

7.6 Meter High Wind ESA

Like all CPI Antenna Systems Division earth station antennas, the 7.6 Meter High Wind 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 7.6 M High Wind is capable of operation at C-, X-, Ku- and K-bands with the selection of feed and combiner systems.

The versatile kingpost pedestal mount, features 180° azimuth coverage in three contiguous 120° overlapping ranges, and 90° 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 CPI Antenna Systems Division 7.6 meter high wind 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

- Rugged aluminum and steel construction
- Superior Pointing Accuracy
- A computer-optimized dual reflector Gregorian system
- Deep Equipment Enclosure
- 3 year warranty on all structural components
- ITU-R S.580 and S-465
- U.S. FCC Regulation 25.209
- Intelsat E-3, F-3
- 200 mph (320 km/h) survival at 90° elevation

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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 |
| 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 | 125 mph (200 km/h) in any position of operation 200 mph (320 km/h) survival at 90° elevation |
| Operational Winds | 45mph (72km/h) Gusting to 65mph (105km/h) |

Mechanical Performances

The 7.6m 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 | 16 |
| Mount Type | EI over Az, Kingpost Pedestal Mount |

Antenna Pointing Range, Coarse/(Continuous)

| | |
|--------------|-------------|
| Elevation: | 0-90° (90°) |
| Azimuth: | 180° (120°) |
| 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-LG |
| Air Export Pack - For freighter aircraft shipments. Lower deck AirPack requires specialized bids | AIR EXPORT PACK-LG |
| Container Packaging | CNTPCK-LG |

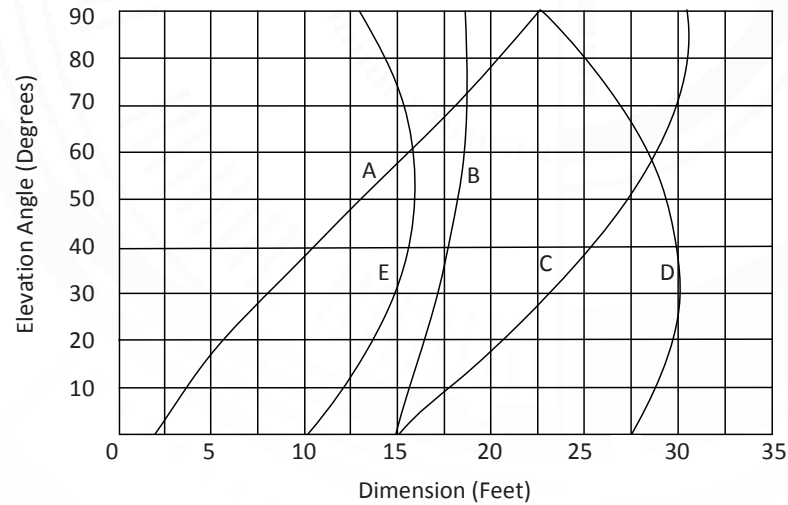
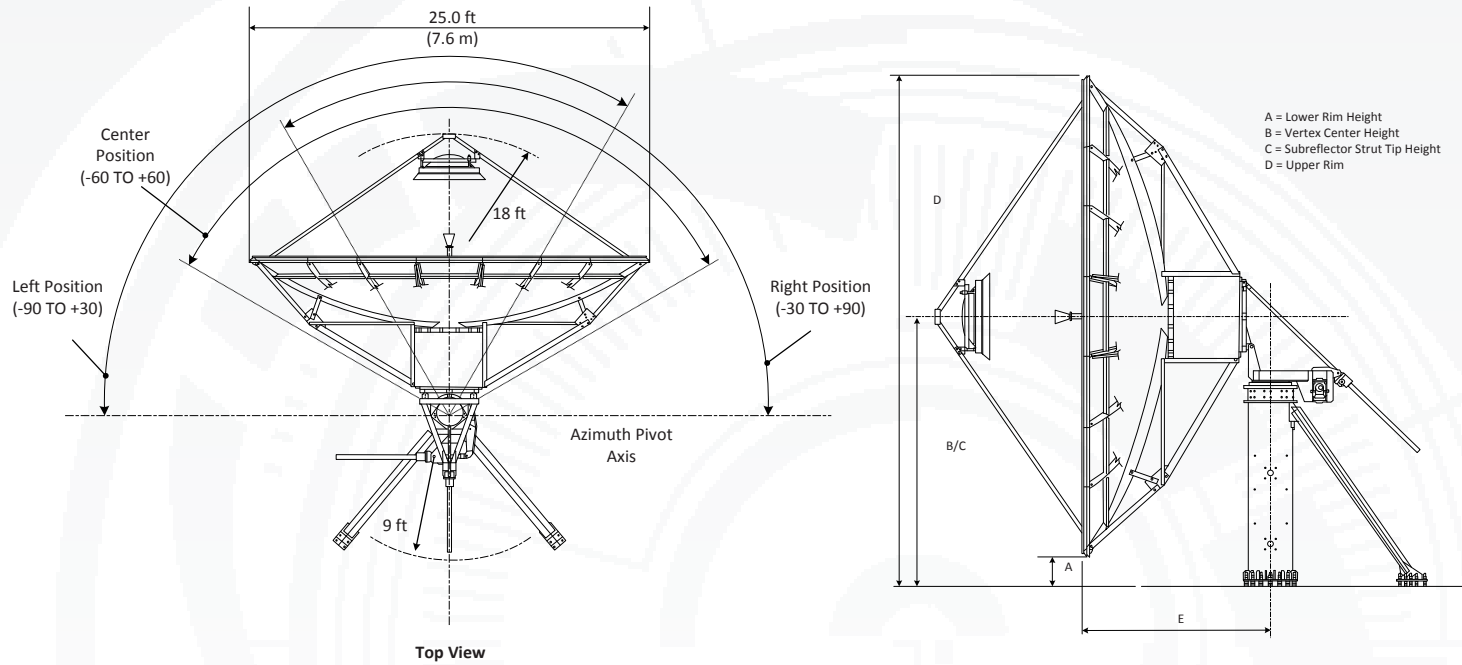
Required Shipping Container

| | |
|-----------------------------------|------------|
| Standard 40 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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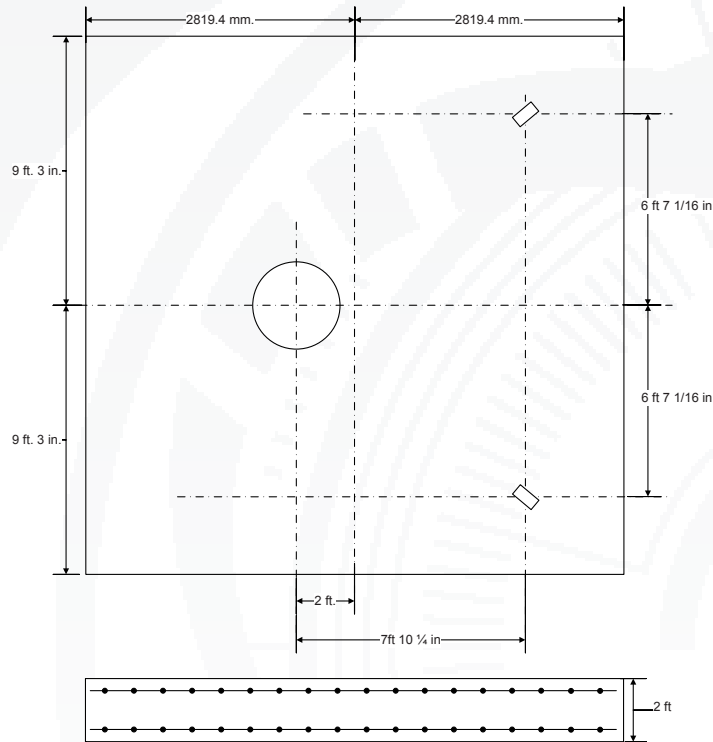
Dimensional Drawings



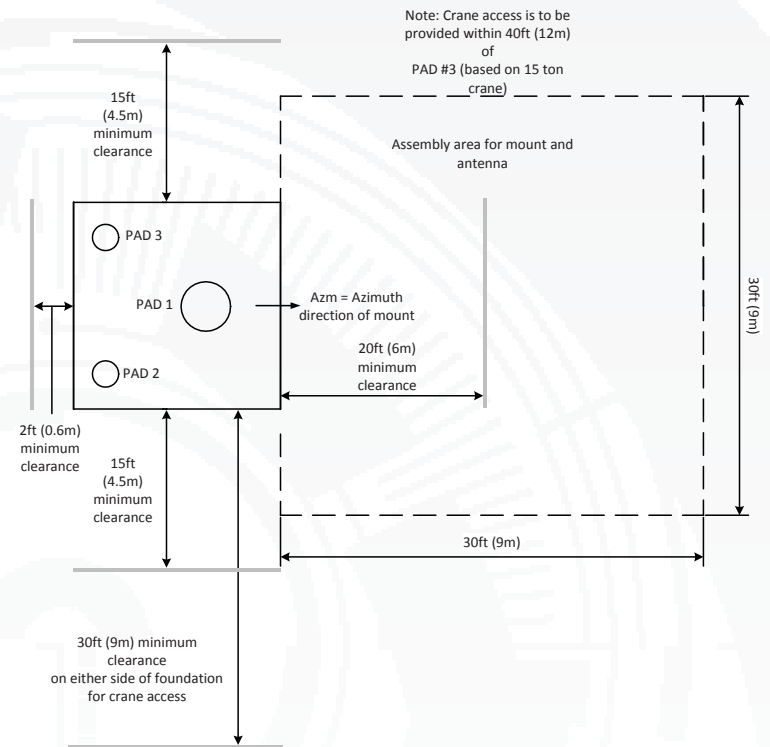
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Typical Foundation Design



Typical Foundation Information



Foundation information are provided in bulletin 237785, please contact CPI Antenna Systems Division.

| | |
|--------------------------------|-----------------------------------------------------|
| Soil Bearing Capacity, | 3000 lb/ft ² (14,646 kg/m ²) |
| Reinforcing Steel, | |
| Concrete Compressive Strength, | 3000 psi (211 kg/cm ²) |
| Foundation Size: | (for specific standard soil and typical design) |
| Length | 18 ft 6 in (5.64 m) |
| Width | 18 ft 6 in (5.64 m) |
| Depth | 2 ft (0.61 m) |
| Concrete Volume | 25.35 yd ³ (19.38m 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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Motor Drive Speed Summary

| | Variable | |
|--------------|----------|--------|
| Azimuth | 0.05°/s | 0.5°/s |
| Elevation | 0.05°/s | 0.5°/s |
| Polarization | 1°/s | |

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-MK7P |
|-----------------------------|----------|

Polarization Drive Kit (DC Step Motors)

| | |
|-------------------------------------|---------------|
| Standard Temperature (> -20°C) | NGC-PK9DRA |
| Low Temperature operation (< -20°C) | NGC-PK9DRA-LO |

Outdoor Unit Controller

| | |
|---------------------------------------|---------------|
| Power 200 - 230 VAC, 3 Phase 50/60 Hz | NGC-ODU-208-5 |
| Power 380 - 460 VAC, 3 Phase 50/60 Hz | NGC-ODU-380-5 |

Antenna Configurations

Ku, K-band Eutelsat Compliant Earth Station Antennas

| | |
|------------------------------------------|-----------|
| Motorizable Mount with Az/EI Jackscrews. | ES76EPK-1 |
|------------------------------------------|-----------|

C, X, Ku, K-band Earth Station Antennas

| | |
|------------------------------------------|----------|
| Motorizable Mount with Az/EI Jackscrews. | ES76PK-1 |
|------------------------------------------|----------|

Antenna controller, motorization and options are detailed in specific bulletins, please contact CPI Antenna Systems Division..

Motorization and NGC Options

| Indoor | |
|-----------|-------------------------------------------------------|
| NGC-IDU | NGC Rack Mounted Antenna Controller W/LCD Touch Panel |
| NGC-001 | NGC-IDU Analog Telephone Modem |
| NGC-002 | NGC-IDU Spectrum Analyzer Card, Analog |
| NGC-003 | NGC-IDU DVB Receiver Card |
| NGC-RTX-2 | NGC IDU, L-Band Internal Beacon Receiver |
| NGC-006 | NGC-IDU Emergency Stop Button |
| NGC-007 | NGC-IDU 10 Mhz Reference Source |
| NGC-008 | NGC-IDU Redundant Power Supply |
| NGC-009 | NGC-IDU Rack Slides |
| NGC-101 | NGC-IDU Step Tracking Software |
| NGC-102 | NGC-IDU Smartrack Software |
| NGC-103 | NGC-IDU Predictive Track Software |
| NGC-104 | NGC-IDU Full Tracking Capability Software |
| NGC-106 | NGC-IDU Remote Access Software Package |
| NGC-107 | NGC-IDU Spectrum Analyzer Enhanced User Interface |
| NGC-108 | Receive Pattern Test Tool |
| NGC-109 | Redundancy Control Software |
| NGC-111 | Sand/Dust Deviator Feature |
| NGC-119 | NGC High Availability System Redundancy 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 |

Antenna controller, motorization and options are detailed in specific bulletins, please contact CPI Antenna Systems Division.

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Feed Matrix

| 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-76 | 2 | X | | X | X | | | X | | | |
| 2CPNC-76-109 | 2 | | X | | X | | | X | | | |
| 2CPNCR-76-109 | 2 | | X | | X | | | | | | |
| 2CPWC-76 | 2 | | X | | | X | | | X | | |
| 2CPWCR-76-120 | 2 | | X | | | X | | | | | |
| 2CPWWC-76 | 2 | | X | | | X | | | | X | |
| 2LPNC-76 | 2 | | | X | X | | | X | | | |
| 2LPNCR-76 | 2 | | | X | X | | | | | | |
| 2LPUC-76 | 2 | | | X | | | X | | | | X |
| 2LPWC-76 | 2 | | | X | | X | | | X | | |
| 2LPWWC-76 | 2 | | | X | | X | | | | X | |
| 2LPWCR-76 | 2 | | | X | | X | | | | | |
| 4CPNC-76-206 | 4 | | X | | X | | | X | | | |
| 4LPNC-76 | 4 | | | X | X | | | X | | | |
| 4LPWWC-76 | 4 | | | X | | X | | | | X | |
| 4CPWWC-76 | 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-76 | 2 | X | | X | X |
| 2CPXF-76 | 2 | X | | X | X |
| 4CPX-76 | 4 | X | | X | X |
| 2CPXM-76 | 2 | X | X | X | X |
| 4CPXM-76 | 4 | X | X | X | X |

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Feed Matrix

| 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 | TX 13.75 - 14.5 GHz | TX 13.75 - 14.8 GHz | TX 14.0 - 14.5 GHz | TX 12.75-13.25 /13.75 -14.8 GHz | TX 13.0 - 14.5 GHz |
|-----------------------|------|----|----|---------------------|----------------------|--------------------|---------------------|---------------------|--------------------|---------------------------------|--------------------|
| 2LPKU-76 | 2 | | X | X | | | | X | | | |
| 2LPKUM-76-W | 2 | | X | | X | | | | X | | |
| 2LPKUR-76-W | 2 | | X | | X | | | | | | |
| 4LPKU-76-1 | 4 | | X | X | | | | X | | | |
| 4LPKU-76-2 | 4 | | X | | | X | | | | X | |
| 4LPKU-76-4 | 4 | | X | X | | | | | | | X |
| 4CPKU-76-S6 | 4 | X | | X | | | X | | | | |

| K- BAND FEED SYSTEMS | PORT | CP | LP | RX 10.7 - 12.75 GHz | TX 17.3 - 18.4 GHz |
|----------------------|------|----|----|---------------------|--------------------|
| 2LPKK-76 | 2 | | X | X | X |
| 4CPKK-76 | 4 | X | | X | X |
| 4LPKK-76 | 4 | | X | X | X |

| C/KU- BAND FEED SYSTEMS | PORT | CP | LP | RX 3.4 - 4.2 GHz | RX 10.7 - 12.75 GHz |
|-------------------------|------|----|----|------------------|---------------------|
| 4LPWCLPKUR-76 | 4 | | X | X | X |
| 4CPWCLPKUR-76 | 4 | X | X | X | X |
| 4CPLWCLPKUR-76 | 4 | X | X | X | X |

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Antenna Options and Spares

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| Anchor Bolt and Template Kits Options | |
|---------------------------------------|---------------------------------------------------------------------|
| 303546 | Anchor Bolt Kit for 7.6 Meter High Wind Earth Station Antennas |
| 303551 | Anchor Bolt Template for 7.6 Meter High Wind 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 |
| WEC76R-208-100 | Electric Hot Air De-Ice System, 208 VAC, 3 Phase |
| WEC76R-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 |
| FV5-115 | Fan and Vent Kit, 115 VAC |
| FV5-230 | 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-115 | Hub Light Kit, 115 VAC |
| HUBLT-230 | Hub Light Kit, 230 VAC |

| Safety Options | |
|----------------|-------------------------------------|
| ANTGND-9 | Foundation Installed Grounding Kit |
| LRK9 | Lightning Rod Kit |
| MANPL76P | Maintenance Platform and Ladder Kit |
| OBWRNLT-UNV | Obstruction Warning Light Kit |

| Other Options | |
|---------------|------------------------------------------------|
| 201887 | Handwheel Kit |
| 209906-2 | Lubrication and Maintenance Kit |
| 223711-2 | 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-7 | Manual Angle Indicator |
| BRNG-374676-X | Guard, Feed Window. X- Band |
| OM76PK | OM Manual |
| 202436 | C- Band Spare Feed Window |
| 221691 | Spare Feed Window, Ku- Band |

| Azimuth and Elevation Cross Axis Waveguide Options | |
|----------------------------------------------------|-----------------------------------------------|
| XAPC-76 | C- Band Cross-Axis kit, for 2 port feeds |
| XAPC-76-UPG | Upgrade C- Band Cross-Axis kit, 4 port feeds |
| XAPKU-76 | Ku- Band Cross-Axis kit, for 2 port feeds |
| XAPKU-76-UPG | Upgrade Ku- Band Cross-Axis kit, 4 port feeds |
| XAPKK-76 | K- Band Cross-Axis kit, for 2 port feeds |
| XAPKK-76-UPG | Upgrade K- Band Cross-Axis kit, 4 port feeds |

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



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