

3.7Mts Ring Focus System



The satellite communication antenna CA-3.7T C/Ku is a dual reflector ring focus design(step up from the 1980's technology of Gregorian design) type. The antenna diameter is 3.7 meters, and the antenna mount is the A-E type joist style. The main and sub-reflectors of the antenna are shaped to achieve good performance with high efficiency and low sidelobes. The antenna mount is a combination of upright-post and triangular plate at the bottom structure. The antenna is steady and relative easy to point to the satellite and is very robust with strong wind resistant characteristic because of its military design bench mark. The components of the antenna are interchangeable with each other. This antenna has obtained network type approval certifications from APT satellite holdings limited, AsiaSat, China broadcast Sat, SinoSat, OrientSat since the beginning of 1999.

Electrical Specifications	C-Receive	C-Transmit	Ku-Receive	Ku-Transmit
Frequency	3.652-4.2 *3.4-4.2	5.85-6.425 *5.925~6.725	12.25-12.75 *10.95-1275	14.00-14.50 *13.75-14.50
Gain	42	45.2	50	52.5
VSWR	1.25:1	1.25:1	1.25:1	1.25:1
Beam width -3dB	1.32°	0.86°	0.47°	0.38°
Beam width -15dB	2.75°	1.73°	0.91°	0.75°
Cross polarization isolation(on axis) Within 1db contour	35db>30db	35db>30db	35db>30db	35db>30db
Port to port isolation(TxRx with filter)	85db		85db	
Noise temperature	2-port Feed		2-port Feed	
10°EI	36K		50K	
20°EI	30K		44K	
40°EI	25K		38K	
Power capacity		5KW/port		1000W
Interface	CPR-229G	CPR-159G/137G	WR-75	
Feed insertion loss	0.15dB	0.18dB	0.25dB	0.25dB
Axial ratio(db)*	1.09	1.09(0.9db) 1.06(0.5db) (Intelsat)		
Sidelobe envelope	29-25LOG(θ) dBi ($1^\circ \leq \theta \leq 20^\circ$)		29-25LOG(θ) dBi ($1^\circ \leq \theta \leq 20^\circ$)	
	-3.5 dBi		-3.5 dBi	
	(20°< θ ≤26.3°)		(20°< θ ≤26.3°)	
	32-25LOG(θ) dBi (26.3°< θ ≤48°)		32-25LOG(θ) dBi (26.3°< θ ≤48°)	
	-10(Average) dBi(θ >48°)		-10(Average) dBi(θ >48°)	

Mechanical Characteristics

Main reflector diameter	Azimuth angle	Elevation angle	Surface accuracy	Antenna net weight	Painting
D=3.7m	±60°	5°~90°	0.5mm(r.m.s.)	700kg	white

Environmental Characteristics

Operation wind speed	Survival wind speed	Humidity	Temperature	Earthquake
72Km/h-97Km/h	200Km/h	10%~98%	-30°~+60°	Horizontal: 0.3G's; Vertical: 0.15G's

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