

SinoAero 1.8m Flyaway Antenna

Installation Instructions

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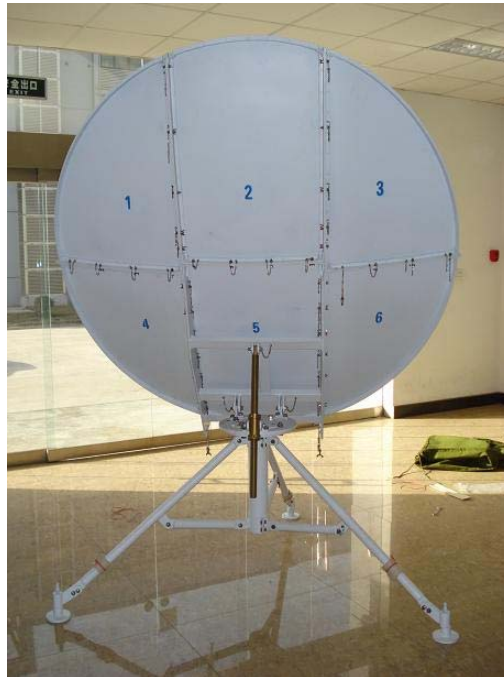
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1. The antenna structure

The figure of 1.8m antenna structure (Fig.1)



The figure of 1.8m antenna structure (Fig.2)



2. The antenna performance

2.1 Electrical performance

2.1.1 Frequency:	Transmission	5.925~6.425GHz
	Reception	3.7~4.2GHz
2.1.2 Gain:	Transmission	39.5 dBi
	Reception	35.7 dBi
2.1.3. Beamwidth:	Transmission	1.89°(-3dB)
	Reception	2.95°(-3dB)
2.1.4 Sidelobe characteristic:		29-25LOG(θ) dBi ($1^{\circ}\leq\theta\leq 20^{\circ}$)
2.1.5 Power capacity:		1000W
2.1.6 Interface:	Reception	CPR-229G/F
	Transmission	CPR-137G/F
2.1.7 polarization :		Orthogonal linear polarization ($\pm 90^{\circ}$ continuous adjustable)
2.1.8 XPI:		$\geq 35\text{dB(Axial)}$
2.1.9 V SWR:	≤ 1.25 :	1 (Reception& Transmission)
2.1.10 Duplexer	Rx / Tx isolation:	$> 85\text{dB}$

2.2 Mechanical properties

2.2.1 The pedestal type:		Azimuth—Elevation structure
2.2.2 Reflector:		Sectioned(6 panels) 1.8m single off-center parabolic reflector
2.2.3 The driving mode:		Manual
2.2.4 Rotational range:		Azimuth: $\pm 90^{\circ}$ ($\pm 20^{\circ}$ continuous adjustable) Elevation: $0^{\circ}\sim 90^{\circ}$ (continuous adjustable)
2.2.5 Working temperature:		$-30^{\circ}\sim +55^{\circ}$
2.2.6 Humidity:		100%
2.2.7 Net weight:		73Kg

3、 The antenna installation

3.1 Tools

Two adjustable wrenches (The specification: length: 200mm. the longest hatch: B=24mm) Remarks: the user can prepare three types of fixation wrenches (16×18、 22×24、 12×14) for the installation.

Two fixation wrenches (The specification: 8×10), one hammer.

3.2 Opening boxes and checking

Open boxes to check all parts and fasteners according to the packing list(in sector 5).

3.3 Installation steps

1. Take out the pedestal



2. Invert the pedestal and connect three rods



3. Place the pedestal in the right state



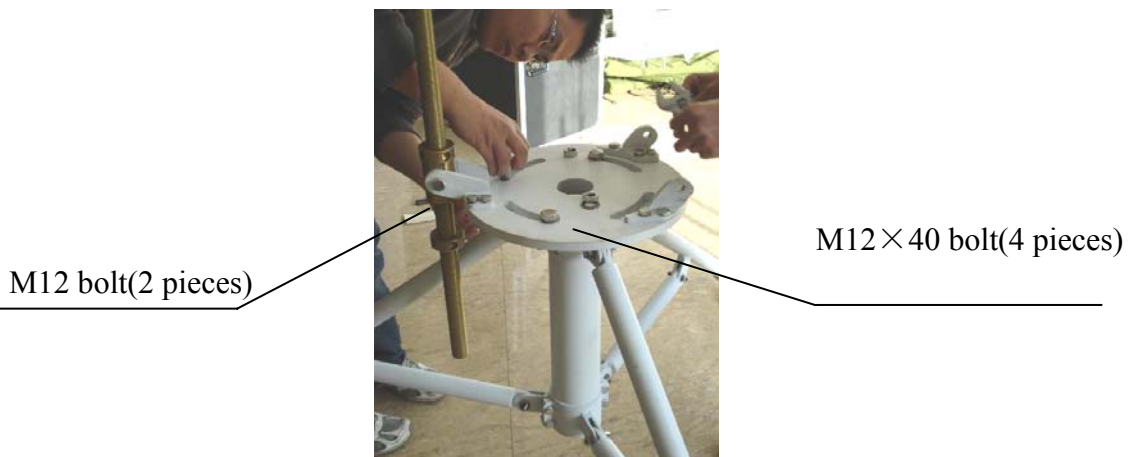
4. Insert the azimuth revolving head in the pedestal azimuth panel



Azimuth revolving head

Pedestal

5. Insert four bolts of M12 in four ellipse slots respectively and do not fasten them at this stage. Fasten the elevation leading screw with M12 bolt according to the follow figure.



M12 bolt(2 pieces)

M12 × 40 bolt(4 pieces)

6. connect the bracket with the elevation leading screw using M12 dowel.



7. Place No.5 panel into the bracket and fasten it using $\phi 9$ dowel.



8. Install the No.4 and No.6 panels as step 7th above.



9. Install the No.2 panel using $\phi 9$ dowel.



No.2 panel

10. Install the No.1 and No.3 panel using $\phi 9$ dowel.



No.3 panel

No.1 panel

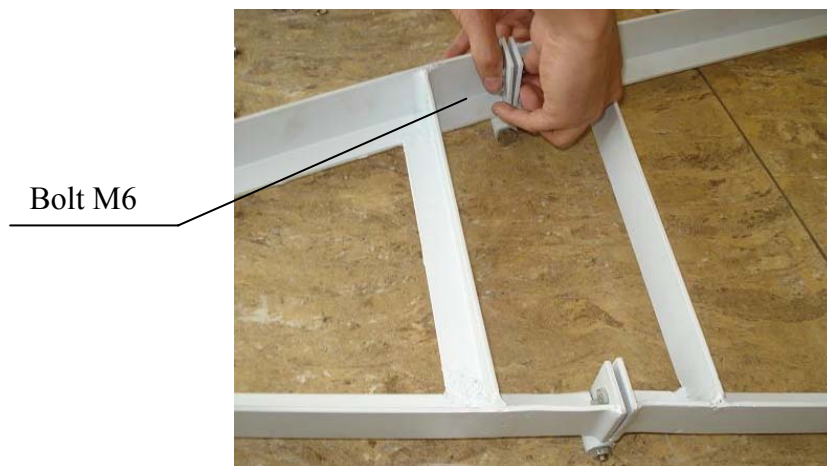
11. Now all panels are assembled completely, then fasten all dowels.



12. Take out the feed bracket.



13. Place the foldaway bracket suitably and fasten it using 4 M6×20 bolts.



14. Connect the feed bracket with antenna bracket and fasten them using six $\phi 9$ dowels.



15. Connect the feed bracket supporting rod using two M8×30 and fasten them.



16. Install the feed as the follow figure and fasten it using M6 bolt.



C band feed



Ku band feed

17. Now, all installation works have been completed.



3.4 Antenna adjustment

a. Adjustment of antenna elevation angle:

According to calculated antenna elevation angle, preset antenna reflector to calculated position by rotating large knob of elevation lead screw (refer to elevation scale), then trim elevation lead screw through knob to align antenna toward satellite.

b. Adjustment of antenna azimuth angle:

According to calculated antenna azimuth angle, approximately preset antenna to calculated azimuth angle, unscrew one large knob under tripod upright, then, referring to the scale, rotate large knob of azimuth lead screw to align antenna toward satellite.

Adjust antenna to get optimum reception effect by azimuth & elevation

adjustments, then screw down large knob on tripod upright to prevent antenna from shaking during operation.

4. Maintenance of the antenna

4.1 Fasten the foundation with the steel wire of the type that is bigger than $\varnothing 4$. One side, connect the foundation, the other side connect with the anchor. Collect the antenna when the wind speed is stronger than the allowed operation wind speed.

4.2 Smear the lubricate Grease to protect the bolts when the antenna is not in used regularly.

4.3 Spray-paint the antenna reflector when it reached two years of working life. The bracket and the foundation should be smear gray paint for protection when they are damaged.

5. Packing list

The large case: 1050mm×540mm×690mm

- (1) panel (6 pieces)
- (2) back supporting bracket (1 piece)
- (3) feed supporting bracket

Gross weight: 58kg Net weight: 38kg

The small case: 1140mm×410mm×410mm

- (1) antenna bracket (1 set)
- (2) azimuth revolving panel (1 piece)
- (3) elevation leading screw (1 set)
- (4) fastener (1 box)

(5) feed source (1 set)

Gross weight:48kg Net weight: 35kg