

6.5 Meter Extended Azimuth ESA

Like all Kratos earth station antennas, the 6.5 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 6.5 M is capable of operation at L-, S-, C-, X-, Ku-bands with the selection of feed and combiner systems. The versatile pedestal mount, features >170° continuous azimuth coverage and 85° continuous elevation adjustment. This large range of adjustment provides non-critical foundation orientation, and the ability to view geostationary satellites, from horizon-to-horizon, from any location worldwide.

The electrical performance and exceptional versatility provides the ability to configure the antenna with your choice of combining network. 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 Kratos 6.5 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. Kratos earth station antennas provide maximum durability with minimal maintenance.



Features

- High Gain, Excellent Pattern Characteristics
- >170° Continuous Azimuth Coverage TORQUETUBE™ mount
- Advanced Gregorian Optic
- C-, Ku-band Operation
- Rugged Aluminum and Steel – 125 mph (200 kph) Wind Survival
- 3-year Warranty on All Structural

Compliance

ITU-R S.580-6, 465-6, 732-1	C, X, Ku Band
US FCC 25.209	C, X, Ku Band

6.5 Meter Extended Azimuth ESA

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
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.
Survival Winds	125mph (200km/h) in any position of operation
Operational Winds	45mph (72km/h) Gusting to 65mph (105km/h)

Mechanical Performances

The 6.5m Antenna mechanical general specifications and performances are listed in below table. Additional information, dimensions and layout may be provided by Kratos on a case-by-case basis.

Optics Type	Dual Reflector Gregorian
Reflector Material	Precision-Formed Aluminum
Reflector Segments	16
Mount Type	EI over Az, TORQUETUBE™ mount

Antenna Pointing Range, Coarse/(Continuous)

Elevation:	5-90° (85°) (NOMINAL)
Azimuth:	>170° (>170°) (NOMINAL)
Polarization	180° (180°)

Hub/Enclosure Dimensions

Diameter	52 in. (1.32 m)
Depth	46 in. (1.17 m)

Shipping Information

Packing Options

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

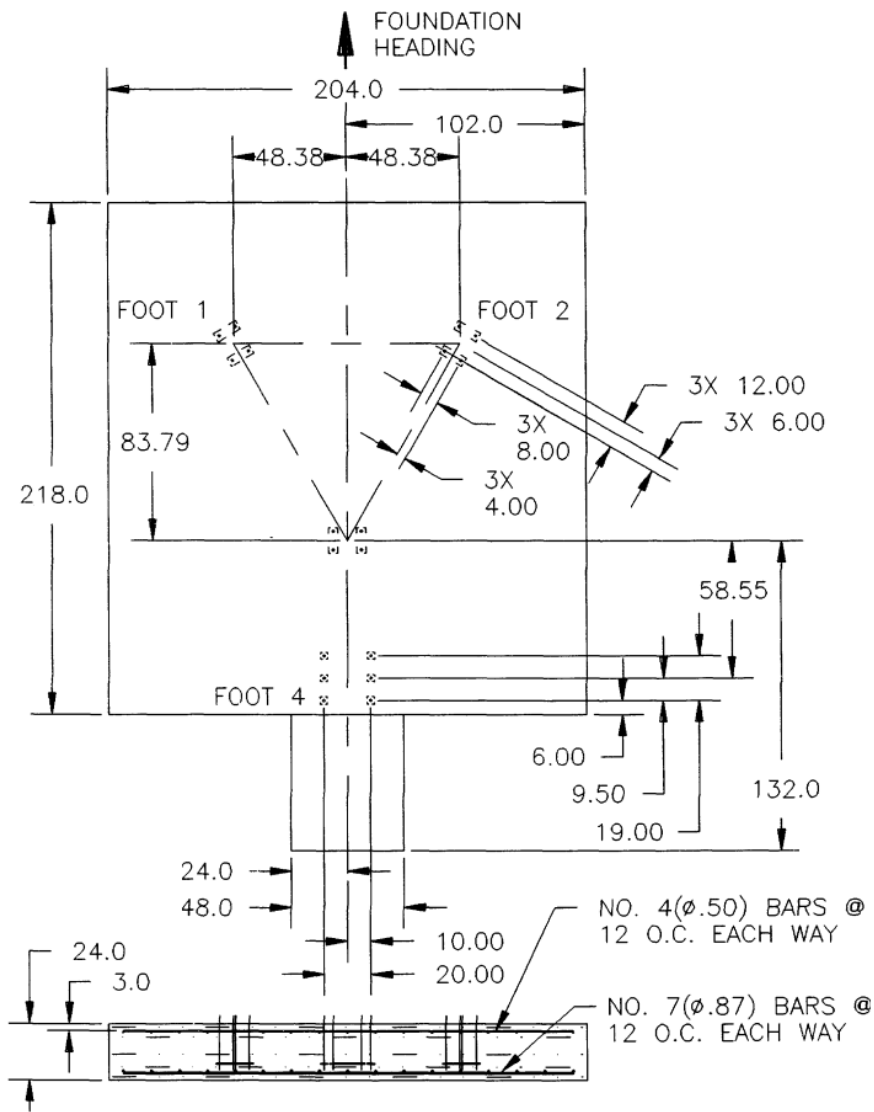
Required Shipping Container

Standard 40 ft land/sea container	Quantity 1
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Shipping container information is given for basic configuration and may vary depending on the selected options, please contact Kratos for specific container loading plan.

6.5 Meter Extended Azimuth ESA

Typical Foundation Design



Foundation information are provided in bulletin 476374, please contact Kratos.

6.5 Meter Extended Azimuth ESA

Motor Drive Speed Summary

	Variable	
Azimuth	0.05°/s	0.2°/s
Elevation	0.05°/s	0.2°/s
Polarization	1°/s	

Maximum achievable speed, may vary depending on antenna configuration, please contact Kratos

Motorization

One motorization system is available for this antenna: The NGC tracking system that can support Steptrack, Smartrack and Ephemeris orbital tracking.

Motor Kit	
Azimuth/Elevation Motor Kit	NGC-MK72-180
Outdoor Unit Controller	
Power 200 - 230 VAC, 3 Phase 50/60 Hz	NGC-ODU-208-5-HA
Power 380 - 460 VAC, 3 Phase 50/60 Hz	NGC-ODU-380-5-HA

Antenna Configurations

C, X, Ku-band Earth Station Antennas	
Motorizable Mount with Az/EI Jackscrews.	ES65MPEX-1

Antenna controller, motorization and options are detailed in specific bulletins, please contact Kratos.

Motorization and NGC Options

Indoor	
NGC2-IDU	NGC Rack Mounted Antenna Controller W/LCD Touch Panel, 4 RU Unit
NGC2-IDU-1	NGC Rack Mounted Antenna Controller, 1 RU Unit
NGC2-IDU-2	NGC Rack Mounted Antenna Controller, 2 RU Unit
NGC2-002-06	NGC2-IDU Spectrum Analyzer Card - Analog; 1 X 6 Multi-Input Switch
NGC2-002-EDR	NGC2-IDU Spectrum Analyzer Card - Analog; Enhanced Dynamic Range
NGC2-002-EDR-06	NGC2-IDU Spectrum Analyzer Card - Analog; 1 X 6 Multi-Input Switch; Enhanced Dynamic Range
NGC2-004-03	NGC2 IDU, L-Band Internal Beacon Receiver
NGC2-006	NGC2-IDU Emergency Stop Button
NGC2-007	NGC2-IDU 10 MHz Reference GPS Based Source
NGC2-008	NGC2-IDU Power Supply
NGC2-009	NGC2-IDU Rack Slides
NGC2-100	NGC2-IDU HEO Tracking Software
NGC2-101	NGC2-IDU Step Tracking Software
NGC2-102	NGC2-IDU Smartrack Software
NGC2-103	NGC2-IDU Predictive Tracking Software
NGC2-104	NGC2-IDU Full Tracking Capability Software
NGC2-106	NGC2-IDU Remote Access Software Package
NGC2-107	NGC2-IDU Enhanced Spectrum Analyzer Function Software
NGC2-108	NGC2 Receive Pattern Testing Tool
NGC2-109	Redundancy/Switching Control Software
NGC2-111	Sand/Dust Deviator Feature
NGC2-112	Carrier Monitoring
NGC2-119	NGC2 Redundancy Control Software
Outdoor	
NGC-201	NGC ODU Low Temperature Kit (-40 C)
NGC-202	NGC ODU High Temperature Kit (+60 C)
NGC-205	NGC ODU AC Polarization Drive Interface
NGC-206	NGC Exterior Emergency Stop Button
NGC-207	Pre Movement Alert Warning Light and Annunciator
NGC-211	Dual Path NGC Redundancy
NGC-AESC	Environmental System Controller

6.5 Meter Extended Azimuth ESA

Feed Matrix

L- BAND FEED SYSTEMS (Prime Focus)	PORT	CP	RX Various	TX Various
2CPL-65	2	X	X	X

S- BAND FEED SYSTEMS (Prime Focus)	PORT	CP	RX Various	TX Various
2CPS-65	2	X	X	X

C- BAND FEED SYSTEMS	PORT	CO	CP	LP	RX 3.625 - 4.2 GHz	RX 3.4 - 4.2 GHz	RX 4.5 - 4.8 GHz	TX 5.850 - 6.425 GHz	TX 5.850 - 6.725 GHz	TX 5.725 - 6.725 GHz	TX 6.725 - 7.025 GHz
2CLPNC-65	2	X		X	X			X	X		
2CPNC-65-109	2		X		X			X			
2CPNCR-65-109	2		X		X						
2CPUC-65	2		X				X				X
2LPNC-65	2			X	X			X			
2LPNCR-65	2			X	X						
2LPUC-65	2			X			X				X
2LPWC-65	2			X		X		X			
2LPWCR-65	2			X		X					
4CPNC-65-206	4		X		X			X			
4CPUC-65	4		X				X				X
4CPWWC-65	4		X			X				X	
4LPNC-65	4			X	X			X			
4LPUC-65	4			X			X				X
4LPWC-65	4			X		X			X		
4LPWWC-65	4			X		X				X	

X- BAND FEED SYSTEMS	PORT	CP	LOW PIM	RX 7.25 - 7.75 GHz	TX 7.9 - 8.4 GHz
2CPX-65	2	X		X	X
4CPX-65	4	X		X	X

KU- BAND FEED SYSTEMS	PORT	CP	LP	RX 10.7 - 12.75 GHz	RX 10.95 - 12.75 GHz	RX 10.7 - 11.7 GHz	RX 10.7 - 13.25 GHz	TX 13.75 - 14.8 GHz	TX 12.75-13.25 /13.75 -14.8 GHz
2LPKU-65	2		X				X	X	
2LPKUR-65-W	2		X		X				
4LPKU-65-1	4		X	X				X	
4LPKU-65-2	4		X			X			X

6.5 Meter Extended Azimuth ESA

Antenna Options and Spares

Anchor Bolt and Template Kits Options	
476374	Anchor Bolt Kit for 6.5 Meter Extended Azimuth Earth Station Antennas

Heating Options	
FH5A	Ku- and K-Band Feed Heater Kit
FH9A	C-Band Feed Heater Kit
FHXA	X- Band Feed Heater Kit
WEC65R-208-100	Electric Hot Air De-Ice System, 208 VAC, 3 Phase
WEC65R-380-100	Electric Hot Air De-Ice System, 380 VAC, 3 Phase

Hub Equipment Options	
EMRGYLT-115	Emergency Hub Light Kit, 115 VAC
EMRGYLT-230	Emergency Hub Light Kit, 230 VAC
FV65-115	Fan and Vent Kit, 115 VAC
FV65-230	Fan and Vent Kit, 230 VAC
HUBHTR-230	Antenna Hub Heater, 230 VAC
HUBLCNTR-115/240	Hub Power Center, 115/240 VAC
HUBLCNTR-230	Hub Power Center, 230 VAC
HUBLT-LED	Hub Light Kit

Safety Options	
ANTGND-9	Foundation Installed Grounding Kit
LRK9	Lightning Rod Kit
475954	Standard Maintenance Platform with Rails & Ladder
OBWRNLT-UNV	Obstruction Warning Light Kit

Other Options	
201769-72	Handwheel Kit
209906-72	Lubrication and Maintenance Kit
223711	Theodolite Alignment Kit (theodolite not incl)
BRNG-7693-C	Guard, Feed Window
BRNG-4676-KU	Guard Feed Window
BRNG-76-K	Guard Feed Window
FTST	Feed System Testing
NPN-LG	Custom Color Painting for Reflector
SPCOL-FEED	Custom Color Painting for Feed
TK-MAN-LG	Tool Kit, Large Manual Antennas
TK-MOT-LG	Tool Kit, Large Motorized Antennas
ANGVERN-91	Manual Angle Indicator
BRNG-374676-X	Guard, Feed Window. X- Band
OM65-EPL180	OM Manual
202436	C- Band Spare Feed Window
221691	Spare Feed Window, Ku- Band

Environmental Systems Options	
PDKU-76-208	Precipitation Deviator, Ku, 208 VAC, 3 Phase
PDKU-76-380	Precipitation Deviator, Ku, 380 VAC, 3 Phase



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