

3.7m Antenna

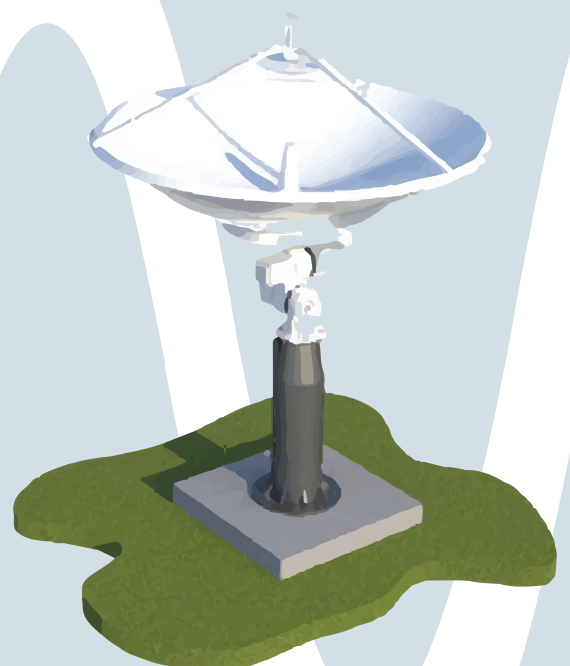


Milexia offers Space Comm Systems in house designed and manufactured 3.7m antenna. This 3.7m antenna offers high performance and a high reliability X/Y terrestrial mount system engineered for pointing accuracy and broad capability. It can use a single feed or combination of Cassegrain and Prime focus feeds that can be combined with a frequency selective sub-reflector for use as a single, dual and triband antenna for ground to space communications.

The modular design, carbon fibre reflector, struts and subreflector mounting (if needed) allows us to leverage multiple feeds and supporting RF equipment to tailor systems for customer requirements minimising customer specific development costs.

Key Features:

- **Modular Design:** Modular mounting, interfaces and software allow integration of our full range of feeds and customer requested equipment with minimal integration activities.
- **Robust Construction:** Durable carbon fibre reflector and mounts, powerful dual axis cycloidal gearbox capable of withstanding harsh environments.
- **OpenAPI Software:** Control software designed for full standalone operation AND integration into larger networks.
- **Component Integration:** Software packages are activated based on connected equipment and processes.
- **Optimized Optics:** Reflector Optics are micro-shaped for the best Prime and Cassegrain feed performance.
- **Surface Accuracy:** Carbon fibre reflector lay up to suit RF frequency requirements, with Surface Deviation RMS achieved $<0.25\text{mm}$.
- **Precise positioning:** 26 Bit Absolute encoders (0.000005°) on each axis output, with supporting Closed Loop Power Tracking for maximum performance.



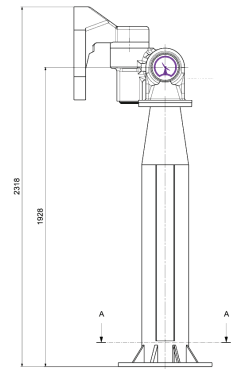
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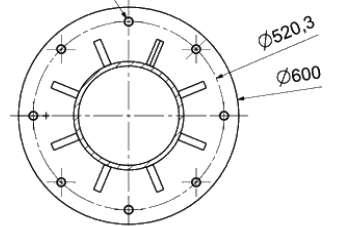
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Technical Specifications

Parameter	Specification
Diameter	3.7m
Reflector Construction	6 Petal -High-modulus carbon fibre composites
Surface Accuracy	0.5-<0.25mm RMS (Frequency dependant)
Frequency Compatibility	L, S, C, X, Ku, Ka, Q and V Bands
Pointing Accuracy	<0.05°, Power track,
Encoder Resolution	26 Bit, (0.000005°)
Gearbox Type	Precision Cycloidal Zero Backlash Final Drive Gearbox
Axis Speed	12 °/s both axes simultaneously
Mounting	Anchor bolt see bolt size and PCD image right
Weight	≈ 1500 kg



8 X M20 - Ø 22 THRU



SECTION A-A

Environmental Specifications

Parameter	Specification
Operational Wind Load (mph/kph)	60 mph / 97kph
Survival Wind Load (mph/kph)	125 mph / 210 kph
Rain	Above 100mm/hr
Snow Load	60cm/hr up to 3m
Ice	12.7mm (1/2") on all surfaces
Hail	<15mm Diameter at <25m/s at <20° incline
Solar Load	1,120 W/m ²
Relative Humidity	100% Condensing
Shock Loads	Transport loads, Truck loading and unloading, air and sea freight and seismic loads
Temperature	Cold C2 - Hot Dry A1
Operational	-46°C (-50°F) to + 49°C (120°F)
Survival °C(°F)	-50°C (-60°F) to +71°C (160°F)
Optional Hot	-20°C (-4°F) to+ +55°C (131°F)
Optional Cold	-50°C (-58°F) to +40°C (86°F)

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