

Silent STA Application
KRMF-LP 182553
Reno, NV

KRMF is requesting permission to temporarily go silent due to repairs needed on the Anywave PA unit. Due to its age and a separate incident with a past employee, we have experienced several hardware failures that necessitate shipping to Anywave for full repair. Our RMA# is TS2303-0575. After we receive the crate from Anywave for shipping, we hope to have it promptly returned and repaired as soon as possible.

Below is the report from the engineer that has been handling the on site repairs as well as his images for reference:

“...This work includes identifying the power connector for the transmitter and ordering a functionally equivalent connector. This included buying parts from two different vendors. The power cord needed to be rebuilt as well, but the power connector on the wall end of the cable was able to be reused.

In the process of doing the work, it was observed that the bottom of the transmitter was caved in. Two connectors on the back panel (in addition to the power connector) were damaged (These were repairable). And almost every screw I encountered was loose, especially screws associated with the basic structure of the amplifier. Some internal hardware had also vibrated loose and disappeared. A thorough inspection was required to ensure none of this hardware had gotten into areas with circuitry. Apparently, this hardware fell out through cabinet openings some time during shipping and reinstallation. When reinstalled in the rack, it was also evident that the front panel was also slightly caved in.

The two power supplies were clogged with dirt. They were opened and cleaned, as well as inspected for loose hardware. Nothing unusual was noted in this area.

The PA compartment was opened for inspection (56 screws!). Much to my surprise, I discovered that this amplifier has had a 'hot lunch'. If you look at the pictures of the PA pallets, you will see a big ferrite bead wound with litz wire. This is the input filter for the power to the RF devices (which are underneath the heat sink pillars, with the two screw holes in the end). You will see that the litz wire varies from very dark in color (most likely red, green or amber before 'cooking') to charred. I included two repeat views of the PA pallets with different lighting so you can get a better look. There is also a picture showing bits of the cable ties that held the ferrite bead to one of the coaxial cable phasing lines. You can see bits of a cable tie on one of the beads. I did not measure any shorts on the output side of the RF transistors or evidence of punch-through on the transistor input

gates. As indicated in discussions with the Anywave tech, the low PA idling current may be bias adjustment and not failed transistors. The abnormally low bias current (0.4 A) usually indicates failed transistors, but the absence of shorts or punch-through (input gate short) are encouraging signs things may not be as bad as they could be. The burnt chokes are also still securely soldered down and not showing excessive resistance. You can see where the inside of the PA cover has discolored spots from the burnt chokes.

On the input splitter and output combiner, there are some ballast and reject loads, in the form of the white squares visible in the pictures. These appear to be of the 'pass-through' type, and they measure a very low resistance between terminals, as expected. But every single one measures open circuit to ground. They should measure about 100 ohms, as indicated on the device labels. This is indicative of operating into a very awkward impedance load (or a short, or no load at all). The open loads on the input side is more mysterious, and rarely occurs. It is possible that if all four PA pallets have failed catastrophically that the input loads could be damaged. It is also possible I am measuring these wrong, even though I double checked my measurements.

No other internal damage was noted, except for loose hardware found throughout the amplifier, especially on the major structural mountings. To me, this is indicative of severe, sustained vibration during shipping.

Both of the RF input connectors are damaged. One connector was dented. The other one looks like it had been ripped. I identified a replacement for these connectors, but they were \$56 each. So I repaired the existing connectors. Although they are not perfect, they work fine.

After full closeout and before rack mounting, the amplifier powered without incident. However, after installation, it would not pass a signal on either RF input. I was using the known-working channel 3 exciter, temporarily set to channel 4, to drive the amplifier. Input attenuators were set the same on both amplifiers, and setting attenuation to zero did not help...

...If the amp needs to be shipped back to Anywave (quite likely), they will supply the customer with a suitable crate..."











