

The TCI Model 613 is a truly broadband dipole antenna which provides excellent performance over short- and medium-range circuits. The height and configuration of the antenna were chosen to provide high take-off angle radiation at the low frequencies optimum for short-range communication and low take-off angle radiation at the higher frequencies necessary for longer-range communications. At the take-off angles used in short- and medium-range communications, the azimuth pattern is essentially omnidirectional. This provides great flexibility and makes the 613 applicable to most communications requirements.

Broadbanding is achieved without the use of resistors or tuning units for full antenna efficiency, with valuable power radiated rather than lost in tuning devices.

The towers are vertical. This is a very important consideration for both installation and maintenance. Towers can be safely guyed prior to curtain installation. Once erected, the curtain can be lowered at any time independent of the tower guying. Compared with long skewed towers, short vertical towers are much quicker to install, safer to climb, and easier to maintain.

The 613 uses the same high-quality, exhaustively tested components and materials featured in all TCI antennas. All radiators, feedlines, and catenaries are of Alumoweld, a wire composed of a high-strength steel core and a highly conductive, corrosion-resistant welded aluminum coating.

- **Reliable short and medium range communications**
- **Small land area**
- **Broadband (2–30 MHz)
–no tuning**
- **High efficiency**
- **Easier and safer to install and maintain**

Fixed station antennas traditionally have used catenary and drop rod assemblies of fiberglass for its excellent dielectric and tensile strength properties. Field experience, however, has shown that minute, difficult-to-detect flaws in the material, RF burning, and small nicks incurred during installation can result in catastrophic structural failure and deterioration when stored for long periods at high temperature and high humidity. TCI antennas eliminate the risks stemming from the poor structural qualities of fiberglass by using Alumoweld catenaries, segmented by fail-safe insulators.

Specifications

Polarization Horizontal
Impedance 50 ohms nominal
VSWR 2.0:1 or less over most of frequency band
 2.5:1 maximum
Environmental Designed in accordance with EIA
Performance Specification RS-222C for loading of
 160 km/h (100 mi/h) wind.
 Optional: 225 km/h (140 mi/h) wind

Size

Model Number	Frequency Range	Height		Length*		Width*	
		ft.	mtr.	ft.	mtr.	ft.	mtr.
613-1-N	2-30 MHz	85	25.9	249.3	76.0	150	45.7
613-2-N	2.3-30 MHz	71	21.6	216.3	65.9	125	38.1
613-3-N	3.4-30 MHz	44	13.4	146.6	44.7	88.3	26.9
613-3A-N	6-30 MHz	25	7.6	87.8	26.8	50	15.2
613-4-N	4.3-30 MHz	35	10.7	116	35.4	69.8	21.3

*Measured from extreme guy points

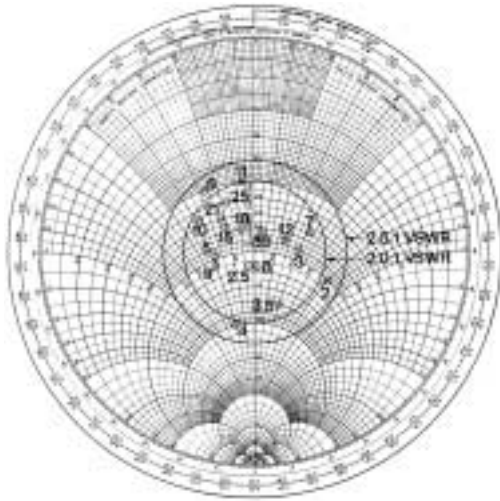
Shipping Weight and Volume

Model Number	Estimated Weight		Estimated Volume	
	Pounds	Kilograms	Cubic Feet	Cubic Meters
613-1-N	2450	1110	86	2.44
613-2-N	2200	1000	80	2.27
613-3-N	1600	725	68	1.93
613-3A-N	900	410	54	1.53
613-4-N	1250	570	63	1.78

Power

Model Number	Power		Connector
	Average	PEP	
613-N-02	Receive	Receive	Type N Female
613-N-06	1 kW	2 kW	Type N Female
613-N-28	5 kW	10 kW	7/8" EIA Female
613-N-03	10 kW	20 kW	1 5/8" EIA Female
613-N-09	20 kW	40 kW	1 5/8" EIA Female

TCI 613-1 IMPEDANCE DATA



ELEVATION AND AZIMUTH PATTERNS for 613-1

(Azimuth Patterns at elevation angle of beam maximum. Gain in dBi. F_0 is lowest operating frequency.)

