

# 613T/613F Broadband Dipole Antennas

The communications quality of quickly erectable, HF systems is commonly inhibited by poor antenna performance. The Model 613T single-tower, broadband dipole provides better electrical performance than narrow-band dipoles or whips, yet it is fast to erect, light weight, simple to transport, and requires no tuner. It is ideal for short- and medium-range tactical military communications for which a high degree of transportability is required, and the antenna will perform its mission over a wide range of ground and terrain conditions.

Rugged enough to withstand the rigors of transport and installation, the 613T is simple in design and mostly preassembled to allow rapid deployment. The antenna packs into a small, easily transportable container, yet the erected structure has a large radiating aperture. It provides high gain, smooth radiation patterns, and nearly constant impedance. The 613T outperforms ordinary dipoles because it is truly wideband and has no deep azimuth nulls. It outperforms whips because it provides good

high-angle gain for short-range communication and it requires no troublesome tuner.

The Model 613F is electrically identical to the 613T but is intended for fixed-station use.

## Outperform ordinary dipoles with a compact, lightweight solution.

In operation, the Model 613T is less visible than antennas with taller towers—a valuable asset in tactical environments. The tower is assembled on the ground from 10-foot (3.05-meter) sections and is tilted upright. The hinged base and side guys assure stability throughout the erection procedure. No winch or derrick is required. The antenna is supplied complete with welded aluminum tower, curtain, ground return wire, resistive terminations, guys, screw-in anchors, balun, all tools required for installation, and the rugged aluminum boxes in which the antenna is transported.

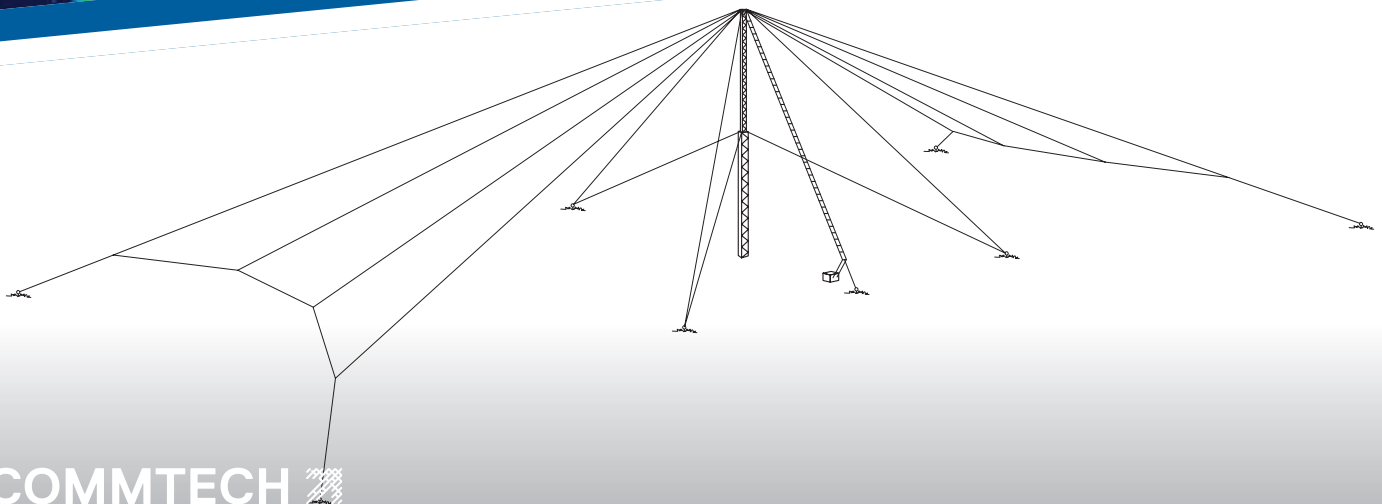
Curtain, catenary, and ground screen wires are phosphor-bronze for flexibility and ease

of handling. They can be coiled and uncoiled repeatedly without damage. Tower guys are made of tough polypropylene rope. The resistive terminations are mounted in protective, ventilated containers.

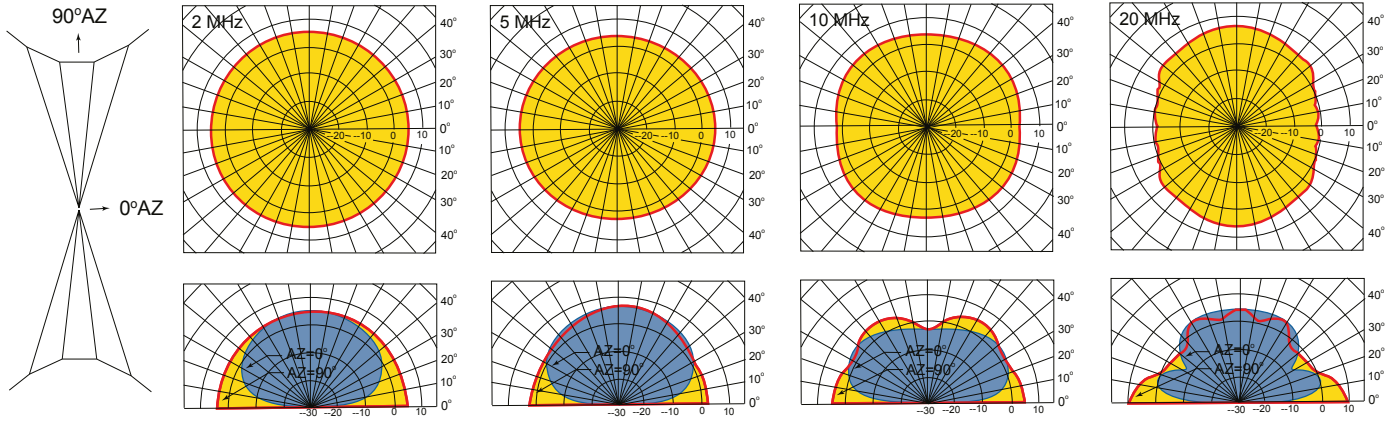
The 613's curtains, catenaries, and guys are made of Alumoweld wire and the tower is galvanized steel. Guys and catenaries are segmented by insulators where appropriate. The anchors and tower base are set in concrete. No installation tools or reusable boxes are supplied with the 613F.

## KEY FEATURES

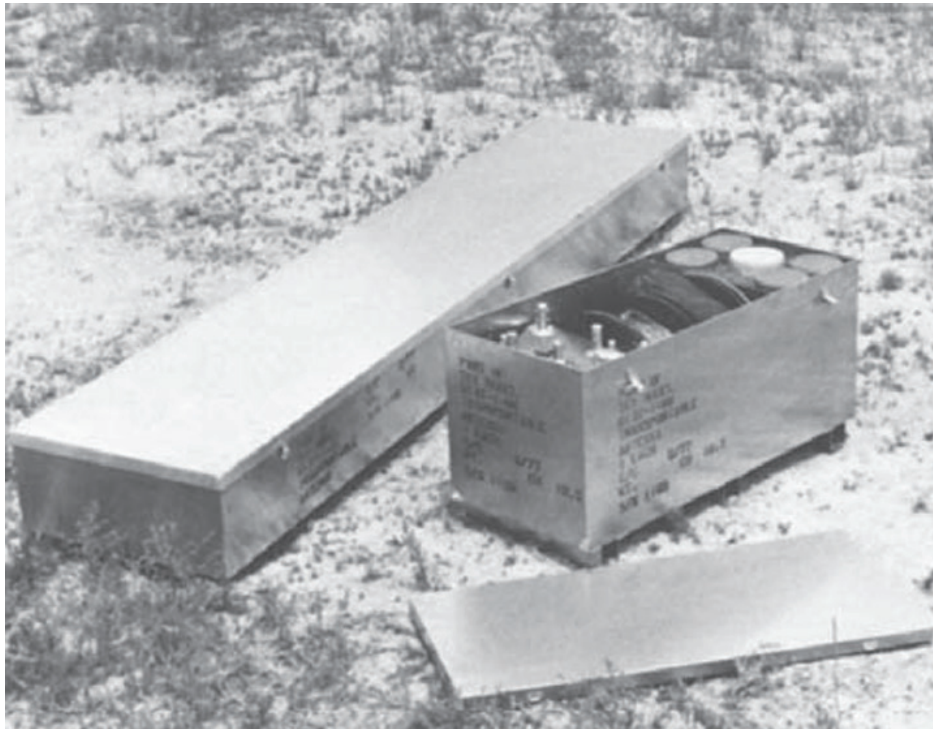
- > Quickly erectable
- > Highly transportable
- > 2–30 MHz — No tuner required
- > Omnidirectional
- > Transportable Tactical (T) and Fixed (F) versions available



- > Elevation and Azimuth Patterns  
 (Directive gain in dBi over perfect ground. Azimuth orientation as shown.  
 Azimuth pattern at elevation angle of beam maximum)



- > 613 T-1-06 packs into two small transportable cases.



# Model 613T/613F Specifications

<b>Polarization</b>	Horizontal
<b>Impedance</b>	50 ohms nominal
<b>VSWR</b>	2.0:1 nominal 2.5:1 maximum
<b>Environmental Performance</b>	<ul style="list-style-type: none"> <li>• 613T: Designed in accordance with EIA Specification RS-222C for loading of 160 km/h (100 mi/h) wind, no ice 40 km/h (25 mi/h) wind during erection</li> <li>• 613F: 225 km/h (140 mi/h) wind, no ice 145 km/h (90 mi/h) wind, 12 mm (1/2") ice</li> <li>• 613FA: 185 km/h (115 mi/h) wind, no ice</li> </ul>
<b>Erection Time</b>	613T: 2 hours with a crew of four (excluding guy anchors)

Antenna Efficiency	
Frequency (MHz)	Efficiency (dB)
2	-12.7
3	-8.8
5	-6.4
7.5	-4.8
10	-4.2
20	-2.8
30	-2.1

Model Numbers		Power		Connector
Transportable	Fixed	Average	PEP	
613T-1-02	613F-1-02	Receive	Receive	Type N Female
613T-1-06	613T-1-06	1 kW	2 kW	Type N Female
613T-1-28	613T-1-28	5 kW	10 kW	7/8" EIA Female
	613FA-1-03	10 kW	20 kW	1-5/8" EIA Female

Model Number		Frequency Range	Height		Length*		Width*	
Transportable	Fixed		ft	m	ft	m	ft	m
613T-1-N	613F-1-N	2-30 MHz	40	12.2	220	67.1	56	17
	613FA-1-N	2-30 MHz	40	12.2	220	67.1	56	17

Model Number	Weight		Volume		Maximum dimension of largest case	
	lbs	kg	cu ft	cu m	ft	m
613T-1-06	360	164	34	0.95	10	3.07

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CommTech team members collaborate across business segments and borders to deliver greater efficiencies and better ideas for helping customers succeed. This commitment to innovation supports an array of customers whose missions depend on having a clear picture of their electromagnetic environment. For over 50 years, TCI’s technical developments and advanced production capabilities have earned it a reputation for excellence in high-performance communications, spectrum monitoring, and signals intelligence systems.

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