

### 2met!® TRACKING ANTENNA 2.4/2.8/3.0 X/Y Tracking Satellite Antennae

Release 2.2



2met!® Tracking Antenna equipped with 2.8m reflector

#### FUNCTIONS

- Automatic satellite acquisition and tracking
- Support of S-, L- and X-band missions like NOAA, METOP, Feng-Yun, OrbView, TERRA, AQUA, SUOMI NPP and JPSS
- Program Track with various data formats (TLE, TBUS)
- Auto-track capabilities with a 2met!® DSR III receiver
- Remote control and diagnosis (SLA agreements)

#### ADVANTAGES

- Simplified system layout
- Tracking with no keyhole effect
- Data output primarily by a 16-bit parallel interface
- Multi-mission capability
- CLK/NRZ output on RS-422
- Parallel interface card drivers running on LINUX, SOLARIS or Windows operating systems

### General Description

The X/Y Tracking Antenna consists of following components:

- parabolic reflector
- X/Y type pedestal
- DC servo motor drives
- limit switches
- electro-mechanical brakes
- shaft encoders
- motor control unit (MCU)
- antenna interface unit (AIU)
- power and control cabling

The X/Y Tracking Antenna is designed to receive signals from S-/L-/X-band type polar orbiting satellites like NOAA, METOP, Feng-Yun, OrbView, TERRA, AQUA, SUOMI NPP and upcoming JPSS missions.

The X/Y pedestal provides a program-controlled automatic tracking system allowing for movement in both, X and Y directions. DC motors driven by a 4-quadrant pulse width modulation system in conjunction with digital shaft encoders allow full servo position control. The motors drive the axes through a primary gearbox and a cycloid zero back-lash transmission unit. Primary and secondary limit switches at all extreme positions increase overall safety.

The pedestal is designed to be mounted on a stable foundation, such as a concrete pad, fastened in place by suitable threaded rods and is connected to the control equipment by the appropriate power and control cables. The maximum distance between the pedestal and the motor control unit is 75m. Using special cabling set, it may be extended up to 130m.

The tracking antenna can be used with unshielded parabolic reflectors ranging from 2.4 up to 3.0m size.

The Tracking Control System can be fully controlled by the 2met!® ACQUISITION POLAR SW or as a stand-alone system performing pass prediction by means of the tracking unit itself.

On optional basis a suitable radome can be provided for all antenna types.

### Technical Characteristics

#### Mechanical

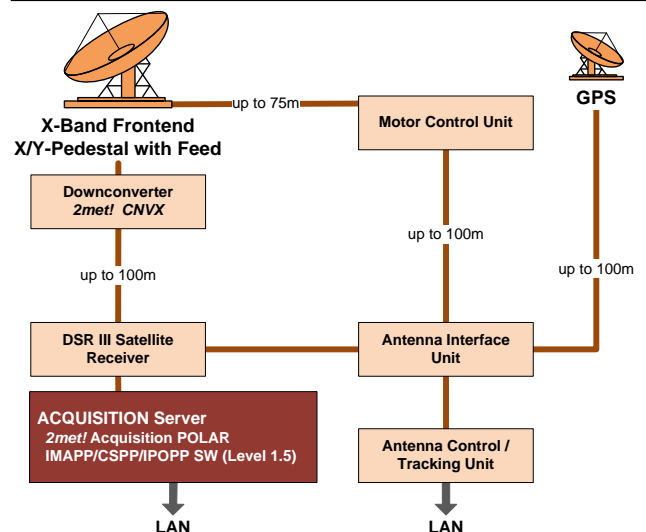
Reflector Diameter	2.4 / 2.8 / 3.0m
Antenna Optics	Prime Focus or Cassegrain
Mount Size	1.2m x 1.2m
Rotary Ranges	0° to 180° on both axes
Slew Rate	5°/s on both axes
Max. Acceleration	8°/s <sup>2</sup> on both axes
Pointing Accuracy	+/- 0.005°
Tracking Error	< +/- 0.50 RMS
Weight Pedestal	795 kg

#### Electrical

Frequency Range	1.7 - 2.1 / 7.7 - 8.3 GHz
Gain	26.0dB (X-Band)
Beam Width (3dB)	5.0° (L-Band); 1.0° (X-Band)

#### Environmental

Temperature	-30° ...+50° C
Operational Wind	> 100km/h
Survival Wind	> 150km/h
Wind Load	53 KN (100 km/h)



X-Band System Architecture

### Ordering Information

#### 2met!® Tracking Antenna XY

This version provides all functions to receive data from all relevant S-/L- and X-band missions.

### Contacts

If you have any questions, please contact our Marketing and Sales Department at 2met@scisys.de

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