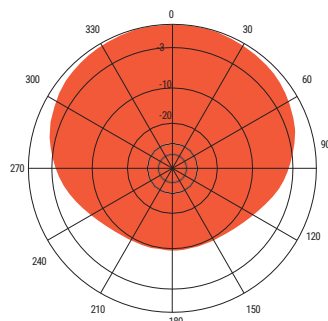


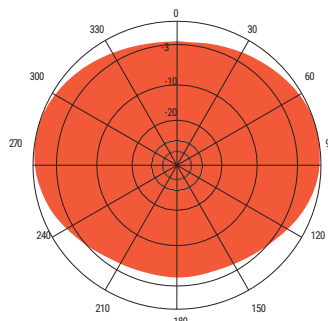
DIPOLE PATTERN ADJUSTMENT

Telewave.io folded 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-element arrays.

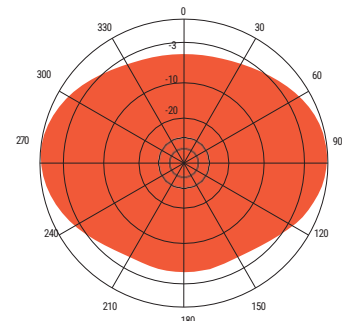
Horizontal radiation patterns



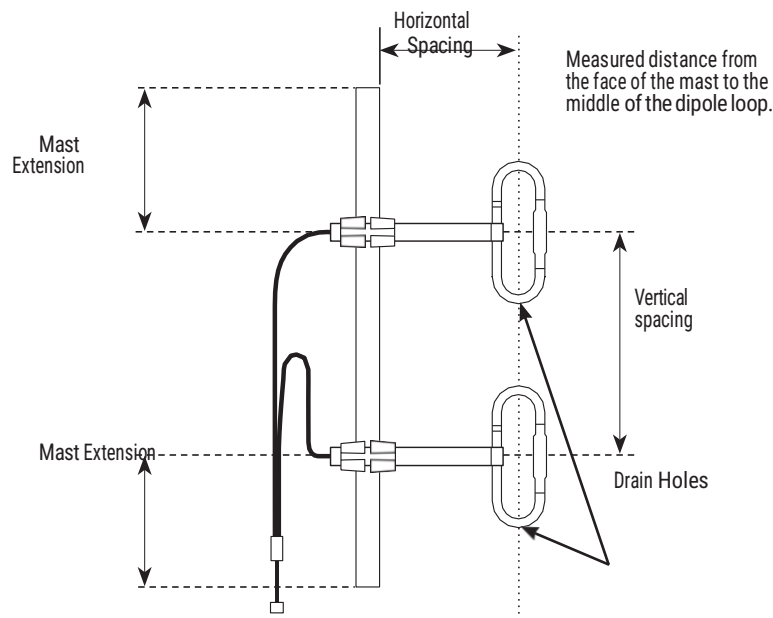
Offset Circular
1/4 wavelength spacing



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.

DIPOLE PATTERN ADJUSTMENT

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
ANT37D				
ANT40D	CONTACT TELEWAVE FOR MOUNTING ADVICE			
ANT50D				
ANT70D	6'-7"	3'-3.5"	N/A	2.0" Schedule 40 Galvanized Pipe
ANT75D	6'-7"	3'-3.5"	N/A	2.0" Schedule 40 Galvanized Pipe
ANT75D3	16'-1"	3'-3.5"	9'-7"	2.0" Schedule 40 Galvanized Pipe
ANT90D	5'-6"	2'-9"	N/A	2.0" Schedule 40 Galvanized Pipe
ANT90D3	12'-11"	2'-9"	7'-5"	2.0" Schedule 40 Galvanized Pipe
ANT120D	4'-2"	2'-1"	N/A	1.5" Schedule 40 Galvanized Pipe
ANT120D3	10'	23"	6'-2"	2.0" Schedule 40 Galvanized Pipe
ANT120D6-9	21'	23"	6'-2"	2.0" Schedule 40 Galvanized Pipe
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
ANT220D	2'-4"	14"	N/A	1.5" Schedule 40 Galvanized Pipe
ANT220D3	5'-6"	14"	3'-1.5"	1.5" Schedule 40 Galvanized Pipe
ANT220D6-9	11'-8"	14"	3'-1.5"	1.5" Schedule 40 Galvanized Pipe
ANT275D	2'	12"	N/A	1.5" Schedule 40 Galvanized Pipe
ANT275D3	4'-8"	12"	2'-8"	1.5" Schedule 40 Galvanized Pipe
ANT275D6-9	10'	12"	2'-8"	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
ANT37D	6'-3"	N/A	N/A
ANT40D	5'-9"	N/A	N/A
ANT50D	4'-7"	6'-11"	N/A
ANT70D	3'-3"	5'	MAX EXTENSION
ANT75D, D3	3'	4'-6"	MAX EXTENSION
ANT90D, D3	2'-4"	3'-6"	4'-9"
ANT120D, D3, D6-9	22"	2'-9"	3'-9"
ANT150D, D3, D6-9, D7-12	18"	2'-3"	2' 9"
ANT220D, D3, D6-9	12"	18"	2'
ANT275D, D3, D6-9	10"	15"	20"

NOTE: The physical characteristics of large dipoles require a correction factor from calculated values for mast spacing. The dimensions in the above table include this correction.