

Originally From: Howard Ryder W4NTW@ix.netcom.com, and Bill, n4ats

Most Yaesu FL-7000 Solid State Linears have a hypersensitive protection circuit that causes the "protect" to trip when no improper conditions exist. This modification will desensitize the protection circuitry, but still allow it to function when an improper condition exists.

MODIFICATIONS

PROTECTOR UNIT

- Remove D7006 P/N HZ15-1L
- Remove R7029 P/N J02245102
- Remove R7033 P/N J02245104
- Remove Q7004 P/N G3107331Q
- Add R7060 Resistor 10K 1/4w P/N J01225103 This resistor must be added from pin 1 of Q01 (1/2 of AN6552) to pin 5 of Q7003 (1/2 of AN6552) after removing R33 10ohms. I carefully snipped the lead in the centre and put my 10K in series with the existing 10 ohm resistor.
- Add a 47uF 35 V cap. Positive to Pin-1 on J01 (OCP) and Negative to ground (there is a grounding point right next to it)

POWER SUPPLY UNIT

- Replace C8019 P/N K13179009 WITH 1uf 50VDC P/N 59V010M5X11TR5.

This capacitor goes between the base and emitter of Q8008 P/N 2SC2229.

NOTE: The positive lead goes to the base of the transistor. I put mine in parallel with the existing 0.047.

ALIGNMENT OF NEW CIRCUITRY

CM COUPLER

1. Remove the ALC cable.
2. Remove P06 (J04) on the Auto Tuner Relay Unit
3. Key the driving radio in CW (FT-757, FT-767, etc.)
4. Adjust the power output to 400 watts
5. Connect the Black lead of DC Voltmeter to pin 1 and the Red lead to pin 3 on the Protector Unit, OR connect the Black lead to ground and the Red lead to TP01 on the CPU Unit (use the 0.25V range on the DC voltmeter)
6. Adjust TC5001 for a MINIMUM reading on the DC voltmeter
7. After adjustment, reconnect P06 and the ALC cable

PROTECTOR UNIT

ALC METER AND ALC PROTECTOR ADJUSTMENT

1. Set the ALC pot fully clockwise (CW)
2. Apply +9VDC to TP7001
3. Adjust VR7008 to the right edge of the ALC zone
4. Set the ALC pot fully counter clockwise (CCW)
5. No adjustment on the SWR Protector VR7004 is required.

IC PROTECT ADJUSTMENT

1. Connect the DC voltmeter to the centre of VR7004
2. Adjust VR7004 to 3.8VDC +/-0.1V
3. The correct resistor and capacitor are available from Yaesu if you desire. (TB-9601)