Home brew parabolic dishes in Australia

Chris Skeer VK5MC

Design factors *

Strength of hub- to grab and hold shape

No strain on the surface shape by feed

Feed access

Smaller F/D for better G/T

Auto track with absolute encoders

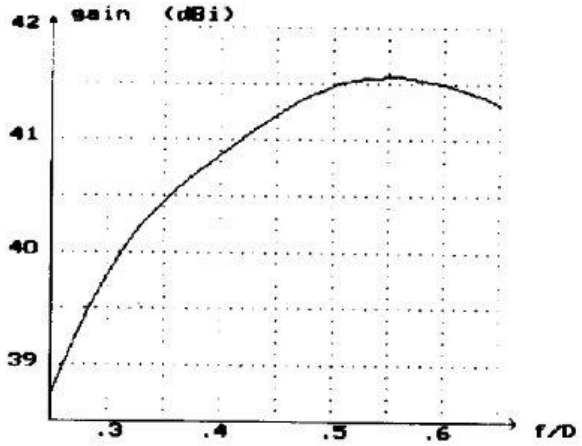
Strength of the hub

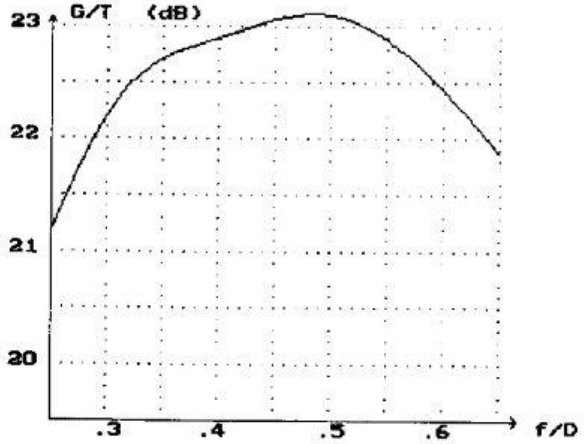
No strain on the surface shape by feed

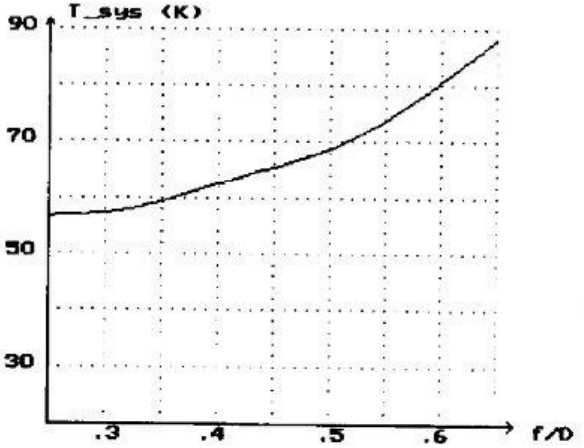
Feed access

Design factors

Smaller F/D for better G/T







w2imu.pic

dish diameter :	10.0 meters
blocking area :	0.1 m*m
frequency :	1296.0 MHz
preamp noise :	0.5 dB
relay (+coax) loss:	0.1 dB
skytemperature :	5.0 K
loss by mesh :	0.1 dB

Bild/Figure 12: W2IMU-Feedhorn for 1296 MHz

Design factors

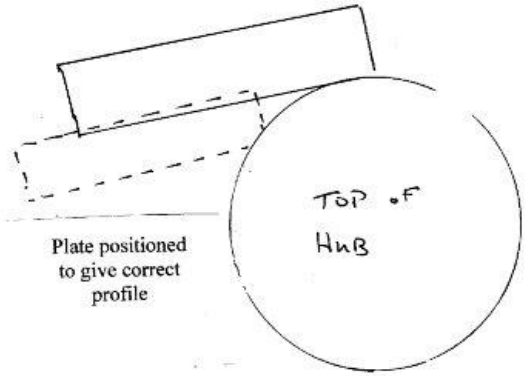
- Computer control with absolute encoders

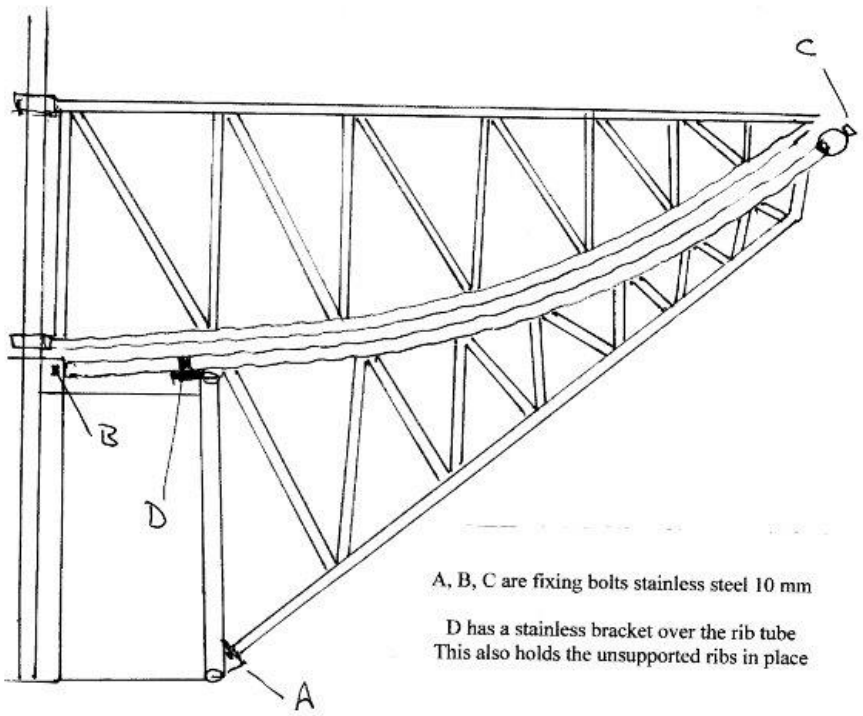
Construction problems

- How strong does it have to be

Azimuth platform

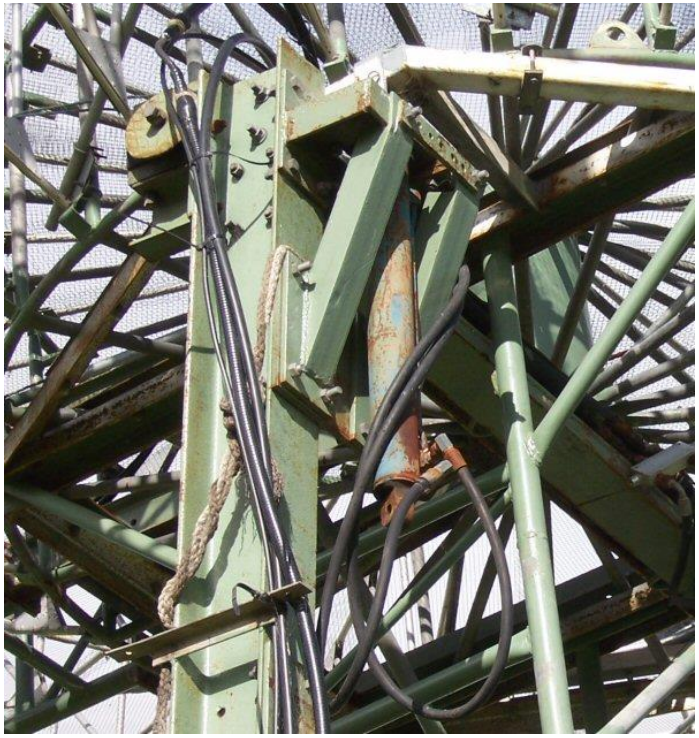
Fine adjustment of the ribs





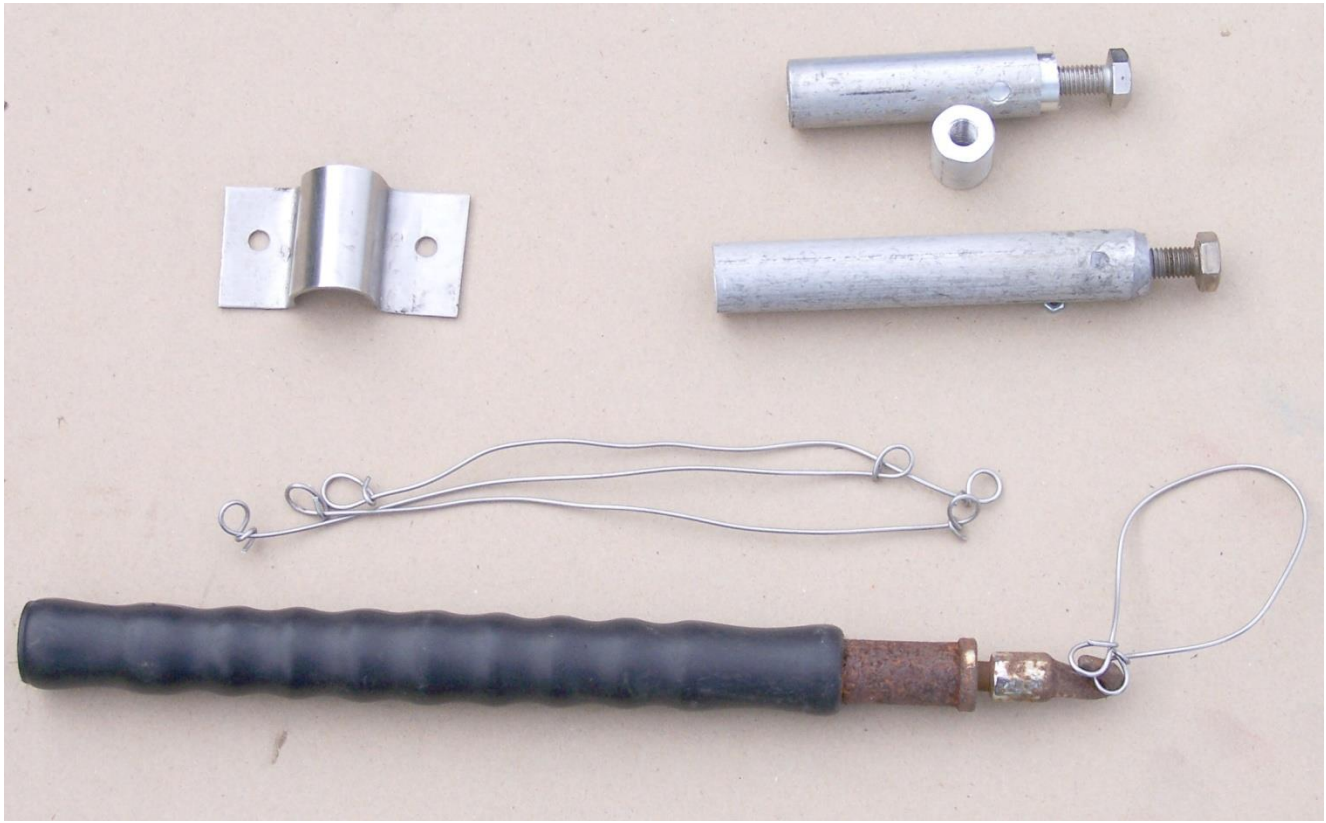
Hydraulic system

- Pumpsize, lockout valves and restrictors



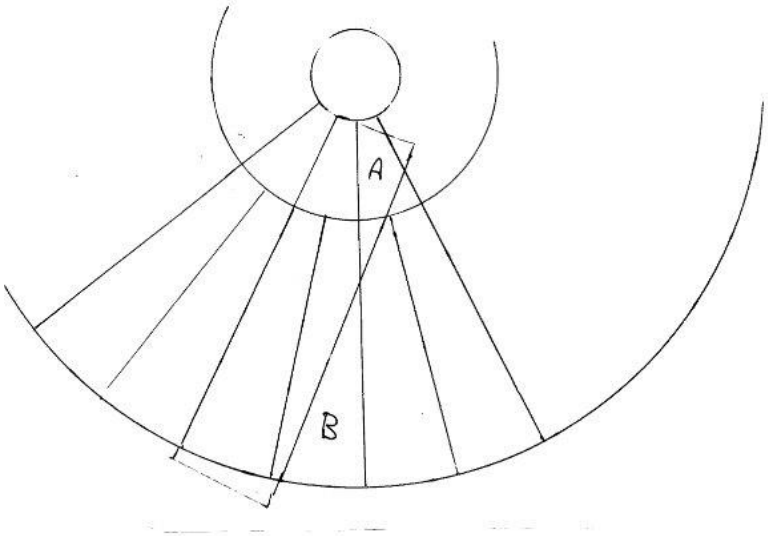
Winners

- Welding of plugs
- Stainless steel ties



Winners

- Mesh in pie sections



Part A was cut off and placed at B

Winners

- Hard wood block bearings Az and EL

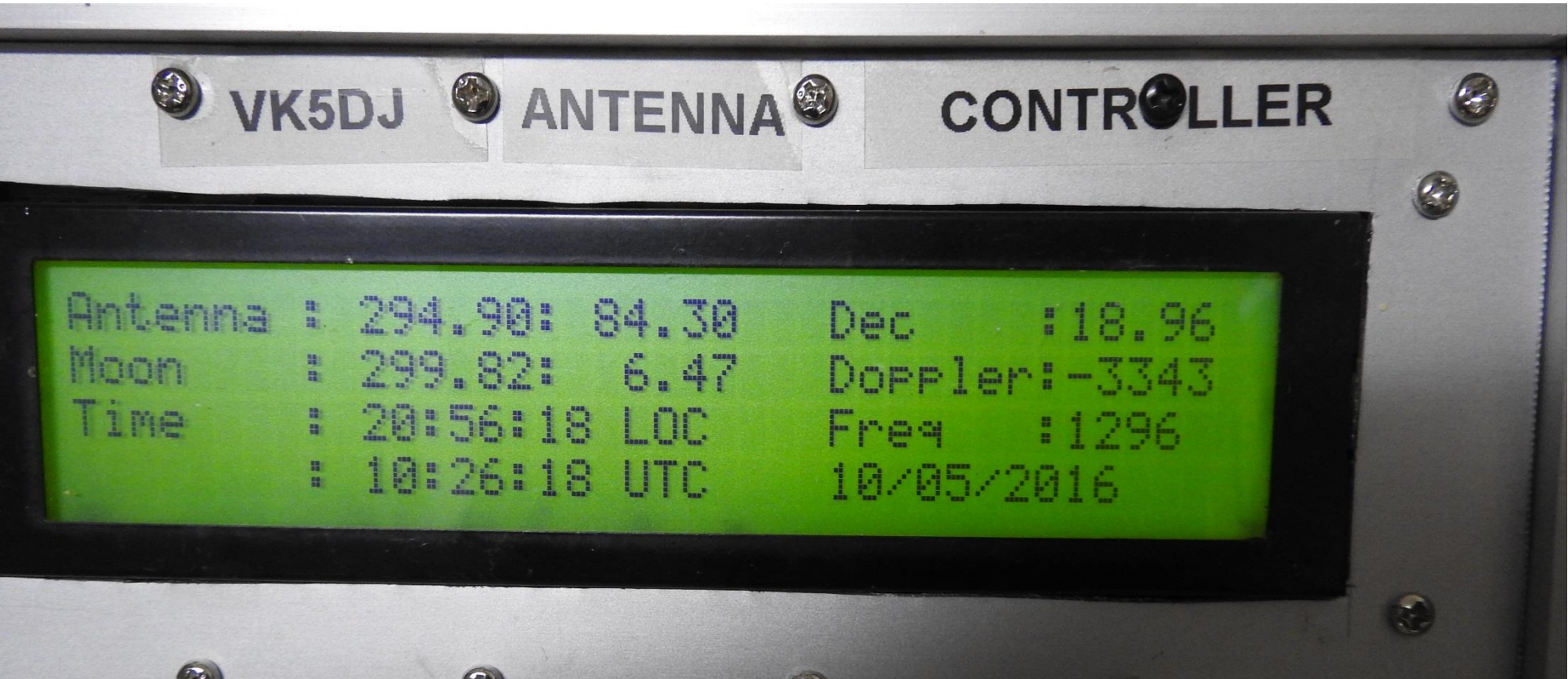
Winners

- Feed arm focus

Winners

- Absolute encoders and VK5DJ beam controller system , early 2 line display

Later 4 line display



VK5LP had made these 1985

Start of final assembley

Dish awaiting the mesh

Putting the mesh on

Its at this time that you need friends

Lift off

First tip over no feed arm yet

Feed arm installed

Performance *

- Disappointed at first – unofficial guest
- Moon noise 0.7 dB at 1296
- Sun noise 18 dB at 1296

Acknowledgements

- VK5LP for construction of the ribs
- VK5NC for engineering and design solutions
- VK5DJ for moon tracking system
- Many other amateurs have contributed in various ways

The late Ron Wilkinson VK3AKC said

“Nothing great was ever achieved with out enthusiasm”