PRODUCT SPECIFICATIONS

4.6 Meter Trifold® Transportable Antenna

The antenna's Trifold® reflector panels are cut from a single-piece of precision spun aluminum.

Feeds available from UHF through Ka band.

ASC offers full integration packages built delivered to your specfic requirements.

RoHS

The ASC Signal 4.6 meter Trifold® antenna is designed for worldwide use in transportable applications serving high density data, voice and communications networks. Like all ASC Signal earth station antennas, this Transportable Earth Station Antenna proides high gain and exceptional pattern characteristics. The electrical performance and exceptional versatility allows configuration with your choice of transmit/recieve feed assemblies.

Designed to meet a wide range of regulatory standards, including INTELSAT®'s standard F1 and E2 specifications, this antenna compliments the long running ASC Signal 3.7 meter and 4.5 meter Trifold® antenna products. In conjunction with the new ASC Signal 3.9 meter Trifold® antenna system, a full range of medium sized transportable antenna requirements can be fulfilled.

The dual reflector antenna optical design is desirable for its efficiency and radiation pattern performance. This design process involves the use of proprietary ASC Signal reflector shaping software supported with independent analysis using physical optics (PO) methods. This process has most recently been demonstrated with the award of Intelsat type approval for the ASC Signal 4.9 meter earth station antenna for standards F-1 (C-band) and E-2 (Ku-band).

The antenna's Trifold® reflector panels are cut from a single-piece of precision spun aluminum. Each panel is designed and manufactured to provide excellent thermal expansion characteristics and ensures the extremely accurate surface contour. All Trifold® antennas meet or exceed Asiasat, Eutelsat, Panamsat, and Intelsat® F-1 and E-2 requirements. In addition, they meet or exceed ITU-R S.580 and S.465 recommendations for pattern performance for 2° satellite spacing.

The unique Trifold® design enables one-person deployment in less than 30 minutes. A large range of adjustment provides non-critical positioner/trailer orientation and allows viewing of geostationary satellites, horizon to horizon, from any location world wide. An aluminum back structure and hot-dipped galvanized steel positioner maintain pointing accuracy, durability and reliability.

SPECIFICATIONS

4.6 Meter Trifold® Transportable Antenna

Electrical Performance

	C-band 2-Port Circular Pol Feed		C-band 2-Port Linear Pol Feed		Ku-band 2-Port* Linear Pol Feed		X-band 2-Port** Circular Pol Feed		K-band 4-Port Linear Pol Feed		Ka-band 4-Port Circular Pol Feed	
	Receive	Transmit	Receive	Transmit	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	10.700-12.750	13.750-14.400	7.250-7.750	7.900-8.400	10.700-12.750-	17.300-18.400-	20.200-21.200	30.100-31.000
Port-To-Port Isolation (Tx to Rx)	85 dB		85 dB		85 dB		110 dB		85 dB		85 dB	
Antenna Noise Temperature (Clear Sky Condition at 68° F)												
10° Elevation	50 K		50 K		57 K		49 K		57 K		127 K	
30° Elevation	41 K		41 K		41 K		37 K		41 K		80 K	
50° Elevation	39 K		39 K		39 K		35 K		39 K		72 K	
XPD (Within 1 dB Contour) (On Axis)	20.8 dB	27.3 dB	>30 dB	>28 dB	>35 dB	>35 dB	21.3 dB	21.3 dB	>35 dB	>35 dB	27.3 dB	30.7 dB
VAR	1.20	1.09					1.19	1.19			1.09	1.06
VSWR	1.3:1	1.3:1	1.3:1	1.3:1	1.35:1	1.25:1	1.3:1	1.3:1	1.35:1	1.35:1	1.3:1	1.3:1
Gain @ Feed Output Flange (±0.2 dB)												
3.625 GHz	42.9 dBi		42.9 dBi		N/A		N/A		N/A		N/A	
4.200 GHz	44.2 dBi		44.2 dBi		N/A		N/A		N/A		N/A	
5.850 GHz	47.3 dBi		47.3 dBi		N/A		N/A		N/A		N/A	
6.425 GHz	47.8 dBi		47.8 dBi		N/A		N/A		N/A		N/A	
7.250 GHz	N/A		N/A		N/A		48.6 dBi		N/A		N/A	
7.750 GHz	N/A		N/A		N/A		49.1 dBi		N/A		N/A	
7.900 GHz	N/A		N/A		N/A		49.3 dBi		N/A		N/A	
8.400 GHz	N/A		N/A		N/A		49.9 dBi		N/A		N/A	
10.700 GHz	N/A		N/A		52.06 dBi		N/A		52.06 dBi		N/A	
12.750 GHz	N/A		N/A		53.45 dBi		N/A		53.45 dBi		N/A	
14.125 GHz	N/A		N/A		54.25 dBi		N/A		N/A		N/A	
14.500 GHz	N/A		N/A		54.43 dBi		N/A		N/A		N/A	
17.300 GHz	N/A		N/A		N/A		N/A		55.98 dBi		N/A	
18.400 GHz	N/A		N/A		N/A		N/A		56.30 dBi		N/A	
20.200 GHz	N/A		N/A		N/A		N/A		N/A		57.10 dBi	
21.200 GHz	N/A		N/A		N/A		N/A		N/A		57.50 dBi	
30.100 GHz	N/A		N/A		N/A		N/A		N/A		59.50 dBi	
31.000 GHz	N/A		N/A		N/A		N/A		N/A		59.80 dBi	
Beamwidth (3 dB)	1.01 dB	.62 dB	1.01 dB	.62 dB	.33 dB	.27 dB	.51 dB	.47 dB	.33 dB	.21 dB	.19 dB	.13 dB
Transmit Power Capacity		500 W		5000 W		2000 W		2000 W		2000 W		1000 W
Maximum Pressurization	0.5 PSI		0.5 PSI		0.5 PSI		0.5 PSI		0.5 PSI		0.5 PSI	
Waveguide Interface Flange	Brass CPR-229	Brass CPR-137	Brass CPR-229	Brass CPR-137	Brass WR-75	Brass WR-75	Brass WR-112	Brass WR-112	Brass WR-675	Brass WR-62	Brass WR-42	Brass WR-28

Mechanical Performance

Optics Type	Dual Reflector, Gregorian
Reflector Material	Precision Formed Aluminum
Reflector Segments	3
Antenna Pointing Range, Course/(Continuous)	Elevation (330°) Azimuth (85°) Polarization (360°)

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Environmental Performance

Operational Temperature	40°F to 125°F (-40°C to 50°C)
Wind Loading, Survival	125 mph (200 km/h)
Rain	4 in/hr (102 mm/hr)
Solar Radiation	360 BTU/h/ft^2 (1135 W/m^2)
Relative Humidity	100%
Shock and Vibration	As Encountered by Commercial Air, Rail and Truck Shipment
Atmospheric Conditions	As Encountered In Moderately Corrosive Caastal and Industrial Areas