINEAR taper pot.. Is that right? Physically looks the same (I think) as I had removed yesterday.

So, now pulling the WT800C apart again. I was able to get the bad pot out without further destroying the PCB. I WAS NOT able to de-solder the two caps with the PACE. Had to once again resort to using solder wick. The pot in the new board was NOT a 100k Linear. It was a 100k C-taper.....reverse Log. Same as the FREQ Crossover pot, AND the Sweep EQ pots. I had sometime back bought some from Eden, found the stash, and installed one of those, so the exercise in removing the 100k Linear from the older unit was....well, an exercise in futility. I didn't know.

I put the new pot in, re-installed the boards, control knobs, and powered it up. That cured the noise on Ch B. But, I discovered a new problem that I've never seen before.

The MUTE function, pulling out the Gain control....if that pot is cranked up all the way, the amp goes beserk! But, with speaker attached, it's tame....just doesn't mute if the Gain is cranked full CW. I couldn't find anything in the schematics to explain it....didn't find the mute switch for starters. Maybe I'll post something about this, but for now, the noise is gone that it came in here for, so time to write it up.

4/6/15

Eden WT-800 AuntieM Asset # E-WT800C Cuts in/out Start 9:45AM Stop 2:30PM

Set the amp with 1 octave 100Hz pink noise driving the 4 ohm Ampeg speaker , average AC Mains current around 4.5 Amp/420W @ 120VAC. Noisy, of course, rattling everything in the room during this test.

After a few minutes, I heard some pops from the speaker, and then the output level kicked up a lot higher, with resulting much higher current draw from the AC Mains. So, something is changing in Bridge Mono mode. Not sure from where. With the volume control at full CCW, in Bridge Mode, I'm hearing popping noise, but not hearing anything from either channel (still set for Bridge). This may take some time to sort out, whatever it is.

I found the Right Ch heat sink (left side, facing front) had bad solder connections on the power supply/output connector. Repaired those. Inspected the Left/Bridge Output PCB assy, all looked ok there. Put the modules back in, ran it for a while under resistive load. I finally saw the output level once again suddenly increase by 6dB....pulling loads of current, of course. I don't now what is causing that, but at least I know now it's NOT from the output connector I just repaired. So, those two things are not directly related. Still have to find this othe problem, which is probably on the preamp PCB assy. So, I have to remove that board to go hunting.

After removing the preamp boards, I didn't find any issues with any of the soldering. I reseated all of the IC's repeatedly, and re-installed the boards. Powered it back up, and ran it first in Stereo, then in Bridge Mono, no load, and finally back under 4 ohm load. This time out, after over half an hour running, I never saw the amp shift into the higher output mode, which I had been seeing after running for some time, not knowing what caused it or where. With an average current draw of around 5A, it never thermal cycled. So, I think I'll put this back together, and give one last check with the bass.

Plugged in with the bass, 4 ohm bridge mono. Sounds solid, though I wasn't pushing it as hard as I was with 100Hz 1 oct pink noise, or under resistive drive 1/3 oct 100Hz pink. Since taking the preamp board out, reseating all the IC's and the harness connections, it hasn't shifted into that higher output level, so...I think that problem is gone. That and the problems found on the Right Ch power amp modules' header, I think we're ok now. Writing up the invoice, then emailed to Martyn.

7/20/15

Eden WT-800b AuntieM Blows Fuses Start 4PM Stop 4:20PM

Parts came in, so have the amp module on the bench, after pulling the top cover back off.

One of the problems with this module is the location of the mounting screws for the TIP 41C/42C driver transistors. The leads of the TO-220 parts are NOT long enough to pass thru the PCB, with where the PCB is mounted. Unless, I have the PCB set down too low. That IS the case....there's no mechanical mounting brackets, so the PCB

position is entirely set by the device terminals...and hence the flexing of that board can break the connections! I need to look closer at this. Also looking at using 3 pair of outputs, since this module failed using two pair of MJL21193/94 outputs.

7/21/15

Eden WT-800b AuntieM Blows Fuses Start 11:15AM

Continuing where I left off....re-positioning the PCB to get the TIP 41C/42C drivers leads to pass thru the PCB, while not over-stressing the leads on the power xstrs. What assurance do I have there, for that matter?

The PCB layout doesn't accommodate 3 TO-3P packages....no room for installing a third pair of output xstrs! If I had ordered MJW21193 & MJW21194's, then I could have installed them! Why didn't I check the mechanics of this before? But, prior to this module layout, they were using two pair of M200 Sanken Xstrs, and I don't recall having to replace many of those over the years.

So, I loosened up the mounting screws, and pushed the pcb up enough to have sufficient lead length come thru the driver Xstr solder pads, and soldered everything into place. So, time for PCB clean-up and testing.

Neither of the power amp module's bias pots are working!! The module I just repaired has 6mV across the pair of emitter resistors, and 550mV from base to base on the output stage...that seems reasonable.

The other module has 1.06V base to base, and 30mV across the emitter resistors...though when I first powered it up, it was like 12mV. Turning the 20-turn trim pots doesn't change ANYTHING!!

So, there's more problems present. How can I get the bias circuits to work??

Got to pull the amp modules again! After getting the modules out of the chassis, I went to measure the bias pots. I got no reading. Removed them, which was another exercise in non-conduction of heat with the de-soldering iron tip!!! Never allow anything to work when required!

Eventually, I was able to remove the trim pots. Open Ckt at 200k DMM setting. Changed to 2M, and got near-1M pot readings! Looked at the JAN code on them...105. 105 = 1M!! What fool put 1M bias trim pots in series with the 1k resistor between base & emitter?? No wonder the output stage is turning on somewhat hard....the bias xstr is turning on totally turned off!! I don't have any trim pots on hand....used to have some trim pots here, but I've no idea where that bag of multi-turn pots is now.

I searched thru all the logical choice boxes for where that bag of 200 ohm thru 10k multiturn trim pots would be, but no luck. NO Trimpots on hand, period!

So, that leaves manual hand-picked resistors to bias this thing up. What's in circuit should be 3.9k C-B resistor and 1k in series with the trim pot B-E. So, first, I need to see what 0 ohms does for R-Trim.

Whoops.! The pot I was diddling was OFFET Adjust...that DOES use a 1M multi-turn trim pot, so put them back into place. The real Trim pot is in the center of the board, front edge!! Stupid me!

I got the Left Ch (working) module reset to 0V offset & 7mV bias. Got the repaired module biased to 7mV, with very little range variation. But, the DC offset is 400mV!!!, and I can't get it to trim down!!! So, I'm still nowhere!

Stop 2:30PM Start 3:15PM Stop 5PM

Replaced Q7,m Q8, C10, C11, still having unequal voltage drops in collector current of Q7 & Q8. Finally found D3 shorted, and D50 open...both being 1N4734 5.6V zeners. Had those on hand, replaced them, now maybe it will balance and work.

Physics has resumed working in the shop.....thank you LORD for re-directing my attention

I had just enough time to power the amp back up, now bias adjusts correctly, setting it to 7mA, and DC Offset adjusts correctly. I left before getting signal passing thru the amp, so that's next.

7/22/15

Eden WT-800b AuntieM Blows Fuses Start 12PM Stop 1PM

Both channels are working, driving load just fine. Switched to Bridge Mono, running fine there so far. Letting it burn in to see that the fan turns on. I had installed a T5A fuse in place of the T10A fuse that was blown. No fuse rating on the product, so I do need to verify that's the value called for. Thought it was T8A

Looked it up in their manual...T10A is what's called out for USA voltages.

I bumped the power output a bit more, into 8 ohm resistive load, finally got the fan to turn on. Let run for a while that way, then turned signal drive off, let it cool down. I need to remove the repaired amp module to replace the two thermal switch wires that I melted during installation of parts. Then, will check one last time before buttoning it up.

4/04/16

Eden WT 800 AuntieM # E-WT800C Changing output levels Start 12:20PM Stop 1:30PM

Resuming the work on the Preamp PCB assy. I checked continuity on a couple of the PCB traces having solder patches made, and they're ok with board flexing. De-soldered and re-soldered the tube socket, and all the connector header connections, just because they all looked like cold solder joints. Cleaned up the board, so now it's time to re-install the PCB and see if it works now.

I re-installed the PCB's & panel knobs. Connected up to speaker, burst pink noise input. I now have full bandwidth, and no hint of drop-outs now. So, was the problem

just the bass pot and gain pot, where I made repairs, or also IDC connections. The placement of the IDC connections wasn't a bad move, for sure, as I now have var more reliable connectivity, base on what I see of the IDC connector. So, time to put the top cover back on, and move to the other Eden amp.

I only billed for 4 hrs labor on this, as I still had issues after changing out the harness connections.

Eden WT 800 AuntieM # E-WT800A Intermittent levels, pwr spikes Start 2PM
Stop 6PM

Pulling chassis off. This is an older WT-800, binding posts, earlier amp modules.. Problem stated to be with Right Ch. I'll check all connections, regardless. I did retain enough connectors to swap out some of the wiring harness connections.

The Right Ch module had solder fractures on the 6-pin harness connector heder, so repaired that. The IDC connector on the power supply board had its' connections tightly folded coming out of it, so I replaced that connector with the Moles Trifurcon Crimp connector, and also the rear panel connector plugged into P1.

As is usual, the two series-connected 390 ohm/5W power supply dropping connectors have seriously over-heated the PCB where the bodies of the four resistors are sitting directly on the board.....it's scorched, and probably hve broken down the adhesive of the foil I don't think I have anything to replace them with, without ordering new parts, and spacing them off the board..

I thought there were complaint about the volume pot, but it only says intermitten Ch B output (volume). No doubt what I just corrected. So, now looking for any issues on the preamp PCB in general

I have four 1.5k 5W MO5S metal oxide resistors, so I pulled the series 390's, yielding 780 ohms nominal, with 750 ohm 10W...probably close enough. Better mechanically, as I'e folded the leads so they are stood well abaoe the board in the air, though both resistor bodies are on contact with each other. Plenty of clearance between the two resistor banks.

Using the Fluke IR probe, I'm seeing surface temperature on those resistors at around 150 deg C. $(70V-15.6V) \text{ sq'd} / 1500 \text{ ohms} = 1.5W \text{ (ea)}$. The derating curve on the MO3 3W @ 70 deg C is fine, and at 150 deg C, drate to 50%, so I'm ok....they are veryhot, but looks like within the upper end of the safe zone. It had to be better than it was, getting the heat off the PCB

Then, looking at the pot connections and jack connections, I found numerous solder fractures, as well as the power input connections to the power supply dropping resistors, so it was well worth removing the front panel board. Now, putting it back into place, and then I'll look at the Left Ch module.

Pulled the Left Ch amp module out, also found solder fractures on the IO connector header...repaired those. Removed some lead trimmings that got stuck in the thermal

grease. Then, put the module back into place, Connected the amp up to the supplies, checked DC offset and bias, all nominal.

Both channels work fine, slam it around mechanically, flex the chassis (cover still off, and it's all stable. So, this can go back together. I replaced the headphone end 6-pin connector with a Trifurcon crimp connector, then dressed the leads with tie-wraps, so nothing sits on the power supply dropping resistors that run the preamp bipolar supplies. Both seem ok, head output is nominal. I'll leave it on for a while to be sure.

Finished the Eden WT-800 invoice (with both amps on it), then sent that with email to Martyn.

10/12/16

Eden WT-800-b Auntie M Broken Bass control Start 11AM Stop 11:30AM

I pulled the amp out of the road case, set on the test bench, removed the top cover to inspect the damage. The Bass Control knob was still there. The knob had taken a hit, perhaps caused from the absence of foam in the road case, or even being bumped putting it INTO the case. The road case foam needs replacing or attention.

Anyway, the knob would only turn part way. I removed the knob, found the bushing nut loose, so tightened it. 6mm spline shaft. I forced a piece of tie wrap material into the slot of the shaft, then, finding where the hop was, gently tapped on the shaft with hammer and drive pin until I got full rotation, I thought. Put the knob back on, and found it still wasn't rotating all the way, so found again where the hop was, set it at that point, and tapped onto the knob with the hammer and drive pin, and now have full smooth rotation on the knob. Re-positioned the knob as it should be.

Powered up the amp, ran burst pink noise thru it to see if the control was working. The Cut portion was hard to hear with the noise, so I put 50Hz sine into the amp, zero'd the knob and the meter, turned the bass control CCW, and the level went down 14dB, and in boost, the same amount. So, the pot survived the damage & repair.

All else seems to work. Put the top cover back on, amp back into the road case.

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5/09/17

Eden WT 800 Asset # 003061 Very Low/Static Output Start: 12:50PM Stop: 1:30PM
Labor Est Inv # 1065

I removed the top cover for inspection. Powered up, AC mains current/wattage was nominal. Checked for any DC level on the outputs, and that was nominal (less than 10mVDC). The Crossover was engaged, it being in Biamp mode. The Balance control and the crossover switch was a little bit staticy in noise.....I exercised the controls until that went away. Now set back to Wideband, and both channels are normal gain. The Gain control knob was not installed right...I had to remove it and re-set it so it's two extremes (CCW and CW) were like all the rest. I'm not hearing any issues with the amp. Return to inventory.

7/6/17

Eden WT 800 Auntie M.e-WT-800-a Left Output NG, Low Output level Start: 2:20PM
Stop: 4:20PM 2 hrs labor.

I removed the top cover, then removed the Left Ch power amp module, inspected it for any bad semiconductors, resistors or solder joints. None found, returned it to the chassis. Removed the Right Ch power amp module, did the same, found all ok, and restored it to the chassis.

Unplugged and re-seated all the accessible IC's. Re-seated what PCB connectors I could get off the headers. Put the amp back onto the bench to check for functionality. DMM's connected to the two outputs to see that all comes up at nominal DC offset. All ok there. AC Mains power/current draw looks nominal...

After messing with the Bi-Amp Mode switch, which was very grungy, I seeped some Caig De-Oxit solution into it and continued exercising the switch. That cleaned it up. Both Left and Right Channels are now working normal, all the EQ functions are working. Works fine in Bridge Mono as well. I have it burning in set up in Bridge Mono for the time being. I think it was that Bi-Amp switch causing the problem. I've exercised the output speaker jacks. I haven't yet exercised the Insert Send/Return jacks. I need to do that yet.

The Insert send/return for the Left Ch works fine. The Insert Return for the Right Ch doesn't want to interrupt, as I can patch in the cable, unplug the send to the Right jack, and still get signal. Not sure why. Everything is working normal again, apart from that.

Putting the cover back on. Its' missing one of the # 4-40 FHMS's. Wrote up the invoice, emailed that to Martyn.

8/22/17

Eden WT 800-c Bass Amp. Right Ch not working, no output. Start: 11:20AM
Stop: 1:30PM 2 hrs labor

I pulled the top cover, and see this is the amp that had intermittent harness problems, where I had replaced all the IDC connectors with crimp terminals and their associated shells. The Right Ch module has two pair of MJL21193/21194 power transistors, in place of the 3 pair of Sanken parts.

Now, I need to see what the status of that heat sink amp is. The Male-Female Stud-Standoffs that mount the heat sink to the chassis floor have both snapped off. Now, the heat sink IS drilled & tapped in two more pair of holes, so I can replace these. Sort of. I doubt if I have mating stud-standoffs for it. The size is not standard. 0.410" standoff. What do I have in # 8-32?

The # 8-32 stud-standoffs are aluminum. The studs snapped off, leaving a hole at the top of each standoff. I was able to drive a # 8-32 tap thru the standoff, cut thread all the way thru. Then, using the chassis mtg screws at one end, I selected a pair of long \$ 8-32 screws, put a crimp across the threads where it would be inside the standoff, and drove it home to jam it into the standoff. Then, I cut off the head, leaving enough screw shank to serve as fresh 0.410" long stud-standoffs. Now, I need to mark the new holes, as the heat sink is drilled and tapped in 3/8" ctrs for these top and bottom screws. I think I can punch the holes with the Whitney Punch. Scribing the chassis now to try that.

Now I have new mounting holes and restored standoffs to mount the heat sink assembly with. Back to the first task. Did the breakage of those standoffs cause any harm to the module...such as break the leads of the power transistors? The semiconductors all seem to be intact, the amp module powers up, offset trim works, bias works. It was running 5mV between the upper and lower emitters. I don't recall what the bias level is set to. Checking that now. They set it to 7mV at those locations.

AC Mains current/wattage level is 360mA/30W @ 120V. Power supply levels are +/- 82VDC, and +/- 15.2VDC on the preamp supplies. So, the mains fuse is installed correctly. There are in-line fuses on the output PCB, and they were intact. Still, I need to check to verify I have output level from the connectors.

The amp was set in Bi-Amp Mode, with the Frequency control set all the way CCW. Switched out of that mode, and both channels work the same. Works fine In Bridge Mono mode. Letting it run a little while in Bridge/4 ohms, to see that the fan turns on.

The main problem was the broken standoffs on the Right Ch.

2/09/18

Eden WT-800-b Auntie M Noisy Gain control Start: 12:20PM Stop: 12:50PM 1/2 hr labor

Pulled the top cover, powered up. Power draw is nominal. Both channels work, Gain control has static noise. First, the control wasn't firmly mounted to the chassis, so I tightened that up. Then, I sprayed Caig DeOxit 5 into the pot with the crooked nozzle, exercised the control. That cured that pot. The Master Volume also had some volume track issues, and sprayed into it as best I could. Now both channels are well behaved. Exercised & listened to all the controls, both channels, all working nominal.

8/22/18

Eden WT-800 Asset # 3207 No Output Start: 12:25PM Stop: 2:30PM
Est Inv # 1235

Binding post version. Pulling top cover for inspection. Nothing obvious. Connected 2 channels of HP 3467A DCV to the Left & Right outputs, ran the variac up slowly, looking for fault current. Came up fine. 0.45A/37W @ 120VAC. DC offset seems to be wandering, nominal 35mV on the Left, 8mV on the right, but are wandering a good deal, all well below +/- 100mV. Not sure why.

Connecting analyzer, no load, connecting input signal to see if I get any output. Amp was in Bridge Mono mode. And in Bi-Amp mode. No wonder there wasn't any output!

Initially, not seeing it WAS in Bi-Amp mode, checking the Left Ch (right Ch side binding posts viewed from the front), I wasn't getting any LF response, then suddenly when I cranked the LF Sweep EQ, I got response, then it went ceased, making me think I had intermittent behavior. All was ok once I switched to Dual Mono from Bi-Amp mode. Worked as expected in Bridge Mono, as far as outputs into the analyzer/scope with Pink Noise. I wrote it up, walked it and the Aguilar DB751 Est Invoices to Jimbo's office. No more office copier, as it's now been moved to the other building. I suggested I could email the forms to him, which he liked. So, I'll send these two over to his email address, and when I get to it, the Expenses Invoices.

OK, now to see what this sounds like...I'll close my door since that's making noise. I'm hearing low level noise on both channels, no signal applied, Master Volume CCW. Where is the input on this module? Looking at a damaged module for reference. The MPS A42's and A92's are double-diff pair in parallel. Input is following the input cap C2 2.2uF, junction of it, R3 39k & R4 5.1k. Then, following that are a pair of J112 muting JFET's, separated by a 2.7k resistor. I found the parts on the board, checked the DC levels on the Amp side of things. The DC levels at each JFET was stable, not fluctuating. I finally shut it down, discharged the supplies, then removed/re-installed the 6-pin I/O connector to the amp module a few times, exercising/wiping the contacts. After that, the DC levels remain stable, and I'm not hearing low level fluctuation noise.

Putting the cover back on, as this seems to be ok again. I found two # 8-32 PHMS missing on the bottom panel. My first attempt, using SEMS having split locks was too tall, then unable to unthread one, I had to remove the top cover and use a 1/4" Open

End Wrench to hold the standoff that was being spun around by the screw. Replaced those with some SEMS having ITL washers, and that solved the missing hardware problem.

12/02/18

Eden WT-800 Asset # 3897 Bad Input Jack Start: 2PM Stop:3:45PM
Est Inv # 1289

Pulling the front PCB assemblies off to get at the broken jack. The threaded bushing broke clean off the jack. Wonder if it could be glued back on with JB Weld (for later use, of course).

I've replaced the input jack, but what I had to use didn't have long enough threaded bushing. I had to use a different nut, and alter the front mounting a bit, though I have it installed. I'll try gluing the original part back together when I get a chance. Now, powering up the amp to see if I was successful or not.

I did at least change desoldering tips to 0.060ID, and the tool works just fine again, so this past week's efforts has been fruitful.

Everything is working, audio-wise. Running it in Bridge Mono now, to see if the fan will kick on. I changed to 4 ohm resistive load instead of the speaker, which kicked up the AC mains current draw to 4-5 Amps running. Fan then kicked on, so all is working. I shut it down, in order to deal with the missing heat sink mounting screw on the front right bottom. I had previously replaced the broken # 8 male-female stud/standoff, using a nut, a # 8 screw shank, and a 5/16" # 8 standoff. I had to cut the screw shaft of a black # 8-32 x 5/8" PHMS down to size, filed the end so it would thread into the standoff, then added a split-lock washer, drove it home. So, now all is mechanically secure.

Eden WT-800 Asset # 3064 Prev Maint last svc'd 4/23/14 Start: 3:45PM Stop:4:30PM
Est Inv # 1292

Pulling top cover off to assess the mechanical issues first. The power transformer mounting bolt was just loose, tightened up just fine without issues. Most of the mounting hardware was tight. I did have to dig out the accumulated crud in the Philips head pattern in order to remove the top cover. It powered up just fine, so I connected the burst pink noise generator & speaker, and went thru all of the controls, both channels in dual mono, and then in bridge mono. All of the controls were fine. Had to re-install the gain control, as it was not aligned properly, and the Crossover knob was pushed on too hard, so it didn't turn easily. All functions work, amp sounds fine in both dual mono and Bridge Mono. Changed from speaker to dummy load, 4 ohms, in order to heat it up and verify the fan circuit works. It does, so all is working fine here. Put the amp back together, and set it aside.

8/28/19

Eden WT 800 Asset # 3064 'Stereo Phone Jack? Start: 11:30AM Stop: 1:15PM
Est Inv # 1442

The Stereo Phone Jack bushing has been broken off, need to replace this Cliff Jack. I don't know what I have, though possibly the Patch Panel jacks can work there. Pulling the top cover off, then removing the front panel PCB's to get at the broken TRS jack.

I lucked out. While the form factor on the patch panel jack boards weren't identical, the spacing, terminal height relative to bottom of the jacks were the same, lead spacing the same, so I was able to remove the old jack and install a replacement TRS jack. Getting the LED's on both the lower and upper boards to realign during re-assembly was the usual PITA. There were NO 7mm flat washers under the heads of the mtg nuts, so I added those.

Now, having first powered up the amp monitoring both output power amps' DC levels, everything came up nominal. Now, checking bias on the two power amps. The Left Ch module looks ok, while the right channel module looks a bit low. Letting the amp warm up before I adjust it. Reset bias on both channels. Plugged in the speaker, to give a listen. At first, it sounded like I had a bad preamp tube, and installed a new one. Had to exercise the Gain control a lot to get the signal quiet, and also had to back off the mounting nut torque on the input jack, as plugging in with it fully tight was binding. Went thru all the functions, and everything is working (though I didn't check Bi-Amp mode. Plugged in the bass, to see if I could get the limiter to work, which then worked ok.

Eden WT-800 Asset # 3897 'Lots of Crackling' Start: 1:15PM Stop: 2:15PM
Est Inv # 1443

Pulling top cover for starters. Rear panel Escutcheon bent on right rear upper corner, straightened, though both left and right panel ends are no longer flush/bonded to chassis.

Powered up ok, DC offset levels ok, both less than +/-25mVDC. Bias is low, so waiting for the power amps to warm up before resetting bias levels. OK, bias has been reset. The Left Ch module's bias pot had to be exercised a bit so it would settle to the desired level.

OK, on to the crackling issue. I've had this problem with the input jack's cap ground lead to chassis in the past. This amp, like the previous one, has the bent shield around the input stage. In Bi-Amp mode, I wasn't getting the LF amp (Rt Ch), so had to exercise the BiAmp Switch for a good while until I had stable function in both positions. Xover worked fine. After plugging in the bass, I had to inject spray into the Gain control to tame the static noise in that control. Also tightened up the knurled round nut used to lock that input jack down. Went thru all the controls, everything works. Only static noise I was finding was from the gain control and the input jack, and tamed both after tightening the jack nut.

Amp sounds fine. Put the cover back on, set aside.

Eden WT-800 Asset # 3061 Crackles a lot. Start: 2:15PM Stop: 4:30PM
Est Inv # 1444

Amp is in rack mount 2U road case, removing to bench. One of the rack ear mtg screws is missing (#10-32 x 1/2" PHMS). Rt Ch heat sink mtg screw, top side is broken

off (#8-32 x 1/2" FHMS). Removed top cover, connected both output channels to DMM to monitor DC output level while powering up, long with bias. Both channels bias level is quite low, needing to warm up so I can reset them. DC offset levels appear to be wandering a lot, not staying stable. I don't see any AC Mains current fluctuation, and the bias level isn't wandering. Not sure why I'm reading that. Checking the reading of these two HP 3467A channels with shorting plugs. Zero'd the two channels, then watched. Instrument remains stable, reading 0.0000V. Re-connected the two amp channels, and, the readings are real.....they are wandering; nothing greater than +/- 25mV. Just odd....I'll have to fire up the scope/analyzer to have a look at the residual noise on the two channels.

I had high ripple on the outputs. When I tried to deal with the tip/ground contact of the input jack, I broke the jack, and had to pull the preamp PCB out to replace that jack, which, of course, was a major PITA. I now have it back together, and just powered it back up. Now, I do NOT have that high ripple pattern.

Plugged the speaker into the outputs, both working, then Bridge Mono, working. I've run out of time to complete this, but, sonically, it's now working fine, and the hum is gone, no crackles.

8/29/19

Eden WT-800 Asset # 3061 Crackles a lot. Start: 10:30AM Stop: 11AM
Est Inv # 1444

Powering up, now that I believe I've found all the problems. Checked out with bass, all working fine. Left it switched in Bridge Mono mode. Put top cover back on, added missing cover screws, replaced rack mount screws. Upper right rack rail stripped, won't allow tightening.

I'm now just over 20hrs labor for August, and have the work on the Mesa Lone Star plus the two Marshall JCM 900's to add. I need more work from C/S to add to August' labor! Thankfully I got some decent hours/income via AuntieM this month.

The two Reverb tanks from Antique just came in (11:15AM). Checked across the street, and NOTHING there. Waited for the Burbank Bus, and NO BUS (Sonya holed up someplace playing games again!). I called the office at Ontario St, and, sure enough package delivered to the WRONG address again!

I called the Guitar Dept to advise the Eden and Ampeg amps are ready, while waiting for the reverb tanks for the two Marshall amps to be dropped off. Brandon will continue pulling gear from the list, so he'll send more gear over in a little while. Excellent, assuming that happens.

Eden WT-800-c Auntie M Oscillates? Start: 11AM Stop:12:30PM Start: 1:15PM

The message on the case states the amp has to warm up for about 10 minutes, then there will be a high pitch signal that goes to the cabinet tweeter. The amp was set in Dual Mono (not Bridge nor Bi-Amp mode). The Right Ch module has MJL21193/MJL21194 power xstrs (2 pair), while the Left Ch module has 3 pairs of

Toshiba 2SA1492/2SC386 parts. The Right Ch module may need to be compensated....will have to check it at high current output, though the message seems to indicate this occurs on its' own. At the moment, I have no load.

The bias is low on the Left Ch, haven't checked the Right Ch yet. DC offset is ok...both less than 10mV. I trimmed both channels to 0V, so now the varying offset is much lower. Also set the bias on both channels to 7.5mV. I have the speaker connected, along with the analyzer/scope to it, waiting for this high pitch signal to appear. Thus far, nothing.

Still nothing unusual, so, disconnecting speaker, attaching it to the dummy load, and will drive the amps to full tilt to look for trouble signs (oscillation).

Under resistive loading, I did find a tiny bit of oscillation on the back half of the positive peak on the Rt Ch module. I also found with 4 ohm load, I lost the positive half of the waveform briefly, not at the 0-crossing, but above it. I've never seen that before. Also, when driven into clip, the waveform shifts shape a bit, and, on the Rt Ch module, the negative half peak loses its shape coming to the peak. The Left Ch module also shifts when driven into clip, but differently than that of the Right Ch module. So, something isn't happy with the two pair of MJL21193/21194 outputs. They are slower parts. The HT supply connection to the collectors of the drivers is odd. Fed from 6.8k resistors, which have 5.6V/1W zeners to the output buss, bypassed by 1000uF/10V caps, also with a 1N4148 diode across them. No backlash diodes like traditionally seen rail to buss, back-biased. Does that just limit the voltage to the collectors 5.6V less than the rails under full output swing? That may be where I see this funny clipping behavior. The Eden is the only amp I've seen this method applied.

Now, just HOW do I go digging into this behavior? I don't have any 2SA1492/2SC3856 xstrs to load the Right Ch up with, to make it like the Left Ch. And, WHAT would have caused that brief loss of positive waveform that I saw? There's NO current limiting circuit in this amp. This also has TO-220 parts in place of the 2N3440/2N5415 voltage gain stage xstrs, with heat sinks screwed on.

Eden WT-800-c Auntie M Oscillates? Start: 11AM Stop:12:30PM Start: 1:15PM

I'll pull the Right Ch module for inspection, for starters. I see a lot of damage to the power supply header, where I had to patch up the circuits to the header pins. Getting Pin 1 V- all the way across the board is by way of a number of via's from that one pin.

I wonder what the current is thru the voltage gain stage? The replacement xstrs for the original 2N3440/2N5415 are MJE 340/350's. There is still enough circuit pads left for using the smaller power xstrs, such as the 2SA1492/2SC3856, or, for that matter, MJL21193/21194's. Would this circuit benefit from having more current thru the voltage gain stage (decreasing the 100 ohm emitter resistors)? As well as decreasing the emitter resistors of the two driver xstrs, which is flowing thru the first output stage, rather than taking them directly to the output buss.

There's a number of circuit peculiarities in this amp. It was this same channel that failed hard on WT800-b earlier this month. It almost makes me want to recall that amp, and put the two Left Ch modules together in one amp, and the two Right Ch modules together in the other amp.

What would replacement amp modules cost? \$300 each thru Full Compass Systems!
No thank you!

10/16/19

Eden WT-800 Asset # 3207 Broken Input Jack Start: 2:30PM Stop: 4:30PM
Est Inv # 1470

Pulling rack mount ears & top cover off. Then, I have to extract the lower preamp PCB from the chassis in order to get at the broken input jack. Fun fun fun.

The middle front/rear #4-40 FHMS top cover screws have stripped, just spin in their holes, and refuse to leave the chassis flange. I can't get the top cover off!! I've been working at that cover for half an hour with no solution! The screws just spin, and applying tension from prying up the cover from the sides just locks up the screw, making it unable to turn. I have my Erem Tip Cutters #94 along with X-acto knife blade trying to pry it up, or grip the screw head and twist it out, but nothing is working. This top cover will render the amplifier inoperable. The only solution I see now is to grind the four screw heads off with the Foredom & Carbide burrs.

I've succeeded in removing the top cover, having ground off the screw heads, but.....what's left of the screws are still stuck in the threads, and I can't pull/twist them out, thus far. Using the Erem Tip Cutters as a gripping tool to pull/twist, trying to engage the thread, but, it appears to be a useless battle. Sure like having that Foredom grinder. What's the solution here? It seems like I need a special clamp that can apply centered thrust from below, while being able to grip what's left of the shank/head from above the threaded hole. I can't think of any tool I own that does that.

I was able to clamp a 1/2" square aluminum bar to the underside of the flange, holding the screw stuck in the threaded hole in place, then grind it flush. Used a broken Erem cutter to grip the underside of the screw shaft and unthreaded it. Then, re-tapped the holes for #4-40 again. Now, the back side is more complicated. The fan is in the way, the bridge rectifier and the heat sink are in the way. What a complicated mess this turned out to be!

Removed the heat sink, then the bridge, changed to a 1/4" square aluminum bar, clamped it across the span between the fan and the end of the rear panel flange with my machinist clamps. Then, went and ground the top side of the screws down flush with the flange at both holes. Remove the bar and clamps, and finished by removing the left-over screws with my broken Erem flush cutters type 778E. Still getting use out of a quality tool, even though I snapped off upper half of one side of the cutters! Then, ran the #4-40 tap thru the holes, and re-mounted the bridge and amp module.

Now, I can proceed ahead, as though I just removed the top cover!

11/18/19

Eden WT-800 Asset # 3207 Broken Input Jack Start: 11:30AM Stop: 1:15PM
Est Inv # 1470

Now pulling the front panel PCB's up and out of the chassis, enough to replace the broken input jack. Tedious operation, particularly when trying to re-install the upper EQ board!

I removed a TRS jack from one of the patch bay modules in the bone yard, and got it mounted. After finally getting the upper EQ PCB's LED's to align (only took 10 min this time), everything works. Put it back together, added the necessary washers to the rack ears. Put the amp back into the rack mount case, only to find the left side Rack Rail's mtg threaded holes are totally stripped out, needing a new 2U rack rail to be bought and installed. I don't have any here, so left note on the front cover, and set it aside, ready to go out.....seems they have somebody over at the other building who can do that sort of work. I'll do it, but it will cost them more.