

Adjusting the Power

The power output of the base station will depend upon whether it will be used to drive an external power amplifier or transmit directly over-the-air.



In either case it is important to measure and set the transmitter power output using a wattmeter and dummy load before connecting it to the power amplifier or antenna system.

The base station power is adjusted mechanically by tuning a potentiometer (pot) on the bottom of the base station. Depending upon the model, this pot can be reached through an access hole in the bottom cover on either the exciter board or power amplifier board. Figures 8, 9, and 10 display the Power Adjustment Potentiometer location for the IP1B, IP4B, and the IP8B.

1

Do not use a metal tool to make this adjustment, only use **non-conducting** alignment tools. Equipment will be damaged if this warning is ignored.

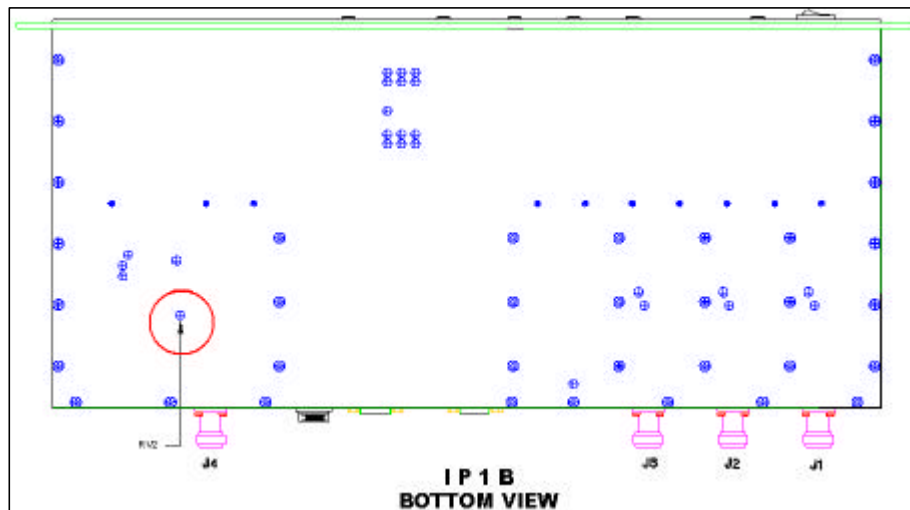


Figure 8: Power Adjustment Potentiometer Location for the IP1B

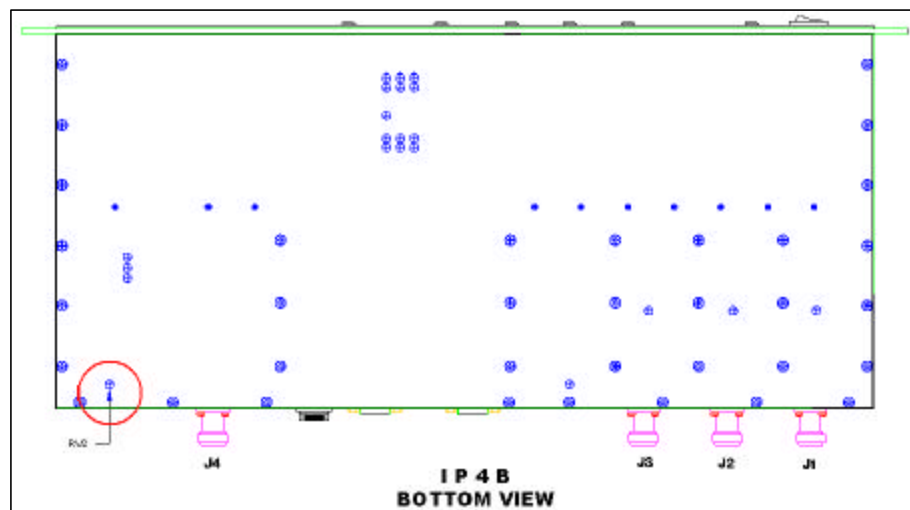


Figure 9: Power Adjustment Potentiometer Location for the IP4B

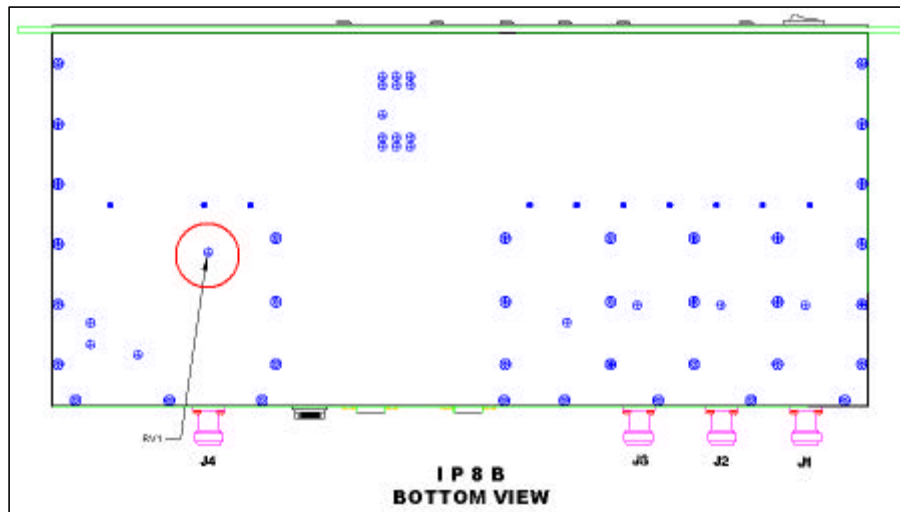


Figure 10: Power Adjustment Potentiometer Location for the IP8B

Step 1 Connect a computer with the HyperTerminal utility to the base station's monitor serial port.

 Refer to the section titled *HyperTerminal Setup* located in *Chapter 5: Programming Instructions* for HyperTerminal Setup and access instructions.

Step 2 Launch the HyperTerminal utility.

Step 3 Locate the adjustment hole (see Figures 8, 9, or 10 according to the model being used).

Step 4 Fit the tool to the potentiometer.

Step 5 Key the transmitter on the base station by typing **X=1450,10** in the HyperTerminal window. The base station will generate 10 data packets, each 1450 bytes in length.

 If this does not work, check the base station's MTU parameter. The X=number must be smaller than the MTU value.

1 To avoid damage to the amplifier, when setting the power to drive an external amplifier, set the base station power below the external amplifier's maximum drive limit.

Step 6 If setting the power to drive an external amplifier, use a wattmeter and dummy load to measure the output power of the base and set it to the amount of drive power that is will be needed for the amplifier.

 Be aware that the coaxial cable that will connect the base station to the power amplifier may have completely different characteristics to the test cable used to measure power output. If possible, adjust the power with the coaxial cable that will be used in the system ensuring the power measured is exactly what will be fed into the amplifier.

Step 7 Once the adjustment is made, connect the base station to the external amplifier and connect the wattmeter and dummy load to the amplifier's output.

Step 8 Measure the power output of the amplifier.



If the amplifier does not produce the expected power, additional adjustments to the base station output are necessary. When making large adjustments in power, the external amplifier should be disconnected from the base station and the base station's power reset.

1 Do not attempt to make large adjustments to the output power while the base is connected to the external amplifier or if the external amplifier is not producing any power. The base station power adjustment is very sensitive and it is possible to overdrive an external amplifier and ruin it with just small movements of the power adjustment potentiometer. You must be sure to keep the base station's output power below the input drive limit of the external amplifier.

Step 9 Once the base station power is adjusted, reconnect the base station and the wattmeter to the external amplifier and measure the output power of the external amplifier again using the **X=1450,10** command.

Step 10 Once the power amplifier is nearly at the proper output, small adjustments can be made to the power output, while the base station is connected. Turning the power adjustment very carefully while transmitting into the external power amplifier will enable the power to be adjusted to exactly the right level.

1 Be careful not to apply sideways pressure to the adjustment potentiometer, otherwise the circuit can be damaged. Always use a light touch when adjusting base station output power.