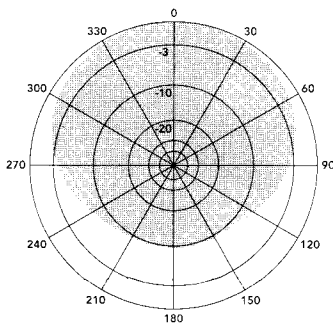


ANT150D, D3, D6-9, D7-12
ANT450D, D3, D6-9, D7-12

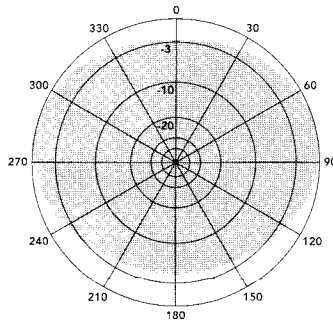
DIPOLE PATTERN ADJUSTMENT

Telewave exposed dipoles are field adjustable to provide different horizontal patterns and gain values. The horizontal spacing from tower between the dipole and the support mast or tower leg controls this adjustment. Review the patterns below to determine which is best suited to your range area requirements. Use the chart on the next page to find the appropriate dimension for antenna to mast spacing. The drawing at the bottom shows how this measurement is made and the vertical spacing to be used for multi-bay arrays.

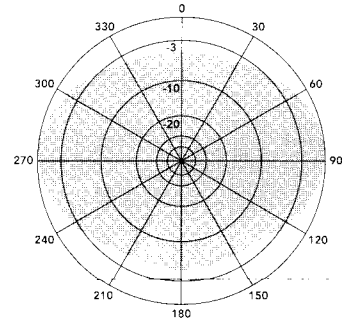
Horizontal radiation patterns



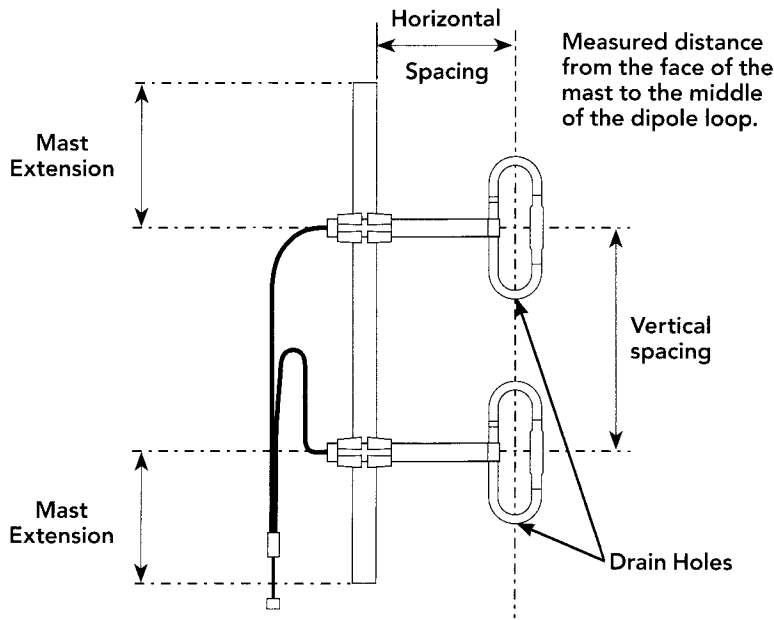
Offset Circular
1/4 wavelength spacing



Cardioid
3/8 wavelength spacing



Bi-directional
1/2 wavelength spacing



IMPORTANT: Be sure that the drain holes are on the bottom when the elements are installed.

ANT150D, D3, D6-9, D7-12 ANT450D, D3, D6-9, D7-12

DIPOLE MOUNTING AND MAST SPECIFICATIONS

Mast lengths shown are minimum acceptable lengths to insure proper pattern control. Mast extension is applied at top and bottom of array. Longer masts are acceptable, but the dipole or array must be centered on the support to prevent beam tilt. The clamps provided with the dipoles will work properly to attach the dipole boom to a mast that is between 1.5 to 2.5 inches in diameter. To attach to smaller supports (1-1.5" diameter), use ANTS420 shims. This allows direct mounting to small towers such as the Rohn 25 and 45.

MAST MINIMUM LENGTH AND ELEMENT VERTICAL SPACING (at midband)

ANTENNA	MAST LENGTH	MAST EXTENSION	VERTICAL SPACING	MINIMUM MAST TYPE
ANT150D	3'	18"	N/A	1.5" Schedule 40 Galvanized Pipe
ANT150D3	7'-5"	18"	4'-5"	1.5" Schedule 40 Galvanized Pipe
ANT150D6-9	16'-3"	18"	4'-5"	2.0" Schedule 40 Galvanized Pipe
ANT150D7-12	33'-11"	18"	4'-5"	2.0" Schedule 40 Galvanized Pipe
ANT450D	13"	6.5"	N/A	1.5" Schedule 40 Galvanized Pipe
ANT450D3	2'-7"	6.5"	19.375"	1.5" Schedule 40 Galvanized Pipe
ANT450D6-9	5'-11"	6.5"	19.375"	1.5" Schedule 40 Galvanized Pipe
ANT450D7-12	12'-4"	6.5"	19.375"	1.5" Schedule 40 Galvanized Pipe

ELEMENT HORIZONTAL Spacing from tower (at midband)

MODEL	1/4 wl. OFFSET CIRCULAR	3/8 wl. CARDIOID	1/2 wl. BI-DIRECTIONAL
ANT150D, D3, D6-9, D7-12	18"	2'-3"	2'-9"
ANT450D, D3, D6-9, D7-12	6"	9"	12.1"

FOLDED DIPOLE ANTENNAS 138-825 MHz

MOUNTING INSTRUCTIONS

WARNING:

For your safety, do not install any antenna near power lines, and carefully follow all installation instructions. If the antenna falls toward or contacts any overhead wires, immediately let go and stay away. Call the utility company for assistance. Always use safety devices for tower climbing. Ensure that the tower structure is well grounded for lightning protection.

PARTS LIST (for single dipole element):

(1)	Dipole and clamp set	(1)	1/4"-20 hex bolt	(1)	1/4"-20 lock nut
(2)	3/8" x 3.5" hex bolt	(2)	3/8" hex nut	(2)	3/8" split lock washer
(1)	Anti-seize compound				

ASSEMBLY INSTRUCTIONS

1. Remove components from shipping box and lay out the dipole and cable assemblies, ideally in a large, sheltered area. Arrange the assemblies in order as cable lengths allow.
2. Refer to the diagram. Slide the boom over the dipole hub, and align the holes in the boom with the holes in the hub. Apply anti-seize compound to the bolt end, then install and tighten the 1/4"-20 bolt and lock nut. Press the end plug located on the dipole feed cable into the end of the boom until it is firmly seated.
3. Refer to the appropriate Dipole Pattern Adjustment sheet for the frequency range of the antenna. Using the chart titled "Dipole Mounting and Mast Specifications", measure and mark the support structure for the proper dipole element spacing. Mount each dipole assembly to the mast with clamps as shown in the diagram. Locate the drain hole on each element, and be certain it is pointing down.
4. Refer to the chart titled "Mast to Dipole Dimensions", and determine the proper horizontal element spacing from the mast or support structure for the desired coverage pattern. **At least 1/2 inch of the boom should be visible on the back side of the clamps.**
5. Apply anti-seize compound to the bolt ends, then secure the dipole assemblies to the support with the supplied 3/8" nuts, washers and bolts, while adjusting each dipole position on the support. Tighten each nut until the lock washer is flat, then add 1/2 turn. Be sure to properly seal the input connector with waterproof tape or other sealing material. See Telewave TWDS-0502 for a recommended method of connector sealing.
6. Secure the cable assembly to the support.

