

# 8 - 10 FOOT ANTENNA SYSTEM

## MODEL 3000



### KEY FEATURES

|                                               |
|-----------------------------------------------|
| 2-Axis Elevation-Over-Azimuth                 |
| Autotracking / Program Tracking               |
| 8', 10' and 12' Solid or Sectional Reflectors |
| Receive, Transmit                             |
| UHF, L, S, C, X, Ku Band                      |
| iNET (Option)                                 |
| Swappable Feeds                               |
| HD or SD Boresight Camera                     |
| Shipboard Compatibility                       |
| Radome                                        |
| Local and Remote ACUs                         |

### GENERAL DESCRIPTION

Engineered for high-performance tracking in both fixed and transportable configurations, Model 3000 is built to support operations in challenging environments. Whether deployed as a mobile asset or integrated into a permanent infrastructure, it delivers reliable, high-precision performance.

The system supports 8-foot, 10-foot, and 12-foot reflectors, available in solid or sectional designs to accommodate transport and deployment needs. With support for single, dual, and tri-band operation—using either primary or Cassegrain feed architectures—the Model 3000 offers exceptional flexibility. Swappable feed assemblies enable rapid adaptation to shifting frequency or mission requirements.

Designed with integration in mind, the Model 3000 can be mounted on a wide range of platforms, including towers, trailers, vehicles, rooftops, and maritime structures. Standard mounting kits are available or custom-engineered solutions can be developed for specialized applications.

The system interfaces seamlessly with all our Antenna Control Units (ACUs), from standalone consoles to rackmount and embedded configurations. This ensures consistent control and interoperability across all deployment types.

With a foundation in modular design, the Model 3000 is available in a range of standard configurations and can be customized to meet unique operational needs.



### RELATED PRODUCTS

| ACU | Receiver | Recorder | Gateway |
|-----|----------|----------|---------|
|     |          |          |         |

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### DIMENSIONAL DRAWINGS

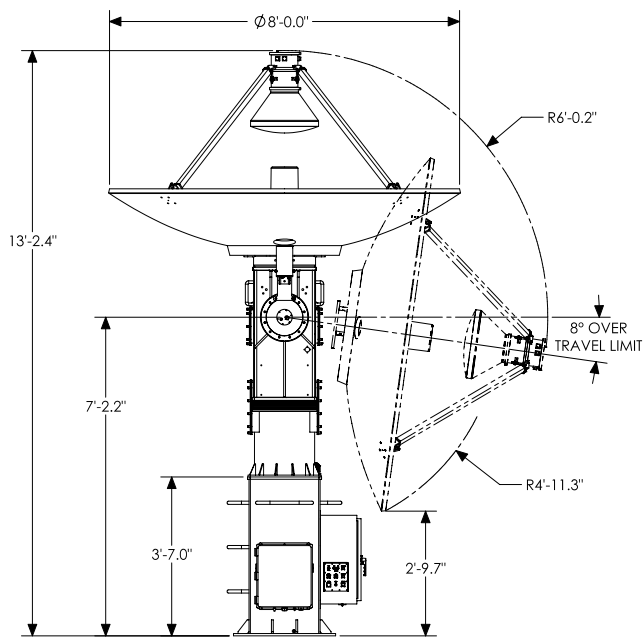


Figure 1: Model 3000-8 Drawing

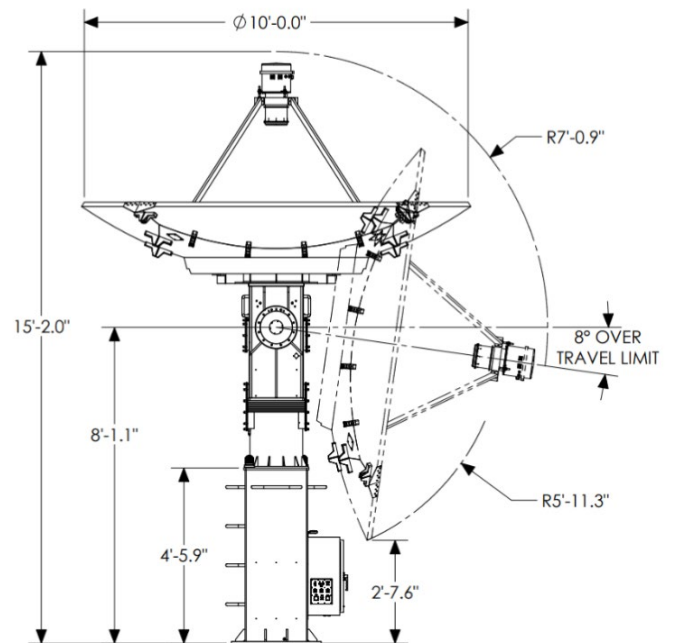


Figure 2: Custom Model 3000-10 Drawing

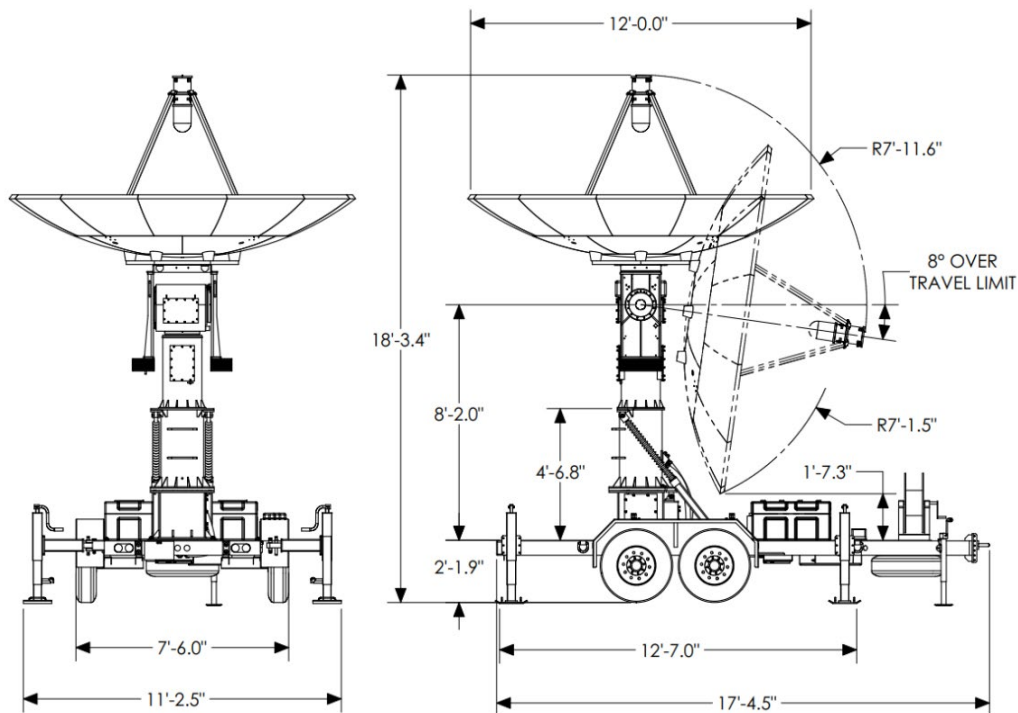


Figure 3: Model 3000M-12 Drawing

Drawings shown illustrate a subset of available configurations. Upon request, TCS can supply additional drawings or customize a solution to meet your exact requirements.



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### AZIMUTH-OVER-ELEVATION TECHNICAL SPECIFICATIONS

| FEATURES                                                                                                                                                                                                                                                              |            | 3000-8                                                                                                                                               | 3000-10                                                               | 3000-12                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Tracking                                                                                                                                                                                                                                                              |            | Autotracking or Program Tracking                                                                                                                     |                                                                       |                                                                                         |
| Pedestal Type                                                                                                                                                                                                                                                         |            | Single Drive / Dual Drive                                                                                                                            | Single Drive / Dual Drive                                             | Dual Drive                                                                              |
|                                                                                                                                                                                                                                                                       |            | Elevation-Over-Azimuth                                                                                                                               |                                                                       |                                                                                         |
| Reflector Size                                                                                                                                                                                                                                                        |            | 8-Foot                                                                                                                                               | 10-Foot                                                               | 12-Foot                                                                                 |
| Reflector Type                                                                                                                                                                                                                                                        |            | Solid or Sectional                                                                                                                                   | Sectional                                                             |                                                                                         |
| Velocity & Acceleration (Up To)                                                                                                                                                                                                                                       |            | Single Drive: $\geq 30^\circ/\text{sec}$ & $\geq 45^\circ/\text{sec}^2$                                                                              |                                                                       | N/A                                                                                     |
|                                                                                                                                                                                                                                                                       |            | N/A                                                                                                                                                  | Dual Drive: $\geq 20^\circ/\text{sec}$ & $\geq 45^\circ/\text{sec}^2$ |                                                                                         |
| Power Requirements                                                                                                                                                                                                                                                    |            | Standard Single Drive: 115V $\pm$ 10% @ 60Hz or 220V $\pm$ 10% @ 50Hz<br>Standard Dual Drive: 3-Phase 115/208 VAC @ 60Hz<br>Custom Options Available |                                                                       |                                                                                         |
| Torque (Continuous & Peak)                                                                                                                                                                                                                                            |            | Single Drive: 850 / 1,500 ft-lbs                                                                                                                     |                                                                       | N/A                                                                                     |
|                                                                                                                                                                                                                                                                       |            | N/A                                                                                                                                                  | Dual Drive: 1,600 / 2,400 ft-lbs                                      |                                                                                         |
| System Weight                                                                                                                                                                                                                                                         |            | 1,200 lbs                                                                                                                                            | 1,400 lbs                                                             | 1,850 lbs                                                                               |
| Feed Type                                                                                                                                                                                                                                                             |            | Conical Scan                                                                                                                                         |                                                                       |                                                                                         |
| Feed Option                                                                                                                                                                                                                                                           |            | N/A                                                                                                                                                  | iNET                                                                  |                                                                                         |
| Data Transfer                                                                                                                                                                                                                                                         |            | Receive / Transmit                                                                                                                                   |                                                                       |                                                                                         |
| Frequency Bands                                                                                                                                                                                                                                                       |            | *UHF, L, S, C, X, Ku                                                                                                                                 |                                                                       |                                                                                         |
| Polarization Options                                                                                                                                                                                                                                                  |            | Linear, LHCP, RHCP                                                                                                                                   |                                                                       |                                                                                         |
| G/T                                                                                                                                                                                                                                                                   |            | Provided Upon Request                                                                                                                                |                                                                       |                                                                                         |
| Control Options                                                                                                                                                                                                                                                       |            | Local/Remote: Serial or Fiber Optic                                                                                                                  |                                                                       |                                                                                         |
| ACU                                                                                                                                                                                                                                                                   | Local      | Red Hat Enterprise Linux v8, v9, (v10 coming soon)                                                                                                   |                                                                       |                                                                                         |
| Operating System                                                                                                                                                                                                                                                      | Remote     |                                                                                                                                                      |                                                                       |                                                                                         |
|                                                                                                                                                                                                                                                                       |            | Red Hat Enterprise Linux v8, v9, (v10 coming soon) or Windows 11                                                                                     |                                                                       |                                                                                         |
| ACU Operation Temperature                                                                                                                                                                                                                                             |            | 0°C to +35°C                                                                                                                                         |                                                                       |                                                                                         |
| Operating Temperature                                                                                                                                                                                                                                                 |            | -25°C to +55°C                                                                                                                                       |                                                                       |                                                                                         |
| Storage Temperature                                                                                                                                                                                                                                                   |            | -50°C to 70°C                                                                                                                                        |                                                                       |                                                                                         |
| Wind Speed                                                                                                                                                                                                                                                            | Operating  | 55 mph                                                                                                                                               |                                                                       |                                                                                         |
|                                                                                                                                                                                                                                                                       | Stowed     | 120 mph                                                                                                                                              |                                                                       |                                                                                         |
| Azimuth Travel (Options)                                                                                                                                                                                                                                              |            | Standard: $\pm 540^\circ$ Cable Wrap<br>Continuous: Slip Ring & 2 Ch or 3 Ch RJ                                                                      |                                                                       |                                                                                         |
| Elevation Travel                                                                                                                                                                                                                                                      | Electrical | -5° to +185°                                                                                                                                         |                                                                       |                                                                                         |
|                                                                                                                                                                                                                                                                       | Mechanical | -8° to +188°                                                                                                                                         |                                                                       |                                                                                         |
| Standard System Options                                                                                                                                                                                                                                               |            | ACU Local and/or Remote<br>Boresight Camera<br>GPS & IMU<br>Hydraulic Tilt Base<br>Radome<br>Remote Stow                                             |                                                                       | RF over Fiber Riser<br>Extension Test Inject<br>Transmit<br>Trailer<br>Video over Fiber |
| * Available frequency bands vary by application, and not all can be included in a single antenna.<br>TCS can modify existing antennas or develop custom designs to meet your specific needs.<br>Alternative XY, KA, and 3-Axis Systems may be available upon request. |            |                                                                                                                                                      |                                                                       |                                                                                         |



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### ANTENNA CONTROL UNITS

|        |                      |                                                                                                                                                            |                                                                                               |                        |
|--------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------|
| ACU-M1 | Dimensions           | 7U (10.25" x 19" x 13")                                                                                                                                    |            |                        |
|        | Weight               | < 30lbs                                                                                                                                                    |                                                                                               |                        |
|        | Power                | 90VAC to 220VAC, < 200W (Typical)                                                                                                                          |                                                                                               |                        |
|        | Purpose              | Userfriendly interface for operator control.<br>Maximum hardware expansion possibilities.                                                                  |                                                                                               |                        |
|        | Display              | 15" Color Touchscreen                                                                                                                                      |                                                                                               |                        |
|        | Supported Interfaces | Up to 8 Receiver AM & AGC Inputs Optional:<br>GPS/IRIG Interface                                                                                           | Ethernet<br>Synchronous Serial                                                                | Asynchronous<br>Serial |
| ACU-M2 | Dimensions           | 2 U (17" x 19" x 3.5")                                                                                                                                     |            |                        |
|        | Weight               | < 30lbs                                                                                                                                                    |                                                                                               |                        |
|        | Power                | 90VAC to 220vac , < 200W (Typical)                                                                                                                         |                                                                                               |                        |
|        | Purpose              | Useful in unmanned, remotecontrol applications as part of a constellation with many systems.<br>Minimal hardware expansion is possible.                    |                                                                                               |                        |
|        | Display              | No Display, External VGA Connection (Optional Display)                                                                                                     |                                                                                               |                        |
|        | Supported Interfaces | Asynchronous<br>Serial Synchronous<br>Serial Ethernet                                                                                                      | Up to 2 Receiver AM & AGC Inputs<br>Optional: GPS/IRIG Interface                              |                        |
| ACU-M3 | Dimensions           | 6" x 6" x 4.5"                                                                                                                                             |          |                        |
|        | Weight               | 3.25lbs                                                                                                                                                    |                                                                                               |                        |
|        | Power                | 28VDC - Less than 40W (Typical)                                                                                                                            |                                                                                               |                        |
|        | Purpose              | Remote interface only Program Tracking<br>Antenna system is a "node on the network"<br>Designed to be embedded inside pedestal and rugged for outside use. |                                                                                               |                        |
|        | Display              | No display, External VGA Connection for Troubleshooting                                                                                                    |                                                                                               |                        |
|        | Temperature          | Operational/Storage: 40°C to +85°C                                                                                                                         |                                                                                               |                        |
|        | Supported Interfaces | Ethernet<br>Asynchronous Serial                                                                                                                            | GPS Timing<br>Networking Timing                                                               |                        |
| ACU-M4 | Dimensions           | 4U (20" x 19" x 7")                                                                                                                                        |          |                        |
|        | Weight               | < 30lbs                                                                                                                                                    |                                                                                               |                        |
|        | Power                | 90VAC to 220VAC - Less than 200W (Typical)                                                                                                                 |                                                                                               |                        |
|        | Purpose              | Useful in unmanned, remotecontrol applications Classified operations where data storage is not feasible Full Autotracking Capability                       |                                                                                               |                        |
|        | Display              | No Display, External VGA/HDMI connection (Optional Display)                                                                                                |                                                                                               |                        |
|        | Supported Interfaces | Asynchronous Serial<br>Synchronous Serial<br>Ethernet                                                                                                      | Embedded Receiver Capable<br>Up to 8 Receiver AM & AGC Inputs<br>Optional: GPS/IRIG Interface |                        |



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### ANTENNA CONTROL UNIT DISPLAY OPTION



The ACU-M4LR is a centralized operator interface designed to work in conjunction with existing ACU systems. The ACU-M4LR does not replace the antenna control unit; rather, it provides a single display and control environment that allows operators to monitor and manage multiple ACU-controlled antenna systems from one workstation. In a standard configuration, the ACU-M4LR interfaces with a local ACU through an integrated fiber-optic connection and communicates with remote ACU-controlled antenna systems over Ethernet. The system can also provide Ethernet-based control of pan-and-tilt camera systems, enabling antenna and site monitoring from the same user interface.

The primary advantage of the ACU-M4LR is the consolidation of multiple control functions into a single operator display. By integrating local and remote ACUs into one interface, operators can control and monitor multiple antenna systems without the need for separate consoles, reducing complexity and improving operational efficiency. The ACU-M4LR features a modular design with customizable displays to support a broad range of operational requirements, including:

- Multiple remote-control options
- Receiver and support equipment monitoring and control
- Time code reader and GPS integration
- Single-console operations
- Acquisition and data hardware integration

This approach allows organizations to leverage their existing ACU infrastructure while providing operators with a unified interface for managing multiple antenna systems from a single location

Recognizing that no standard product fits every mission, Delta Telemetry Systems is ready to deliver tailored solutions for your unique application requirements.

Specifications subject to change without notice.

