

2.4M C & Ku-Band Rx/Tx Antenna

Series 1241

Technical Specifications

Electrical		C-Band Linear	C-Band Circular	Ku-Band
Antenna Size		2.4M (96 in.)	2.4M (96 in.)	2.4M (96 in.)
Operating Frequency (GHz)	Receive	3.625 - 4.20 GHz	3.625 - 4.20 GHz	10.70 - 12.75 GHz
	Transmit	5.85 - 6.425 GHz	5.85 - 6.425 GHz	13.75 - 14.50 GHz
Antenna Gain at Midband, dBi ($\pm .2$ dB)	Receive	38.20 dBi	38.00 dBi	47.40 dBi
	Transmit	42.20 dBi	42.00 dBi	49.20 dBi
VSWR		1.3:1 Max	1.3:1 Max	Rx: 1.5:1 Max Tx: 1.3:1 Max
Pattern Beamwidth (in degrees at midband)	-3 dB	Rx: 2.20° Tx: 1.40°	Rx: 2.20° Tx: 1.40°	Rx: 0.70° Tx: 0.60°
	-15 dB	Rx: 4.90° Tx: 3.10°	Rx: 4.90° Tx: 3.10°	Rx: 1.60° Tx: 1.40°
Sidelobe Envelope, Co-Pol (dBi) 100 λ / D < $\theta \leq 20^\circ$ 20° < $\theta \leq 26.3^\circ$ 26.3° < $\theta \leq 48^\circ$ $\theta > 48^\circ$		29 - 25 Log θ dBi -3.5 dBi 32 - 25 Log θ dBi -10 dBi (averaged)	29 - 25 Log θ dBi -3.5 dBi 32 - 25 Log θ dBi -10 dBi (averaged)	29 - 25 Log θ dBi -3.5 dBi 32 - 25 Log θ dBi -10 dBi (averaged)
Antenna Noise Temperature				
10° Elevation		52 K	57 K	85 K
20° Elevation		46 K	49 K	78 K
30° Elevation		45 K	45 K	73 K
40° Elevation		44 K	45 K	70 K
Cross Polarization Isolation (Linear) On Axis	Receive	>30 dB	N/A	>30 dB
	Transmit	>30 dB	N/A	>35 dB
Axial Ratio (Circular)	Receive	N/A	2.28 dB	N/A
	Transmit	N/A	1.94 dB	N/A
Feed Interface	Receive	CPR 229F	CPR 229F	WR 75 or Direct Radio
	Transmit	CPR 137 or Type N	CPR 137 or Type N	Mounting
Maximum Radio Weight (Optional Feed Stabilizer available for higher radio weight)		20 Lbs. (9 Kg.)	20 Lbs. (9 Kg.)	12 Lbs. (5.5 Kg.)

Mechanical

Reflector Material	Glass Fiber Reinforced Polyester SMC
Antenna Optics	Prime Focus, Offset Feed, Four-piece
Mast Pipe Size	6" SCH 40 Pipe (6.63" OD) 16.83 cm.
Elevation Adjustment Range	5° to 90° Continuous Fine Adjustment
Azimuth Adjustment Range	360° Continuous, +/- 10° Fine Adjustment
Mount Type	Elevation over Azimuth
Shipping Specifications	
Shipping Weight (Total):	545 lbs. (248 kg.)
Install (Net) Weight:	365 lbs. (166 kg.)

Environmental Performance

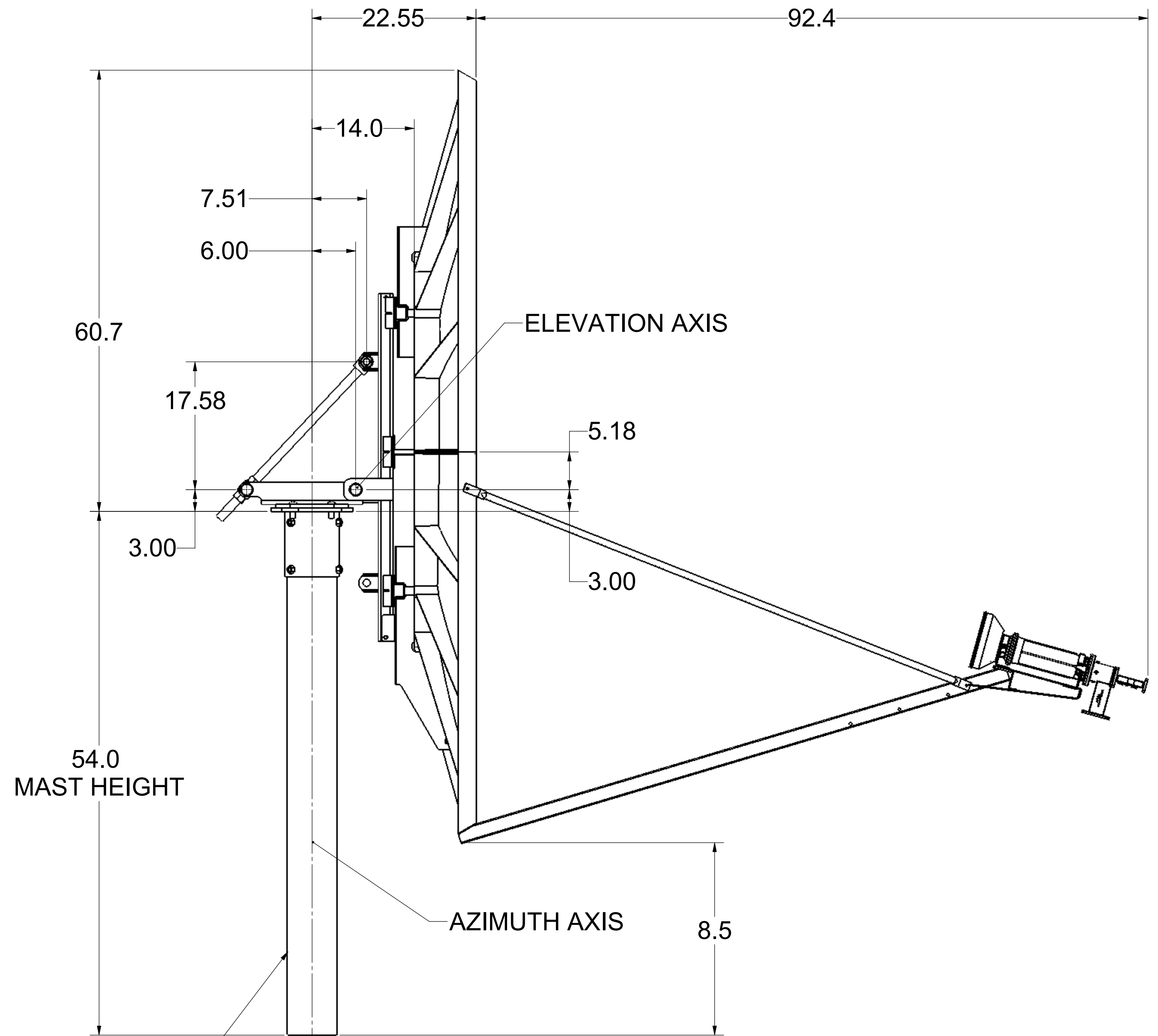
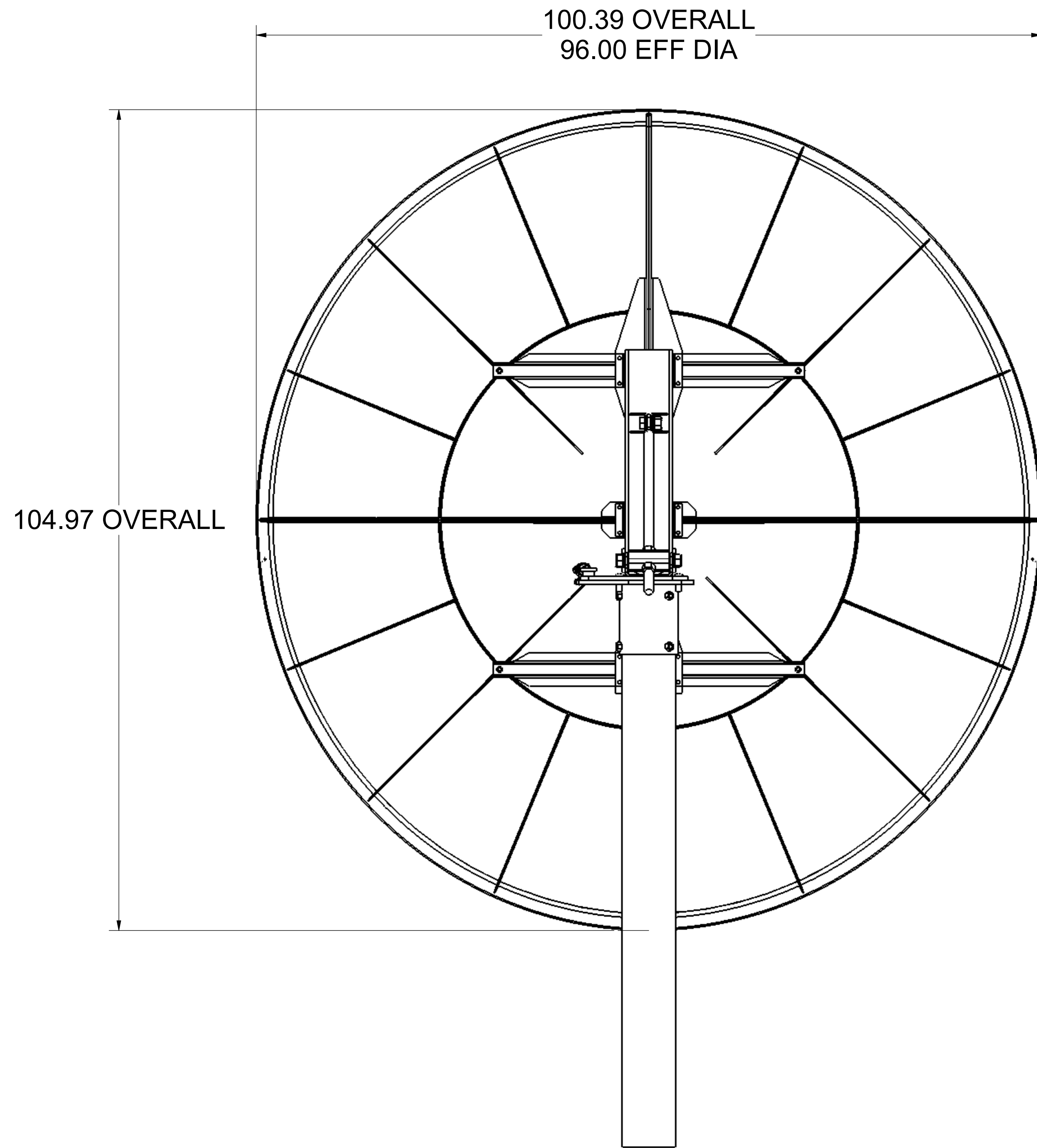
Wind Loading	Operational Survival	50 mph (80 km/h) 125 mph (201 km/h)
Temperature Range (operational)		-40° to 140°F (-40° to 60°C)
Rain (operational)		1/2" (13mm) / hr
Atmospheric Conditions		Salt, Pollutants and Contaminants as Encountered in Coastal and Industrial Areas
Relative Humidity		0 to 100% With Condensation
Solar Radiation		360 BTU/h/ft ²

GENERAL DYNAMICS SATCOM Technologies

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1000-063 Rev. 08/12

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	UPDATED AND RELEASED.	7/26/2012	R.F.



6" SCH 40 PIPE (6.62" O.D.)

NOTES:

1. C-BAND CIRCULAR POLARIZED FEED SHOWN. C-BAND LINEAR AND KU-BAND ALSO AVAILABLE.

DIMENSIONS ARE IN DECIMAL INCHES, UNLESS OTHERWISE NOTED.
TOLERANCES ON FINISHED DIMENSIONS ARE AS FOLLOWS:
X.X = 0.1 X.XXX = 0.010
X.XX = 0.05 ANGULAR = 1°

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GENERAL DYNAMICS SATCOM Technologies	
TITLE 2.4M Rx/Tx ANTENNA GEOMETRY SERIES 1241	
MATERIAL	FINISH
NEXT ASS'Y	CODE IDENT. NO. 94661
DRAWN BY	TD0666
CHECKED BY	REV. A
ENGR. BY	
MFG APVD BY	SCALE 1:10 SH. 1 OF 1

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