

Implementation Procedure



Step 1.1

Electrical Alignment of
Antenna
Symmetry Test

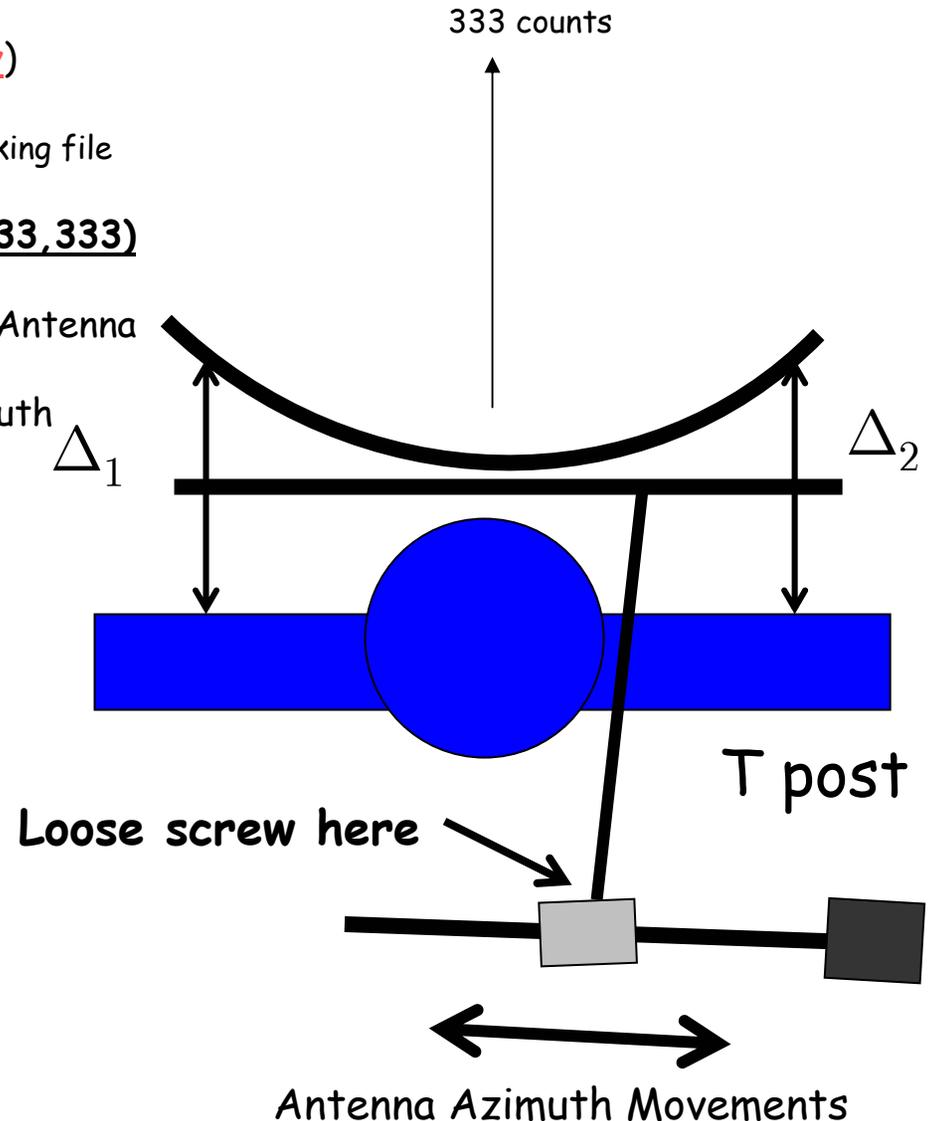
Electrical Alignment of Antenna Symmetry Test

- ✓ This step can be performed (**8:30 am Tuesday**)
- ✓ Set program to **MANUAL mode**, Insert new tracking file
- ✓ Perform a **re-synch process (RS2000 reads 333,333)**
- ✓ **Symmetrically aligned** the azimuth axis of the Antenna to equal distance from the T post of the main frame of the antenna. Loose screw on the azimuth actuator to achieved equal distances.

$$\Delta_1 = \Delta_2$$

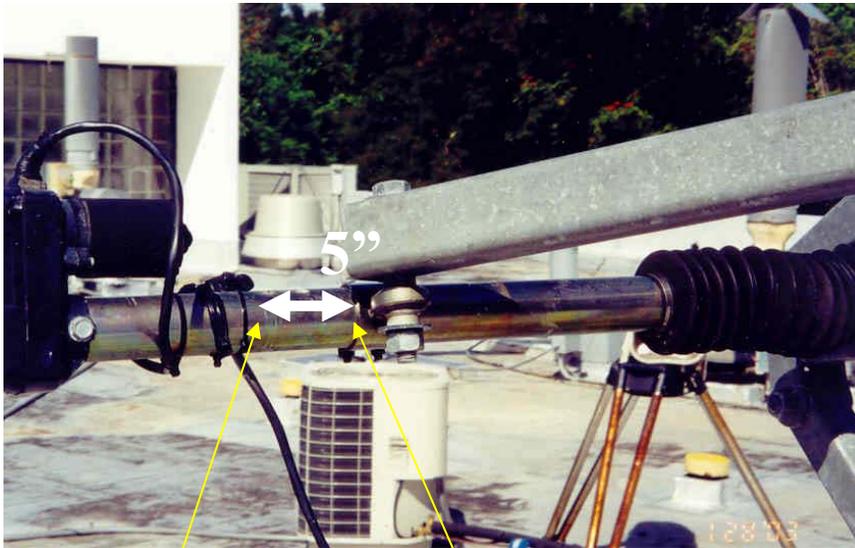
Ans.

$$\Delta_1 = 12.4375''$$



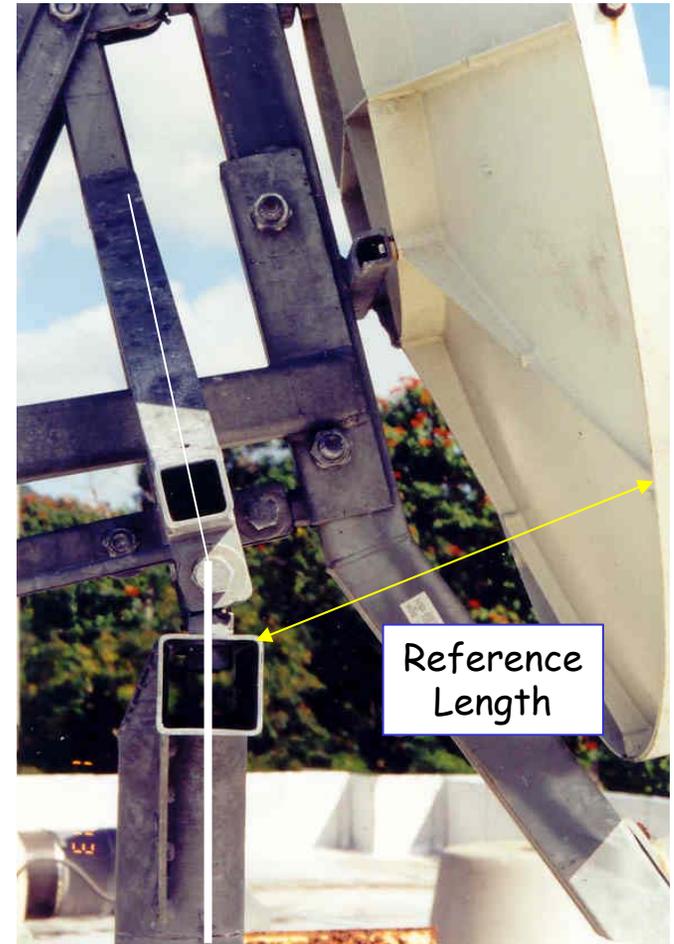


Azimuth Adjustment



Old
Position

New
Position



Implementation Procedure



Step 1.2

Electrical Alignment of
Antenna
Optimum POST Position

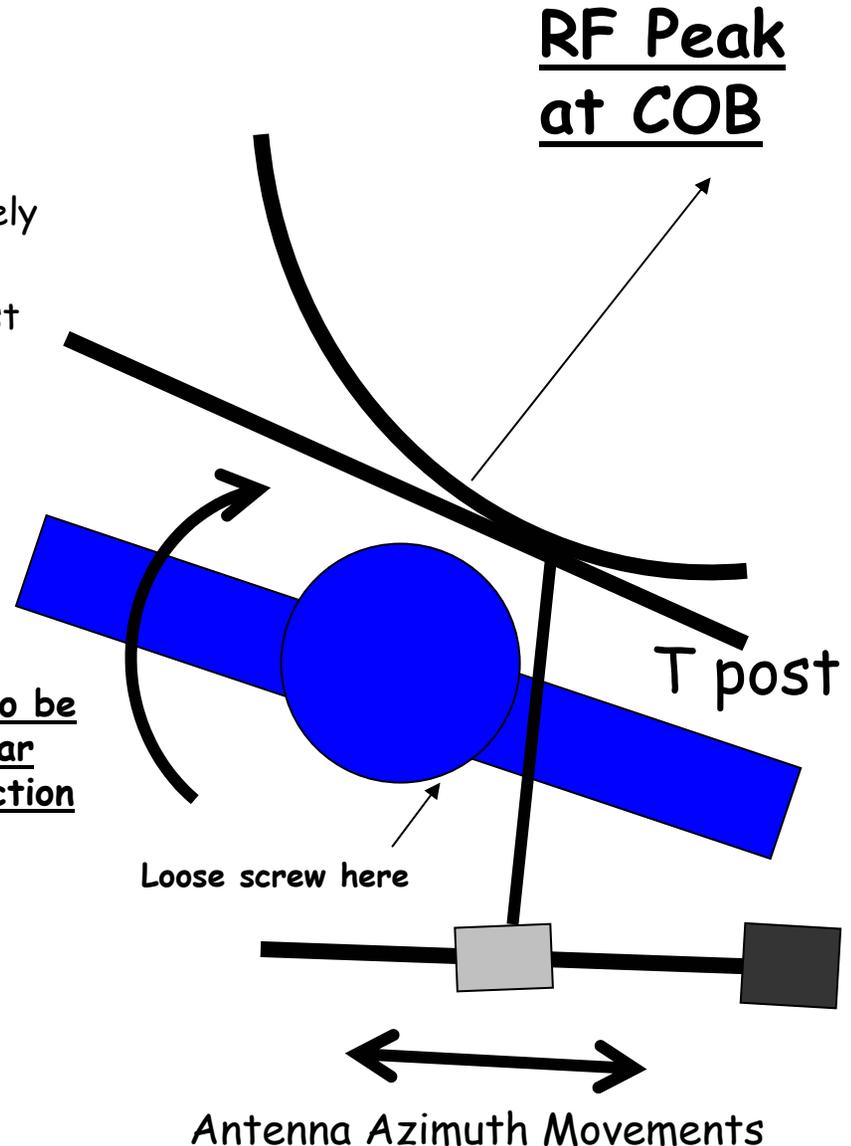
Electrical Alignment of Antenna

Optimum POST Position

- ✓ This step is performed at COB 10:15 am Tuesday
- ✓ Set program to MANUAL mode
- ✓ Loose POST Screws so that the POST rotates freely
- ✓ Peak signal at COB by moving manually the post
- ✓ Lock the screw on the POST

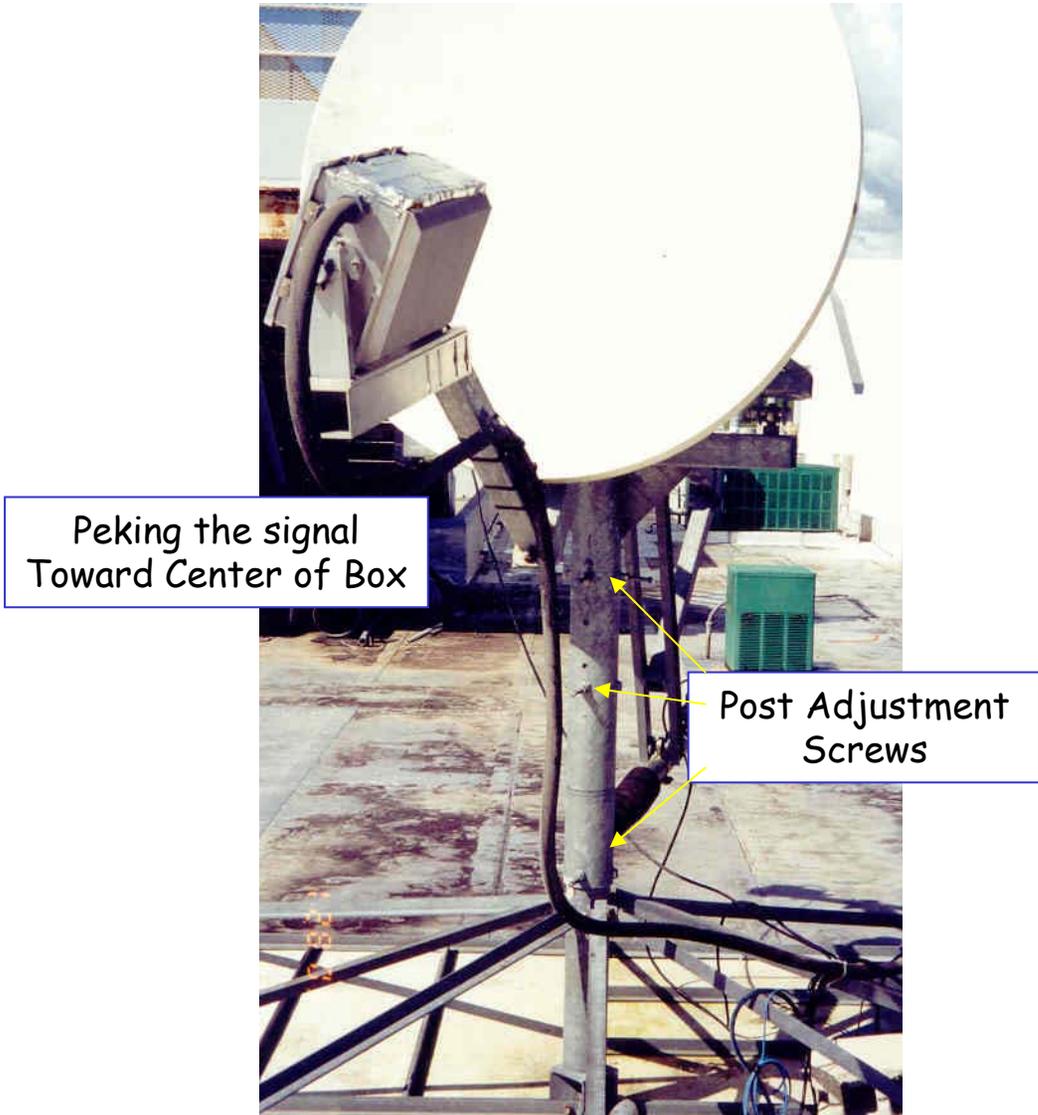
NOTE: This step is not very easy. As the screws are tied the beam direction changes abruptly. This is main reason that this step may required several trials. The goal should be to adjust the post direction closed to the peak center. If possible within 10 - 20 counts of the 333,333 settings.

Rotate post to be perpendicular to beam direction





Post Adjustment



Implementation Procedure



Step 2.0

Alignment and Calibration

Characterization of Azimuth and Elevation Counts/Degree:

-  Set tracking program to manual mode
-  Peak the RF signal using the manual model of the GEO tracker program. Perform this step every hour and record the azimuth and elevation counts. This steps are performed for one satellite period (24 hrs)
-  Record after every peaking the azimuth counts and elevation counts and its corresponding local time..
-  Also annotate azimuth and elevation angles from the special file generated for the installation
-  Calculate Slope rates from the previous data (use the data from the two orbit extremes).
-  This process generates the azimuth and elevation counts slopes that are required for the system to track properly
-  Verified Elevation count slopes by conducting a test using the an inclinometer

Implementation Procedure



Step 3

Peaking and Linkage

Initial Peaking Procedure

-  Set tracking program to manual mode (at COB Wednesday 10:15 am)
-  Insert the new counts per degrees numbers found in step #2 in the GEOtracker program (see See Editing Procedures)
-  Verified that a valid tracking table is in place
-  Perform peaking using the manual mode and the RF signal display from the ACTS view system. The satellite is at the center of box when this procedure is performed.
-  After peaking is achieved then a linkage command is executed. This process will link the AZ,EL in degrees with the AZ,EL counts at the peak and the center of box.
-  Switch to auto track mode
-  The system should be functional
-  Data should be view for 24 hrs (clear sky condition preferable) after this procedure to determine if the slopes (deg./counts) and linkages (AZ, ELdeg. to counts) are optimum



Peaking At C of B

