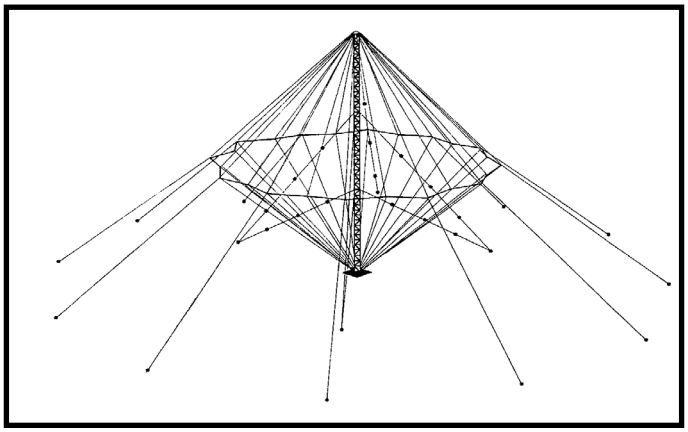
KRATOS®
READY FOR WHAT'S NEXT™

# 3794 Series Granger Wideband Conical Monopole Antennas

- **2-30 MHz Bandwidth permits Frequency change without antenna tuning**
- **Up to 25 KW average power rating**
- **50 Ohm input provides 2.0:1 nominal VSWR without impedance transformers**
- **Single tower**
- **Short, medium, long-range communications**



## General Description

The Model 3794 series antenna is a vertically polarized, omnidirectional broadband antenna for transmitting or receiving applications. It is designed for high power area coverage.

The 3794 Wideband Conical Monopole Antenna is an inverted cone-like structure with it's apex pointing downwards. The array is supported by a 17 inch (431 mm) face steel guyed tower and consists of a number of evenly spaced radiator wires. The radiators spread out from the tower top to an outer guyed catenary then converge back down at the tower base. The antenna is fed at the apex of the cone through a 50 ohm coaxial connector. A ground screen is laid over the area below the antenna and consists of a radial pattern of wire laid on the ground with it's centre at the apex of the antenna.

The radiating elements of the array are prefabricated to facilitate installation. All radiators are manufactured from aluminum clad steel wire for maximum conductivity and corrosion resistance.

The mechanical arrangement provides high strength while keeping both manufacturing and installation costs to a minimum.

## Application

The 3794 Wideband Conical Monopole Antenna Series provides a cost effective solution for the vertical omnidirectional antenna if the reduced ground area offered by the 1794 Monocone is not required. The broad frequency range permits use of the optimum frequency for any distance. The radiation patterns are suitable for the following services:

Ground Wave
- Shore-to-Ship
- Base station-to-mobile, short range

Sky-wave
- Medium to long-range, ground-to-air
- Base station-to-outstations requiring medium to low angle
- Shore-to-ship HF service
- Omni HF Broadcast including meteorological service

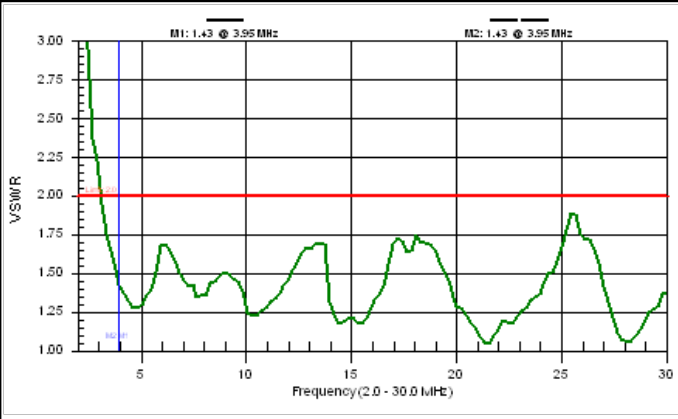
# 3794 Series Conical Monopole

## Radiation Patterns

Typical elevation plane radiation patterns are illustrated below.

At the higher frequencies, which are useful for long range sky-wave transmission, radiation in conecentrated at the lower elevation angles. At the lower frequencies, which are useful for shorter ranges, the radiation patterns show greater gain at the higher angles required for sky-wave transmission, while preserving sufficient gain at the low angles to facilitate ground propagation.

The radiation patterns shown are representative of the entire frequency range. There are no frequencies whithin the specified ranges at which the pattern deteriorates significantly from those shown.

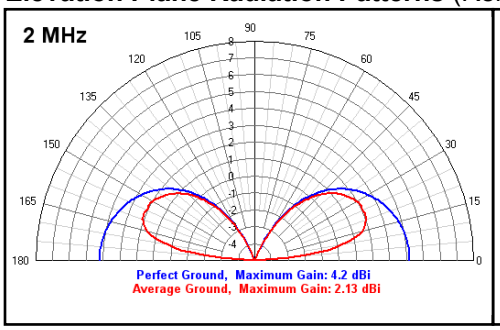


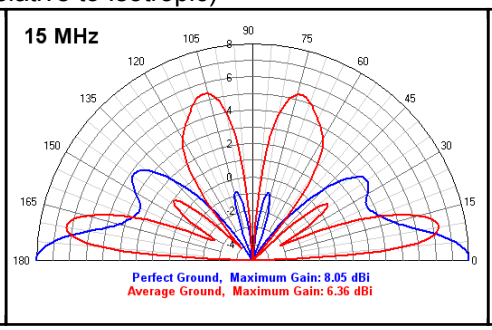

**Typical Measured VSWR**
**Model 3794-3 (3.0-30 MHz)**

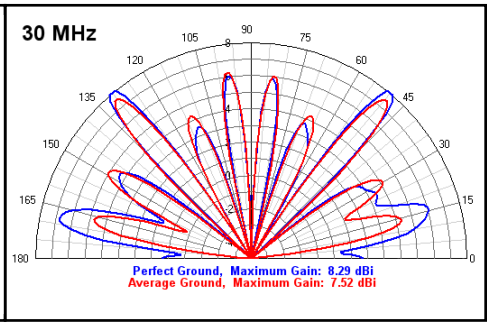
## Accessories

The following accessories are available for ease of installation and maintenance: tower lighting kit, lightning rod kit, erection kit, paint kit and tool kit.

**Elevation Plane Radiation Patterns** (Relative to Isotropic)




| Characteristics | | |
|---|---|---|
| Peak Power Rating, KW | up to 50 | |
| Polarization | Vertical | |
| VSWR | 2.0:1 nominal, 2.3:1 maximum | |
| Input Impedance, ohms | 50, coaxial | |
| Input connector (end seals available) | Type N Jack (female)(-1K) | Receive or 1 KW Avg/2 KW PEP |
| | 7/8" EIA flange (-2K) | 5 KW Avg/10 KW PEP |
| | 1-5/8" EIA flange (-3K) | 10 KW Avg/20 KW PEP |
| | 3-1/8" EIA flange (-4K) | 25 KW Avg/50 KW PEP |
| Directive Gain, dBi | 5.0 (over perfect ground) | |
| Azimuth Plane Radiation Pattern | Omnidirectional ±0.75 dB | |
| Wind Survival rating, mph (km/h) | Without Ice: | 125 (200)* |
| | With 0.5 inches (13mm) radial ice: | 75 (120) |

# 3794 Series Conical Monopole

## Ordering Information

| Type Number | Frequency Range (MHz) | Height, ft (m) | Ground Screen Dia., ft (m) | Outer Guy Radius, ft (m) |
|---|---|---|---|---|
| 3794-1-(*) | 2.0-30.0 | 117.4 (35.8) | 246 (75) | 226.5 (69) |
| 3794-2-(*) | 2.5-30.0 | 95.4 (29.0) | 196 (60) | 180.0 (55) |
| 3794-3-(*) | 3.0-30.0 | 77.4 (23.6) | 164 (50) | 151.0 (46) |
| 3794-4-(*) | 4.0-30.0 | 62.4 (19.0) | 123 (37.5) | 113.2 (34.5) |

* Complete part number requires addition of input connector suffix; 1K, 2K, 3K, 4K (see characteristics table)

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