

## **P-2000 Installation Procedure**

### **Caution**

Changes or modifications not expressly approved by the party responsible for compliance to the FCC rules could void the user's authority to operate this equipment.

### **Pre-installation requirements:**

1. Pedestals must be mounted at least 2-3 feet away from all mechanical and electrical devices or large metal objects to avoid spurious resonances and noise sources. This includes doorframes, window frames, walls, beams, alarm wiring, etc.
1. All system wiring (including the AC power) must enter and exit the center of every antenna base at a 90-degree angle (down the middle at a right angle to the antenna base). If the wiring makes a turn before it enters or after it exits the base, the turn must occur at least 1 foot away from the base.
2. All system wiring must never run vertically near the antenna. Wiring should run underneath the floor or on top of the floor in electrical metallic tubing or metallic floor molding. If the wiring must run vertically, make sure it is at least 3' away from the antenna.
3. AC power should be a 3-wire dedicated line.

Connect the 18VAC from the transformer to TB4 pin 1 and pin 3 on the RV.

Using the red/black 18ga. Twisted pair provided;

Connect the red wire from TB4 pin 1 on the RV to TB1 pin 1 on the TX.

Connect the black wire from TB 4 pin 3 on the RV to TB1 pin 3 on the TX.

All wiring should be run perpendicular to the antennae.

### **Installation:**

1. Mount the RV antenna and the TX antenna so that the aisle-width is 3 feet.
2. Verify that the controls on the TX PCB are set as follows:

R45	Center Freq.	Pre-set at factory for 8.2MHz
R17	Sweep Width	Pre-set at factory
R36	Transmit Level	Pre-set at factory
JP1	Slave termination	HI-Z
JP6	MSTR	installed
JP7	FBR SLV	not installed
JP8	WRD SLV	not installed

S1 settings:

SWITCH #	FUNCTION	DEFAULT SETTING
1	LINE FREQ. OFF=60HZ ON=50HZ	OFF
2	MODULATION FREQUENCY OFF=ALTERNATE ON=STANDARD	ON
3	RESERVED	OFF
4	RESERVED	OFF
5	RESERVED	OFF
6	OFF=SLAVE ON=MASTER	ON
7	RESERVED	OFF
8	RESERVED	OFF

3. Verify that the controls on the RV are set as follows:

The default settings are as follows:

P1 Noise Blanker 5/8 CW (2 O'clock)  
 P2 Alarm threshold slightly less than 1/2 CW ( 11 O'clock)  
 P3 Band threshold slightly more than 1/2 CW (1 O'clock)  
 P4 Cart Inhibit Fully CCW  
 P5 Null Adjustment Pre-set at factory  
 P6 Beeper Volume 1/3 CW

JP1 Input transformer CT GND installed  
 JP4 FE Gain Select center position  
 JP5 Detector Output not installed

SW2 settings:

SWITCH #	FUNCTION	DEFAULT SETTING
1	AUDIO TONE OFF=PULSED ON=CONTINUOUS	OFF
2	AUDIO TIME OFF=2 SEC ON=4 SEC	OFF
3	LIGHT TIME OFF=2 SEC ON=4 SEC	OFF
4	RELAY OFF=1 SEC ON=DISABLED	OFF
5	RESERVED	OFF
6	RESERVED	OFF
7	RESERVED	OFF
8	RESERVED	OFF

9	LINE FREQ. OFF=60HZ ON=50HZ	OFF
10	MODULATION FREQUENCY OFF=ALTERNATE ON=STANDARD	ON

4. Connect a DVM set for VDC to TP4 (AGC) and TP5 (GND). Verify that the voltage is between -6VDC and +6VDC.
5. Connect a DVM set for VAC RMS to TP1 (VIDEO) and TP5 (GND) on the RV. Adjust P7 until the DVM reads 1 VRMS maximum.
6. The TP2 (DISPLAY DAC) test point is multiplexed into eight cells. In order to view this test point you must synchronize your scope to the square wave on TP3 (DISPLAY SYNC). Set the scope for (+) edge trigger and adjust the timebase to display only the positive portion of the square wave on TP3. Connect a second scope probe to TP2, adjust the GND reference at the bottom of the display, adjust the vertical sensitivity for .5V/div. and set the scope for CHOP. Adjust the TP2 scope input for DC couple and observe that the trace has approximately 2.5VDC offset (DAC offset). You should see four discrete traces from left to right (easier to view if you shut off the trace for the display sync.). The cells are as follows:

Signal Channel  
Noise Channel  
Low band energy level  
High band energy level

Although the Alarm threshold has been pre-set, it can be adjusted. Adjust P2 on the RV until the signal channel is approximately 0.7VDC lower than the noise channel. When the signal channel exceeds the noise channel and the high band energy level exceeds the low band energy level the alarm is triggered.

7. Set the TP3 scope input for (-) edge trigger to view the remaining four cells which are as follows:

Short term averager  
Differential averager  
Beacon display  
Long term averager
8. Observe the short term averager on TP3 as outlined in the previous step. The synchronous energy on the short term averager should be less than 0.5Vp-p.
9. Remove all test equipment and close the antenna base covers. Verify that the system

is working properly with appropriate tag.

10. Demonstrate the system to the storeowner or manager and obtain signature on installation acceptance form.