

Suman®

SATCOM
SERVICES
www.satcom-services.com

Mike Termondt
mike@satcom-services.com
Phone: 1.805.649.1384
Fax: 1.805.649.1174

SM-T4.5R 4.5m Antenna



• Suman 4.5m antenna group at Salt Lake City Olympic Games



• Suman 4.5m antenna group at Korea 2002 FIFA World Cup

PERFORMANCE SPECIFICATIONS (APERTURE 4.5M)

★ R. F SPECIFICATIONS	C-Band		Ku-Band	
	RECEIVE	TRANSMIT	RECEIVE	TRANSMIT
1. Frequency	3.625-4.2GHz *3.4-4.2GHz	5.850-6.425GHz 5.925-6.725GHz	12.25-12.75GHz *10.95-12.75GHz	14.0-14.5GHz
2. Gain at Midband	43.6dB	47.3dB	53.63dB	54.7dB
3. VSWR	1.25:1	1.25:1	1.25:1	1.25:1
4. Beamwidth (-3dB)	1.09°	0.71°	0.35°	0.3°
5. Antenna Noise Temperature				
5° Elevation	40 °K		71°K	
10° Elevation	29 °K		55°K	
20° Elevation	23 °K		47°K	
30° Elevation	19 °K		45°K	
6. Typical G/T at 20° Elevation, Clear Horizon, 4Ghz with 55°K LNA	24.8dB/°K		32 dB/°K (11.85Ghz, with 90°K LNA)	
7. Power Handling Capability		5kW		2kW
8. Feed Interface	CPR-229F	CPR-137G	WR-75F	WR-75G
9. Feed Insertion Loss	0.15dB	0.17dB	0.25dB	0.4dB
10. Cross Polarization Isolation				
On Axis	35dB	35dB	35dB	35dB
Within 1 dB Beamwidth	30dB	30dB	30dB	30dB
11. Port to Port Isolation (Tx-Rx with Filter)	≥85dB		≥85dB	
12. Axial Ratio (Circular Polarization) 2 Port Tx/Rx	1.3	1.09	1.3	1.09
13. Sidelobes				
1stsidelobe		-14dB		-14dB
100λ/D° ≤ θ ≤ 48°		29- 25Log θ dBi		29- 25Log θ dBi
* Provided according to User's requirement				

★ MECHANICAL SPECIFICATION		★ ENVIRONMENTAL SPECIFICATIONS	
1. Azimuth Travel	360° continuous	1. Operational Wind Speed	35m/s
2. Azimuth Travel Rate	0.5 °/s	2. Survival Wind Speed	55m/s
3. Elevation Travel	5°-90°	3. Ambient Temperature	-50°- 60°
continuous		4. Rain (operational and survival)	10cm/h
4. Elevation Travel Rate	0.5 °/s	5. Solar Radiation	1000kcal/hm ²
5. Polarization Travel	±90 °	6. Relative Humidity	0%-100%
6. Materials above the hub	aluminum, steel and stainless steel	7. Radial Ice	2.5cm
7. Finish of Reflectors	white paint	8. Seismic(Survival)	0.3G's Horizontal 0.1G's Vertical
8. Finish of Steel parts	heating & soaking with zinc		
9. Weight (Gross / Net)	921 kg/610kg		
10. Shipping Volume	6.1m ³		

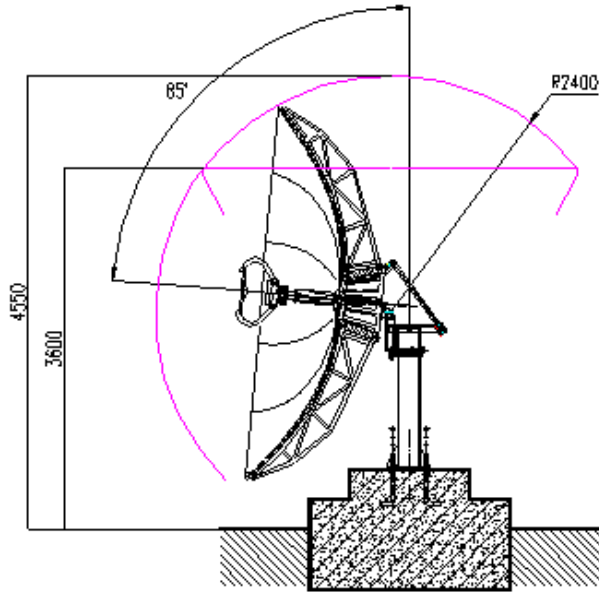
APPROVALS

MODEL	DESCRIPTION	SATELLITE	APPROVAL ORGANIZATION	APPROVAL DATE
SM-T3.7R	3.7m C-Band	AsiaSat 1	Asia Sat.Telecomm. Co. Ltd.	13/07/1992
SM-T4.5R	4.5m C-Band	AsiaSat 1	Asia Sat.Telecomm. Co. Ltd.	13/07/1992
TP-T3.7R	3.7m C-Band	AsiaSat 2	Asia Sat.Telecomm. Co. Ltd.	10/04/1996
TP-T2.4R	2.4m C-Band	AsiaSat 1	Asia Sat.Telecomm. Co. Ltd.	15/041996

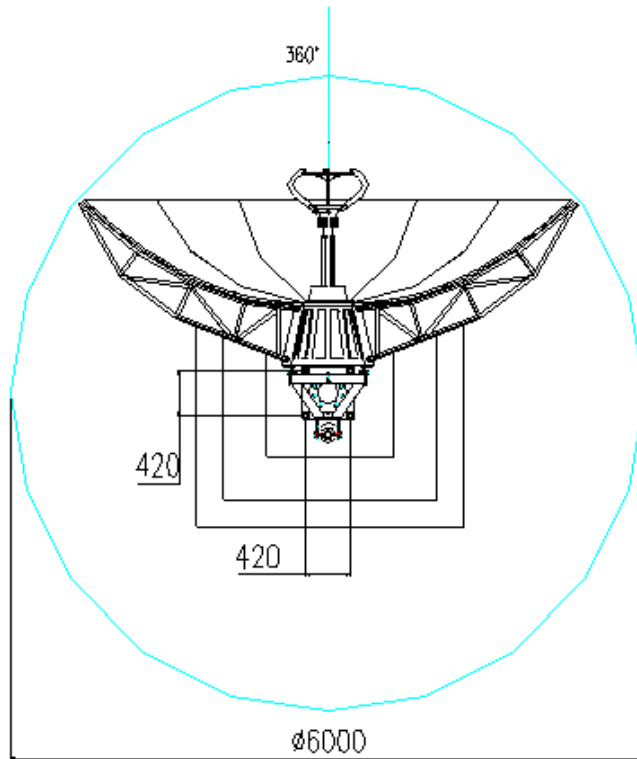
SM-T4.5R	4.5m C-Band	AsiaSat 2	Asia Sat.Telecomm. Co. Ltd.	20/09/1996
TP-T3.0R	3.0m Ku-Band	AsiaSat 2	Asia Sat.Telecomm. Co. Ltd.	05/12/1996
SM-T3.0R	3.0m C-Band	AsiaSats	Asia Sat.Telecomm. Co. Ltd.	18/09/1998
SM-T3.7RK	3.7m Ku-Band	AsiaSats	Asia Sat.Telecomm. Co. Ltd.	18/09/1998
SM-T2.4R	2.4m C-Band	AP Stars	APT Sat. Co., Ltd.	18/07/1995
SM-T3.7RC	3.7m C-Band	AP Stars	APT Sat. Co., Ltd.	25/07/1997
SM-T4.5RC	4.5m C-Band	AP Stars	APT Sat. Co., Ltd.	25/07/1997
SM-T3.0R	3.0m C-Band	AP Stars	APT Sat. Co., Ltd.	12/10/1998
TP-T3.0R	3.0m Ku-Band	AP Stars	APT Sat. Co., Ltd.	12/10/1998
SM-T3.7RK	3.7m Ku-Band	AP Stars	APT Sat. Co., Ltd.	12/10/1998
SM-T4.5R	4.5m C-Band	Military Sat.	General Staff of PLA	03/06/1993
TP-T3.0R	3.0m Ku-Band	China Stars	China Telecomm. Broadcast Sat. Co.	10/12/1998
SM-T3.0R	3.0m C-Band	China Stars	China Telecomm. Broadcast Sat. Co.	10/12/1998
SM-T3.7RK	3.7m Ku-Band	China Stars	China Telecomm. Broadcast Sat. Co.	10/12/1998
SM-T3.0R	3.0m C-Band	ChinaSat 1	China Orient Telecomm Sat. Co.	02/12/1998
SM-T3.7R	3.7m Ku-Band	ChinaSat 1	China Orient Telecomm Sat. Co.	02/12/1998
SM-T3.0RC	3.0m C-Band	SinoSat 1	SINO Satellite Communications Company Ltd.	04/1999
SM-T3.0RK	3.0m Ku-Band	SinoSat 1	SINO Satellite Communications Company Ltd.	04/1999
SM-T3.7RC	3.7m C-Band	SinoSat 1	SINO Satellite Communications Company Ltd.	04/1999
SM-T3.7RK	3.7m Ku-Band	SinoSat 1	SINO Satellite Communications Company Ltd.	04/1999
SM-T1.8RK	1.8m Ku-Band	SinoSat 1	SINO Satellite Communications Company Ltd.	08/1999
SM-T1.2RK	1.2m Ku-Band	SinoSat 1	SINO Satellite Communications Company Ltd.	11/2000
SM-T1.8RK	1.8m Ku-Band	AsiaSats	Asia Sat.Telecomm. Co. Ltd.	12/04/2000

GEOMETRY

MODEL: SM-T4.5RC SM-T4.5RC/E SM-T4.5RK

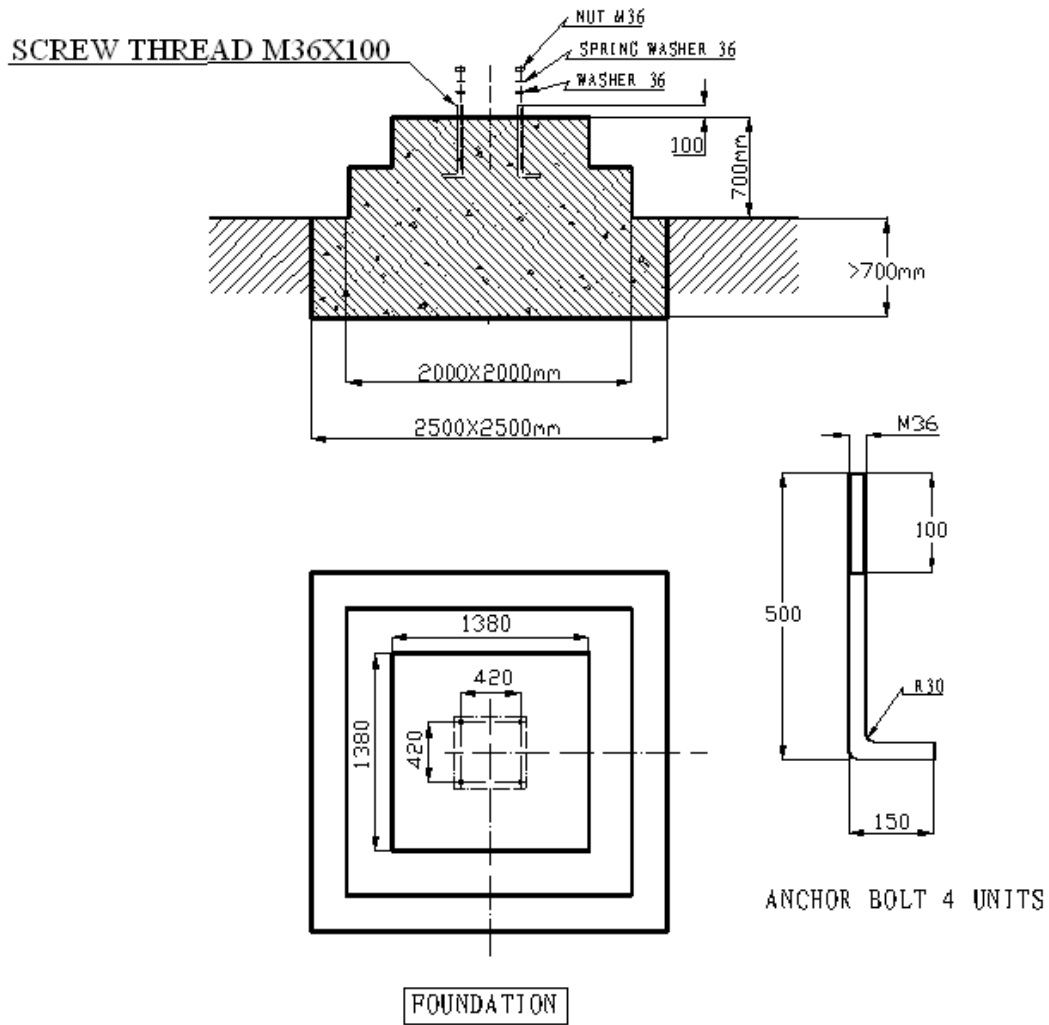


SIDE VIEW

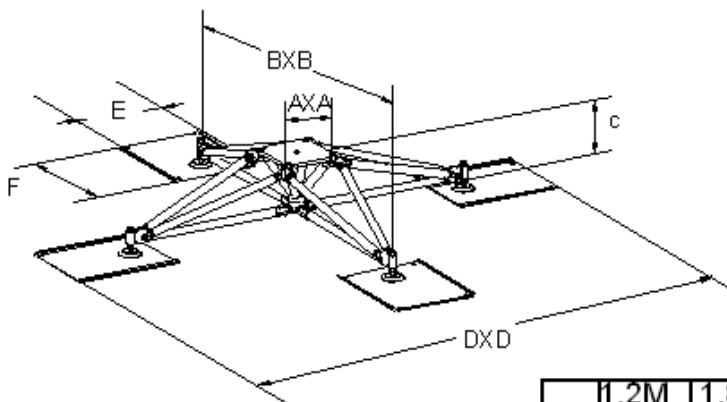


PLAN VIEW

ARMoured CONCRETE FOUNDATION FOR 4.5M ANTENNA (foundation drawing)

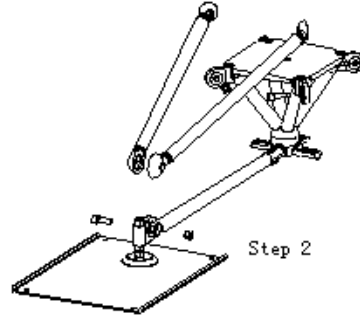
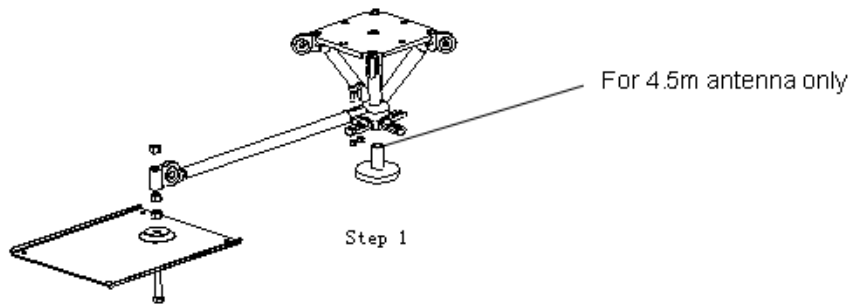


OPTIONS



	1.2M	1.8M	2.4M	3.0M	3.7M	4.5M
A	300	300	300	340	340	420
B	2245	2245	2245	2495	2495	4500
C	380	380	380	410	410	600
D	3258	3258	3258	3535	3535	5700
F×E	600*500	600*500	600*500	700*560	700*560	700*560
* Q _{EG}	180	180	180	200	200	340
** Q _{EG}	120	120	180	405	552	1023

- * N.W.: Net self-weight of Non-penetrating mount
- ** Q: Load weight for each bottom plate



SKETCH MAP
INSTALLATION OF
NON-PENETRATING

 **SATCOM**
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Mike Termond
mike@satcom-services.com
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