

C-Band Capabilities

9.3 Meter Dual-Reflector Earth Station Antennas

Now telecommunications and television system operators, integrators and designers can bring their systems on line faster, more economically, and with superior performance with the Andrew 9.3-meter Earth Station Antenna (ESA). In use around the world in broadcast applications and high-density data, voice, communications networks, the Andrew 9.3-meter ESA features a computer-optimized dual reflector Gregorian system coupled with independently adjustable reflector panels and trusses and close-tolerance manufacturing techniques. This combination provides extremely accurate surface contour, exceptionally high gain, superior efficiency, and closely controlled pattern characteristics. Additionally, the elevation-over-azimuth mount enables horizon-to-horizon coverage from any worldwide location.

Our wide selection of Type Approved antennas speeds system deployment. Type Approved Andrew ESAs can be deployed in the field with minimal testing and decreased administrative and approval requirements.

Andrew ESAs provide maximum durability with minimal maintenance. The hot-dipped galvanized steel ground mount assembly ensures extended product life. Galvanized and stainless steel hardware maximizes corrosion resistance.

A variety of options are available for cost effective system expansion, including 2- or 4-port linearly- or circularly-polarized combining networks, programmable control systems, feed rotation systems, maintenance platforms, professionally designed and documented cross-axis waveguide kits, and pressurization systems. Microprocessor and steptrack controls are also available for motorized antennas.



Features:

- High Gain, Excellent Pattern Characteristics
- Advanced Gregorian Optics
- Horizon-to-Horizon Coverage with Elevation-over-Azimuth Mount
- Rugged Aluminum and Steel—125 mph (200 kph) Wind Survival
- 3-year Warranty on All Structural Components

Compliances:

- INTELSAT B, D-2, F-1, F-2, F-3, G
- ITU-R, S.580-4 and S.465-5
- FCC regulation 25.209
- Approved for use in the territory of Russia by the Ministry of Communications of the Russian Federation (Reference: Homologation Certificate No OC/I-A -φ-1)

Electrical

Operating Frequency Band	
<i>C-Band Receive</i>	3.4-4.2 GHz
<i>C-Band Transmit</i>	5.850-6.725 GHz

9.3m Series, with 2 port linear combiner			
<i>Rx Frequency</i>	<i>Rx Gain</i>	<i>Tx Frequency</i>	<i>Tx Gain</i>
3.400 GHz	49.2	at 5.850 GHz	53.5
3.625 GHz	49.6	at 6.175 GHz	53.9
4.000 GHz	50.4	at 6.425 GHz	54.1
4.200 GHz	50.8	at 6.725 GHz	54.6

9.3m Series, with 4 port circular combiner			
<i>Rx Frequency</i>	<i>Rx Gain</i>	<i>Tx Frequency</i>	<i>Tx Gain</i>
3.625 GHz	50.0	at 5.850 GHz	53.1
4.000 GHz	50.9	at 6.175 GHz	53.5
4.200 GHz	51.3	at 6.425 GHz	53.8

Polarization
Linearly- or Circularly-Polarized

Polarization Discrimination, (Linearly-Polarized):
>35 dB across 1 dB beamwidth 19 - 25 log θ from 1.8° to 9.2°

Voltage Axial Ratio, C-Band, circularly-polarized with 4-port combiner
<1.06:1 across the 1 dB beamwidth <1.09 and 1.2 with 2-port

Beamwidth, Mid-band, Degrees	C-Band
<i>3 dB Receive (Transmit)</i>	0.51 (0.34)
<i>15 dB Receive (Transmit)</i>	1.00 (0.65)

Antenna Noise Temperature - under clear sky conditions, at 68°F (20°C), with 2-port linear combiner.

<i>Elevation</i>	<i>Kelvin</i>
10°	39
30°	29
50°	27

Antenna VSWR, Transmit and Receive <1.3:1

Typical Shipping Information

Net Weight	8000 lb (3629 kg)
Gross Shipping Weight (typical)	11,154 lb (5059 kg)
Shipping Volume (typical)	1280 ft ³ (36.3 m ³)
Shipping Container	Standard 40 ft land/sea container

G/T Performance

LNA/LNB Noise Temperature	65K	45K	30K
ES93 G/T at 10° EL (dB/K)	30.0	30.9	31.8

Based on a 4-port, linearly-polarized antenna configuration at 4 GHz

Uplink EIRP Capability

HPA Output (Watts)	125	400	3000
Uplink EIRP (dBW)	74.8	79.8	88.6

Based on a 2-port antenna configuration at 6.175 GHz and 0 dB allowance for waveguide (IFL) loss between the HPA and the antenna.

Mechanical

Feed Type	Dual-Reflector, Gregorian
Reflector Material	Precision-Formed Aluminum
Reflector Segments	20
Mount Type	EI over AZ, Tripod

Antenna Pointing Range, Coarse/(Continuous)	
<i>Elevation</i>	0-90° (90°)
<i>Azimuth</i>	180° (120°)
<i>Polarization</i>	180° (180°)

Hub/Enclosure Dimensions	
<i>Diameter</i>	84 in (2.31 m)
<i>Depth</i>	46 in (1.17 m)

Wind Loading, Survival	125 mph (200 km/h) in any position of operation
-------------------------------	---

Wind Loading, Operational	45 mph (72 km/h), gusting to 65 mph (105 km/h) (motor drives)
----------------------------------	---

Temperature, Operational	-40° to 125°F (-40° to 52°C)
---------------------------------	------------------------------

Rain	4 in (102 mm) per hour
-------------	------------------------

Solar Radiation	360 BTU/hr/ft ² (1135 Watts/m ²)
------------------------	---

Relative Humidity	100%
--------------------------	------

Shock and Vibration	As encountered by commercial air, rail and truck shipment
----------------------------	---

Atmospheric Conditions	Moderate coastal/industrial areas. Severe conditions require additional protection.
-------------------------------	---

Typical Slab Foundation Information

Soil Bearing Capacity	2000 PSF (9,770 kgf/m ²)
Reinforcing Steel	1.47 tons (1339 kg)
Concrete Compressive Strength	3000 lb/in ² (211 kgf/cm ²)
Foundation Size:	
<i>Length</i>	19.5 ft (5.94 m)
<i>Width</i>	19.5 ft (5.94 m)
<i>Depth</i>	2.5 ft (0.76 m)
Concrete Volume	35.2 yd ³ (27 m ³)

Note: Other typical foundation designs are available.



Andrew Corporation

10500 W. 153rd Street
Orland Park, IL 60462

From North America:

Telephone: 1-800-255-1479
Fax: 1-800-349-5444

International:

Telephone: +1-708-873-2307
Fax: +1-708-349-5444

Andrew Customer Support Center

International:
+1-708-873-2307
Fax: +1-708-349-5444

From North America:

1-800-255-1479
Fax: 1-800-349-5444

Fax-On-Demand

From North America: 1-800-861-1700
International: +1-708-873-3614

Fax-On-Line

<http://www.andrew.com>

Visit us on the Internet at:

<http://www.andrew.com>