



The Chilbolton Dish

THE REFLECTOR

- 25 m (82 ft) in diameter.
- Made from 48 aluminium panels of honeycomb construction, each weighing 272kg (600 lb).
- Covers 489 square metres (5260 sq ft) or about 1/8 acre in area.
- Weighs 429 tons, including the support structure, cabin and associated steelwork.
- Focal length of 9 m (29 ft 6 ins) - F/D ratio of 0.36.
- Allows for working up to a frequency of 30 GHz or a wavelength of 1 cm.



THE TOWER

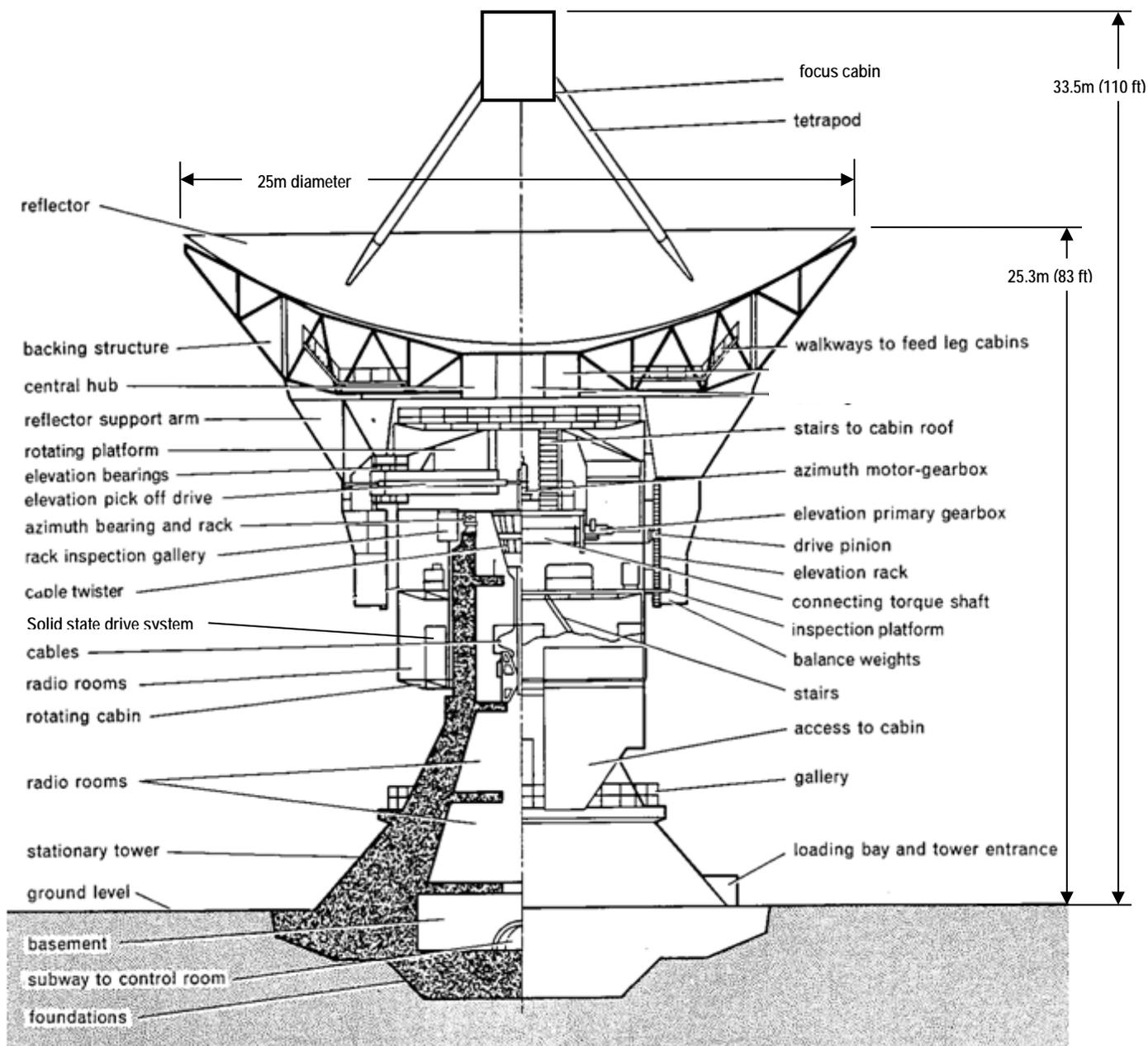
- 2500 tons of steel reinforced concrete.
- 13 m (43 ft) high.
- 15 m (50 ft) in diameter at ground level.
- 18 m (60 ft) in diameter at the foundation level.
- 4 m (13 ft) in diameter at the top.



THE AERIAL

- 34 m (110 ft) high at the top of the Focus cabin.
- 25.3 m (83 ft) high at the edge of the reflector at zenith.
- Can rotate at 3°/sec in azimuth and at 1° in elevation.
- Can rotate from 0° (due west) to 540° in azimuth (1 and a half complete turns).
- Driven by six 15 kW three phase vector drive motors. Four for azimuth (around and back) and two for elevation (up and down).
- Can operate in wind speeds of up to 60 mph.
- Built to withstand wind speeds in excess of 100 mph.
- Took almost 5 years to design and build.





An overall diagram of the Chilbolton Dish showing the stationary and moving features and the manner in which the parabolic dish is mounted and controlled in azimuth and elevation.

Today the dish supports the Chilbolton Advanced Meteorological Radar (CAMRa) which is a 3 GHz weather radar used for studying precipitation and is the largest fully steerable weather radar in the world.

The dish has also been used for radio astronomy, satellite signal testing, and for space surveillance to track and characterise satellites.

For further information please contact:

Mr Darcy Ladd
 STFC Chilbolton Observatory
 Drove Road
 Stockbridge
 SO20 6BJ
 U.K.

Tel.: +44 (0)1264 860391
 E-mail: darcy.ladd@stfc.ac.uk
 Web: www.stfc.ac.uk/chilbolton

