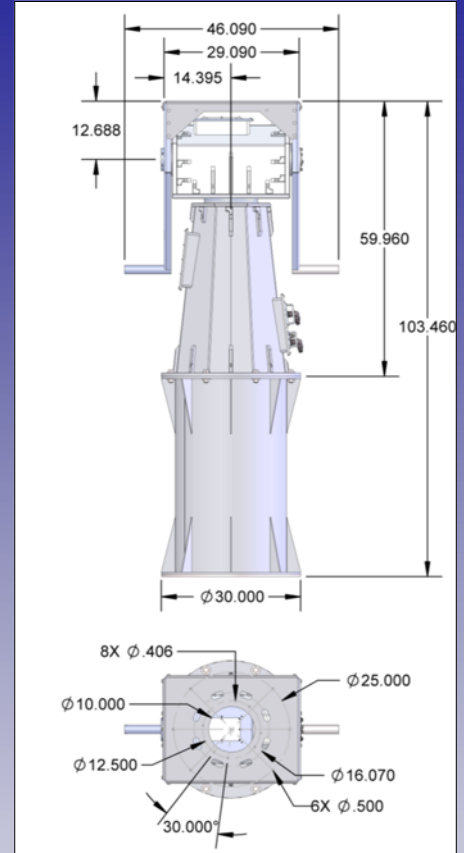




# 3.7M FULL SKY S & X BAND ANTENNA SYSTEM

**AE2000 / 3.7M / S & X Band Systems  
Starting at \$ 177,500.00**



## SPECIFICATIONS:

Model ..... FGAE2000-3.7-STR-XR  
 Max Velocity ..... 20 Degrees Per Second  
 Max Acceleration ..... 20 Degrees Per Second  
 Backlash ..... 0.01 Degrees  
 AZ Travel ..... 700 Degrees Adjustable  
 EL Travel ..... 135 Degrees Adjustable  
 Travel Limits ..... Soft and Hard Adjustable  
 Pointing Accuracy ..... 0.05 Degrees  
 Parabolic Reflector Size ..... 3.7M (12.0')  
 Focal Length ..... 57.6"  
 F/D Ratio ..... 0.4  
 Feed Type ..... S-Band / X-Band  
 Feed Polarity ..... S-Circular / X-Circular  
 Antenna Gain, S-Band Rx ..... 31.2 dB  
 Antenna Gain, S-Band Tx ..... 33.3 dB  
 Beam-Width, 3 dB ..... 3.1 Degrees  
 S-Band LNA Noise Figure ..... 0.4 dB  
 S-Band LNA Gain ..... 58 dB Min  
 S-Band Receive Frequency ..... 2.2-2.3 GHz  
 S-Band Transmit Frequency ..... 1.95-2.12 GHz

Tx to Rx Path Isolation ..... >145 dB  
 S-Band Transmit Power ..... >70 Watts (48.45 dBm)  
 S-Band Transmit EIRP ..... 83.3 dBm  
 Antenna Gain, X-Band ..... 43.7 dB  
 Beam-Width, 3 dB ..... 0.85 Degrees  
 X-Band LNB Gain ..... 58 dB Min  
 X-Band LNB Noise Figure ..... 0.6 dB  
 X-Band Receive Frequency ..... 7.75-8.5 GHz



**Radeus Labs RL2200 ACU**

## FEATURES:

The **FGAE2000-3.7-STR-XR** has been specifically architected for the Earth-Sat and Cube-Sat community as an easily deployable long life Satellite-Earth-Terminal. The **M2 Antenna Systems** RF electronics section has been engineered to multiplex the S-Band transmit amplifier onto either the LHCP or RHCP port of the feed, with sufficient isolation of the transmit signal from the receive Low-Noise Amplifier (LNA) to allow for full-duplex operation. Simultaneous S-Band receive of both LHCP and RHCP allows for Full-Duplex operation with remote selection of the transmit path. Remote path selection of X-Band polarity is also achieved. (4) RF lines, with auxiliary I/O and ethernet connectors are easily accessible at the base of the pedestal. The RF electronics Management and Control (M&C) is accomplished via 10/100 Ethernet, streamlining integration into automated mission control systems. 20 degrees per second of simultaneous Azimuth and Elevation motion designed to support the growing **LEO** and **MEO** needs, eliminating the Keyhole challenge for the Low-flyers during overhead passes.

For full Antenna Control, **M2 Antenna Systems, Inc.** has teamed with **Radeus Labs Inc.** The **Model RL2200 ACU** provides accurate and dependable tracking performance for full motion applications. Features include: Touchscreen control, efficient and intuitive GUI, hardware jog panel & motion indicators, nonvolatile data storage, Ethernet SNMP interface, Remote I/O control card for motor and encoder management with a single Ethernet cable interface between ACU and DC.

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# 3.7M FULL SKY S & X BAND ANTENNA SYSTEM



**M2 RF Electronic Enclosure (RFE)**



**M2 Remote Power Unit (RPU)  
And Jog Controller**

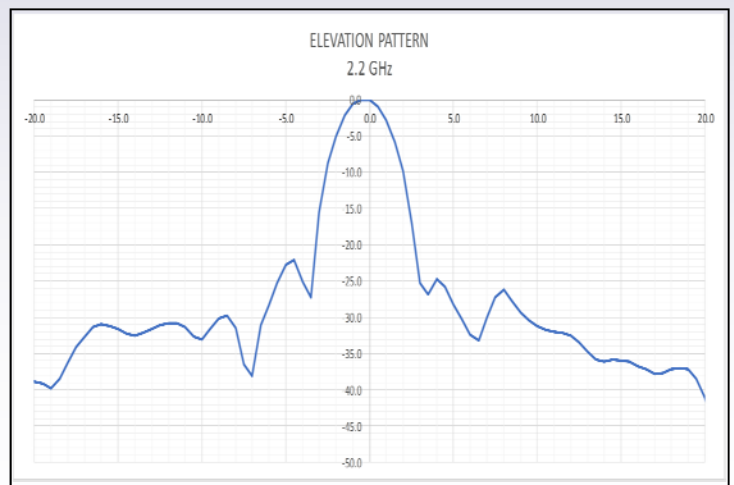
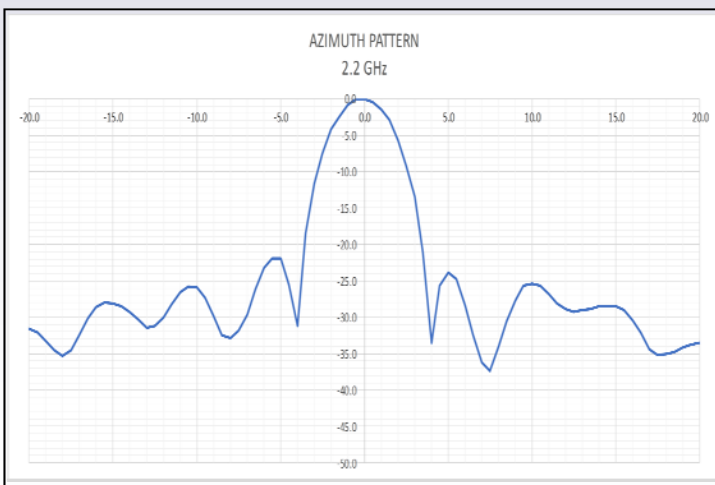


**M2 S/X Band Feed**

The RF Electronics package (**RFE**) has been developed to provide a flexible user-based electronics housing solution. The RFE can be configured for receive only applications, supporting power injection to and signal transport from LNA's and LNB's. For externally referenced LNB operation, the user provided reference can be inserted at the RFE. Optionally, a High-Stability TCXO can be added. The RFE can also be configured for full-duplex (Simultaneous receive and transmit) operation, with the addition of a 100 Watt HPA in the electronics enclosure. Another feature of the RFE is the option to add RF over fiber-optic signal transport, minimizing cable count, while expanding the number of signal lines available for multi-band operations.

The Remote Power Unit (**RPU**) houses the **Radeus Labs** interface module, power supplies for both Smart Motors and electronic brakes, along with the I/O breakout and 10/100 Ethernet hub. A removable "Jog" control enclosure for remote movement during initial setup and maintenance is also included.

The **M2 Antenna Systems FGFD-2-SC-XC-1**, Dual-Band feed is designed for either Prime-Focus or Compact Cassegrain configured reflectors. The Dual-Circular S-Band section can support power levels in excess of 100 Watts for transmit applications. Band coverage in S-Band is from 1.95-3.05 GHz, using precision "N" interface connections. The Dual-Circular X-Band section can support power levels in excess of 1 kW for transmit applications and covers the 7.0-8.5 GHz frequency range. The interface for X-Band is via the industry standard WR-112 waveguide flanges.



S-Band patterns taken using the M2 Antenna Systems FGFD-2-SC-XC-1 Dual-Band Feed, installed on a 3.7M Reflector at 2.2 GHz.

If you would like more details, please contact our office at (559) 432-8873 or by email at [comsales@m2inc.com](mailto:comsales@m2inc.com).