



MASS MOMENT OF INERTIA FOR ANTENNA COMPONENTS

ITEM No.	DESCRIPTION	TOTAL WT. LBS.	\bar{x} (FT.) CG FROM EL AXIS	(W) (\bar{x}) (FT. LBS.) AT EL AXIS	I EL AXIS LB.-FT SEC ² (x10 ⁶)	I AZ AXIS REFL @ 90° LB.-FT SEC ² (x10 ⁶)	I AZ AXIS REFL @ 0° LB.-FT SEC ² (x10 ⁶)	WT ROTATING ABT EL AXIS (LBS)	WT ROTATING ABT AZ AXIS (LBS)
1	SUBREFLECTOR	600	47.0	28,200	0.040	0.002	0.05	600	600
2	SUBREFL SUPPORT	6,000	42.0	252,000	0.400	0.100	0.555	6,000	6,000
3	REFLECTOR PANEL	26,000	25.3	657,800	1.072	1.140	1.346	26,000	26,000
4	REFL BACK-UP STRUCTURE	110,000	14.5	1,595,000	1.770	2.600	2.700	110,000	110,000
5	WAVE GUIDE SHROUD - EL	1,000	6.0	6,000	0.006	0.003	0.006	1,000	1,000
6	ELEVATION WHEEL	12,000	-10.0	-120,000	0.109	0.093	0.013	12,000	12,000
7	COUNTER WEIGHTS	103,845	-22.0	-2,284,590	1.560	2.295	3.020	103,845	103,845
8	ELEVATION GEAR	2,600	-16.0	-41,600	0.029	0.014	0.004	2,600	2,600
9	ELEVATION BEARING	4,000				0.042	0.042		4,000
10	DE-ICING EQUIP	4,000	25.3	101,200	0.154	0.185	0.210	4,000	4,000
11	WAVE GUIDE SHROUD - AZ	8,000				0.027	0.027		8,000
12	COUNTERWEIGHT STRUCTURE	16,000	-20.0	-320,000	0.200	0.355	0.433	16,000	16,000
13	ELEVATION DRIVES	10,000				0.013	0.013		10,000
14	FURNISHINGS	4,000				0.030	0.030		4,000
15	AZMUTH MOUNT	160,000				1.683	1.683		160,000
16	AZ ENCLOSURE	2,000				0.030	0.030		2,000
17	AZ DRIVES & WHEELS	21,000				0.550	0.550		21,000
18	PINTLE BRG. & POST	5,800				0.001	0.001		800
19	AZ TRACK	30,000							
20	LADDER & PLATFORMS	8,000				0.060	0.060		8,000
21	EQUIP ROOM								
22	CONC. PEDESTAL & FOUND								
23	FEED ASSY	6,000	21.0	126,000	0.082	0.006	0.136	6,000	6,000
TOTALS	TOTAL WT ITEM 1 THRU 23	540,845			5.422	9.229	10.909	288,045	505,845

WEIGHT FOR RADIAL ICE ON ANTENNA COMPONENTS

ITEM No.	DESCRIPTION	1" RADIAL ICE LBS.	2 CM RADIAL ICE LBS.	4 CM RADIAL ICE LBS.
1	SUBREFLECTOR	1600	1280	2560
2	SUBREFL. SUPPORT	3500	2800	5600
3	REFLECTOR PANEL	102,000	81,600	163,200
4	REFL. BACK-UP STRUCTURE	130,000	104,000	208,000
5	WAVE GUIDE SHROUD - EL	6,000	4800	9600
6	ELEVATION WHEEL	3,500	2800	5600
7	COUNTER WEIGHTS			
8	ELEVATION GEAR			
9	ELEVATION BEARING			
10	DE-ICING EQUIP			
11	WAVE GUIDE SHROUD - AZ	4000	3200	6400
12	COUNTERWEIGHT STRUCTURE	4000	3200	6400
13	ELEVATION DRIVES			
14	FURNISHINGS			
15	AZMUTH MOUNT	50,000	40,000	80,000
16	AZ ENCLOSURE			
17	AZ DRIVES & WHEELS			
18	PINTLE BRG. & POST			
19	AZ TRACK			
20	LADDERS & PLATFORMS	1800	1440	2880
21	EQUIP ROOM			
22	CONC. PEDESTAL & FOUND			
23	FEED ASSY.	1500	1200	2400
TOTALS	TOTAL WT ITEM 1 THRU 23	307,900	246,320	492,640

NOTE

- 1. SURVIVAL CONDITION ARE
- 120 MPH WIND
- 100 MPH WIND WITH 2 CM RADIAL ICE
- 60 MPH WIND WITH 4 CM RADIAL ICE

T.I.W. SYSTEMS TORONTO, CANADA
PALO ALTO, CALIFORNIA

ENGINEERING DATA
FOR 32 METER ANTENNA

DRAWING NUMBER: 01/100
SHEET No. 1 OF 2

DATE: DEC. X ±
DESIGN: DEC. XX ±
ENGR: DEC. XXX ±
FRACCTIONS: ±

ASSEMBLE TO: PROJECT NO. RELEASE

FIGURE A-25