

## Satcom & Antenna Technologies Division



### Overview

The CPI Satcom & Antenna Technologies Inc. (CPI SAT) lightweight 2.4-meter (96-inch) Rugged Deploy antennas are designed for worldwide transmit and receive operation in C, X, Ku and Ka-band. These portable antennas consist of Precision Compression Molded reflectors and galvanized steel tripod base mounts. This results in a durable antenna with superior stiffness and high performance under wind loading conditions.

The unique shape and the accurate reflector surface provide good sidelobe and cross-polarization performance. The antenna system includes options consisting of a four-segment SMC compression molded reflector assembly. Repeatability is maintained with precision registration of the reflector segment(s) and the feed support structure.

A reusable, transportable wooden crate that accommodates soft cases or hard cases for the reflector is available for storage and transportation of the reflector case and tripod base.

### FEATURES

- Precision compression molded offset reflector
- Compact galvanized steel pedestal
- Transport cases included
- Two-person assembly in less than 5 minutes
- Captive hardware/fasteners
- No tools required
- Quick adjust positioner

### OPTIONS

- Paint/finishes
- Case upgrades
- Multiple feeds -- C, X, Ku and Ka-band

### BENEFITS:

- Superior stiffness
- High performance under wind loading conditions

### APPLICATIONS:

- Designed for worldwide transmit and receive operation in C, X, Ku and Ka-band

# CPI 2.4 Meter Rugged Deploy Antenna: Model 1248

## Technical Specifications

Electrical*	C-Band 2-Port Linear Polarized		C-Band 2-Port Circular Polarized		X-Band 2-Port Circular Polarized		Ku-Band 2-Port Linear Polarized	
	Receive	Transmit	Receive	Transmit	Receive	Transmit	Receive	Transmit
Frequency (GHz)	3.625 - 4.200	5.850 - 6.425	3.625 - 4.200	5.850 - 6.425	7.250 - 7.750	7.900 - 8.400	10.950 - 12.750	13.750 - 14.500
Antenna Gain at Midband, dBi	38.2	41.7	38.2	42.2	43.7	44.3	47.6	49.2
VSWR	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1
Pattern Beamwidth (in degrees at midband)								
-3 dB	2.09	1.39	2.09	1.33	1.12	1.04	0.67	0.57
-15 dB	4.39	2.92	4.39	2.79	2.35	2.18	1.41	1.20
Sidelobe Performance	IESS 207 STD H		IESS 207 STD H		DSCS requirements		IESS 208 STD E1	
Antenna Noise Temperature								
5° Elevation	54 K		65 K		55 K		72 K	
10° Elevation	43 K		56 K		45 K		61 K	
20° Elevation	39 K		52 K		41 K		55 K	
40° Elevation	41 K		53 K		41 K		53 K	
Axial Ratio			2.50 dB	2.00 dB	1.50 dB	1.50 dB		
Power Handling (total)	2 kW CW		1 kW CW		2 kW CW		1 kW CW	
Cross Polarization Isolation								
On Axis	30.0 dB	30.0 dB	17.0 dB	19.0 dB	21.3 dB	21.3 dB	30.0 dB	30.0 dB
Within 0.5 dB Beamwidth							30.0 dB	30.0 dB
Within 1.0 dB Beamwidth	26.0 dB	26.0 dB	17.0 dB	19.0 dB	21.3 dB	21.3 dB		
Output Waveguide Flange Interface	CPR-229G	CPR-137G	CPR-229G	CPR-137G	CPR-137G	CPR-137G	WR-75 Flat	WR-75 Flat
RF Specification	975-3069		975-1833		975-1553		975-3068	

### Mechanical

Reflector Construction	Composite reinforced materials (SMC)	
Antenna Optics	Four-piece, prime focus, offset feed	
Mount Type	Quick erect tripod with El/Az canister	
Tripod Pipe Size	3.0" SCH 40 pipe (3.5" OD) 8.89 cm	
Elevation Travel	5° - 90° continuous, fine adjustment	
Azimuth Travel	360° continuous, ±20° fine	
Shipping Specifications	<u>Size (L x W x H)</u>	<u>Weight</u>
Option 1 (reflector soft cases and reusable wooden crate)		
Total Shipping Dimensions and Weight in Crate	82 in x 60 in x 63 in	1,150 lbs (522 kg)
Option 2 (antenna hard cases)		
Four-Piece Reflector Case	2 @ 54 in x 18 in x 57 in	340 lbs (154 kg)
Pedestal Case	1 @ 75 in x 21 in x 39 in	316 lbs (143 kg)
T-Head/Back Structure Case	1 @ 95 in x 26 in x 33 in	350 lbs (159 kg)
Net Weight of Antenna (no feed or options)	416 lbs (189 kg)	

### Environmental

Operational Wind Loading	20 mph (32 km/h), no ballast or anchors
	20 mph (32 km/h) gusting to 45 mph (72 km/h), with ballast or anchors
Survival Wind Loading	60 mph (97 km/h), with ballast or anchors
Temperature Range (operational)	-40° to +140° F (-40° to +60° C)
Rain (operational)	1/2 in/h (12 mm/h)
Ice (operational)	1/2 in (12 mm)
Atmospheric Conditions	Salt, pollutants and contaminants as encountered in coastal and industrial areas
Relative Humidity	0% to 100%
Solar Radiation	360 BTU/h/ft <sup>2</sup> (1000 Kcal/h/m <sup>2</sup> )

\* Consult factory for Ka-band option.

Contact us at [CustomerCareSAT@cpii.com](mailto:CustomerCareSAT@cpii.com) or call us at +1 770-689-2040. The data should be used for basic information only. Formal, controlled specifications may be obtained from CPI for use in equipment design.



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For more detailed information, please refer to the corresponding CPI technical description if one has been published, or contact CPI. Specifications may change without notice as a result of additional data or product refinement. Please contact CPI before using this information for system design.

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