

Alpha 87A Fault 1 Troubleshooting Instructions

Here are troubleshooting instructions for a Fault 1. Be sure to defeat both interlocks when turning on the amplifier with the cover off, the microswitch and the HV shorting crowbar at the center of the amp!

1) Remove fuse F2 on the ABX-X180 board (inside the output T/R box) and then check 87A again.

If it does NOT fault and R-BIAS voltage is between 700 and 850 volts, replace D2 and D8. R-BIAS can be measured at the back-right corner of the High Voltage Power Supply board, on a terminal labeled NOT-R (R with a line over it), or on J4 of the ABX-X180 board.

2) If it DOES fault with F2 removed, lift D6 and D11 diode chain on the ABX-X180 board. If the 87A does not fail and R BIAS voltage is between 700 and 850 volts, replace D6 and D11.

3) Lift R5 on the ABX-X180 board and measure to make sure it is not open. R5 is located below the large 2.5 mH 'safety choke' mounted on the front edge of the T/R compartment.

Note: When replacing the diodes or resistor, be careful not to have the leads protruding too far below the circuit board, it is possible for them to touch the chassis (gnd).

Replacing the spark gap arrestor may help keep the diodes from failing again.

You should be able to see the receive bias switching when you go from STBY to OPERATE.

Do you have a complete set of 87A schematics? If so, there are two transistors that may cause the bias to stop switching, Q3 and Q4. They are on the HV POWER SUPPLY BOARD drawing #SXX-X161.