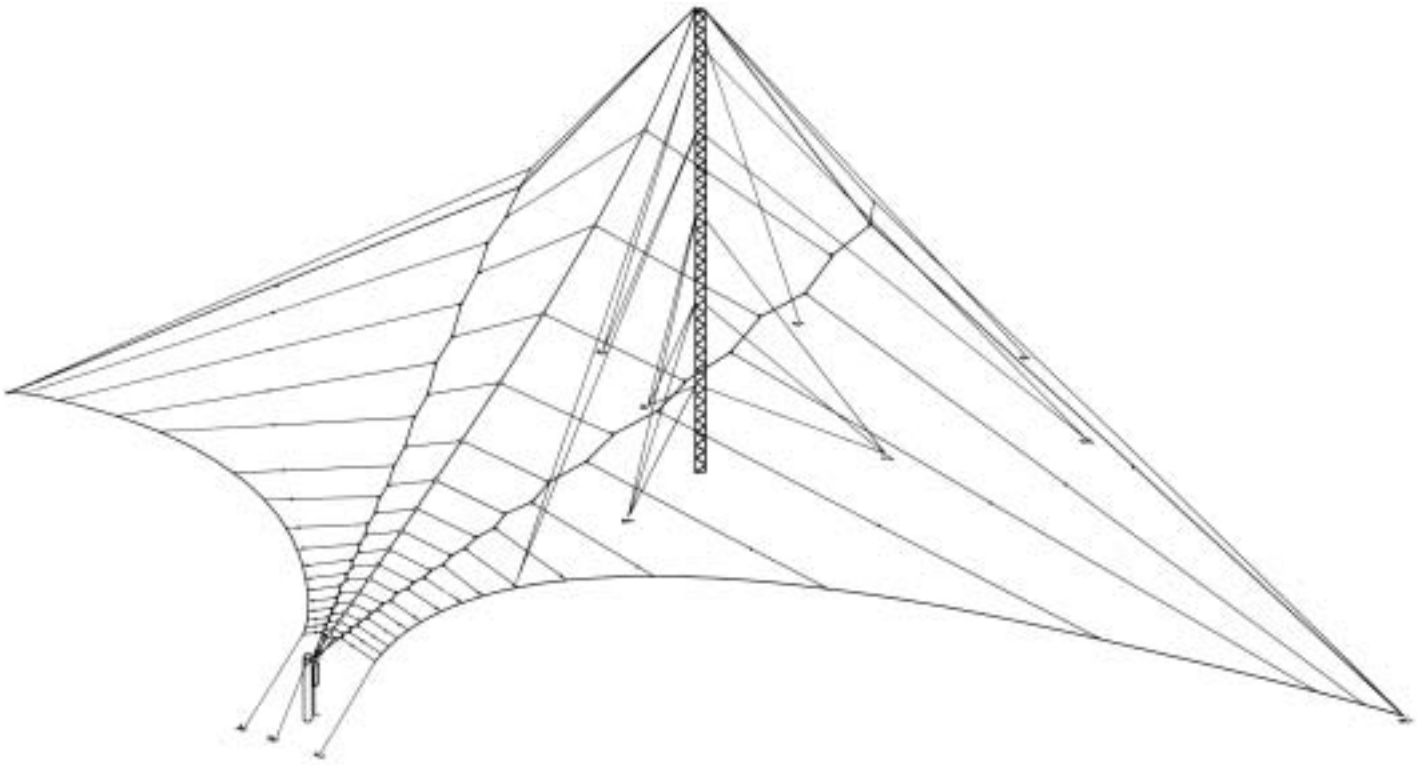
TCI
A Dielectric Company

MODEL

532

Improved Medium Range Log-Periodic Antenna



The TCI Model 532 antenna is specifically designed to serve medium range circuits from 350 to 2600 kilometers (230 to 1600 miles) and will provide secondary coverage for short (0 kilometer) and long range (over 2600 kilometers) communications. The Model 532 antenna utilizes the Clamped Mode* concept which extends the radiating aperture, thus increasing the broadside gain and decreasing the azimuthal beamwidth. (Upon request, your TCI applications engineer can provide additional information on the Clamped Mode concept.) Because of the narrower azimuthal beamwidth, a broader elevation pattern can be tolerated and still maintain acceptable gain. Consequently the broad elevation patterns permit the long range communications as well as medium range circuits. At the lower frequencies, where high angle radiation is necessary for short range communications, the Model 532 provides over 4 dBi gain directly overhead. At the higher frequencies where low angle radiation is necessary for long range communications, the gain at 10° is over 13 dBi.

The Model 532 antenna requires only a single tower for support, thereby decreasing installation costs, maintenance costs, and the required land area. No fiberglass assemblies are used in the catenary and support structure. Alumoweld wire, broken where necessary with ceramic fail-safe insulators, is used instead to provide long service life. Because of these cost saving features, the Model 532 will prove to be the most economical antenna to install, use and maintain.

- **Optimum performance for medium range circuits**
- **Useful performance for short and long range circuits**
- **Full 2–30 MHz coverage**
- **Single tower support for reduced installation and maintenance costs**
- **High power gain**

Five optional low cut-off frequencies are available in the 532 family. TCI's applications engineering staff can help you establish exactly the lowest frequency required. This analysis frequency results in choosing a significantly smaller and less expensive antenna, and concurrent savings on land and installation costs.

Specifications

Polarization .....Horizontal

VSWR.....2:1 maximum

Environmental.....Designed in accordance with EIA
Performance Specification RS-222C for loading of 225 km/h (140 mi/h) wind, no ice, 12 mm (1/2") radial ice
Optional: 160 km/h (100 mi/h), no ice 96 km/h (60 mi/h) wind, 12 mm (1/2") radial ice

Front Support Pole ....Customer supplied, 7.62 m (25 ft.), Class 2

Size

Model Number	Frequency Range	Height ft.	Height mtr.	Length ft.	Length mtr.	Width ft.	Width mtr.
532-1	2–30 MHz	225	69	500	152	660	201
532-2	3.8–30 MHz	121	38	300	91	360	110
532-3	5.75–30 MHz	81	25	192	59	240	73
532-4	3–30 MHz	149	45	357	109	450	137
532-5	4.7–30 MHz	101	30	250	76	295	90

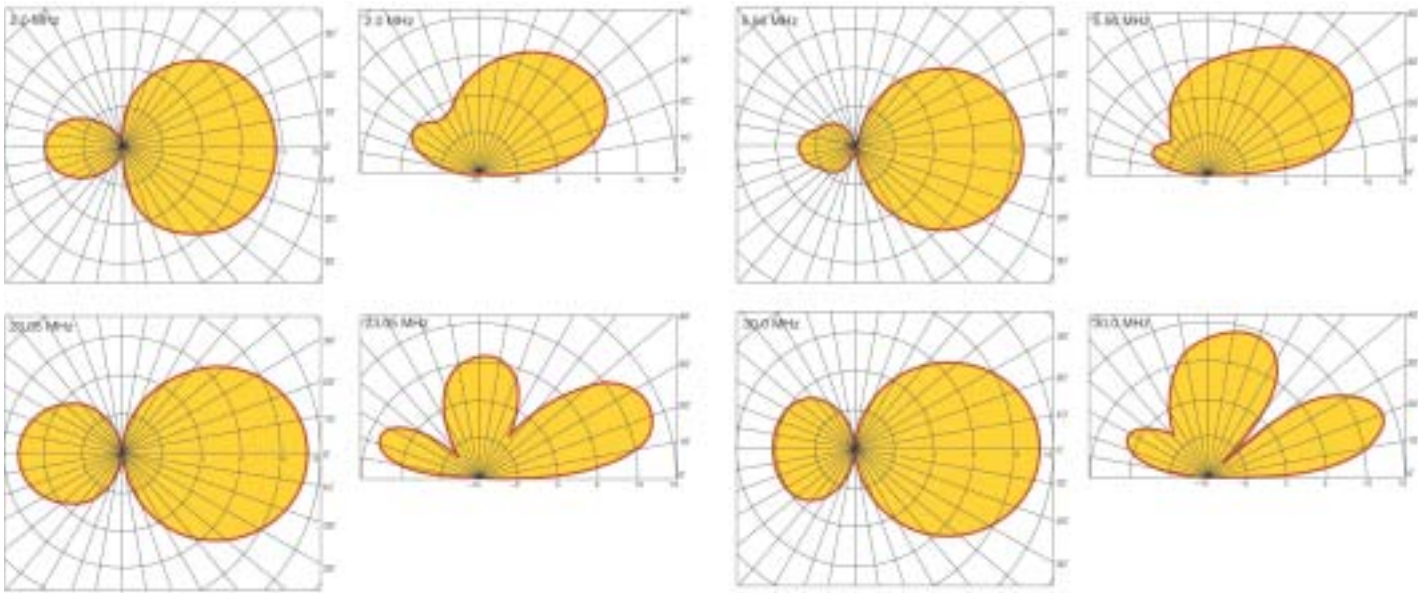
Gain & Pattern Data

Freq.	Lower Half Power Point	Nominal Take-off Angle	Upper Half Power Point	Front-to-Back Ratio	Gain Relative to Isotropic	Azimuthal Beamwidth between Half-Power Points
2.0	19°	40°	73°	9.3 dB	9.3 dBi	80°
2.88	19°	38°	70°	15.7 dB	10.7 dBi	70°
5.56	18°	39°	67°	14.2 dB	11.2 dBi	61°
23.05	12°	24°	37°	10.5 dB	13.5 dBi	55°
28.46	10°	20°	32°	18.7 dB	13.7 dBi	55°
30.0	10°	20°	31°	13.4 dB	13.4 dBi	55°

Power & Impedance Data

Model Number	Input Impedance	Power Handling Capability	Connector
532-N-02	50 ohms	Receive	Type N Female
532-N-03	50 ohms	10 kW Avg / 50 kW PEP	1-5/8" EIA Female
532-N-04	50 ohms	25 kW Avg / 50 kW PEP	3-1/8" EIA Female
532-N-06	50 ohms	1 kW Avg / 2 kW PEP	Type N Female

Elevation and Azimuth Patterns (Azimuth pattern at elevation angle of beam maximum) gain in dBi



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