



ADP500 OPERATIONAL NOTES

1. **Front panel monitor port** for viewing the signal quality -10 dBm output
2. **PA INHIBIT** switch
 - a. When switched on, this puts the transmitter into standby. The output power is reduced to near zero and allows the current monitor to view the bias setting of the PA power devices. This is an excellent feature for trouble shooting multi-amplifier configurations.
3. It is not necessary to turn the transmitter off to run a complete check of all PAs.
 - a. The LED cluster displays normal or fault operation of the selected PA. Under normal conditions the LEDs are GREEN. When a fault occurs, the LED turns RED.
4. High **VSWR LED** will turn RED if the VSWR trip point is exceeded.
 - a. When the VSWR trip point is exceeded the protection control line is TTL=0. The fault is automatically returned to normal when the fault is corrected.
5. **SELECTOR SWITCH** determines the input for the multi-meter display
6. **AUX INPUT** on the read panel is used for interface connections to the DR50U driver with ALC circuits.
 - a. This connection may also be used for remote interface to transmitter control from off site.



SETTING THE VSWR POWER TRIP POINT

The reflected power trip set point is normally set at 25% on the front panel meter (Reflected Power Scale).

The set point is adjusted by R32, which is located between the center and left rear corner of the main PC board.

The reflected power meter gain is set with R167.

Adjust the transmitter output power to 25% as indicated in the ADP500 forward power meter, and then move the BNC connector from the forward to the reflected port in the rear of the APD500. Next, adjust R167 until reflected power reads 25% on the reflected power scale.

You can set the VSWR trip point with R32 at this time. Clockwise rotation of R32 raises the trip point. Start with R32 full clockwise. When the voltage on the analog power meter exceeds the VSWR trip point set by R32, the antenna VSWR high LED turns from green to red. After two seconds, the transmitter is inhibited and its power goes to a low level for 10 seconds, then the cycle repeats.



REMOTE MONITOR AND CONTROL PIN OUT (DB9-FEMALE)

Pin	FCN	Comments
1	PA1 Current Monitor	1V=10A
2	PA3 Current Monitor	1V=10A
3	PA5 Current Monitor	1V=10A
4	GND	
5	Heat Sink Temp Switch	Shutdown
6	PA2 Current Monitor	1V=10A
7	PA4 Current Monitor	1V=10A
8	PS Voltage Monitor	$V_{PS}/17$
9	VSWR Monitor	No Longer Used

Notes

- Pin5- Shutdown (Monitor and Control)
- Normally High ≈ 7 V
- Heat sink over temp. switch pulls this line to GND when heat sink temperature is greater than 70 Deg C. or over temp. Pulling this line to GND inhibits PA by removing bias.
- HSOT (heat sink over temp.) alarms when line is low
- ADP500 also pulls this line low to inhibit the PA when the ADP500 detects a high VSWR condition



AUX I/O CONNECTOR ON REAR PANEL of ADP500/1000
PIN OUT (DB9-FEMALE)

Pin	FCN	Comments
1	FWD PWR	
2	Video Fault	
3	PA 6	Not used
4	GND	
5	Shutdown	
6	RFLD PWR	
7	Aural PWR	
8	NC	
9	NC	



FORWARD POWER CALIBRATION PROCEDURE

1. Begin with the cover removed from the ADP500 and pull the chassis almost entirely out of the rack.
2. Locate R144 on the power detector board; it is on the right rear corner of the PC board. R144 has a very small (1/16" diameter) adjusting screw. Verify that you have a tweaker which fits it.
3. With the transmitter putting out 100% power, adjust R144 until power reads 100% forward power. To do this, turn R144 clockwise to move the pointer to the right.
4. Increase the power approximately 5% and make sure that the pointer on the forward power meter shows this increase. This verifies that the power detector board is not saturated.
5. Place the cover back onto the ADP500 using all screws and slide back into the rack. Using all of the provided screws prevents RF leak.