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**W A R N I N G !**

## **Before You Align Your Antennas**

### **CHECK POWER TO THE RADIO HEADS & MULTIMEDIA CARDS**

Before aligning the antennas make sure you have fully powered both sides of the radio link and that all power LEDs are lit (one in the Radio Head and one for the Power Supply Module and each card in the Multimedia Hub).

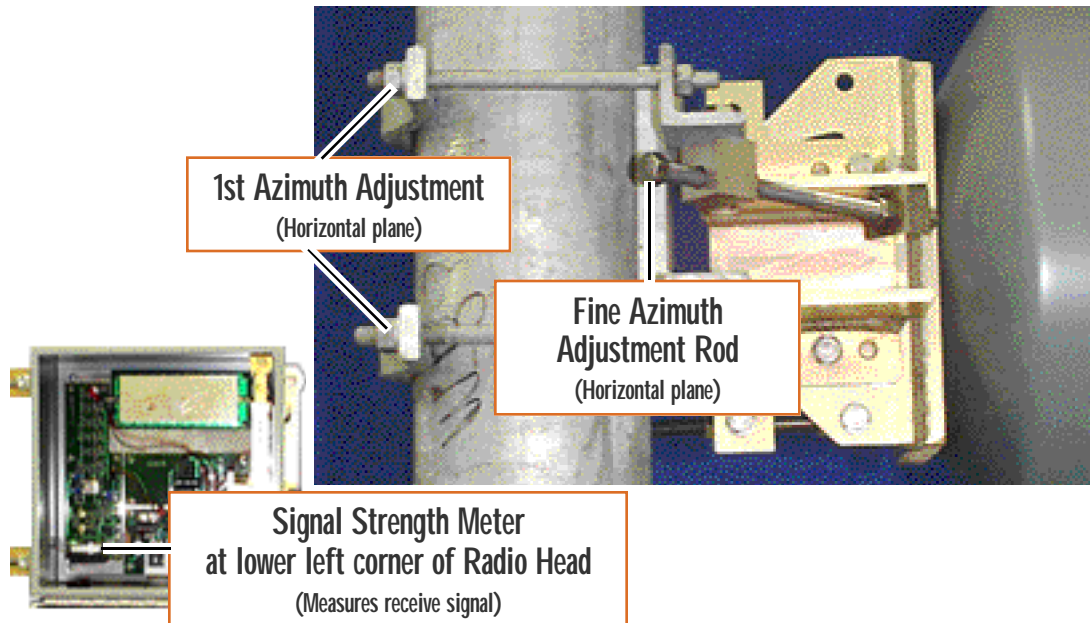
### **DID YOU VISUALLY AIM THE ANTENNAS AT EACH OTHER?**

If you visually aimed the antennas at each other, as advised on page 7, you may notice the presence of a signal on the Signal Strength Meter in the Radio Head. While the signal may be very weak, it's an encouraging starting point that lets you know you're receiving a signal from across the link.

### **READ ME!**

DON'T BE ALARMED IF YOU DON'T IMMEDIATELY DETECT A SIGNAL ON THE METER. Parabolic antennas (especially 4' in diameter or larger) focus the radio signal into a very narrow beam (<2°) and sometimes a movement of a fraction of an inch can make the difference between a useable signal and none at all.

### 1 Antenna Alignment: Horizontal Plane (Pan)



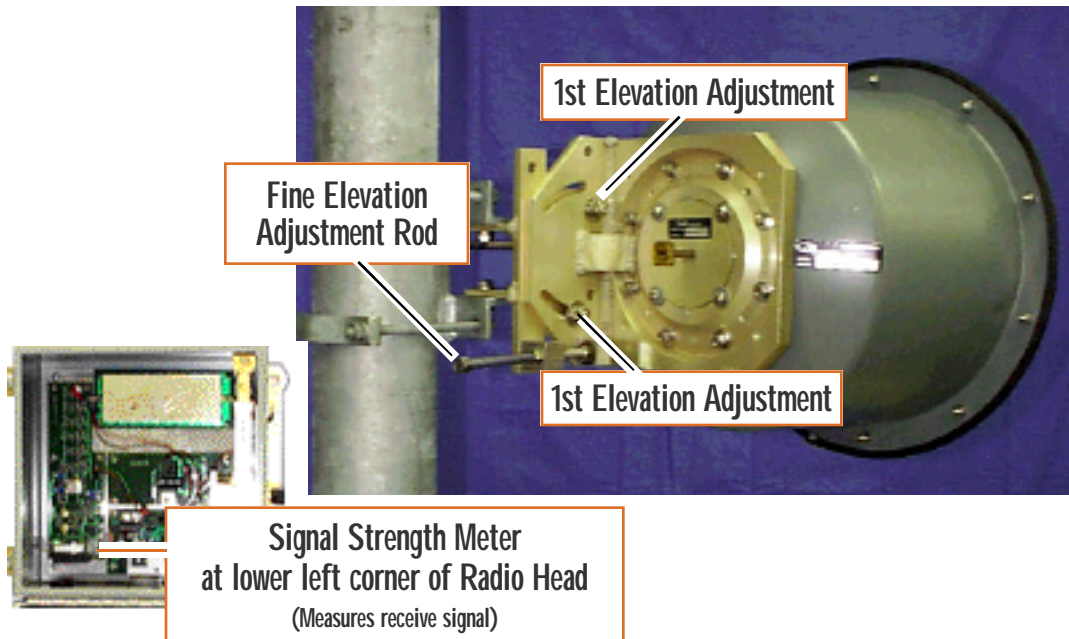
First you will “pan” or swing each antenna across a horizontal plane. To do this you must loosen the four bolts shown above as “1st Azimuth Adjustment”. Loosen the bolts just enough so that you can move the antenna side to side, but not enough so that the antenna begins to slide down the pipe mount.

With the bolts loosened, SLOWLY move the antenna from left to right. **IMPORTANT! Watch the Signal Strength Meter as you swing the antenna to find the furthest left and right points where you first detect a signal. Go fully past any signal peaks to the beginning signal points in each direction.** Otherwise you could be locking into side band (“side lobe”) energy instead of the main radio beam. Side lobes will show signal peaks, similar to the main beam, but they will be weaker signals that will give you enough gain to make a connection, but not enough for a truly reliable one.

When you find the highest signal peak lock it in by tightening the four bolts of the “1st Azimuth Adjustment”. Once you have done this with both antennas, turn the “Fine Azimuth Adjustment Rod” on each antenna until you reach the highest signal peak. The fine adjustment rod is especially useful on long paths where even a slight movement of a few degrees could throw off the signal.

**NOTE!** AS TRANSMITTERS ALL HAVE SLIGHTLY DIFFERENT GAIN FIGURES, SIGNAL STRENGTH VALUES AT EACH END OF THE LINK MAY VARY BY UP TO A VOLT. DO NOT EXPECT THE SAME READINGS AT BOTH ENDS OF THE LINK.

### 2 Antenna Alignment: Tilt



After completing the horizontal alignment, find the “1st Elevation Adjustment” bolts and loosen both of them so that the antenna may be vertically moved.

With the bolts loosened, SLOWLY move the antenna up and down. Watch the Signal Strength Meter as you move the antenna to find the furthest upward and downward points where you first detect a signal. **IMPORTANT! Watch the Signal Strength Meter as you move the antenna to find the furthest upward and downward points where you first detect a signal. Go fully past any signal peaks to the beginning signal points in each direction.** Otherwise you could be locking into side band (“side lobe”) energy instead of the main radio beam. Side lobes will show signal peaks, similar to the main beam, but they will be weaker signals that will give you enough gain to make a connection, but not enough for a truly reliable one.

When you find the highest signal peak lock it in by tightening the two “1st Elevation Adjustment” bolts. Once you have done this with both antennas, turn the “Fine Elevation Adjustment Rod” on each antenna until you reach the highest signal peak. The fine adjustment rod is especially useful on long paths where even a slight movement of a few degrees could throw off the signal.

**NOTE!** AS TRANSMITTERS ALL HAVE SLIGHTLY DIFFERENT GAIN FIGURES, SIGNAL STRENGTH VALUES AT EACH END OF THE LINK MAY VARY BY UP TO A VOLT. DO NOT EXPECT THE SAME READINGS AT BOTH ENDS OF THE LINK.