EARTH STATION ANTENNA

3.7 Meter High Wind ESA

Like all CPI Antenna Systems Division earth station antennas, the 3.7 Meter Earth Station Antenna provides high gain and exceptional pattern characteristics.

This antenna system is designed to address the stringent requirements of both the television broadcast industry and telecommunications network operators who demand unsurpassed flexibility and electrical performance in high-quality, cost-effective, and reliable packages.

The electrical performance and exceptional versatility provides the ability to configure the antenna with your choice of linearly- or circularly- polarized 2- or 4- port combining networks. That versatility is provided at the time of initial purchase, as well as in the future, as your satellite communication requirements evolve.

This antenna system is used worldwide in broadcast applications and high density data, voice and communications networks. The CPI Antenna Systems Division 3.7 meter earth station antenna features a computer-optimized dual reflector Gregorian optics system and close-tolerance manufacturing techniques.

This combination provides extremely accurate surface contour resulting in exceptionally high gain and closely controlled pattern characteristics. CPI Antenna Systems Division earth station antennas provide maximum durability with minimal maintenance.

Features

- Self-aligning main reflector
- 3 year warranty on all structural components
- U.S. FCC Regulation 25.209 at Ku-band
- Russian Homologation Certificate OC/1-AO-136
- C, X, Ku, K Band Capabilities
- High Wind Capability

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Design Standards

Reflector	Aluminum painted with highly diffusive white paint
Ground Mount	Hot-dipped galvanized steel, per ASTM-A123 for structural steel.
Hardware	Sizes ≤ 3/8 in (9.5mm), stainless steel, passivated per MIL-F-14072-E300 Sizes ≥ 3/8 in (9.5mm), hot-dipped galvanized stainless steel, passivated per ASTM-A123

Environmental Performances

Operating Temperature	-40° to 52°C (-40° to 125°F)
Seismic (Earthquake)	1 G Vertical and Horizontal acceleration. Equivalent to a Richter Magnitude 8.3, and Grade 11 on the modified Mercalli Scale
Operational Winds	100 mph (160 km/h)
Survival Winds	180 mph (289 km/h) in any position of operation
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	As encountered by Moderately Corrosive Coastal and Industrial Areas.

Mechanical Performances

The 3.7m Antenna mechanical general specifications and performances are listed in below table. Additional information, dimensions and layout may be provided by CPI Antenna Systems Division on a case-by-case basis.

Optics Type	Dual Reflector Gregorian
Reflector Material	Precision-Formed Aluminum
Reflector Segments	2
Mount Type	High Wind Manual El over Az, Pedestal Mount

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

Hub/Enclosure Dimensions	
Diameter	1.22 m (48 in)
Depth	0.61 m (24 in)
	optional 0.83m (32.5 in)

Shipping Information

Packing Options	
Standard Commercial Domestic Pack	Included
Ocean Export Pack - For non-containerized, packed for seal against salt water spray	OCEANSHP-SML
Air Export Pack - For freighter aircraft shipments. Lower deck AirPack requires specialized bids	AIR EXPORT PACK-SML
Container Packaging	CNTPCK-SML

Required Shipping Container	
Standard 20 ft land/sea container	Quantity 1

Shipping container information is given for basic configuration and may vary depending on the selected options, please contact CPI Antenna Systems Division for specific container loading plan.

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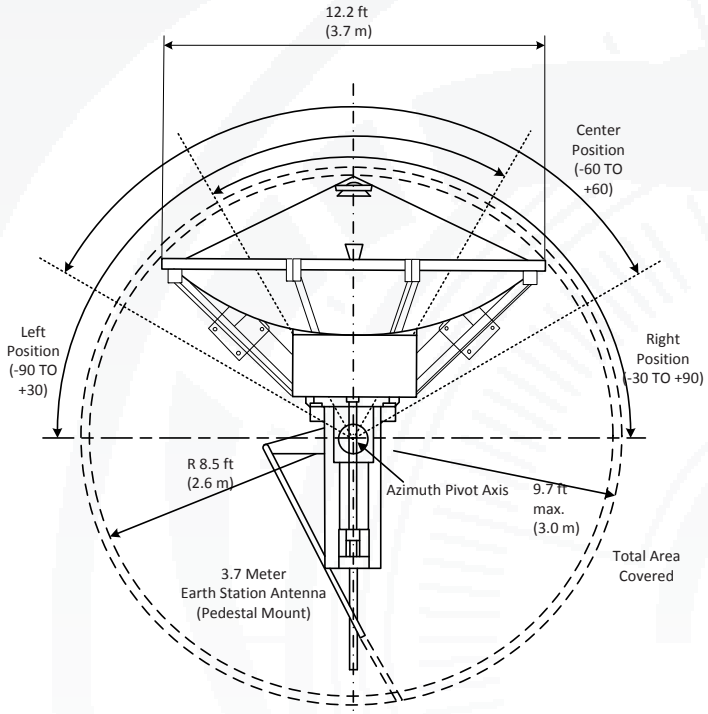
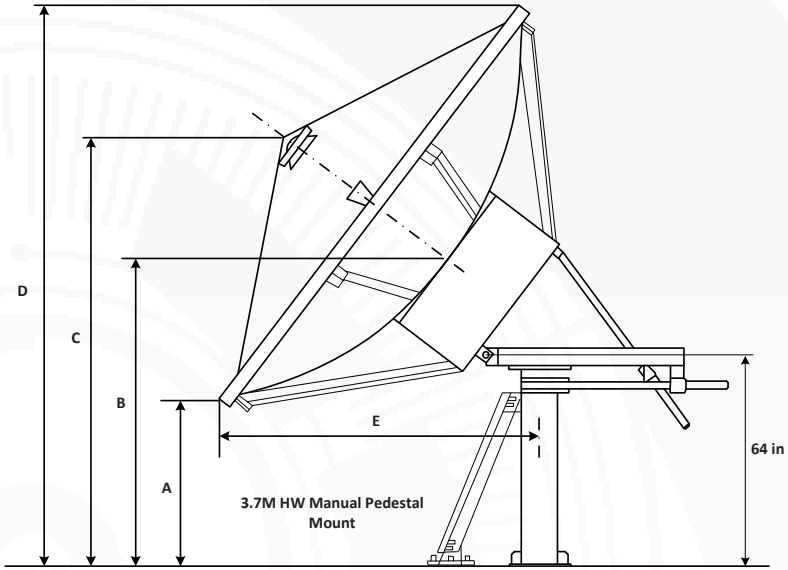
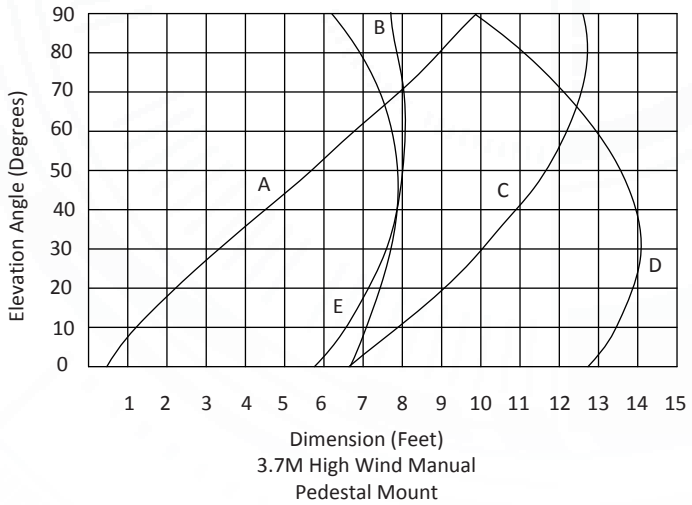
Dimensional Drawings High Wind Non Motorizable Mount







Dimension (Feet)
3.7M High Wind Manual
Pedestal Mount

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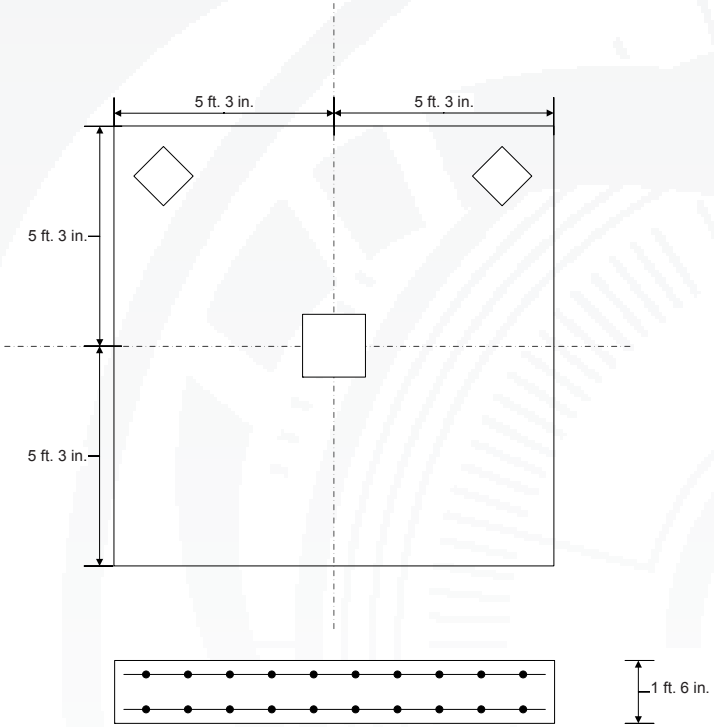
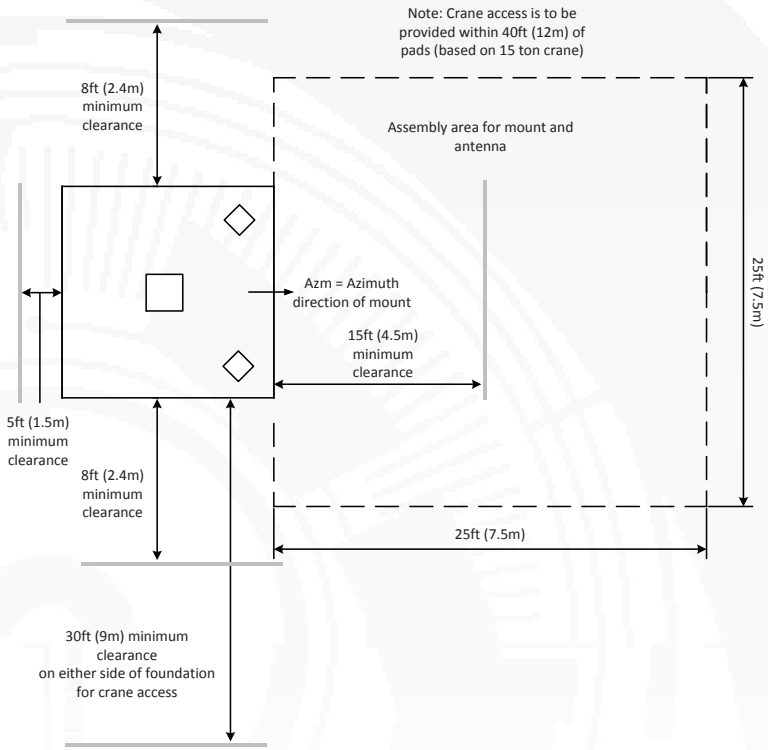
Foundation, Typical Slab High Wind Mount





Foundation information are provided in bulletin 237591, please contact CPI Antenna Systems Division.

Soil Bearing Capacity,	2000 lb/ft² (9770 kg/m²)
Reinforcing Steel,	626 Lbs (282 Kilograms)
Concrete Compressive Strength,	3000 psi (211 kg/cm²)
Foundation Size:	(for specific standard soil and typical design)
Length	10 ft 6 in(3.20 m)
Width	10 ft 6 in(3.20 m)
Depth	1 ft 6 in (0.457 m)
Concrete Volume	6.13 yd³ (4.68 m³)
NOTE: Other typical foundation designs are available. Soil borings and foundation analysis should be performed by a qualified civil engineer.	

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Antenna Configurations

X, Ku, K Band Earth Station Antennas	
Manual Pedestal Mount.	ES37PKHW-1
Motorizable Mount without Az/El Jackscrews.	ES37MPKHW-1
Motorizable Mount with Az/El Jackscrews.	ES37MPJKHW-1

C Band Earth Station Antennas	
Manual Pedestal Mount.	ES37PKHW-EC-1
Motorizable Mount without Az/El Jackscrews.	ES37MPKHW-EC-1
Motorizable Mount with Az/El Jackscrews.	ES37MPJKHW-EC-1

Feed Matrix

C- BAND FEED SYSTEMS	PORT	CP	LP	RX 3.625 - 4.2 GHz	TX 5.850 - 6.425 GHz
2CPC-37-109	2	X	X	X	X
2CPCR-37-109	2	X		X	

X- BAND FEED SYSTEMS	PORT	CP	RX 7.25 - 7.75 GHz	TX 7.9 - 8.4 GHz
2CPX-37	2	X	X	X

Ku- BAND FEED SYSTEMS	PORT	LP	RX 10.95-12.75 GHz	RX 10.95-12.25 GHz	RX 10.7 - 12.75 GHz	RX 10.7 - 13.25 GHz	RX 10.7 - 11.7 GHz	TX 12.75-13.25 GHz	TX 14.0 - 14.5 GHz	TX 13.75-14.8 GHz
2LPK-37-W	2	X	X						X	
2LPKR-37-W	2	X	X							
2LPKUNV-37	2	X				X				X
4LPK-37-W	4	X		X					X	
4LPKUNV-37-1	4	X			X					X
4LPKUNV-37-2	4	X					X	X		X

K- BAND FEED SYSTEMS	PORT	LP	CP	RX 10.7 - 12.75 GHz	TX 17.3 - 18.4 GHz
2LPKK-37	2	X		X	X
4LPKK-37	4	X		X	X
4CPKK-37-206	4		X	X	X

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Antenna Options and Spares

Anchor Bolt and Template Kits Option	
203666HW	Anchor Bolt Kit for 3.7 Meter High Wind Earth Station

Azimuth and Elevation Cross Axis Waveguide Options	
1XAK-5	Ku-Band Cross Axis Waveguide Kit, 2-Port.
1XAKK-5	K-Band Cross Axis Waveguide Kit, 2-Port.
1XAX-37	X-Band Cross Axis Waveguide Kit, 2-Port.
1XPK-37	Ku-Band Polarization Waveguide Kit, 2-Port.
1XPKK-37	K-Band Polarization Waveguide Kit, 2-Port.
1XPX-37	X-Band Polarization Waveguide Kit, 2-Port.
2XAK-5	Ku-Band Cross Axis Waveguide Kit, 4-Port.
2XAKK-5	K-Band Cross Axis Waveguide Kit, 4-Port.
2XPK-37	Ku-Band Polarization Waveguide Kit, 4-Port.
2XPKK-37	K-Band Polarization Waveguide Kit, 4-Port.
2XPX-37	X-Band Polarization Waveguide Kit, 4-Port.

Heating Options	
FH4A	C-Band Feed Heater Kit
FHXA	X-Band Feed Heater
FH5A	Ku and K-Band Feed Heater
FR37A	Full-Reflector Heater Pads
WEC37R-208-100	Electric Hot Air De-Ice System, 208 VAC, 3 Phase
WEC37R-380-100	Electric Hot Air De-Ice System, 380 VAC, 3 Phase

Upgrade Options	
37CUPGK	Kit to Convert from C-Band to Ku-Band
37CUPGX	Kit to Convert From C-Band to X-Band
37KUPGC	Kit to Convert From Ku-Band to C-Band
37KUPGX	Kit to Convert From Ku-Band to X-Band

Hub Equipment Options	
EMRGYLT-115	Emergency Hub Light Kit, 115 VAC
EMRGYLT-230	Emergency Hub Light Kit, 230 VAC
FV5-115	Fan and Vent Kit, 115 VAC
FV5-220	Fan and Vent Kit, 230 VAC
FV5HV-115	High Volume Fan and Vent Kit, 115 VAC
FV5HV-230	High Volume Fan and Vent Kit, 230 VAC
FV5HV-48	High Volume Fan and Vent Kit, 48VDC
HUBHTR-230	Antenna Hub Heater, 230 VAC
HUBLCNTR-115/240	Hub Power Center, 115/240 VAC
HUBLCNTR-230	Hub Power Center, 230 VAC
HUBLT-115	Hub Light Kit, 115 VAC
HUBLT-230	Hub Light Kit, 230 VAC

Safety Options	
ANTGND-5	Foundation Installed Grounding Kit
LRK5	Lightning Rod Kit
OBWRNLT-UNV	Obstruction Warning Light Kit

Other Options	
209906	Lubrication and Maintenance Kit
BRNG-374676-X	Guard, Feed Window X-band
BRNG-3746-C	Guard, Feed Window C-band
BRNG-37-K	Guard, Feed Window K-band
BRNG-37-KU	Guard, Feed Window Ku-band
FTST	Feed System Testing
TK-MAN-SML	Tool Kit, Small Manual Antennas

Environmental Systems Options	
PDKU-37-208	Precipitation Deviator Ku-band 208 VAC, 3 Phase
PDKU-37-380	Precipitation Deviator Ku-band 380 VAC, 3 Phase

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