5.4M motorized remote sensing satellite receiving antenna

5.4M motorized remote sensing satellite receiving antenna is one of remote sensing receiving antenna series developed by our company, which is applied for remote sensing satellite receiving on sea and meteorology. This type of antenna adopts standard Cassegrain antenna, AZ-EL and tilted 3-axis antenna pedestal. Titled axis is considered as lay-down mechanism when antenna pedestal is stowed. And the car loaded the antenna is trailer. The antenna can operate at L, S or X-band, and can also operate at dual-band of L/S, L/X or S/X. Its tracking mode has three categories which are manual tracking, program tracking and mono-pulse auto tracking. The system equipment includes antenna reflector, antenna pedestal, feed system, servo tracking system, etc. Auxiliary equipment includes antenna trailer, tractor, calibration signal source, beacon horn, rising and falling mechanism, north finder and lightning rod, etc.

Main Performance Specification

Item	Electrical Specification	Parameter
1	Antenna type	Standard Cassegrain antenna
2	Feed type	Feed forward, feed back or sub-reflector
3	Antenna pedestal type	AZ-EL and titled 3-axis
4	Operational band	L, S, X-band or L/S, L/X, S/X dual-band
5	Antenna efficiency	50%~55%
6	Polarization	Circular
7	Sidelobe	First sidelobe ≤ －14dB
8	VSWR	≤1.5:1
9	Circular polarization axial ratio	1.22:1(single band) or 1.41:1(dual-band)
10	Antenna travel range	Az: ±360°El: -1°～181°　Tilt: ±7°
11	Travel speed	Az: 0.01°/S～20°/S,
		El: 0.01°/S～12°/S
		Tilt: 0.1°/S～0.2°/S

12	Travel acceleration	Az: 0.001°/S^2～5°/S^2,
		El: 0.001°/S^2～2°/S^2
13	Operational mode	Manual control, assigned position (digital guiding), program tracking, mono-pulse auto tracking, self-checking
14	Tracking mode	Manual tracking, program tracking and mono-pulse auto tracking
15	Pointing accuracy	1/6 half power beam width (X-band)
16	Tracking accuracy	1/10 half power beam width
17	Monitor and interface requirement	It can communicate with monitoring computer. The interface is RS232/422/RS485 or network interface
18	Power supply	220V AC±10％, 380V AV±10％, 50Hz±5％
19	Total antenna weight	8500Kg
20	Power	9000W