

MY BIG DISH

KL7UW



Or is this my “big dish”?

- Making feedhorns 1972
- Microwave Mobile 2006



photo on previous page: OVRO 40m Dish

1998 I bought a used satellite dish from KL7FZ for \$200. It was 16-foot diameter in 24 panels.



Dish was previously used in by Alaskan schools for a satellite-TV educational program



In 2008 I got around to putting it together!



- August, 2008:
- First was scrubbing the oxidized white paint
- Pressure washing to remove peeled paint
- Then painting the surface with flat gray paint



Assembling the Dish



- I sent my wife to buy hardware – 400 galvanized bolts, nuts and washers.
- First priced stainless steel. Galvanized was near half the cost!
- None of the holes lined up! So lots of clamping, prying and redrilling.
- The wooden center support collapsed when we were almost done!

Halfway Assembled



End of the day – Sept. 21, 2008



Oct. 11, 2008, Back from vacation
getting down to digging



Dish Support Mast and Concrete Arrives!

Oct. 18, 2008



Pouring Concrete temperature about 28 deg.



Antenna Season in Alaska

Nov. 8, 2008 – Begin Assembly of Dish Carriage



November 9, 2008



Azimuth A-Frame under construction. A-Frame revolves around Az-mast on eight dolly wheels



Not Busy enough! Lets assemble a Tower with Antennas!



Tis the season to be ... Oh crap, it's cold!



Nov. 25, 2008 – Boom Truck raises tower and sets Dish!



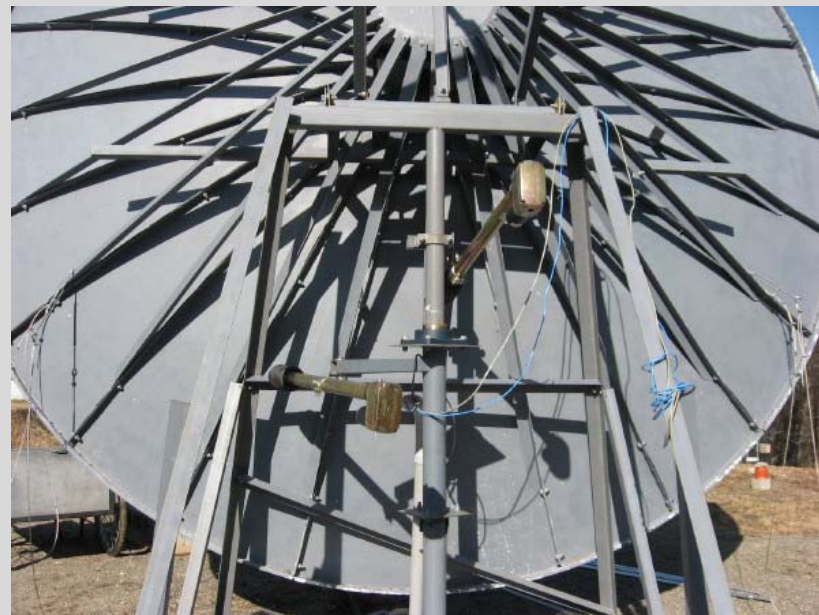
December 16, 2008
1:30 pm



May 10, 2009
Installing the azimuth and elevation drives



Backside of the dish



Elevating the dish



Dish at Zenith Feedhorn Installed



Close ups of the Feedhorn



Welders to fix some problems!



Chain drive to azimuth encoder

One more view of the dish

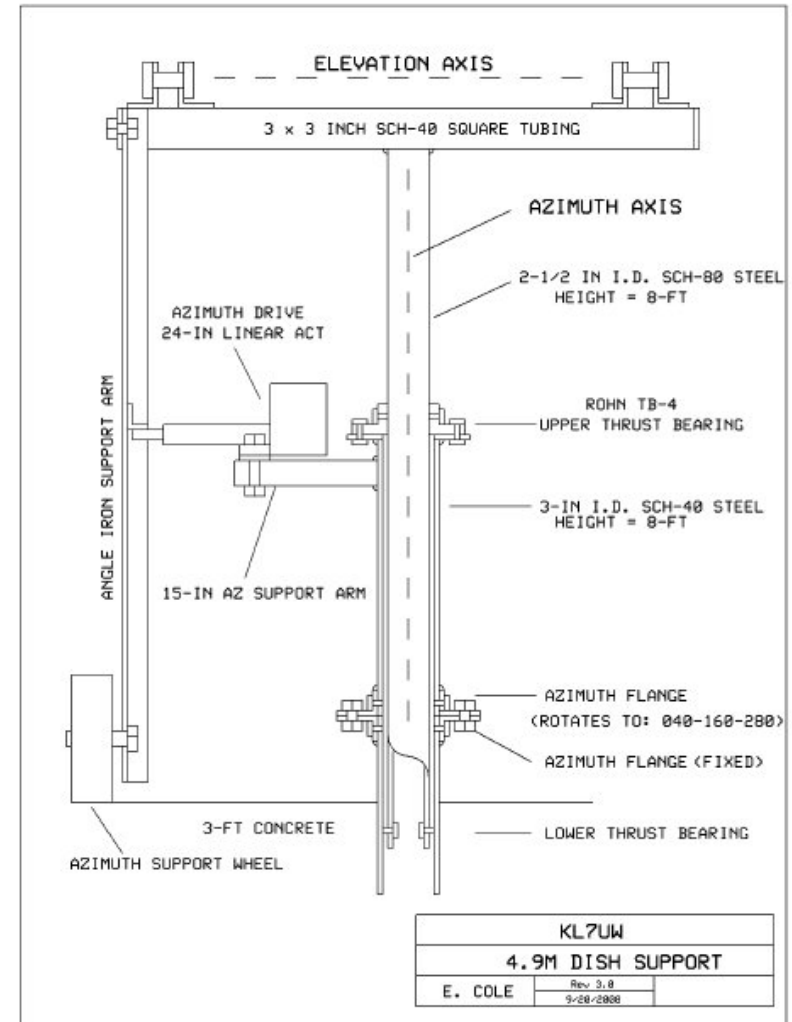


Neighbors visit to see the new dish!

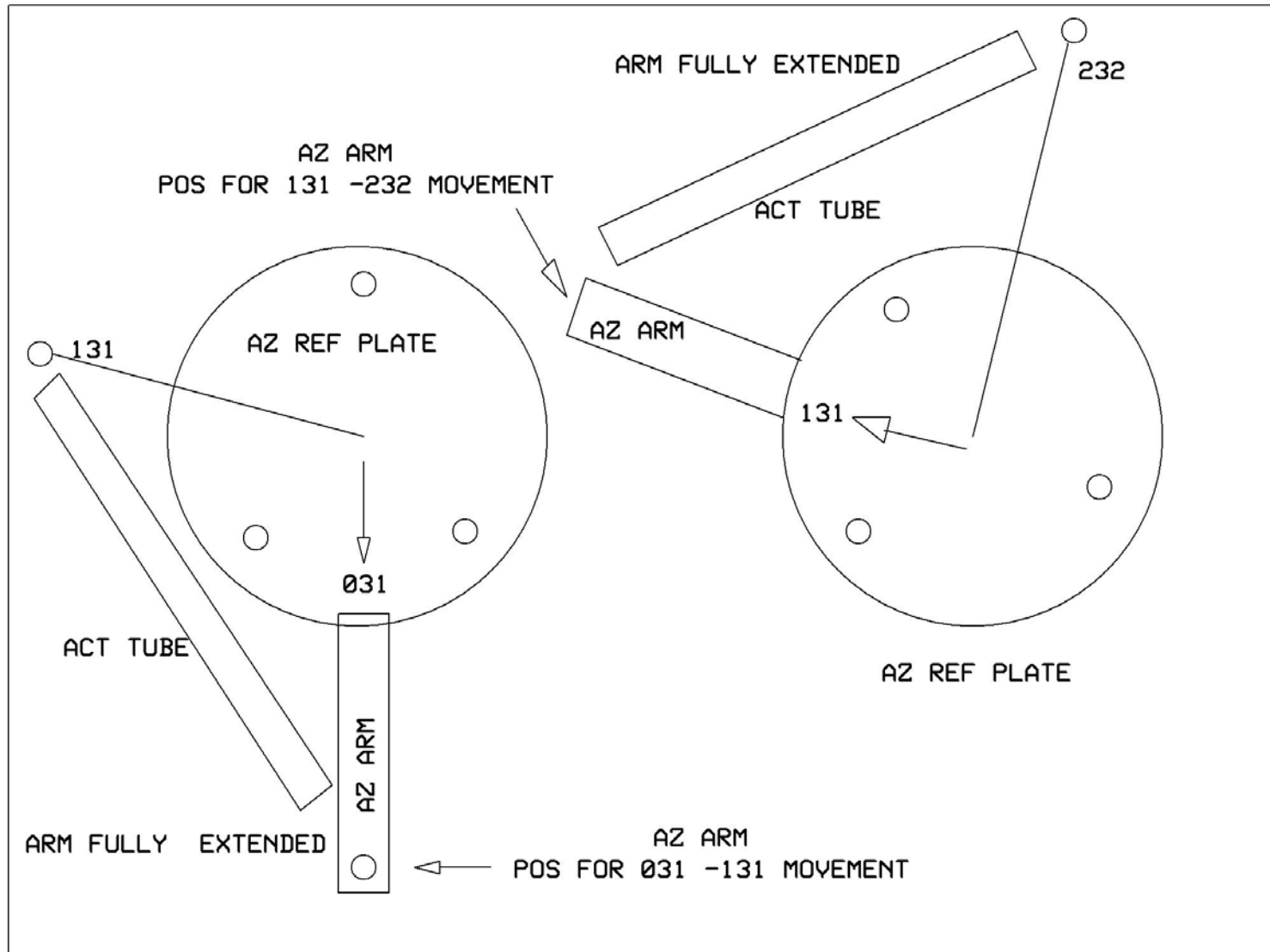


Details of the Az-El System

- Satellite actuators used (HD 36-inch Saginaw-Thompson)
- Elevation from -15 to +88 deg.
- Azimuth movement in approx. 100-deg. stages.
- Tried to get 120 but only able to get about 112-deg. max rotation
- So how to get a total of 300 deg?
- I made the azimuth reference movable by using a 3-inch pipe with a square flange bolted in three places to a matching plate on the support mast



AZIMUTH ROTATION



Dish Performance

- Actual Azimuth ranges: 031-131, 132-236, 238-330
- Due to my selling my 1296/144 Xvtr I have not been able to make any sun or moon measurements. I have a new 1296/28 transverter on order from Downeast Microwave.
- I listened to the Arecibo test in April and could copy them well on SSB and JT-65. SSB ran about S5 over S3 noise level.
- I have made a couple contacts on 432-eme running only 24w: DL7APV and UA3PTW. They reported my JT-65 signal -21!
- I have a Mirage D3010 amplifier good for 85w.
- Feed for 432 is a dual quad based on KL6M design.
- <http://www.kl7uw.com/eme1296.htm>

Coming Soon – in Nikiski, Alaska

- A lot of things are in process:
- New DEMI 1296/28 Xvtr to work with new Elecraft K3
- New G4DDK 23cm VLNA
- New dual-mode cylindrical septum feed for 1296 to be made
- New 300w W6PQL (Klitzing) solid-state linear amp which will be mounted on the back of the dish along with a 25w driver amp (KJ6KO design).
- New dual-dipole, dual-polarity 432 feed
- New 432 preamp (maybe?)
- 1200w JT-65/1500w CW for 144-MHz when the HVPS is done

73, KL7UW