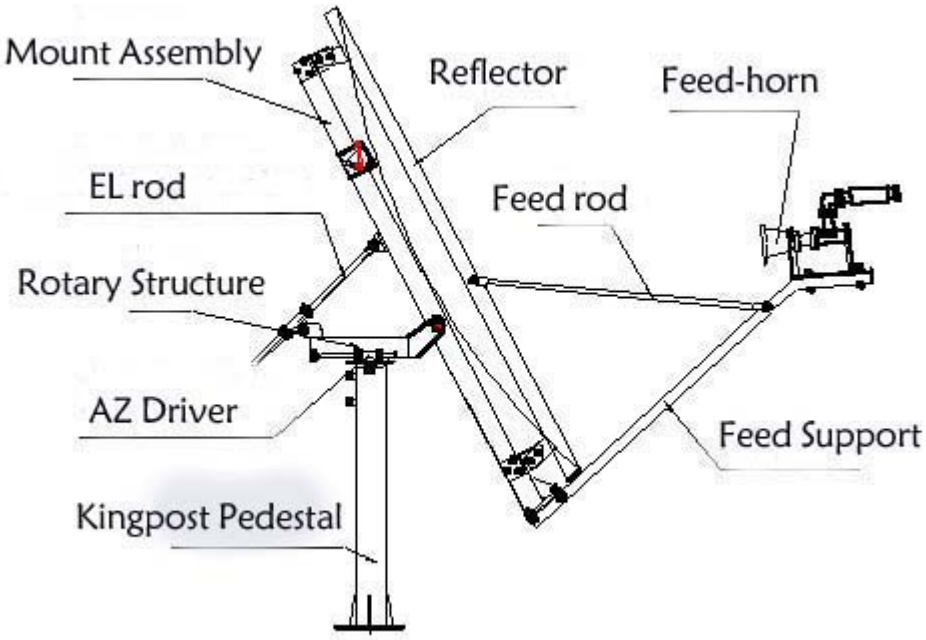

Mount Assembly
Reflector
Feed-horn
EL rod
Feed rod
Rotary Structure
AZ Driver
Feed Support
Kingpost Pedestal

1 OVERVIEW

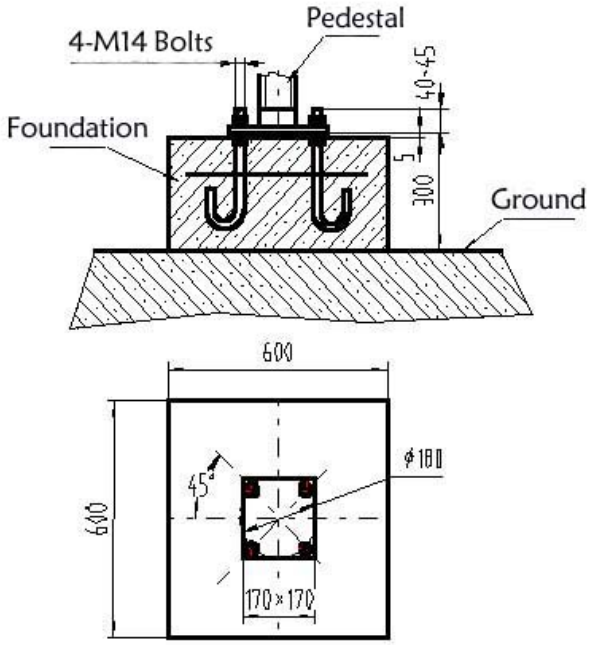
The SA-1.2TK is a Ku-band satellite communication earth station offset antenna system. The antenna is consists of various components including reflector, back structure, feed horn, OMT, TRF, feed support. The antenna meets the requirements of INTELSAT specifications. This manual provides installation and operation information for the Ku-band antenna system. This is a technical document intended for engineers, technicians, and operators responsible for the operation and maintenance of the 1.2m antenna.

1.1 Specifications

RF specifications		
Specifications	**Receive**	**Transmit**
Frequency	12.2~12.75GHz	14.0~14.5GHz
Gain	42.1+20lg(f/12.5)	43.2+20lg(f/14)
VSWR	1.25:1	1.25:1
Beamwidth(-3dB)	1.3°	1.14°
Noise Temperature 5°elevation 10° elevation 20° elevation 40° elevation	 58° 43° 38° 36°	
Interface	WR-75G	WR-75F
Feed Insertion Loss	0.2dB	0.25dB
Rx to Tx Isolation	≥85dB	
Cross-polarization Isolation On axis With -1dB beamwidth	 ≥35dB ≥33dB	 ≥35dB ≥33dB
Sidelobes First sidelobe 1°≤θ≤8° 8°≤θ≤48° 48°≤180°	 ≤-18dB 29-25lgθ dBi 29-25lgθ dBi -13dB	 ≤-18dB 29-25lgθ dBi 29-25lgθ dBi -13dB

Mechanical Specifications	
Azimuth Travel Range/ Elevation Travel Range	±180°/0°~85°
Polarization Travel Range	±180°
Weight	36kg
Finish of Reflector	White Paint
Finish of Steel Parts	Heating & Soaking with zinc
Environmental Specifications	
Operational Wind Speed	70km/h
Survival Wind Speed	120km/h
Ambient Temperature	-35°c~55°c
Relative Humidity	0%~100%
Solar Radiation	360BTU/h/ft^2

1.2 Foundation

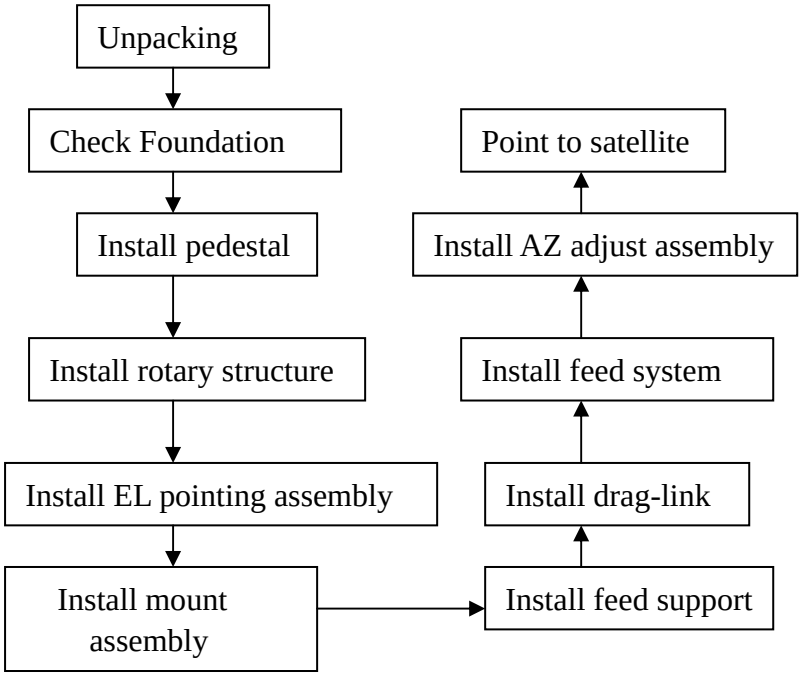


NOTES：

A). All concrete should conform to building code standards.
B). Allow concrete 24 hours set time before installation of antenna.
C). The antenna should be properly grounded to meet applicable local codes.
D). Foundation meets the design requirements.

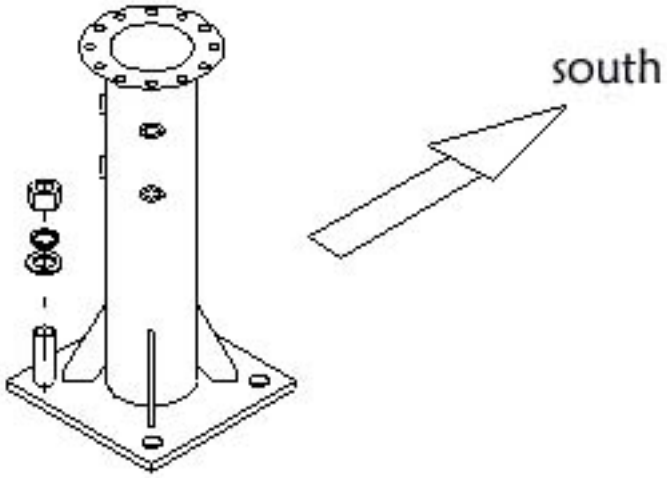
2、INSTALLATION

2.1 Procedure



2.2 Process

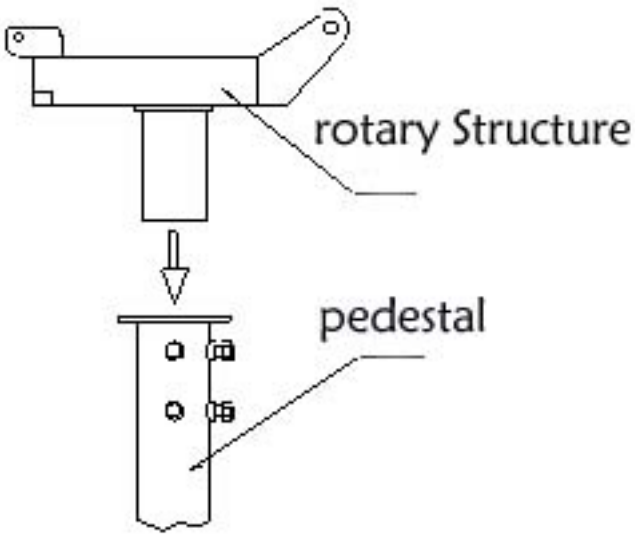
Install pedestal：



A).Put the pedestal on the foundation.

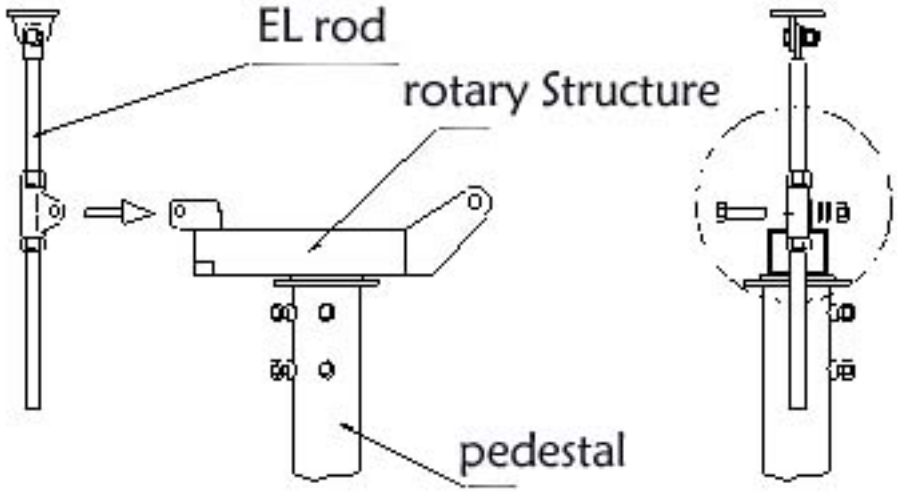
B).Securely tighten 4 bolts on foundation。

Install rotary structure



A) Place the rotary structure into pedestal pipe.
B) Orient the rotary structure approximately towards the satellite orbital arc to within ±15°
C) Slightly tighten screws on pedestal pipe.

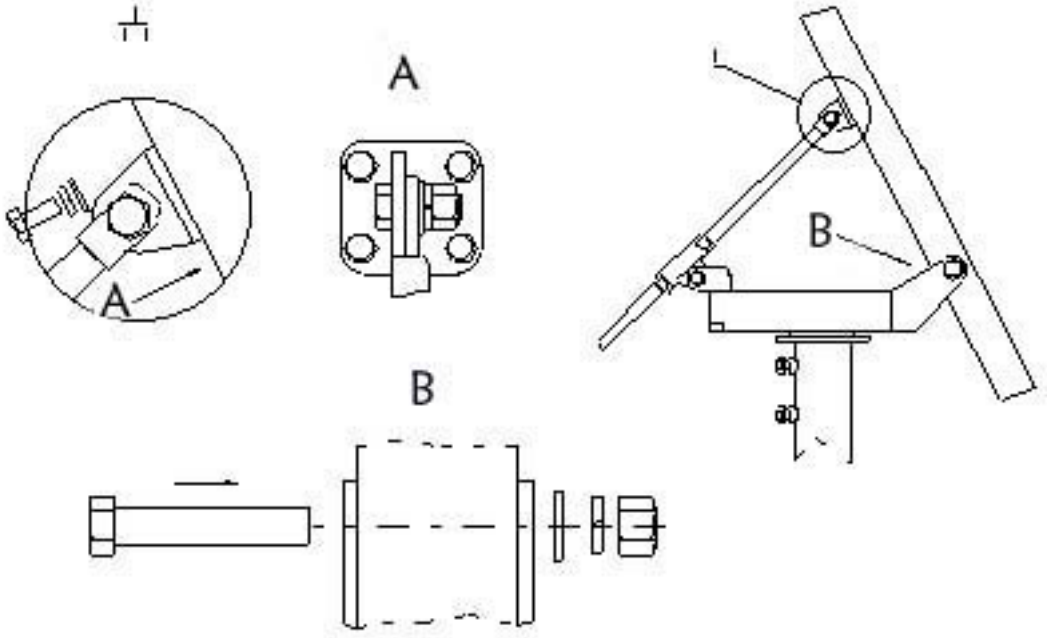
Install EL rod：



A). Insert elevation rod thru hole in elevation channel on rotary structure.

B). Thread nut on the elevation rod.

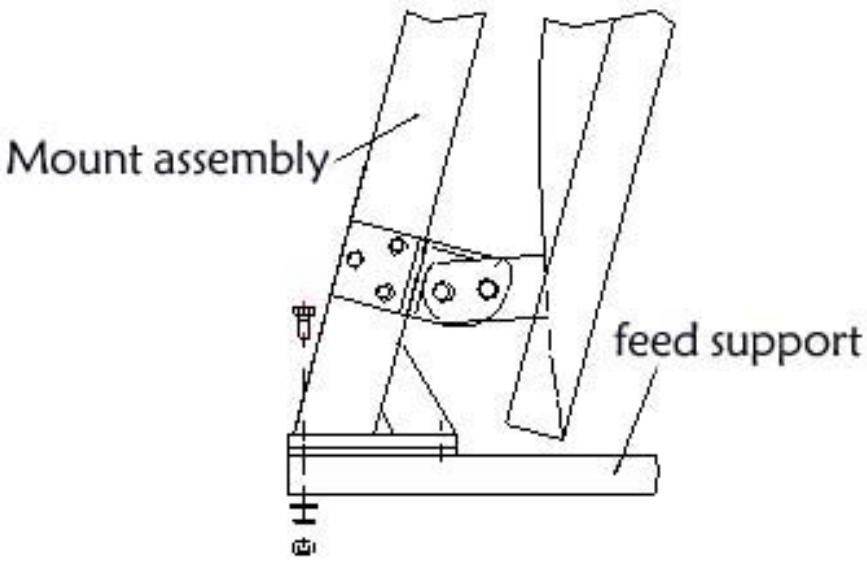
Install mount assembly：



A). Attach elevation rod to the brackets on the back of the mount assembly with M16×100 hardware.

B). Lightly tighten all hardware on the mount assembly at this time.

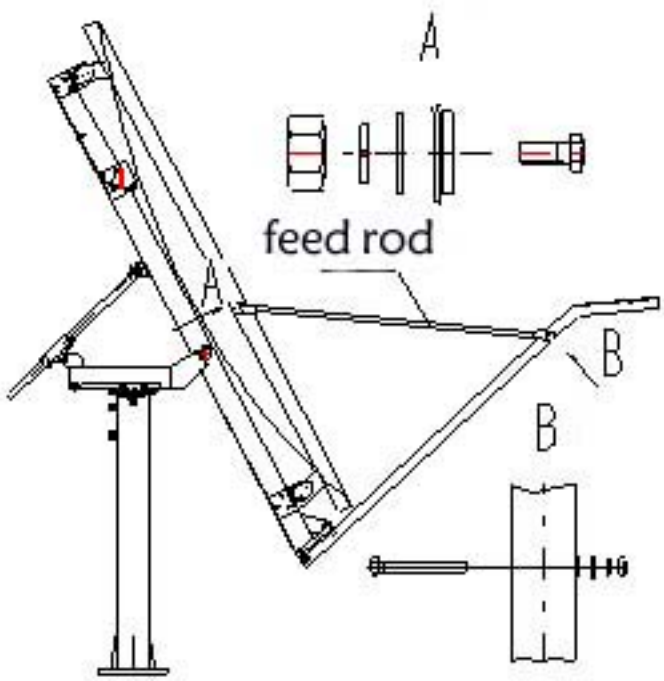
Install feed support：



A). Mount feed support on the bottom of mount assembly.

B). Tighten 4 bolts(M8×25) on the mount assembly

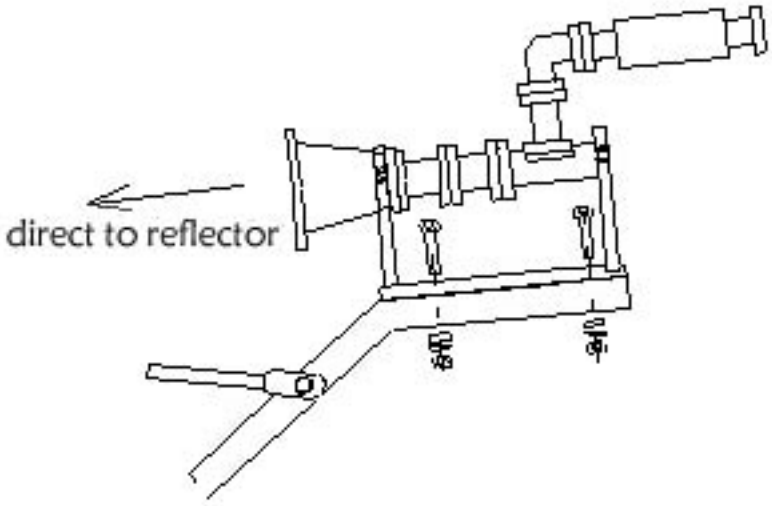
Install feed rod：



A). Attach feed rod to reflector with M8×20 bolt.

B). Connect the feed rods to the feed support with M8×70 bolt.

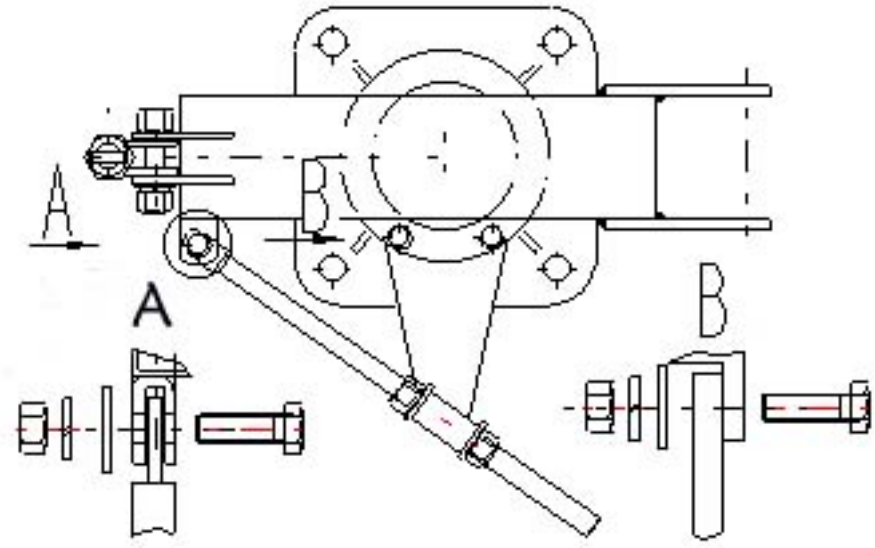
Install feed system：



A). Attach feed system to the feed support with M8×45 bolts.

B). Tighten the bolts on the feed support.

Install AZ driver：



A). Insert azimuth rod thru hole in azimuth channel on pedestal.

B). Thread nut on the azimuth rod.

C). Attach azimuth rod to the brackets on the rotary structure with

M8×25 hardware.

3. MAINTENANCE：

After installation, the antenna requires only periodic inspection. It is anticipated that maintenance, if require, will be minimal and easily handled by a local or in-house maintenance staff.

3.1 Reflector

Reflector does not require any maintenance. The construction of the reflector is virtually isolated to any damages that could be caused by weather or atmospheric conditions.
It is only necessary to inspect for any physical damage done by vandalism or very severe weather conditions.
Should any damage be detected to a portion of the reflector, contact the Operator for remedies.

3.2 Mount and Reflector Support Structure

The mount and reflector support structure supplied with this antenna is of steel construction and has a galvanized finish.
Any corrosion on steel members may be repaired with a cold, zinc-rich galyanizing paint.

3.3 Feed and feed support

The feed support and feed rods should be inspected to insure that all hardware is secure. The feed mounting bolts should be tight.
The feed horn window should be inspected to insure that it is intact so that no moisture can accumulate inside the feed horn.