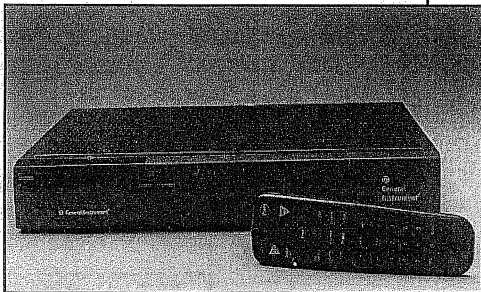
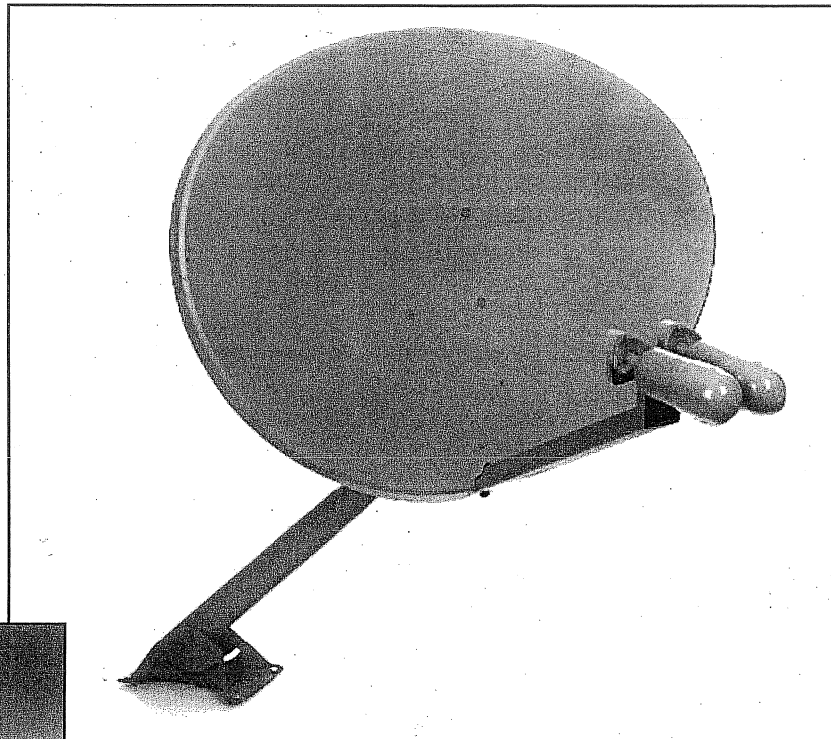


 **Channel Master[®]**

&

 **General Instrument**

**ASSEMBLY INSTRUCTIONS FOR
.75E or .84E DUAL FEED ANTENNA SYSTEMS**



 **General Instrument**

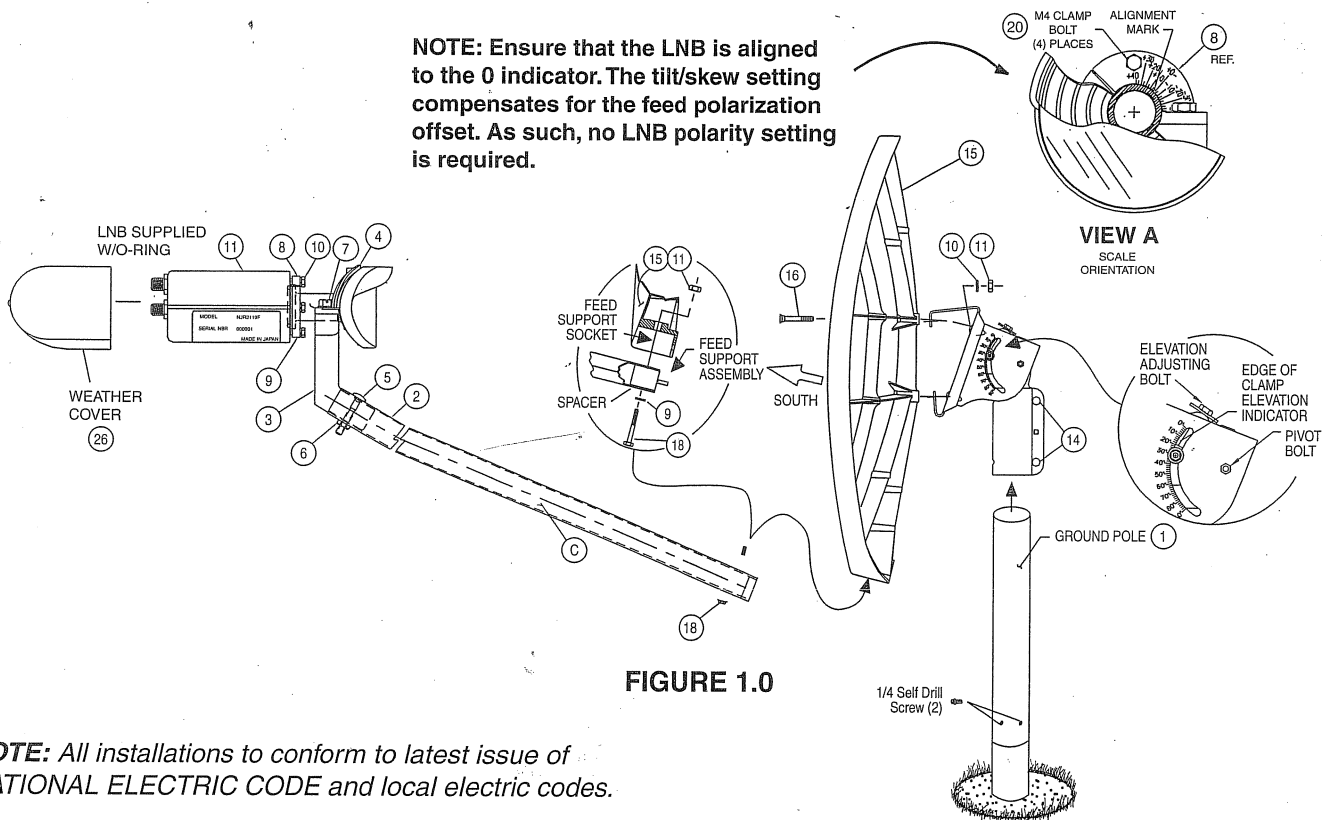
WSNet

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IMPORTANT!!!

INSTALLATION OF THIS PRODUCT SHOULD BE PERFORMED ONLY BY A PROFESSIONAL INSTALLER AND IS NOT RECOMMENDED FOR CONSUMER D.I.Y. (DO-IT-YOURSELF) INSTALLATIONS.

NOTE: Ensure that the LNB is aligned to the 0 indicator. The tilt/skew setting compensates for the feed polarization offset. As such, no LNB polarity setting is required.



NOTE: All installations to conform to latest issue of NATIONAL ELECTRIC CODE and local electric codes.

NOTE: For ground pole installations, allow concrete foundation to cure before proceeding with installation.

ASSEMBLING ANTENNA TO CAP ASSEMBLY

Install four M8 x 56mm plow bolts (16) into holes in center of antenna (15) and cap flanges and secure with four lock washers & hex nuts (10 & 11). Refer to Figure 1.0. Tighten and torque to 12 Ft-lbs (16 N-m). **IMPORTANT: Feed support socket to be located as shown in Figure 1.0.**

INSTALLING CAP ON GROUND OR MOUNT POLE

Lift antenna/cap mount assembly and slide onto ground pole (1). Swivel antenna/cap mount assembly until antenna faces southward. Tighten M8 clamp nuts (14) so that the antenna/cap mount assembly is held stationary on the pole, but can be swiveled with slight pressure.

FEED AND FEED SUPPORT INSTALLATION

Assemble feed support (C) to antenna, referring to Fig. 1.0 and inset illustration. Insert spacer into feed tube, align holes and thread hex screw (18) with washer (9) into spacer. When fully seated, screw will be free spinning and captured. Insert feed support into socket, on bottom of antenna. Install flat washer and hex nut (9 & 11). While holding hex screw (18) with wrench, tighten and torque hex nut (11) to 6 Ft-lbs (8.1 N-m).

NOTE: The feed support arm is self-centering by nature. However, make sure that the arm is square upon tightening so that the feeds are centered on the antenna.

IMPORTANT: This procedure must be followed and correct torque applied. Otherwise, antenna or hardware components could be damaged.

Route coaxial cable up mounting post. Route coaxial cable up through feed support tube. Leave approximately 12" length beyond terminal end of feed support. Install F-connector(s) onto cable(s) for assembly to LNB. Connect to appropriate LNB terminal(s) and tighten. **IMPORTANT: Do not crimp coaxial cable when installing weather cover (26).**

BOLT TORQUE

Apply 24 N-m (18ft-lbs) of torque to M8 bolt.

GRADE 8.8 (8G) - GOLD COLOR



EXCEPTIONS:

- M8 x 56 Plow Bolt 16 N-m (12 ft-lbs) (Securing Antenna to AZ/EL Cap)
- M6 x 18 Hex Head Bolt 5.4 N-m (4 ft-lbs) (Securing Feed Horn to Terminal)
- M8 x 50 Hex Head Screw 8.1 N-m (6 ft-lbs) (Securing Feed Support to Antenna)
- M8 x 50 Lock Nut 16 N-m (12 Ft-lbs) (Securing Swivel Nut to Housing Assembly)
- M8 x 35 Carriage Bolt 17.6 N-m (13 Ft-lbs) (Securing Clamp to Ground Pole)

M6	M8
9.5 N-m	24 N-m
7 ft-lbs	18 ft-lbs

DANGER!!!

WATCH FOR WIRES! Installation of this product near power lines is dangerous. For your own safety, follow these important safety rules.

1. Perform as many functions as possible on the ground.
2. Watch out for overhead power lines. Check the distance to the power lines before starting installation. We recommend you stay a minimum of 6 meters (20 feet) from all power lines.
3. Do not use metal ladders.
4. Do not install antenna or mast assembly on a windy day.
5. If you start to drop antenna or mast assembly, get away from it and let it fall.
6. If any part of the antenna or mast assembly comes in contact with a power line, call your local power company. **DO NOT TRY TO REMOVE IT YOURSELF!** They will remove it safely.
7. Make certain that the mast assembly is properly grounded.

WARNING!!!

Assembling dish antennas on windy days can be dangerous. Because of the antenna surface, even slight winds create strong forces. For example, a 1.0m antenna facing a wind of 32 km/h (20 mph) can undergo forces of 269 N (60 lbs). Be prepared to safely handle these forces at unexpected moments. Do not attempt to assemble, move or mount a dish on windy days or serious, even fatal accidents may occur. Channel Master® is not responsible or liable for damage or injury resulting from antenna installations.

Antennas improperly installed or installed to an inadequate structure are very susceptible to wind damage. This damage can be very serious or even life threatening. The owner and installer assumes full responsibility that the installation is structurally sound to support all loads (weight, wind & ice) and properly sealed against leaks. Channel Master will not accept liability for any damage caused by a satellite system due to the many unknown variable applications.

A site with a clear, unobstructed view facing south, southeast is required. Your antenna site must be selected in advance so that you will be able to receive the strongest signal available. Also consider obstructions that may occur in the future such as the growth of trees.

It is important to conduct an on-site survey with a portable antenna or with a compass and inclinometer to avoid interference, obstructions, etc.

When selecting "look angle," be sure to observe and take readings approximately 10° to the left and right, above and below your selected "look angle."

Before Ground Pole Installation, the soil type should be checked because soil conditions vary widely in composition and load bearing capacity. A soil check will help you to determine the type and size of foundation required to provide a stable base for the antenna.

Before any digging is done, information regarding the possibility of underground telephone lines, power lines, storm drains, etc., in the excavation area should be obtained from the appropriate agency.

As with any other type of construction, a local building permit may be required before installing an antenna. It is the property owner's responsibility to obtain any and all permits. Ground mounts are certified for 125 mph wind survival.

POLARIZATION OF THE FEED

Polarization of feed is obtained by using 7mm wrench and loosening 1/4-1/2 turn four M4 clamp bolts (20) and turning LNB. Ensure that the alignment mark on horn is set to the zero degree value on clamp scale (Ref. Figure 1.0). Alternately tighten between the four M4 bolts (20) securing clamps to LNB to prevent over-stressing the bolts or other components.

NOTE: To facilitate assembly of the feed and DPLNB, the DPLNB is oriented to +40°. Make certain that the alignment mark on the feed horn is set back to 0°.

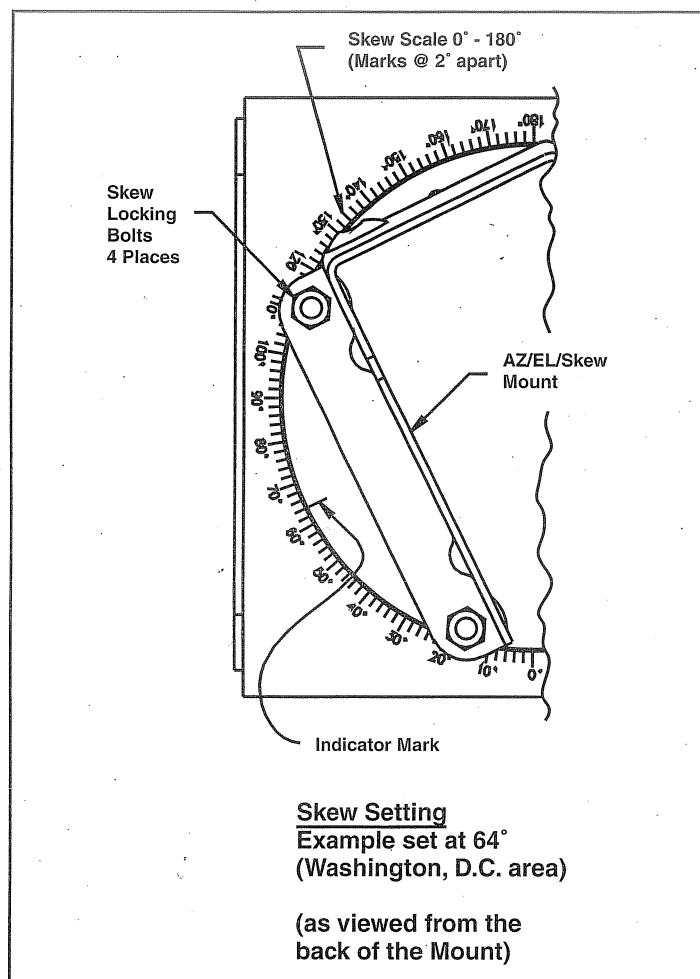
ANTENNA ALIGNMENT

Refer to Figure 2 on Page 7 to determine the site latitude and longitude.

- 1.1 **Set the SKEW on AZ/EL Skew mount prior to installation. Refer to skew value from Section I Beginning On Page 8.**

Loosen the (four) Skew locking bolts until they are just finger tight and rotate the AZ/EL Skew mount to align the 8 Ft-lbs. **This setting is final. No further adjustment should be made during fine tuning.**

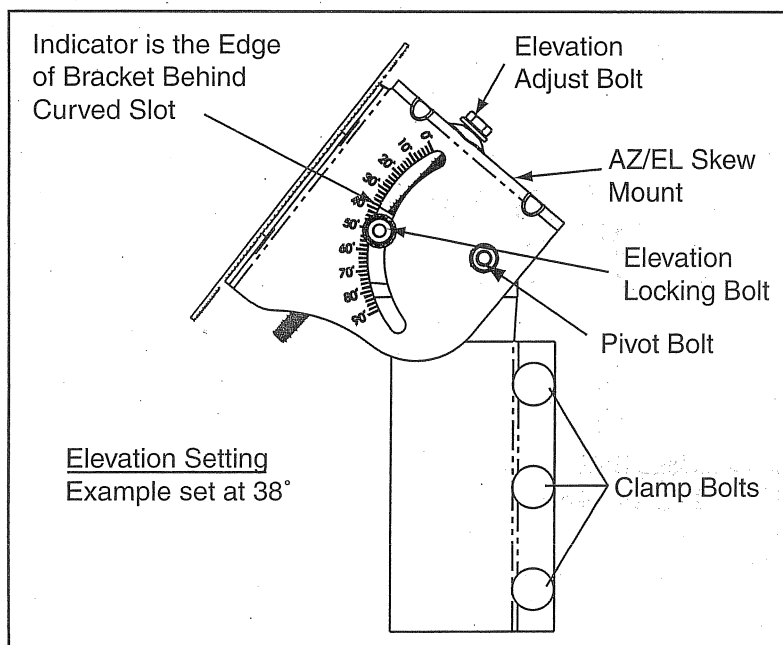
FIG. 1.1



1.2 **Initial Elevation Setting**

IMPORTANT: Loosen elevation lock bolts in curved slots (both sides), and pivot bolts (both sides of AZ/EL Skew mount) 1/2 turn (Ref. Fig. 1.2). Turn elevation adjustment bolt clockwise to decrease elevation and counterclockwise to increase elevation. Align the edge of clamp with appropriate mark on housing at the desired elevation reading (Ref. Fig. 1.1). This will be an approximate setting. Optimum setting is achieved when fine tuning.

FIG. 1.2



1.3 Azimuth

Rotate the antenna and mount, pointing it to the correct azimuth heading for your location and satellite. Tighten AZ/EL Skew mount clamp bolts until a slight resistance is reached when rotating antenna and mount. Slowly sweep the antenna in azimuth until a desired signal is found. If the desired signal is not found, increase or decrease elevation setting slightly and repeat the azimuth sweep.

1.4 Fine Tuning

Use an IRD or satellite alignment meter for final adjustments to obtain maximum antenna performance. Alternate between elevation and azimuth to reach maximum signal strength until no improvement is detected. Tighten and torque all remaining AZ/EL Skew mount hardware. Tighten all cable ties.

IMPORTANT!!!

DO NOT ADJUST THE TILT/SKEW DURING THE FINE TUNING PROCESS.

TWO (2) PIECE GROUND POLE ASSEMBLY AND INSTALLATION - 2 3/8" O.D.

1. Insert top half of ground pole onto bottom half (Note: bottom half is ob-rounded on one end. The ob-rounded end gets installed into the cement foundation.)
2. Pile drive the two pieces on a hardened surface until top half is fully seated over and onto the bottom half.

3. Install the two (2) self drilling, self tapping screws into the pre-punched holes in top half of pole and torque to 72 inch/lbs.

Important: To prevent screw from stripping, limit torque on self drilling, self tapping screws to 72 inch/lbs.

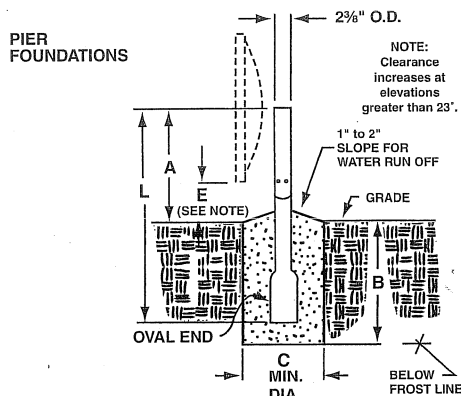
NOTE: For ground pole installations, allow concrete foundation to cure before proceeding with installation.

Design based on allowable vertical soil bearing pressure of 2000 psf, lateral pressure of 400 psf.

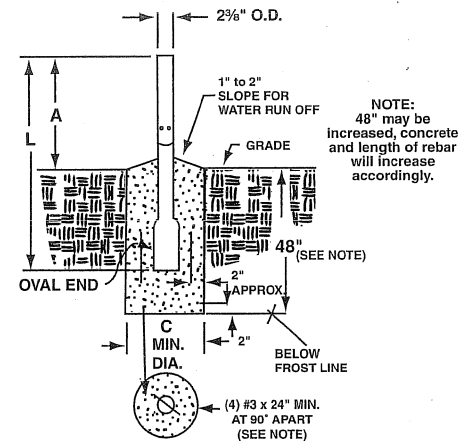
Minimum compressive strength of concrete shall be 2500 psi at 28 days.

Foundation must extend below frost line to prevent frost heave.

Soil conditions vary and you should consult with a local professional engineer for modifications, if any, to suit local soil conditions and code requirements.



DEEP FROST LINE FOUNDATIONS



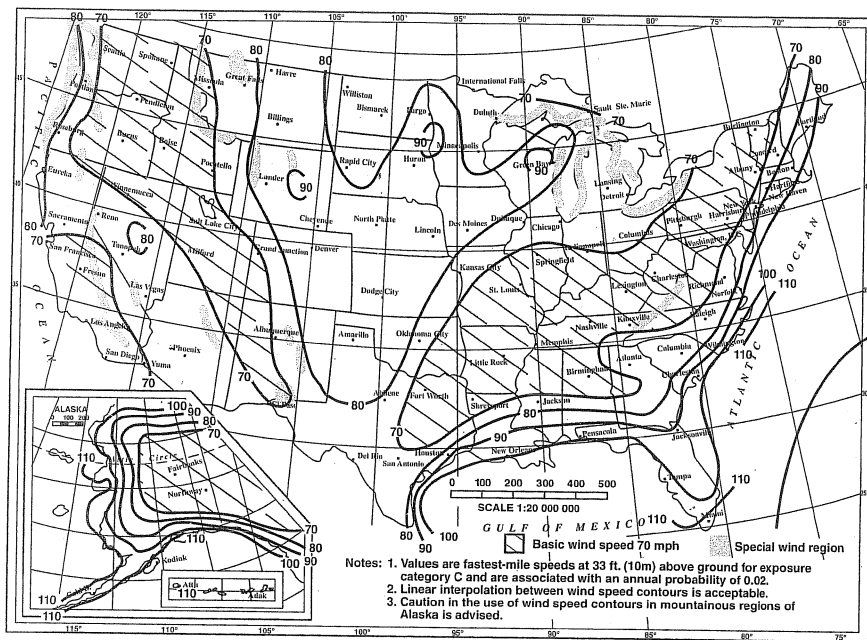
Refer to Basic Wind Speed Map to determine foundation requirement.

		PIER FOUNDATIONS							DEEP FROST LINE FOUNDATIONS						
		WIND VEL.	CONCRETE DIMENSION					*CONCRETE VOLUME (CU.FT.)	*CONCRETE REQUIRED (LBS.)	CONCRETE DIMENSION			*CONCRETE VOLUME (CU.FT.)	***CONCRETE REQUIRED (LBS.)	
			L	A	B	C	E			L	A	C			
ANTENNA SIZE 75E (63cm x 90cm)	Based on Uniform Building Code Exposure "B" for terrain with buildings.														
	80	60"	37"	36"	7"	24.5"	.9	108	60"	37"	7"	1.2	144		
	100	60"	37"	36"	7"	24.5"	.9	108	60"	37"	7"	1.2	144		
	110	60"	37"	36"	7"	24.5"	.9	108	60"	37"	7"	1.2	144		
ANTENNA SIZE 75E (63cm x 90cm)	Based on Uniform Building Code Exposure "C" for flat and open terrain.														
	80	60"	37"	36"	7"	24.5"	.9	108	60"	37"	7"	1.2	144		
	100	60"	37"	36"	9"	24.5"	1.5	180	60"	37"	7"	1.2	144		
	110	60"	37"	36"	13"	24.5"	3.0	360	60"	37"	8"	1.5	180		
ANTENNA SIZE 84E (70cm x 100cm)	Based on Uniform Building Code Exposure "B" for terrain with buildings.														
	80	60"	37"	36"	7"	23"	.9	108	60"	37"	7"	1.2	144		
	100	60"	37"	36"	7"	23"	.9	108	60"	37"	7"	1.2	144		
	110	60"	37"	36"	10"	23"	1.8	216	60"	37"	7"	1.2	144		
ANTENNA SIZE 84E (70cm x 100cm)	Based on Uniform Building Code Exposure "C" for flat and open terrain.														
	80	60"	37"	36"	8"	23"	1.2	144	60"	37"	7"	1.2	144		
	100	60"	37"	36"	11"	23"	2.2	264	60"	37"	7"	1.2	144		
	110	60"	37"	36"	14"	23"	3.5	420	60"	37"	10"	2.4	288		

*INCLUDES SHRINKAGE FACTOR

**HIGHEST LISTED WIND VELOCITY REPRESENTS MAXIMUM PRIOR TO GROUND POLE FAILURE BY BENDING.

***DATA BASED ON QUIKRETE PRE-MIX CONCRETE 40 LB. BAG YIELDS .33 CU.FT./60 LB. BAG YIELDS .50 CU.FT./80 LB. BAG YIELDS .66 CU.FT.



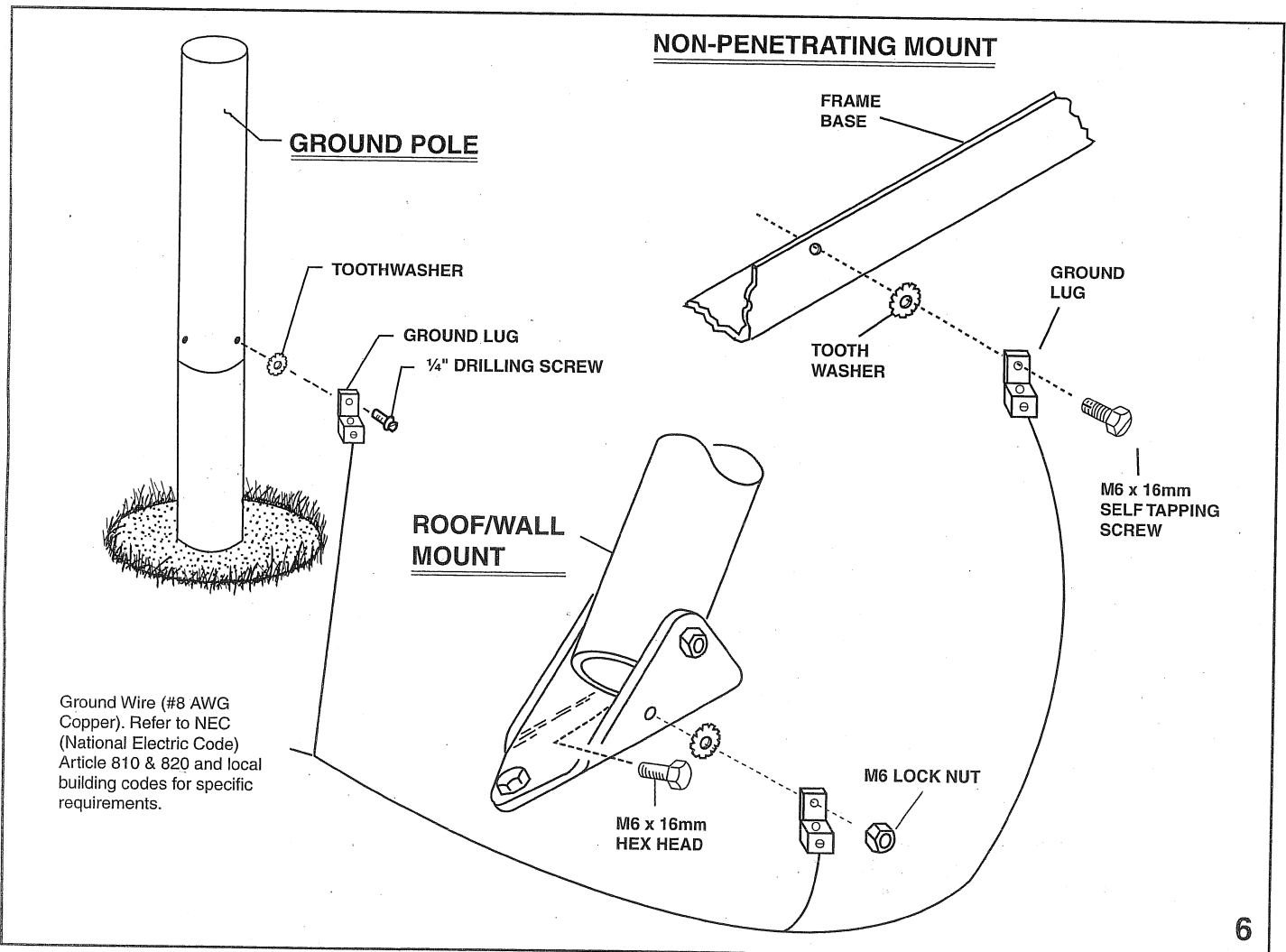
BASIC WIND SPEED MAP (mph)

Special Wind Regions:

It is recommended that the local meteorological authority and a local civil or professional engineer be contacted to inquire about high and unusual wind speeds that would affect installation in special wind regions.

GROUNDING INSTRUCTIONS

Ground according to the illustration below. Cable ties are provided to secure the feed ground wire (Refer to illustration below) to the ground pole, the non-penetrating mount mast, or the roof/wall mount mast. Use a Ground Wire (#8 AWG Copper) to connect from ground lug to approved ground. Refer to NEC (National Electric Code) Article 810 & 820 and local building codes for specific requirements.



ANTENNA/MOUNT/FEED – LIMITED FIFTEEN (15) MONTH WARRANTY

This CHANNEL MASTER® equipment is warranted to be free from defects in material and workmanship under normal use and service. CHANNEL MASTER shall repair or replace defective equipment, at no charge, or at its option, refund the purchase price, if the equipment is returned to CHANNEL MASTER not more than fifteen (15) months after shipment. Removal or replacement of equipment and its transportation shall not be at the cost of CHANNEL MASTER except CHANNEL MASTER shall return repaired or replace equipment freight prepaid.

This Warranty shall not apply to equipment which has been repaired or altered in any way so as to affect its stability or durability, nor which has been subject to misuse, negligence or accident. This Warranty does not cover equipment which has been impaired by severe weather conditions such as excessive wind, ice, storms, lightning, or other natural occurrences over which CHANNEL MASTER has no control.

Nor shall this Warranty apply to equipment which has been operated or installed other than in accordance with the instructions furnished by CHANNEL MASTER.

Claimants under this Warranty shall present their claim along with the defective equipment to CHANNEL MASTER immediately upon failure. Non-compliance with any part of this claim procedure may invalidate this Warranty in whole or in part.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER AGREEMENTS AND WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. CHANNEL MASTER DOES NOT AUTHORIZE ANY PERSON TO ASSUME FOR IT THE OBLIGATIONS CONTAINED IN THIS WARRANTY AND CHANNEL MASTER NEITHER ASSUMES NOR AUTHORIZES ANY REPRESENTATIVE OR OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE EQUIPMENT DELIVERED OR PROVIDED.

IN NO EVENT SHALL CHANNEL MASTER BE LIABLE FOR ANY LOSS OF PROFITS, LOSS OF USE, INTERRUPTION OF BUSINESS, OR INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY KIND.

In no event shall CHANNEL MASTER be liable for damages in an amount greater than the purchase price of the equipment.

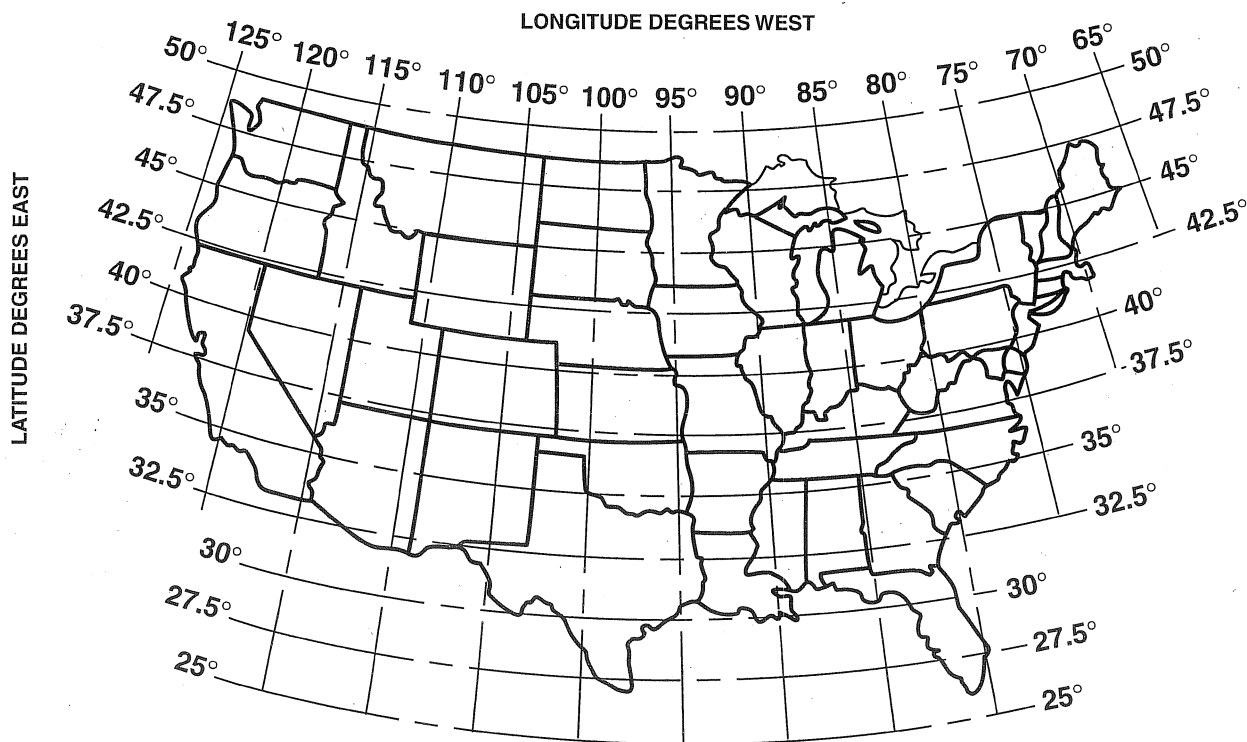


Figure 2

AZ = Azimuth Heading, Direct Compass Reading (Magnetic Deviation has been included in the chart.)
EL = Elevation in Degrees, Direct Reading
TILT/SKEW = Direct reading, rotation of antenna cw or ccw.

SECTION 1

Sat Longitude: 96 Deg
(Satellite Alignment Chart for 99 & 93 Degree Dual Feed Antenna System)

Latitude	Longitude →		125			123			121			119		
	↓	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth
50		144.11	26.42	112.1	146.37	27.21	110.9	148.67	27.95	109.5	151.01	28.65	108.2	
49		143.70	27.29	112.9	145.98	28.10	111.5	148.29	28.87	110.2	150.65	29.59	108.8	
48		143.28	28.16	113.6	145.56	29.00	112.2	147.89	29.79	110.8	150.27	30.53	109.4	
47		142.84	29.02	114.3	145.14	29.89	112.9	147.48	30.70	111.5	149.87	31.47	110.0	
46		142.38	29.88	115.1	144.69	30.77	113.7	147.05	31.62	112.2	149.46	32.41	110.7	
45		141.91	30.73	115.9	144.22	31.66	114.4	146.60	32.53	112.9	149.02	33.35	111.3	
44		141.41	31.58	116.7	143.74	32.54	115.2	146.13	33.44	113.6	148.57	34.29	112.0	
43		140.90	32.43	117.5	143.24	33.41	116.0	145.64	34.34	114.4	148.10	35.22	112.7	
42		140.36	33.27	118.3	142.71	34.28	116.8	145.13	35.24	115.1	147.61	36.15	113.5	
41		139.81	34.11	119.1	142.17	35.15	117.6	144.60	36.14	115.9	147.10	37.07	114.2	
40		139.23	34.94	120.0	141.60	36.02	118.4	144.04	37.03	116.7	146.56	38.00	115.0	
39		138.63	35.77	120.9	141.00	36.87	119.3	143.46	37.92	117.6	146.00	38.91	115.8	
38		138.00	36.59	121.8	140.39	37.73	120.2	142.86	38.81	118.4	145.42	39.83	116.6	
37		137.35	37.41	122.8	139.75	38.57	121.1	142.23	39.69	119.3	144.80	40.74	117.4	
36		136.68	38.21	123.7	139.08	39.41	122.0	141.57	40.56	120.2	144.16	41.64	118.3	
35		135.98	39.01	124.7	138.38	40.25	123.0	140.89	41.42	121.1	143.50	42.54	119.2	
34		135.25	39.80	125.7	137.66	41.07	123.9	140.18	42.28	122.1	142.80	43.44	120.1	
33		134.50	40.59	126.7	136.91	41.89	125.0	139.43	43.14	123.1	142.07	44.32	121.0	
32		133.71	41.36	127.8	136.12	42.70	126.0	138.65	43.98	124.1	141.30	45.20	122.0	
31		132.90	42.12	128.9	135.31	43.50	127.1	137.84	44.81	125.1	140.51	46.07	123.0	
30		132.05	42.88	130.0	134.46	44.28	128.2	137.00	45.64	126.2	139.67	46.93	124.1	
29		131.17	43.62	131.2	133.58	45.06	129.3	136.11	46.45	127.3	138.80	47.79	125.2	
28		130.26	44.35	132.4	132.66	45.83	130.5	135.19	47.26	128.5	137.88	48.63	126.3	
27		129.32	45.06	133.6	131.70	46.58	131.7	134.23	48.05	129.7	136.92	49.46	127.5	
26		128.34	45.77	134.8	130.71	47.32	132.9	133.23	48.83	130.9	135.92	50.28	128.7	
25		127.32	46.45	136.1	129.67	48.05	134.2	132.19	49.60	132.2	134.87	51.09	130.0	

Latitude	Longitude →			117			115			113			111		
	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt
50	153.38	29.30	106.7	155.80	29.89	105.3	158.24	30.44	103.8	160.72	30.93	102.3			
49	153.04	30.26	107.3	155.48	30.88	105.8	157.95	31.44	104.3	160.45	31.95	102.7			
48	152.68	31.23	107.9	155.14	31.87	106.3	157.64	32.45	104.7	160.17	32.98	103.1			
47	152.31	32.19	108.5	154.79	32.85	106.9	157.31	33.46	105.3	159.88	34.00	103.6			
46	151.91	33.15	109.1	154.42	33.84	107.5	156.97	34.47	105.8	159.57	35.03	104.0			
45	151.50	34.12	109.7	154.04	34.82	108.0	156.62	35.47	106.3	159.25	36.06	104.5			
44	151.08	35.08	110.4	153.63	35.81	108.6	156.24	36.48	106.8	158.91	37.08	105.0			
43	150.63	36.04	111.0	153.21	36.79	109.2	155.85	37.49	107.4	158.55	38.11	105.5			
42	150.16	36.99	111.7	152.77	37.77	109.9	155.44	38.49	108.0	158.18	39.14	106.0			
41	149.67	37.95	112.4	152.31	38.75	110.5	155.01	39.49	108.6	157.78	40.16	106.6			
40	149.15	38.90	113.1	151.82	39.73	111.2	154.56	40.50	109.2	157.37	41.19	107.1			
39	148.62	39.84	113.9	151.32	40.71	111.9	154.09	41.50	109.9	156.94	42.22	107.7			
38	148.06	40.79	114.6	150.78	41.68	112.6	153.59	42.50	110.5	156.48	43.24	108.3			
37	147.47	41.73	115.4	150.22	42.65	113.4	153.07	43.50	111.2	156.00	44.26	109.0			
36	146.85	42.66	116.3	149.64	43.61	114.1	152.52	44.49	111.9	155.49	45.28	109.6			
35	146.21	43.60	117.1	149.02	44.58	114.9	151.94	45.48	112.7	154.96	46.30	110.3			
34	145.53	44.52	118.0	148.38	45.53	115.8	151.33	46.47	113.4	154.40	47.32	111.0			
33	144.82	45.44	118.9	147.70	46.49	116.6	150.69	47.45	114.2	153.80	48.33	111.7			
32	144.08	46.35	119.8	146.99	47.43	117.5	150.02	48.43	115.1	153.18	49.34	112.5			
31	143.30	47.26	120.8	146.24	48.38	118.5	149.31	49.41	115.9	152.51	50.35	113.3			
30	142.49	48.16	121.8	145.45	49.31	119.4	148.56	50.38	116.9	151.81	51.35	114.1			
29	141.63	49.05	122.9	144.62	50.24	120.4	147.76	51.34	117.8	151.07	52.35	115.0			
28	140.73	49.93	124.0	143.74	51.16	121.5	146.93	52.30	118.8	150.28	53.34	116.0			
27	139.78	50.80	125.1	142.82	52.07	122.6	146.04	53.24	119.8	149.45	54.33	116.9			
26	138.79	51.66	126.3	141.85	52.97	123.7	145.11	54.18	120.9	148.57	55.31	118.0			
25	137.75	52.51	127.5	140.83	53.86	124.9	144.12	55.12	122.1	147.62	56.28	119.0			

Sat Longitude: 96 Deg (Satellite Alignment Chart for 99 & 93 Degree Dual Feed Antenna System)

Latitude	Longitude →		109			107			105			103		
	↓	→ Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	
50		163.23	31.36	100.7	165.76	31.73	99.1	168.32	32.04	97.5	170.89	32.30	95.8	
49		162.99	32.40	101.1	165.56	32.79	99.4	168.15	33.11	97.7	170.76	33.37	96.0	
48		162.74	33.44	101.5	165.34	33.84	99.7	167.97	34.18	98.0	170.62	34.45	96.3	
47		162.48	34.48	101.8	165.12	34.90	100.1	167.78	35.25	98.3	170.47	35.53	96.5	
46		162.21	35.53	102.3	164.88	35.96	100.4	167.58	36.32	98.6	170.31	36.62	96.7	
45		161.92	36.57	102.7	164.63	37.02	100.8	167.37	37.40	98.9	170.15	37.70	96.9	
44		161.62	37.62	103.1	164.37	38.08	101.2	167.16	38.47	99.2	169.98	38.79	97.2	
43		161.30	38.66	103.6	164.09	39.15	101.6	166.93	39.55	99.5	169.79	39.88	97.4	
42		160.96	39.71	104.0	163.80	40.21	102.0	166.68	40.63	99.9	169.60	40.97	97.7	
41		160.61	40.76	104.5	163.50	41.28	102.4	166.43	41.71	100.2	169.40	42.06	98.0	
40		160.24	41.81	105.0	163.17	42.34	102.8	166.16	42.79	100.6	169.19	43.16	98.3	
39		159.85	42.85	105.5	162.84	43.41	103.3	165.87	43.88	100.9	168.96	44.26	98.6	
38		159.44	43.90	106.1	162.48	44.48	103.7	165.57	44.96	101.3	168.72	45.36	98.9	
37		159.01	44.95	106.6	162.10	45.54	104.2	165.26	46.05	101.7	168.47	46.46	99.2	
36		158.56	45.99	107.2	161.70	46.61	104.7	164.92	47.13	102.2	168.20	47.56	99.5	
35		158.07	47.04	107.8	161.28	47.68	105.2	164.56	48.22	102.6	167.92	48.66	99.9	
34		157.57	48.08	108.4	160.83	48.75	105.8	164.19	49.31	103.1	167.62	49.77	100.2	
33		157.03	49.12	109.1	160.36	49.81	106.4	163.79	50.40	103.5	167.30	50.87	100.6	
32		156.46	50.16	109.8	159.86	50.88	107.0	163.36	51.48	104.1	166.95	51.98	101.0	
31		155.86	51.20	110.5	159.32	51.94	107.6	162.91	52.57	104.6	166.59	53.08	101.5	
30		155.22	52.23	111.3	158.76	53.00	108.3	162.42	53.66	105.2	166.20	54.19	101.9	
29		154.54	53.26	112.1	158.15	54.06	109.0	161.91	54.74	105.8	165.79	55.30	102.4	
28		153.81	54.29	112.9	157.51	55.12	109.7	161.36	55.83	106.4	165.34	56.41	102.9	
27		153.05	55.31	113.8	156.82	56.17	110.5	160.77	56.91	107.1	164.87	57.51	103.5	
26		152.23	56.32	114.8	156.09	57.22	111.4	160.14	57.99	107.8	164.35	58.62	104.0	
25		151.35	57.33	115.8	155.30	58.27	112.3	159.46	59.07	108.5	163.80	59.73	104.6	

Sat Longitude: 96 Deg
(Satellite Alignment Chart for 99 & 93 Degree Dual Feed Antenna System)

Latitude	Longitude →		101	99	97	95	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt
	↓	→														
50		173.48	94.2	32.49	176.09	32.61	92.5	176.69	32.68	90.8	181.31	32.68	90.8	181.31	32.68	89.2
49		173.39	94.3	33.57	176.03	33.70	92.6	178.68	33.77	90.9	181.32	33.77	90.9	181.32	33.77	89.1
48		173.29	94.5	34.66	175.97	34.79	92.7	178.65	34.86	90.9	181.35	34.86	90.9	181.35	34.86	89.1
47		173.18	94.6	35.75	175.90	35.89	92.8	178.63	35.96	90.9	181.37	35.96	90.9	181.37	35.96	89.1
46		173.07	94.8	36.84	175.83	36.98	92.9	178.61	37.06	91.0	181.39	37.06	91.0	181.39	37.06	89.0
45		172.95	95.0	37.93	175.76	38.08	93.0	178.59	38.16	91.0	181.41	38.16	91.0	181.41	38.16	89.0
44		172.82	95.2	39.03	175.69	39.19	93.1	178.56	39.27	91.0	181.44	39.27	91.0	181.44	39.27	89.0
43		172.69	95.3	40.13	175.61	40.29	93.2	178.53	40.37	91.1	181.47	40.37	91.1	181.47	40.37	88.9
42		172.55	95.5	41.23	175.52	41.40	93.3	178.51	41.48	91.1	181.49	41.48	91.1	181.49	41.48	88.9
41		172.40	95.7	42.33	175.43	42.51	93.4	178.48	42.60	91.2	181.52	42.60	91.2	181.52	42.60	88.8
40		172.25	95.9	43.43	175.34	43.62	93.6	178.44	43.71	91.2	181.56	43.71	91.2	181.56	43.71	88.8
39		172.09	96.1	44.54	175.24	44.73	93.7	178.41	44.83	91.2	181.59	44.83	91.2	181.59	44.83	88.8
38		171.91	96.4	45.65	175.13	45.85	93.8	178.38	45.95	91.3	181.62	45.95	91.3	181.62	45.95	88.7
37		171.73	96.6	46.76	175.02	46.97	94.0	178.34	47.08	91.3	181.66	47.08	91.3	181.66	47.08	88.7
36		171.53	96.8	47.88	174.90	48.09	94.1	178.30	48.20	91.4	181.70	48.20	91.4	181.70	48.20	88.6
35		171.33	97.1	48.99	174.78	49.22	94.3	178.26	49.33	91.4	181.74	49.33	91.4	181.74	49.33	88.6
34		171.11	97.4	50.11	174.65	50.34	94.4	178.21	50.46	91.5	181.79	50.46	91.5	181.79	50.46	88.5
33		170.87	97.6	51.23	174.50	51.47	94.6	178.16	51.59	91.5	181.84	51.59	91.5	181.84	51.59	88.5
32		170.63	97.9	52.35	174.35	52.60	94.8	178.11	52.73	91.6	181.89	52.73	91.6	181.89	52.73	88.4
31		170.36	98.3	53.47	174.19	53.74	95.0	178.06	53.87	91.7	181.94	53.87	91.7	181.94	53.87	88.3
30		170.08	98.6	54.60	174.02	54.87	95.2	178.00	55.01	91.7	182.00	55.01	91.7	182.00	55.01	88.3
29		169.77	98.9	55.72	173.83	56.01	95.4	177.94	56.15	91.8	182.06	56.15	91.8	182.06	56.15	88.2
28		169.44	99.3	56.85	173.63	57.15	95.6	177.87	57.30	91.9	182.13	57.30	91.9	182.13	57.30	88.1
27		169.09	99.7	57.97	173.42	58.29	95.9	177.80	58.44	92.0	182.20	58.44	92.0	182.20	58.44	88.0
26		168.71	100.1	59.10	173.18	59.43	96.1	177.72	59.59	92.0	182.28	59.59	92.0	182.28	59.59	88.0
25		168.30	100.6	60.23	172.93	60.57	96.4	177.63	60.74	92.1	182.37	60.74	92.1	182.37	60.74	87.9

Sat Longitude: 96 Deg (Satellite Alignment Chart for 99 & 93 Degree Dual Feed Antenna System)

Latitude	Longitude →		93			91			89			87		
	↑	→ Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth
50	→	183.91	32.61	87.5	186.52	32.49	85.8	189.11	32.30	84.2	191.68	32.04	82.5	191.68
49		183.97	33.70	87.4	186.61	33.57	85.7	189.24	33.37	84.0	191.85	33.11	82.3	191.85
48		184.03	34.79	87.3	186.71	34.66	85.5	189.38	34.45	83.7	192.03	34.18	82.0	192.03
47		184.10	35.89	87.2	186.82	35.75	85.4	189.53	35.53	83.5	192.22	35.25	81.7	192.22
46		184.17	36.98	87.1	186.93	36.84	85.2	189.69	36.62	83.3	192.42	36.32	81.4	192.42
45		184.24	38.08	87.0	187.05	37.93	85.0	189.85	37.70	83.1	192.63	37.40	81.1	192.63
44		184.31	39.19	86.9	187.18	39.03	84.8	190.02	38.79	82.8	192.84	38.47	80.8	192.84
43		184.39	40.29	86.8	187.31	40.13	84.7	190.21	39.88	82.6	193.07	39.55	80.5	193.07
42		184.48	41.40	86.7	187.45	41.23	84.5	190.40	40.97	82.3	193.32	40.63	80.1	193.32
41		184.57	42.51	86.6	187.60	42.33	84.3	190.60	42.06	82.0	193.57	41.71	79.8	193.57
40		184.66	43.62	86.4	187.75	43.43	84.1	190.81	43.16	81.7	193.84	42.79	79.4	193.84
39		184.76	44.73	86.3	187.91	44.54	83.9	191.04	44.26	81.4	194.13	43.88	79.1	194.13
38		184.87	45.85	86.2	188.09	45.65	83.6	191.28	45.36	81.1	194.43	44.96	78.7	194.43
37		184.98	46.97	86.0	188.27	46.76	83.4	191.53	46.46	80.8	194.74	46.05	78.3	194.74
36		185.10	48.09	85.9	188.47	47.88	83.2	191.80	47.56	80.5	195.08	47.13	77.8	195.08
35		185.22	49.22	85.7	188.67	48.99	82.9	192.08	48.66	80.1	195.44	48.22	77.4	195.44
34		185.35	50.34	85.6	188.89	50.11	82.6	192.38	49.77	79.8	195.81	49.31	76.9	195.81
33		185.50	51.47	85.4	189.13	51.23	82.4	192.70	50.87	79.4	196.21	50.40	76.5	196.21
32		185.65	52.60	85.2	189.37	52.35	82.1	193.05	51.98	79.0	196.64	51.48	75.9	196.64
31		185.81	53.74	85.0	189.64	53.47	81.7	193.41	53.08	78.5	197.09	52.57	75.4	197.09
30		185.98	54.87	84.8	189.92	54.60	81.4	193.80	54.19	78.1	197.58	53.66	74.8	197.58
29		186.17	56.01	84.6	190.23	55.72	81.1	194.21	55.30	77.6	198.09	54.74	74.2	198.09
28		186.37	57.15	84.4	190.56	56.85	80.7	194.66	56.41	77.1	198.64	55.83	73.6	198.64
27		186.58	58.29	84.1	190.91	57.97	80.3	195.13	57.51	76.5	199.23	56.91	72.9	199.23
26		186.82	59.43	83.9	191.29	59.10	79.9	195.65	58.62	76.0	199.86	57.99	72.2	199.86
25		187.07	60.57	83.6	191.70	60.23	79.4	196.20	59.73	75.4	200.54	59.07	71.5	200.54

Sat Longitude: 96 Deg
(Satellite Alignment Chart for 99 & 93 Degree Dual Feed Antenna System)

Latitude	Longitude → Azimuth	85			83			81			79		
		Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth
50	194.24	31.73	80.9	196.77	31.36	79.3	199.28	30.93	77.7	201.76	30.44	76.2	
49	194.44	32.79	80.6	197.01	32.40	78.9	199.55	31.95	77.3	202.05	31.44	75.7	
48	194.66	33.84	80.3	197.26	33.44	78.5	199.83	32.98	76.9	202.36	32.45	75.3	
47	194.88	34.90	79.9	197.52	34.48	78.2	200.12	34.00	76.4	202.69	33.46	74.7	
46	195.12	35.96	79.6	197.79	35.53	77.7	200.43	35.03	76.0	203.03	34.47	74.2	
45	195.37	37.02	79.2	198.08	36.57	77.3	200.75	36.06	75.5	203.38	35.47	73.7	
44	195.63	38.08	78.8	198.38	37.62	76.9	201.09	37.08	75.0	203.76	36.48	73.2	
43	195.91	39.15	78.4	198.70	38.66	76.4	201.45	38.11	74.5	204.15	37.49	72.6	
42	196.20	40.21	78.0	199.04	39.71	76.0	201.82	39.14	74.0	204.56	38.49	72.0	
41	196.50	41.28	77.6	199.39	40.76	75.5	202.22	40.16	73.4	204.99	39.49	71.4	
40	196.83	42.34	77.2	199.76	41.81	75.0	202.63	41.19	72.9	205.44	40.50	70.8	
39	197.16	43.41	76.7	200.15	42.85	74.5	203.06	42.22	72.3	205.91	41.50	70.1	
38	197.52	44.48	76.3	200.56	43.90	73.9	203.52	43.24	71.7	206.41	42.50	69.5	
37	197.90	45.54	75.8	200.99	44.95	73.4	204.00	44.26	71.0	206.93	43.50	68.8	
36	198.30	46.61	75.3	201.44	45.99	72.8	204.51	45.28	70.4	207.48	44.49	68.1	
35	198.72	47.68	74.8	201.93	47.04	72.2	205.04	46.30	69.7	208.06	45.48	67.3	
34	199.17	48.75	74.2	202.43	48.08	71.6	205.60	47.32	69.0	208.67	46.47	66.6	
33	199.64	49.81	73.6	202.97	49.12	70.9	206.20	48.33	68.3	209.31	47.45	65.8	
32	200.14	50.88	73.0	203.54	50.16	70.2	206.82	49.34	67.5	209.98	48.43	64.9	
31	200.68	51.94	72.4	204.14	51.20	69.5	207.49	50.35	66.7	210.69	49.41	64.1	
30	201.24	53.00	71.7	204.78	52.23	68.7	208.19	51.35	65.9	211.44	50.38	63.1	
29	201.85	54.06	71.0	205.46	53.26	67.9	208.93	52.35	65.0	212.24	51.34	62.2	
28	202.49	55.12	70.3	206.19	54.29	67.1	209.72	53.34	64.0	213.07	52.30	61.2	
27	203.18	56.17	69.5	206.95	55.31	66.2	210.55	54.33	63.1	213.96	53.24	60.2	
26	203.91	57.22	68.6	207.77	56.32	65.2	211.43	55.31	62.0	214.89	54.18	59.1	
25	204.70	58.27	67.7	208.65	57.33	64.2	212.38	56.28	61.0	215.88	55.12	57.9	

Sat Longitude: 96 Deg (Satellite Alignment Chart for 99 & 93 Degree Dual Feed Antenna System)

Latitude	Longitude →		77				75				73				71			
	↓	→ Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation
50		204.20	29.89	74.7	206.62	29.30	73.3	208.99	28.65	71.8	211.33	27.95	70.5					
49		204.52	30.88	74.2	206.96	30.26	72.7	209.35	29.59	71.2	211.71	28.87	69.8					
48		204.86	31.87	73.7	207.32	31.23	72.1	209.73	30.53	70.6	212.11	29.79	69.2					
47		205.21	32.85	73.1	207.69	32.19	71.5	210.13	31.47	70.0	212.52	30.70	68.5					
46		205.58	33.84	72.5	208.09	33.15	70.9	210.54	32.41	69.3	212.95	31.62	67.8					
45		205.96	34.82	72.0	208.50	34.12	70.3	210.98	33.35	68.7	213.40	32.53	67.1					
44		206.37	35.81	71.4	208.92	35.08	69.6	211.43	34.29	68.0	213.87	33.44	66.4					
43		206.79	36.79	70.8	209.37	36.04	69.0	211.90	35.22	67.3	214.36	34.34	65.6					
42		207.23	37.77	70.1	209.84	36.99	68.3	212.39	36.15	66.5	214.87	35.24	64.9					
41		207.69	38.75	69.5	210.33	37.95	67.6	212.90	37.07	65.8	215.40	36.14	64.1					
40		208.18	39.73	68.8	210.85	38.90	66.9	213.44	38.00	65.0	215.96	37.03	63.3					
39		208.68	40.71	68.1	211.38	39.84	66.1	214.00	38.91	64.2	216.54	37.92	62.4					
38		209.22	41.68	67.4	211.94	40.79	65.4	214.58	39.83	63.4	217.14	38.81	61.6					
37		209.78	42.65	66.6	212.53	41.73	64.6	215.20	40.74	62.6	217.77	39.69	60.7					
36		210.36	43.61	65.9	213.15	42.66	63.7	215.84	41.64	61.7	218.43	40.56	59.8					
35		210.98	44.58	65.1	213.79	43.60	62.9	216.50	42.54	60.8	219.11	41.42	58.9					
34		211.62	45.53	64.2	214.47	44.52	62.0	217.20	43.44	59.9	219.82	42.28	57.9					
33		212.30	46.49	63.4	215.18	45.44	61.1	217.93	44.32	59.0	220.57	43.14	56.9					
32		213.01	47.43	62.5	215.92	46.35	60.2	218.70	45.20	58.0	221.35	43.98	55.9					
31		213.76	48.38	61.5	216.70	47.26	59.2	219.49	46.07	57.0	222.16	44.81	54.9					
30		214.55	49.31	60.6	217.51	48.16	58.2	220.33	46.93	55.9	223.00	45.64	53.8					
29		215.38	50.24	59.6	218.37	49.05	57.1	221.20	47.79	54.8	223.89	46.45	52.7					
28		216.26	51.16	58.5	219.27	49.93	56.0	222.12	48.63	53.7	224.81	47.26	51.5					
27		217.18	52.07	57.4	220.22	50.80	54.9	223.08	49.46	52.5	225.77	48.05	50.3					
26		218.15	52.97	56.3	221.21	51.66	53.7	224.08	50.28	51.3	226.77	48.83	49.1					
25		219.17	53.86	55.1	222.25	52.51	52.5	225.13	51.09	50.0	227.81	49.60	47.8					

Sat Longitude: 96 Deg
(Satellite Alignment Chart for 99 & 93 Degree Dual Feed Antenna System)

Latitude	Longitude →		69			67			65			
	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt	Azimuth	Elevation	Skew/Tilt
50	213.63	27.21	69.1	215.89	26.42	67.9	218.11	25.59	66.6			
49	214.02	28.10	68.5	216.30	27.29	67.1	218.52	26.43	65.9			
48	214.44	29.00	67.8	216.72	28.16	66.4	218.96	27.27	65.1			
47	214.86	29.89	67.1	217.16	29.02	65.7	219.41	28.11	64.3			
46	215.31	30.77	66.3	217.62	29.88	64.9	219.87	28.94	63.6			
45	215.78	31.66	65.6	218.09	30.73	64.1	220.36	29.76	62.7			
44	216.26	32.54	64.8	218.59	31.58	63.3	220.86	30.59	61.9			
43	216.76	33.41	64.0	219.10	32.43	62.5	221.38	31.40	61.1			
42	217.29	34.28	63.2	219.64	33.27	61.7	221.92	32.22	60.2			
41	217.83	35.15	62.4	220.19	34.11	60.9	222.49	33.02	59.4			
40	218.40	36.02	61.6	220.77	34.94	60.0	223.07	33.82	58.5			
39	219.00	36.87	60.7	221.37	35.77	59.1	223.67	34.62	57.5			
38	219.61	37.73	59.8	222.00	36.59	58.2	224.30	35.41	56.6			
37	220.25	38.57	58.9	222.65	37.41	57.2	224.95	36.19	55.6			
36	220.92	39.41	58.0	223.32	38.21	56.3	225.63	36.96	54.7			
35	221.62	40.25	57.0	224.02	39.01	55.3	226.33	37.73	53.7			
34	222.34	41.07	56.1	224.75	39.80	54.3	227.06	38.49	52.6			
33	223.09	41.89	55.0	225.50	40.59	53.3	227.81	39.23	51.6			
32	223.88	42.70	54.0	226.29	41.36	52.2	228.59	39.97	50.5			
31	224.69	43.50	52.9	227.10	42.12	51.1	229.40	40.70	49.4			
30	225.54	44.28	51.8	227.95	42.88	50.0	230.23	41.42	48.3			
29	226.42	45.06	50.7	228.83	43.62	48.8	231.10	42.12	47.1			
28	227.34	45.83	49.5	229.74	44.35	47.6	232.00	42.82	45.9			
27	228.30	46.58	48.3	230.68	45.06	46.4	232.93	43.50	44.7			
26	229.29	47.32	47.1	231.66	45.77	45.2	233.89	44.16	43.4			
25	230.33	48.05	45.8	232.68	46.45	43.9	234.88	44.81	42.2			

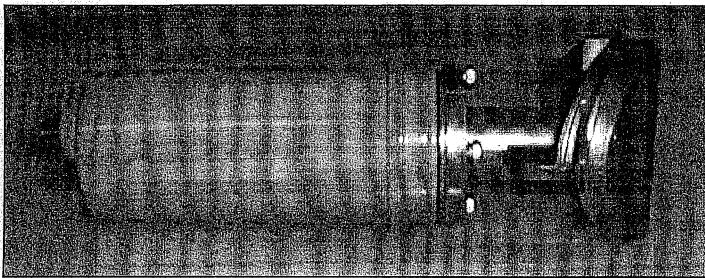
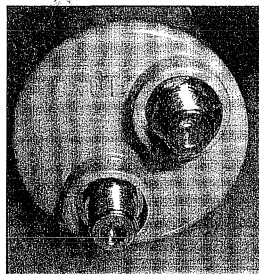
**Addendum to 8000751-01
Assembly & Installation Manual**

Important Information

The antenna system you are installing may have a different configuration with regards to the LNB. Please pay close attention to the LNB in order to properly identify which configuration you have. The latest configuration is illustrated below. The main difference is how the LNB functions. This is what is known as a "twin switched" LNB. That means that each port is capable of voltage switching (13Vdc = Vertical Polarization & 18 Vdc = Horizontal Polarization).

The advantage of this type of LNB is that you will no longer need the 6102IFD 2-receiver multi-switch for two receiver installations. With this LNB, you simply run a coaxial cable from the LNB "F" port directly to one of the receivers. Repeat this step for the second receiver.

Note: This LNB can also be used when only 1 receiver is being installed. Simply connect one of the "F" ports on the LNB to the receiver. Leave the other "F" port open until a second receiver is used. The polarity adjustment will be performed just as before; there is no difference in this adjustment from previous configurations.



US Sales Office • 1315 Industrial Park Drive, Smithfield, NC 27577 USA • Telephone: (919) 989-2205 • Fax: (919) 989-2200
Germany Sales Office • Julius-Moser-Str. 13, 75179 Pforzheim, Germany • Telephone: +49 (0) 7231-14557-0 • Fax: +49 (0) 7231-14557-10

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