



Earth Station Antenna

Models ASL 13.2 LMC & LMKu Antennas

Engineering + Craftsmanship + Service

We welcome you to the world of **Alpha Satcom, Inc.** The oldest, new antenna company on the planet. **ASI** is dedicated to bringing to you, the discerning customer, world-class products and services at the right price and at the right time.

Comprised of a team of Engineers and Satellite Professionals, both of whom with a stellar history reaching back to the beginnings of the Satellite Industry, **ASI** is uniquely qualified to bring to the market new, modern, state-of-the-art, antennas that will provide years of exceptional service. Coupled with a network of select customer focused companies, **ASI** can address the various requirements your particular business plan requires. We invite you to step into the professional world of **Alpha Satcom, Inc.**

Antenna Features

1. Wide variety of feed options designed to meet the latest international standards.
2. Doubly contoured, high strength, lightweight aluminium panels fabricated on new aircraft quality tooling providing exacting close tolerances.
3. All steel structure are hot dipped galvanized after fabrication providing a thermal homogeneous structure to support operation at high frequencies.
4. Pedestal mounted azimuth jack providing ease of relocation for 190° coverage in two 120° segments.
5. Generous hub enclosure, 9.28 cubic meters (328 cu. ft.), with access for inclusion of RF components.
6. Stainless steel and galvanized metric hardware throughout.
7. Low cost apron type foundation design including anchor bolts and embedded hardware.

Optional Features

- S, C, X, Ku, DBS and Ka Band
- Tx/Rx, 2Tx/2Rx, TT&C, 6 Port Feeds
- Hybrid, Hi Power and Low Pim Feeds
- Two and Three Axis Motorization Packages
- Staircase and Platform for ready access to hub
- Aircraft Warning Lights
- Lightning Protection
- High Wind Designs
- Low Temperature Designs
- Deicing for Feed, Reflector and Sub reflector
- Single or Dual TX waveguide integration from Hub to across upper Az axis





Models ASL 13.2 LMC & LMK Antennas

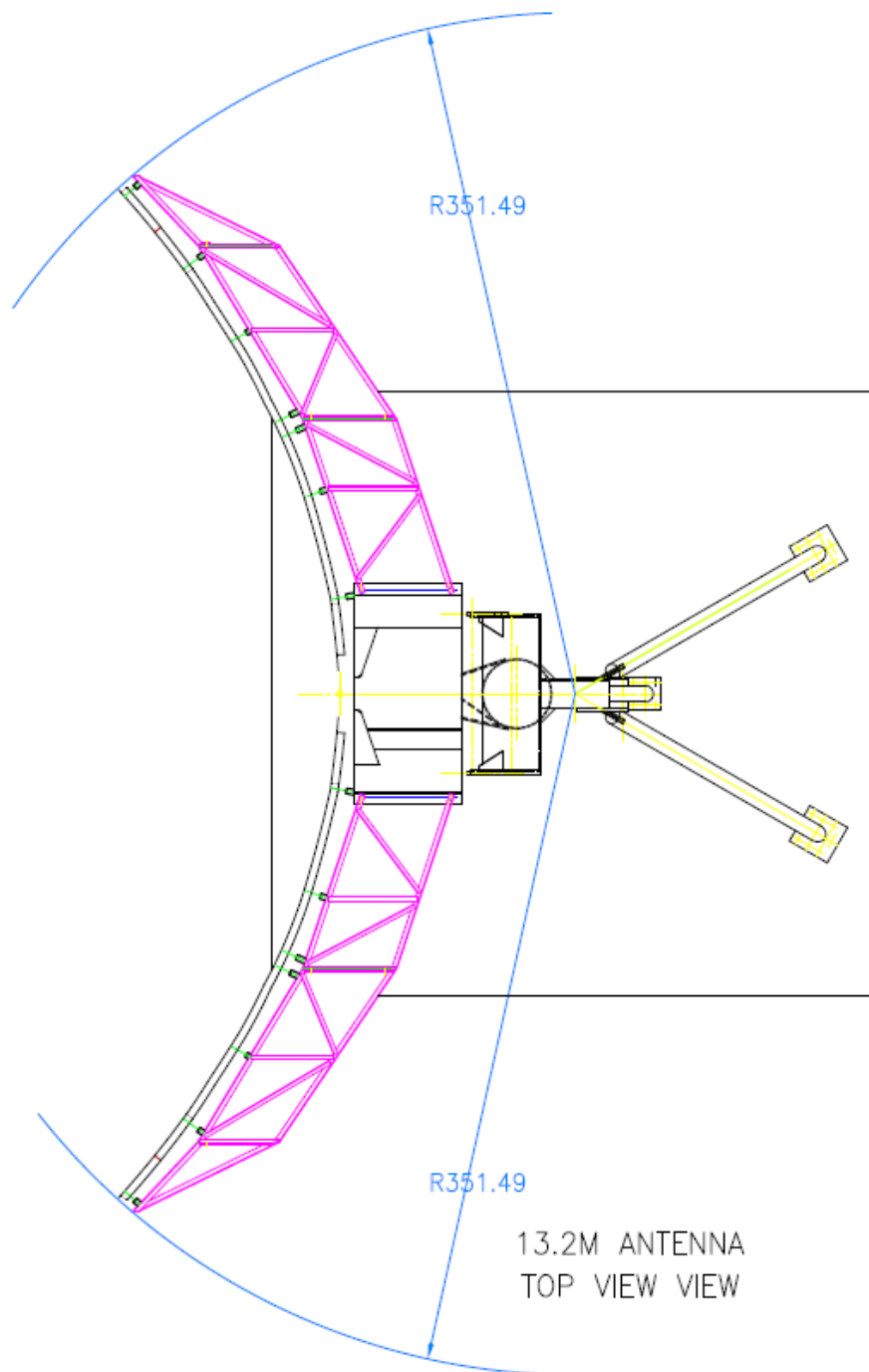
| MECHANICAL PERFORMANCE | |
|---------------------------|---|
| Antenna Diameter | 13.2 Meter (37 Ft) |
| RF Configuration | Cassegrain Optics |
| Hub Dimensions | 102.5" (2.60 M) diameter x 56" (1.42 M) height |
| Antenna Structure | Elevation over Azimuth, Pedestal & Reflector, Hot Dipped Galvanized After Fabrication |
| Reflector Panels | Three tiers: Twelve (12) Inner, Twenty-four (24) Mid, and Twenty-four (24) Outer. |
| Azimuth Drive | 190 Degree coverage in two (2) 120 Degree Segments, Self Locking, Mechanical Screw Jack Mounted to Pedestal |
| Elevation Drive | 5 to 90 Degree Continuous, Self Locking, Mechanical Screw Jack |
| Maximum Feed Pressure | 0.50 psi |
| Foundation | 33 Ft x 27 Ft x 2 Ft 66 cubic yards of concrete, 7000 lbs. of deformed re-enforcing bar. |
| ENVIRONMENTAL PERFORMANCE | |
| Operational Wind | 45 mph (72km/h) Gusting to 60 mph (97km/h) High Wind designs available |
| Survival Wind | 130 mph (209 km/h) at any position |
| Operational Temperature | +5F to +122F (-15C to +50C) |
| Survival Temperature | -22F to +140F (-30C to +60C) |
| Rain | 4 inches/hr (10cm/hr) |
| Relative Humidity | 100% |
| Solar Radiation | 360 BTU/hr/ft ² (1000 Kcal/hr/m ²) |
| Ice (survival) | 1 in (2.54cm) on all surfaces, no wind; 0.5 in (1.25cm) on all surfaces at 80 mph (130km/h) gusts |
| Atmospheric Conditions | As per the environment in industrial areas or coastal regions |
| Shock and Vibration | As encountered by commercial truck and air transportation |
| Seismic | 0.1 G Vertical and 0.3 G Horizontal Acceleration (8.3 Richter/11 Modified Mercalli Scale) |

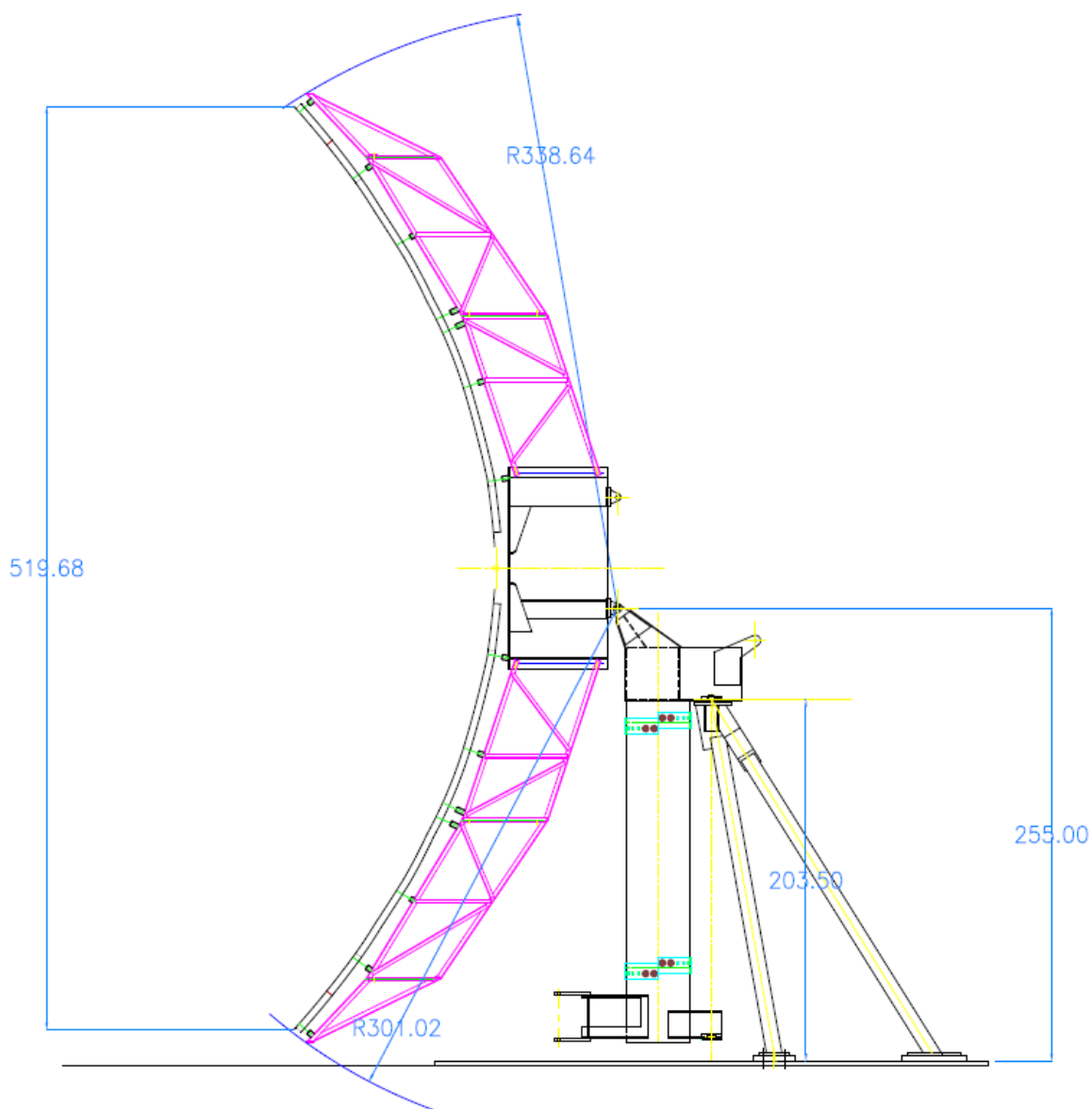
| Feed Configuration | | C-Band | | | C-Band | | | Ku-Band | | |
|---------------------------------|--------|-------------|------------|--|-------------|------------|--|-------------|------------|--|
| | | 4 Port Feed | | | 4 Port Feed | | | 4 Port Feed | | |
| | | CP | | | LP | | | LP | | |
| | | Receive | Transmit | | Receive | Transmit | | Receive | Transmit | |
| Frequency Range | GHz | 3.625-4.2 | 5.85-6.426 | | 3.625-4.2 | 5.85-6.426 | | 10.7-12.75 | 13.75-14.5 | |
| Mid-Band Gain | dBi | 52.52 | 56.85 | | 52.52 | 56.85 | | 61.56 | 63.69 | |
| VSWR Performance | deg | 1.3:1 | 1.3:1 | | 1.3:1 | 1.3:1 | | 1.3:1 | 1.3:1 | |
| 3dB Beam Width | deg | 0.36 | 0.24 | | 0.36 | 0.24 | | 0.12 | 0.16 | |
| 10dB Beam Width | deg | 0.62 | 0.41 | | 0.62 | 0.41 | | 0.21 | 0.28 | |
| Antenna Noise Temperature | | | | | | | | | | |
| 10 Degrees Elevation | Kelvin | 49 | | | 49 | | | 68 | | |
| 20 Degrees Elevation | Kelvin | 45 | | | 45 | | | 61 | | |
| 40 Degrees Elevation | Kelvin | 44 | | | 44 | | | 59 | | |
| LNA Noise Temperature | Kelvin | 26 | | | 26 | | | 120 | | |
| System Temperature | Kelvin | 71 | | | 71 | | | 87 | | |
| Typical G/T @ 20 Degrees | dB/K | 34.01 | | | 34.01 | | | 39.1 | | |
| Tx Power Capability | Watts | | 10000 | | | 10000 | | | 10000 | |
| Port to Port Isolation | | | | | | | | | | |
| Tx > Rx Rejection | dB | 85 | 0 | | 85 | 0 | | 85 | 0 | |
| Rx > Tx Rejection | dB | 0 | 85 | | 0 | 85 | | 0 | 85 | |
| Rx-Rx, Tx-Tx (CP) | | 35 | 35 | | | | | | | |
| Rx-Rx, Tx-Tx (LP) | | | | | 35 | 35 | | 35 | 35 | |
| Cross-pol on Axis | dB | 35 | 35 | | 35 | 35 | | 35 | 35 | |
| Cross-pol across 1dB Beam width | dB | 30 | 30 | | 30 | 30 | | 30 | 30 | |
| Insertion Loss | dB | 0.4 | 0.4 | | 0.4 | 0.4 | | 0.65 | 0.5 | |
| Sidelobe Envelope | dBi | | | | | | | | | |
| Feed Interface | | | | | | | | | | |

29-25 Log Theta (1 to 20 deg) ITU-580

WR-229 CPR WR-137 CPR WR-229 CPR WR-137 CPR WR-75 CPR WR-75 CPR

(All values listed are measured at rear feed output flange) (Note: Other Operational Frequencies Available)





13.2M ANTENNA
SIDE VIEW