

TOM, W2ILA

My TS-930S is an early generation with 1982 date codes on components. The power supply had failed at least once as evidenced by the web FET mod to the PA. A glitch took something out on my PA in April '16 and I was glad to find the W3AFC compendium.

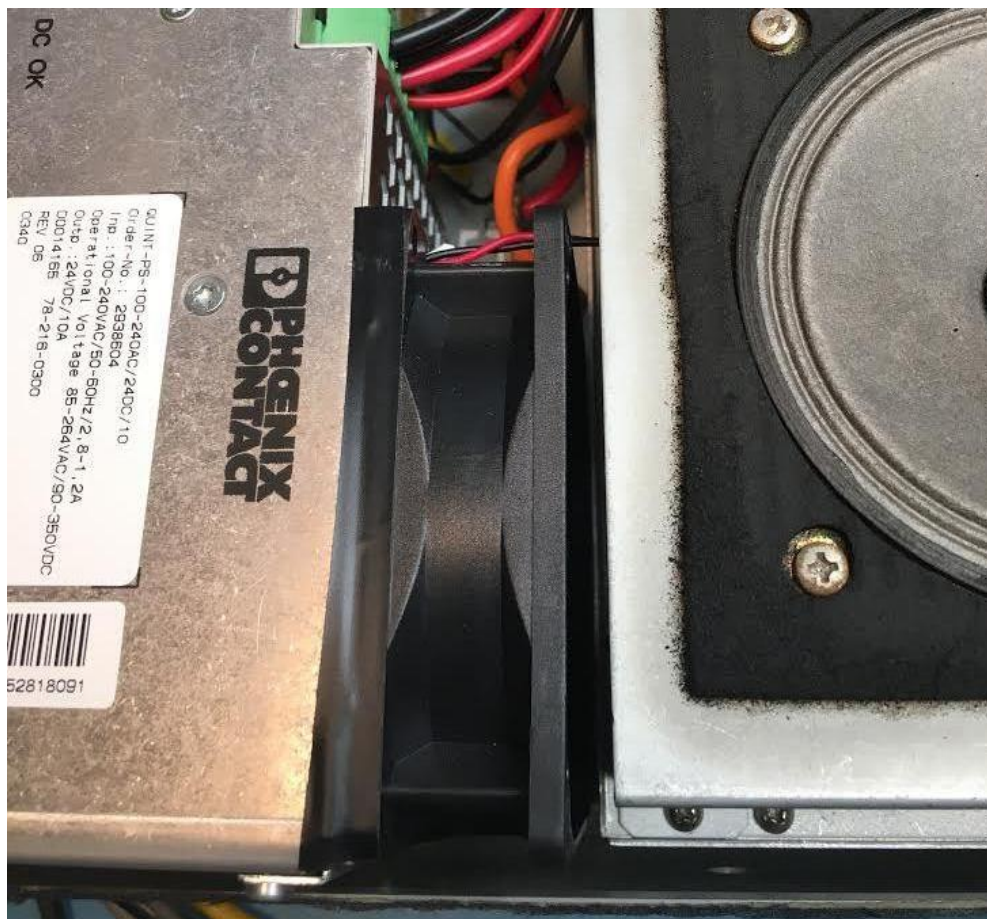
My Phoenix installation was uneventful using the guidelines of already-successful transformations. I did have an AC voltage selector switch and power-on relay but this was all removed and replaced with a suitable relay and proper fuse wiring. Since the extent of the glitch damage was unknown I went with the AVR board modifications and a timely find of an inexpensive, unmodified PA brought it all together. The set came alive and after adjustment of the bias, idling current and output limit it went back on duty.

One tweak has been done since: the cooling fans. The original power supply fan was noisy and since I listen 99% of the time and transmit 1% having air blowing over the PA was unnecessary. The fan noise was too much for my shack.

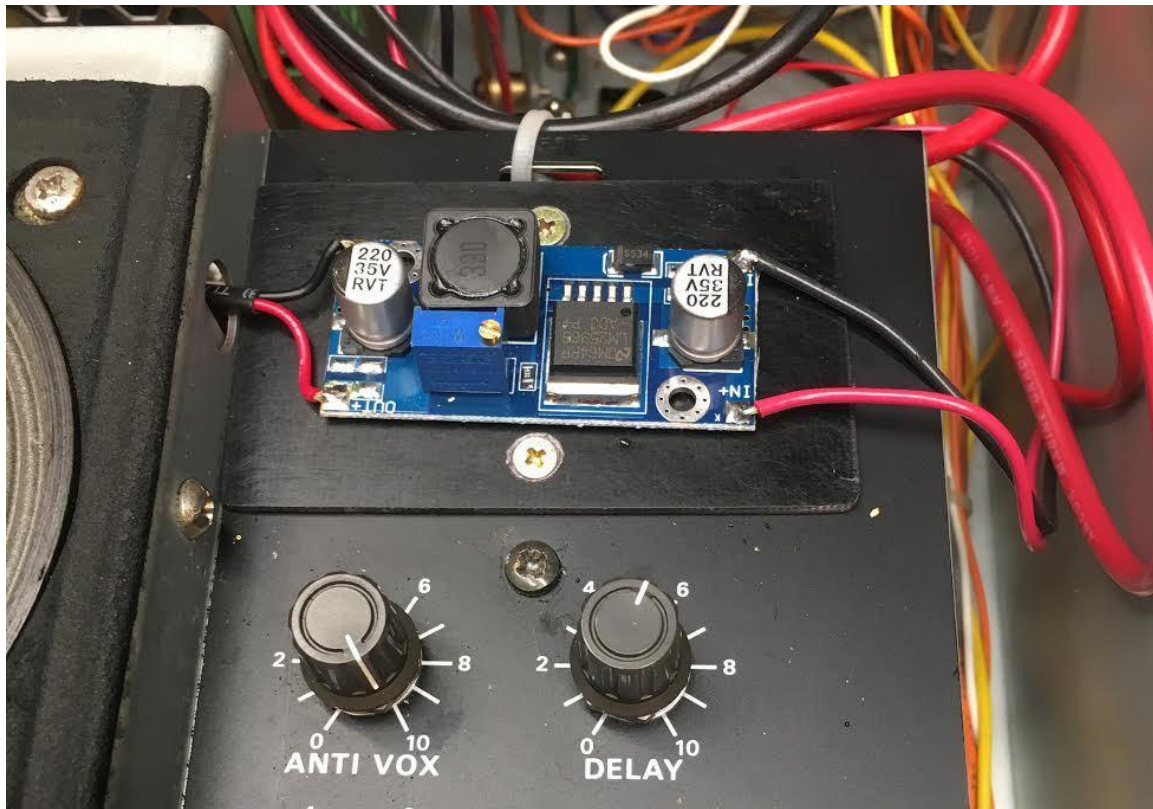
My fan change was simple but not for everyone. I don't transmit much. If you use the TS-930 for contesting or long winded transmitting the fan mods that keep constant air blowing over the PA are probably the way to go. But if you use the TS-930 more for listening maybe a different fan setup will work

The PA fan was reconnected in stock fashion to the thermal circuitry. The paste was cleaned and refreshed around the thermistor. The PA fan cycles as it should stock with the PA heat sink getting a bit warm but never hot. There is a TS-940 fan low temperature mod that I may scale and experiment with for the TS-930s but for now the PA cooling is adequate for my low duty cycle transmitting.

The Power supply fan was replaced with an 80mm NB-BlackSilent X-1 12volt low-speed fan (Amazon). The fan is mounted deep inside the rig against the Phoenix supply blowing air through the supply and out the back of the set. This fan location also moves air across digi board. Heavy duty double sided 3M tape made mounting the fan easy.



12 volts is derived from an inexpensive DC-DC converter found on ebay. The converter is hot-glued to a piece of G10 drilled to fit the original mounting screws vacated when the battery pack was removed for the PIEXX board modification.



After a month of operating, the set is super quiet and when used for an old-buzzard CW QSO seems to exhaust air 10 degrees warmer than ambient. The TS-930s is now my go-to rig where the past 10 years I always kept my fingers crossed knowing that one day it would implode. Now that the weak-link of the power supply has been eliminated there have probably been more hours put on the set in the past month than had been put on it during any prior year. There are some things I would like to rework when I get a round-tuit: tidy rats nest wiring, fix the slight power supply hash as others have noted, maybe even experiment with external cooling using quiet fans and remove the AVR board by relocating the metering inductors to a metal .05 ohm resistor.