

## NWIEE 4.5M ANTENNA



NWIEE designed and manufactured in batches 4.5-meter aluminum reflector antenna for VSAT applications in C band (Model C45T) and Ku band (Model K45T).

4.5M antenna adopts Dual Shaped Compact Cassegrain precision-formed reflector mounted on a Az.over El. pedestal providing necessary stiffness and pointing accuracy required in C and Ku band operation. It is provided with a Rx/Tx (2 ports) feed with corrugated horn and OMT and is of optimized R.F. specification, operates in circular or linear polarization selectable manually and meets any requirements of customers for particular applications.

4.5M antenna meets the regulations of CCIR 580-4 and has been type approved by ASIAsAT and INTELSAT. NWIEE 4.5M antenna can enter ASIAsAT-2 and INTELSAT Network without the need of certification test after installation on sites.

NWIEE 4.5M COMPACT CASSEGRAIN ANTENNA IN C- OR Ku- BAND WITH 2-PORT . FEED				
R.F. Specifications	C-Band		Ku-Band	
	Receive	Transmit	Receive	Transmit
Frequency in GHz	3.625-4.200*	5.850-6.425	10.95-12.75	14-14.5
Gain	43.6+ 20lg[f(GHz)/4 ]	47.1+ 20lg[f(GHz)/6.2 ]	53.0+ 20lg[f(GHz)/12 ]	54.5+ 20lg[f(GHz)/14 ]
Antenna Noise Temp.				
10°Elevation	36K		60K	
20°Elevation	31K		50K	
40°Elevation	26K		44K	
Sidelobe Pattern	First sidelobe level $\leq -14$ dB Beyond first sidelobe meet IESS(Intelsat) or CCIR 580-4 Recommendation			
Cross Pol. Discrimination	35dB (On axis)		30dB (within 1 dB Beamwidth)	
VSWR	1.3:1 (LP) 1.25:1 (CP)	1.3:1 (LP) 1.25:1 (CP)	1.25:1	1.25:1
-3dB beamwidth	1.07°	0.69°	0.35°	0.30°
Axial Ratio (CP only)	1.5dB	1.0dB	0.5	0.5
Feed Insertion or Ohmic Loss	0.20dB	0.10dB	0.50dB	0.50dB
Power Handling Capability	1 Kw		500w	
Port to Port Isolation	85dB		85 dB	
Feed Interfaces	CPR-229F	CPR-137G	WR75F	WR75F

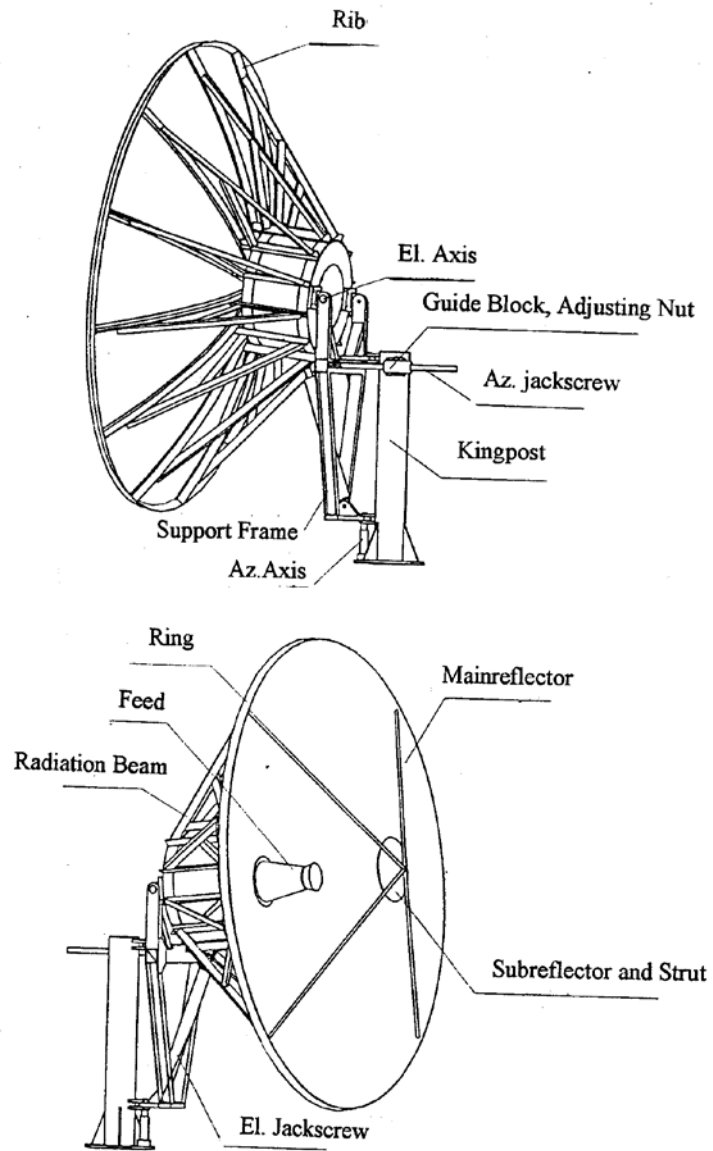
NOTE: All values are at the feed output flange.

\* The frequency range are Rx: 3.4-4.5GHz/Tx: 6.424-6.725GHz or Rx:3.4-4.2GHz  
/Tx:5.85-6.650GHz optional.

\*\* The other operational frequency bands of NWIEE VSAT antennas can be of 10.95- 11.7GHz or 11.7-12.2GHz, even extended as 10.7-12.75GHz.

NWIEE 4.5M ANTENNA MECHANICAL SPECIFICATIONS	
Azimuth Travel	±65° continuous, 360° in total
Elevation Travel	0° to 90°
Shipping Weight	1500kg
Shipping Volume	8.2m <sup>3</sup>
Reflector	Aluminum
Backup Structure	Steel
Pedestal Structure	Steel
Finish	
Reflector Surface	Aluminum panels with heat-diffusing white paint
Pedestal and Steel	Sand blast and hot spray galvanized and two times paint
Foundation	5.0m x 5.0m
Antenna drive mode	Manual, Motorization drive optional

NWIEE 4.5M ANTENNA ENVIRONMENTAL SPECIFICATIONS	
Operation Wind	50km/h gusts to 97km/h
Survival Wind	200km/h, 80m/s optional
Ambient Temperature	-40°C to 60°C
Rain	up to 100mm/h
Relative Humidity	up to 100%
Solar Radiation	1000 kcal/M <sup>2</sup> /h
Radial Ice (Survival)	25mm on all surface or 13mm on all surface with 130km/h wind gusts
Shock and Vibration	As encountered during shipment by commercial air, sea or truck
Corrosive atmosphere	As encountered in coastal regions and/or heavily industrialized areas
Seismic (Survival)	0.3G's horizontal 0.1G's vertical



**The Structure of NWIEE K53T 3M and K37T 3.7M Ku-Band Antenna**