

4.0 Meter Carbon Fiber Antenna

The Kratos 4.0 m Nomadic is a highly flexible antenna system designed to operate on almost any satcom band and in many configurations. The entire reflector structure consists of lightweight carbon fiber panels, with multiple mounting scenarios, and can be ordered in motorized or nonmotorized versions. With feeds available to address UHF, L,C, X, Ku, K, Ka, Ku/K, X/Ka bands, as well as low PIM feeds. A very versatile Antenna System.

This antenna supports a variety of interchangeable feeds which are engineered for easy removal and replacement in the field. The reflector is constructed with a precision-formed honeycomb core and a carbon fiber skin which assures durability and high performance. The reflector is easily assembled with nineteen panels.

The Nomadic antenna is designed to be lightweight, with maximum stiffness, yet offers compact and highly robust components. The versatile architecture makes it ideal for launching highly divergent equipment applications using a single, flexible, modular and cost-effective equipment base.

Electronically engineered to operate at multiple frequencies, Kratos 4.0 meter Nomadic is capable of transmitting and receiving signals under demanding wind loads and surviving winds up to 94 mph with reflector at 90° elevation. Weighing less than 350 kg (770 lb), in fully motorized versions (including feed), the tactical version can be deployed by two trained individuals within 60 minutes.



Features

- Multiple configurations available
- Nineteen reflector panels
- Motorized or non-motorized axes
- Pedestal, Tactical, Tripod and Mobile Mounts
- ISO shippable case
- Lightweight reflector , high accuracy tracking mount
- Interchangeable feed systems for quick field swaps
- Meets Mil-Spec standards
- Designed to comply with MIL-STD-810F
- Various trailer mounted configurations are available
- Low PIM X-band available

Compliance

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

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The Nomadic Antennas are designed around a base configuration to provide modular flexibility and configurability. In addition, they are designed to be rugged and to allow for maximum compactability to withstand the demands and rigors of transport in military and commercial aircraft. The feeds are also palletized to allow for easy transport and for fast band changes.

Environmental Performances

Wind Loading		
Operating	30 mph gusting 45 mph	
Survival	60 mph ballasted 94 mph stowed	
Temperatures		
	Operational	Survival
Range	-40°C to +60°C (-40°F to +140°F)	-58°C to +71°C (-50°F to +160°F)
Seismic	1G Vertical and Horizontal; 8.3 Richter, 11 Mercalli	
Solar Radiation	360 BTU/h/ft ² (1135 watts/m ²)	
Rain	Up to 10 cm/h (4 in/h)	
Relative Humidity	0% to 100%	
Shock	As encountered by Air, Ship, Rail and Truck	
Atmospheric	As encountered in moderately corrosive coastal and industrial environments	
Altitude		
	Operational	Survival
Range	Up to 12,000 ft	Up to 40,000 ft

Mechanical Performances

Reflector	Multi-Band Intergangeable
Color	White (other colors available)
Material	Carbon Fiber
Segments	Nineteen panels
Feed Type	Axisymmetric Gregorian dual optics
Mount Type	EI over Az Pedestal
Pointing Range	
Azimuth	±150° Continuous (NOMINAL)
Elevation	0° to 90° of Boresight (NOMINAL)
Polarization	±100°
Maximum Travel Limits	User defineable within mechanical limits
Operate Limits	Hardware and Software Settable

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Electrical Specifications

Controller Type	Multi Axis Tracking Controller with Auto Acquisition Assist
Controller Package	Single Box Outdoor Motor Controller 3RU 19" EIA Rack Mounted Indoor Controller
Prime Power	Indoor 110-220 VAC 50/60 Hz (Universal) Outdoor 24 VDC, 120 VAC (Field Configurable)
Power Consumption	20A or less @ 24VDC, 5A @ 120VAC (est.)
Motor (Az, El, and Pol)	24 VDC
Remote IDU Interconnect	Ethernet
Remote Interface	Remote Operation Software, SNMP V1 & V2c
IDU/ODU IFL	Multi Mode Fiber Optic Cable
Optional Sensors	GPS, Compass, and Inclinometers
Angle Transducers	19 bit optical encoder
Angle Resolution	0.0010°
Positioning Accuracy	0.0050° (est)

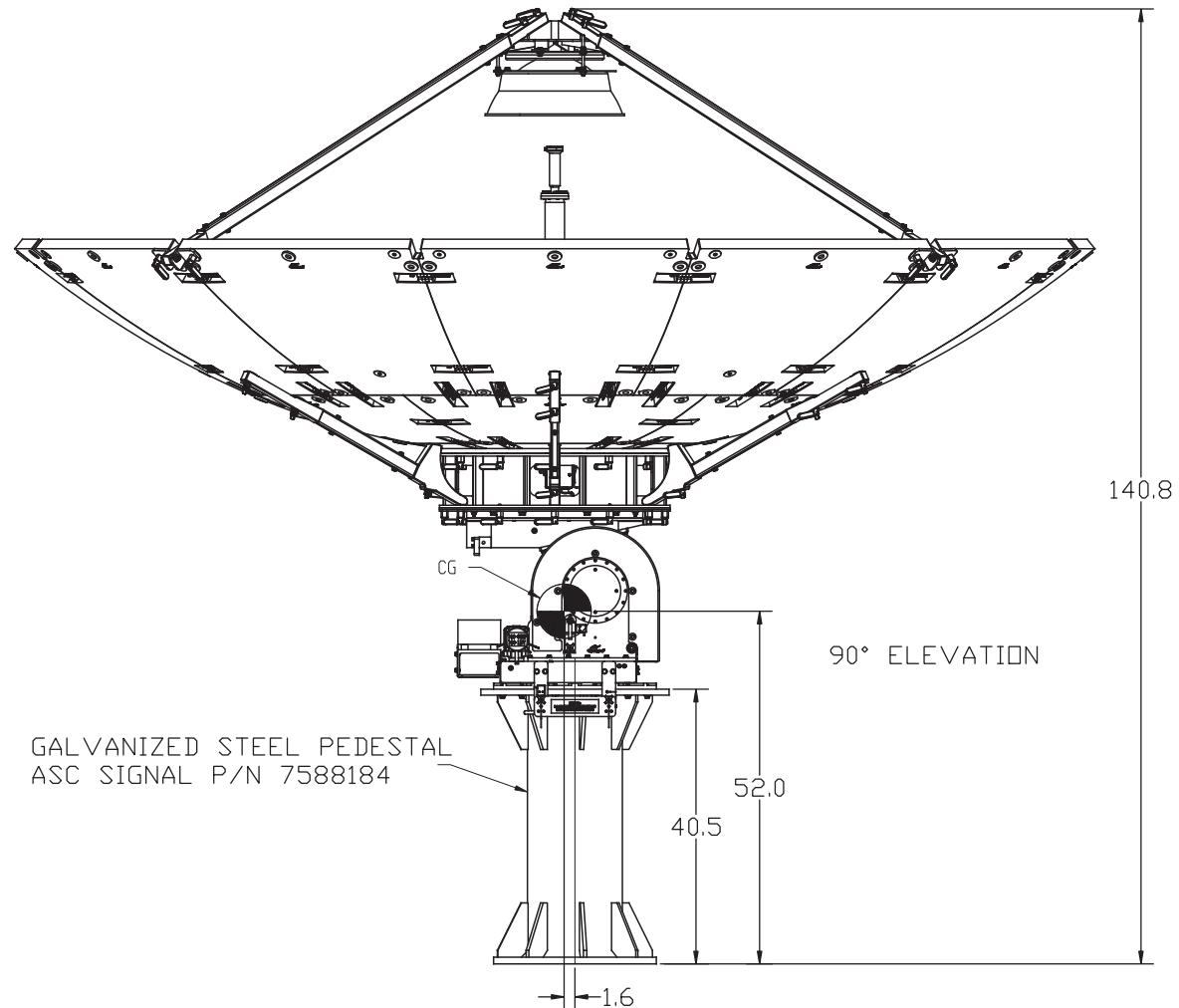
Shipping Information

Packing Options	
Standard Commercial Domestic Pack	Included
Service and materials For Ocean Transport Packaging of 4.0M product	CRATE-40-OCEAN
Service and materials For Air Transport Packaging of 4.0M product	CRATE-40-AIR
Service and materials for enclosed crating a 4.0M product for transport	CRATE-40-PACK
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 Kratos for specific container loading plan.

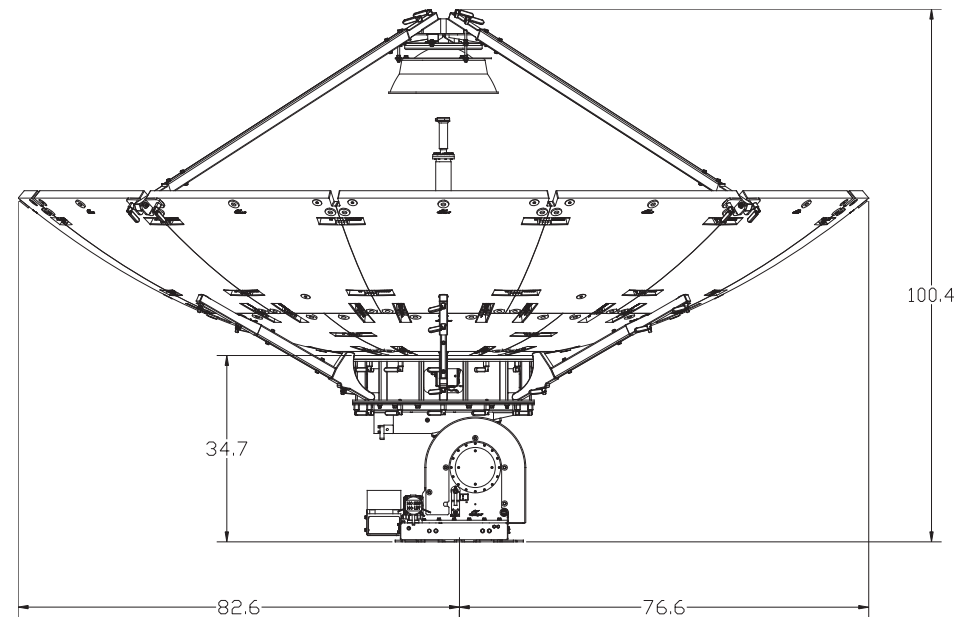
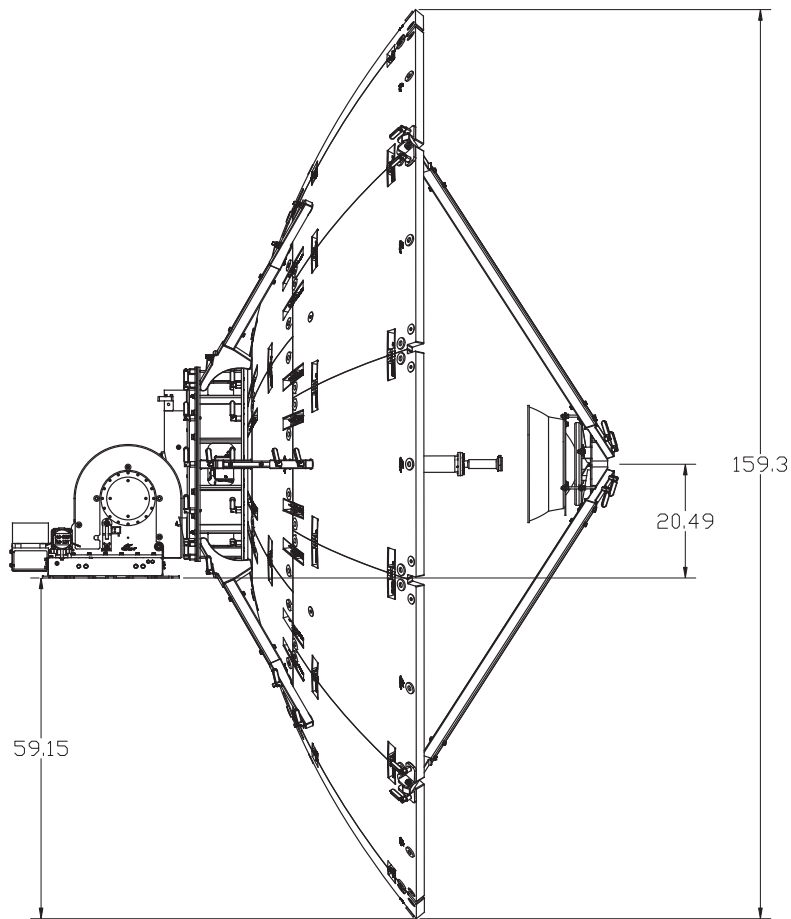
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4.0m Dimensional Drawings Skid Mounted Pedestal Mount



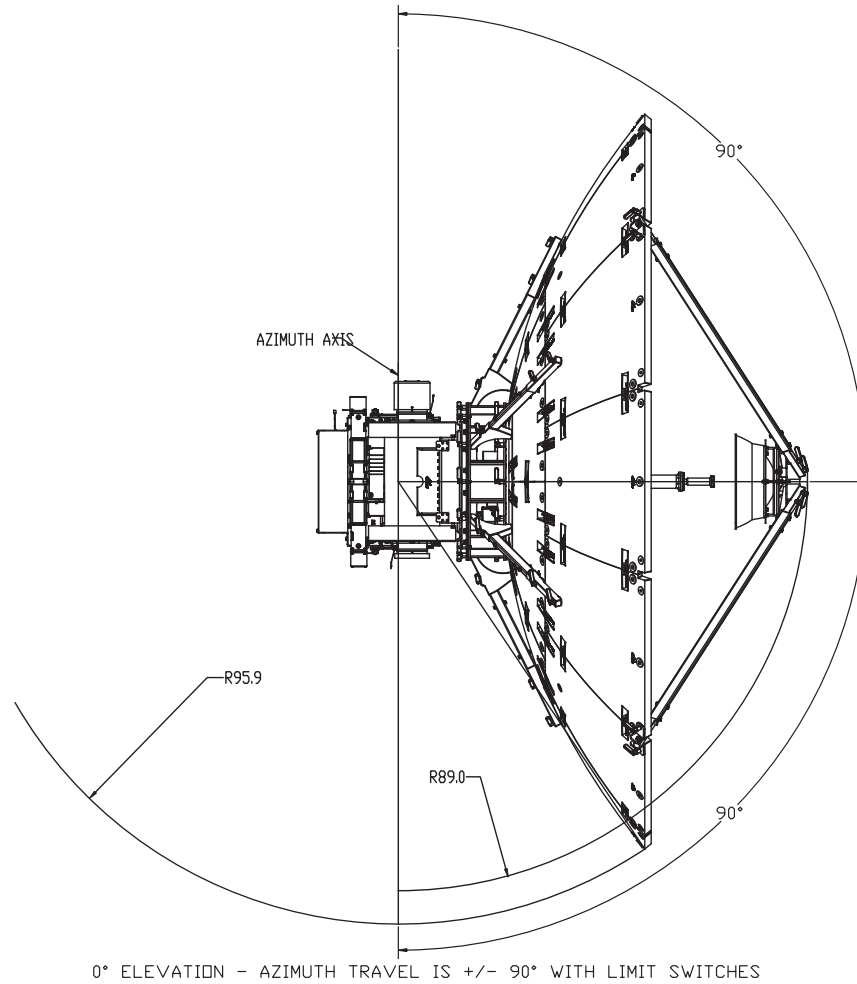
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4.0m Dimensional Drawings



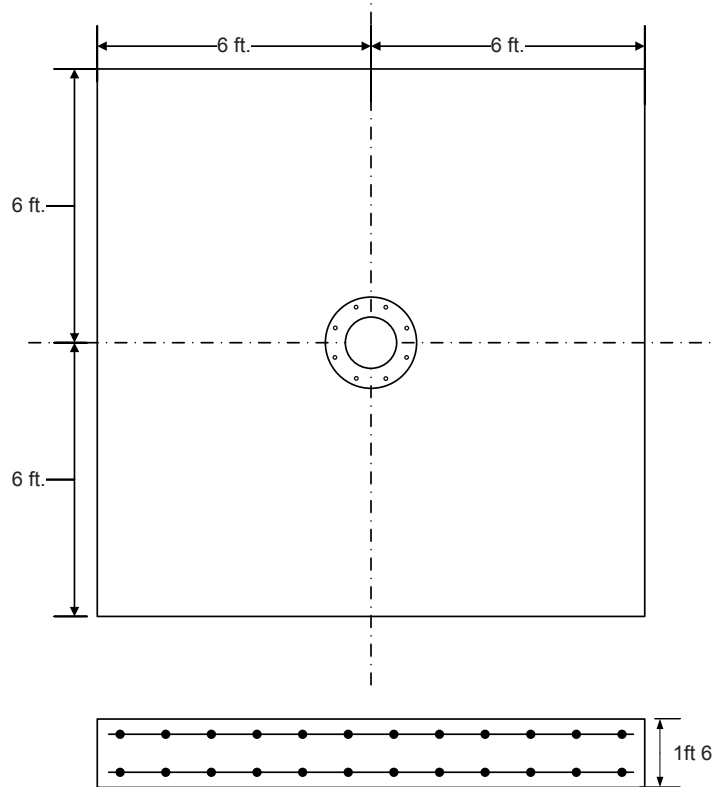
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4.0m Dimensional Drawings



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4.0m Typical Foundation Design (with 7588184)



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

Soil Bearing Capacity,	2000 lb/ft ² (9770 kg/m ²)
Reinforcing Steel,	821 lbs (372 kg)
Concrete Compressive Strength,	3000 psi (211 kg/cm ²)
Foundation Size:	(for specific standard soil and typical design)
Length	12 ft (3.66 m)
Width	12 ft (3.66 m)
Depth	1 ft 6 in (0.457 m)
Concrete Volume	8 yd ³ (6.1 m ³)
NOTE: Other typical foundation designs are available. Soil borings and foundation analysis should be performed by a qualified civil engineer.	

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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 is part of the motorizable positioner

Polarization Drive Kit (DC Step Motors)

Part of the Motorized Feed System

Outdoor Unit Controller

Power 24VDC 5 AMPS	NGC-ODU-NMD
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Antenna controller, motorization and options are detailed in specific bulletins, please contact Kratos.

Antenna Configurations

Reflectors

Nineteen Panels Lightweight 4.0 Meter Dual Optics Gregorian Feed Antenna Reflector	NMD-40-19
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Positioners

Tactical Tripod Mounting System - Motorizable	NMD-TAC-M-40
Tactical Tripod Mounting System - Manual	NMD-TAC-NM-40
Vehicle Mounting System - Motorizable , suitable for mounting on a vehicle, trailer, pedestal, or tactical mount	NMD-VEH-M-40
Vehicle Mounting System - Manual, suitable for mounting on a vehicle, trailer, pedestal, or tactical mount	NMD-VEH-NM-40

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
NGC2-105	NGC2-IDU Acquisition Assist
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	
7586787	NGC Handheld Terminal with Mil Spec Connector
NGC-NMD-LIMIT	NOMADIC POSITIONER LIMIT SWITCH KIT,CABLE & HDW
NGC-NMD-LOCKOUT	Nomadic Positioner Stow Kit Cable &HDW
24VDCSPS	Nomadic switching power supply, 24VDC
NGC-SEN-4-VN-NMD	Nomadic INS Sensor Kit, High Accuracy

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Feed Matrix 4.0m

UHF- BAND FEED SYSTEMS	PORT	CP Left Hand	CP Right Hand	225 - 400 MHz Rx and Tx
1LHCPUHF-39T	1	X		X
1RHCPUHF-39T	1		X	X

C- BAND FEED SYSTEMS	PORT	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 5.725 - 6.650 GHz	TX 5.725 - 6.725 GHz	TX 6.725 - 7.025 GHz
2CPC-39T	2	X		X			X			
2CPWCR-39T	2	X			X					
2LPC-39T	2		X	X			X			
2LPCWCR-39T	2	X	X		X					
2LPUC-39T	2		X			X				X
2LPWCR-39T	2		X		X					
4CPNC-39-206	4	X		X			X			
4LPNC-39T	4		X	X			X			
4LPWC-39T	4		X		X				X	
4LPCPWW-39-2-RS	4	X	X		X			X		

X- BAND FEED SYSTEMS	PORT	Low PIM	CP	RX 7.25 - 7.75 GHz	TX 7.9 - 8.4 GHz
2CPX-39T	2		X	X	X
2CPXF-39	2		X	X	X
4CPX-39T	4		X	X	X
2CPMX-39	2	X	X	X	X
4CPMX-39T	4	X	X	X	X

RF Feed Specifications are detailed in specific bulletins, please contact Kratos.

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Feed Matrix 4.0m

Ku- BAND FEED SYSTEMS	PORT	LP	RX 10.7 - 12.75 GHz	RX 10.7 - 13.25 GHz	TX 13.00- 13.25 GHz	TX 13.75- 14.5 GHz	TX 13.75- 14.8 GHz
2LPKU-39T-1	2	X		X			X
4LPKU-39T	4	X	X				X
4LPWKU-39T	4	X	X		X	X	

K- BAND FEED SYSTEMS	PORT	LP	CP	RX 10.7 - 12.75 GHz	TX 17.3 - 18.4 GHz
2LPK-39T	2	X		X	X
4LPK-39T	4	X		X	X

KA- BAND FEED SYSTEMS	PORT	LP	CP	RX 17.7 - 21.2 GHz	RX 18.3 - 20.2 GHz	RX 20.2 - 21.2 GHz	TX 27.0 - 30.05 GHz	TX 27.50 - 31.00 GHz	TX 30.0 - 31.0 GHz
2LPCPKAR-39T	2	X	X	X					
4CPKA-39T	4		X			X			X
4CPWWKA-39T-206	4		X	X				X	
4LPKA-39T	4	X			X		X		

Ku/K- BAND FEED SYSTEMS	PORT	LP	RX 10.7 - 12.75 GHz	TX 13.75- 14.5 GHz	TX 17.3- 18.4 GHz
6LPKUK-39T	6	X	X	X	X

RF Feed Specifications are detailed in specific bulletins, please contact Kratos.

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Antenna Options and Spares

Anchor Bolt and Template Kits Option	
302689	Anchor Bolt and Template Kit for 2.4/2.5/4.0 Meter Nomadic with PEDMNT
Color Options	
NMD-33510	Sandstone Color Painting for Reflector FS33510
NMD-34096	Olive Drab Color Painting for Reflector FS34096
NMD-NPN-LG	Custom Color Painting for Reflector
Other Options	
NMD-40-LP	LOW PIM Antenna Configuration & Range Certification Test Report
NMD-TAC-TCASE	Tactical System Transit Case for 4.0 M
PEDMT-40CF-72	Pedestal Mount for 4.0 Meter; Galvanized
PEDMT-40-FSxxxxx	Pedestal Mount for 4.0 Meter; Powder Coated to Match FS Color (xxxxx)
PEDMT-40-INT	Galvanized Pedestal Mount Interface Kit for 4.0 Meter
FTST	Feed System Testing



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