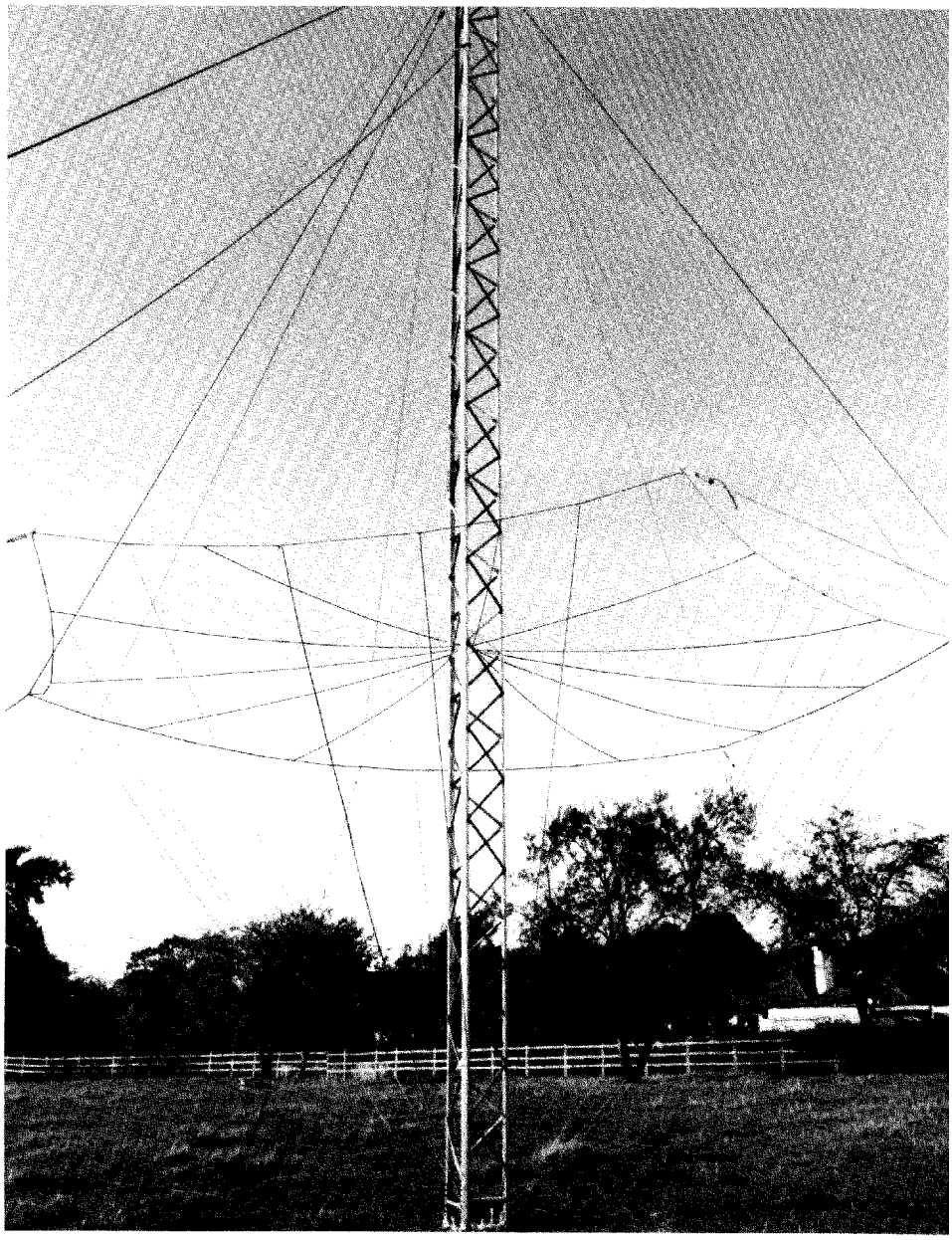
Type 2753 Series GRANGER®

Conical Monopole Antennas

- **6:1 Bandwidth Permits Frequency Change without Antenna Tuning**
- **Up to 50 kW Peak Power Rating**
- **50-ohm Input Provides 2.0:1 VSWR without Impedance Transformers**
- **A Space Saving Antenna for Ground-to-Air and Shore-to-Ship Transmission**
- **Short-, Medium-, Long-Range Communications**



General Description

The 2753 Conical Monopole Antenna Series replaced the 753C Conical Monopole Antenna Series, providing a number of improvements in specification.

All versions are of the same configuration, differing only in size. The radiating structure is in the form of a cage supported by a central tower. The lower part of the antenna tower forms a compensating inductive stub in shunt with the feed terminals. This arrangement keeps the structure at dc ground potential, thereby eliminating the need for a base supporting insulator or for isolation of any required lighting circuit. The antenna is supplemented by a radial ground screen composed of soft-drawn copper wire.

Application

The 2753 Conical Monopole Antenna Series provides a cost-effective solution for the vertical omnidirectional antenna if the full bandwidth of the MONOCONE™ Type 1794 is not required.

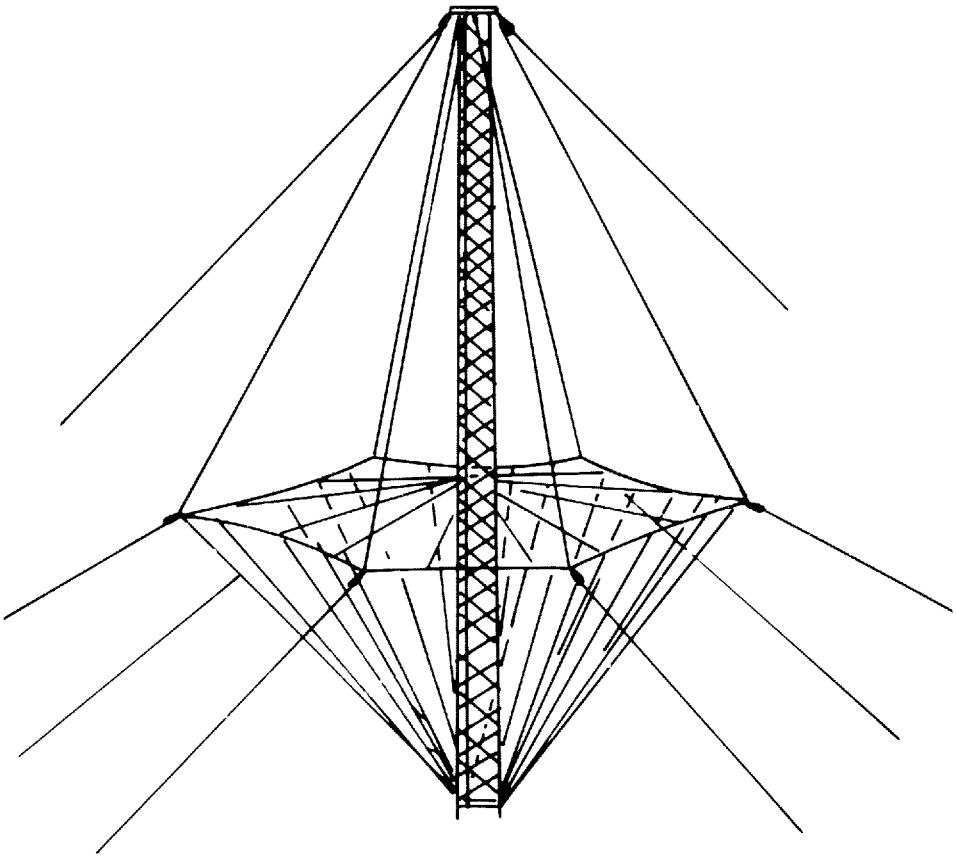
Many applications are satisfied by the six to one frequency bandwidth of the monopole and its elevation plane characteristics. Such services include:

Ground Wave

- Shore-to-ship 1.6-3.8 MHz
- Base station-to-mobile, short range

Skywave

- 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



Accessories

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

Transportable

The 2753T-6, transportable version, follows the same electrical design as the fixed versions. Erected dimensions are similar. Materials are selected for their rugged nature and reuse in the field.

The radiating curtain and ground screen are of stainless steel flexible wire; the mast is aluminum lattice of 17 inch face width; guy members are Terylene or Parafil; anchors are stake or duckbilled type.

VSWR measured in the field is typically within 2.0:1 (2.5:1 max.).

The antenna is complete with reusable packaging and erection tools.

Characteristics - 2753, Fixed Version

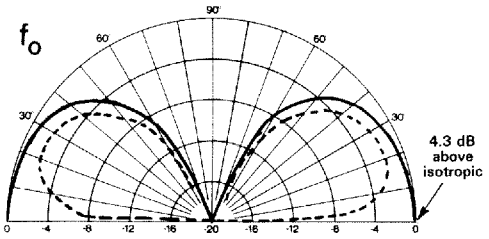
Peak Power Rating, kW	Up to 50	
Polarization	Vertical	
VSWR	2.0 nominal, 2.3 max.	
Input Impedance, ohms	50, coaxial	
Input Connector	Type N Jack (female) (-1K) Receive or	1 kW avg., 2 kW PEP
(end seals available)	7/8" EIA flange (-2K)	5 kW avg., 10 kW PEP
	1-5/8" EIA flange (-3K)	10 kW avg., 20 kW PEP
	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	120 (190)	
With 0.5 in (13 mm) radial ice	100 (160)	
Tower Erection Kit	A kit of simple erection tools is available for erection of the antennas without the use of a crane	

Characteristics -2753T, Transportable Version

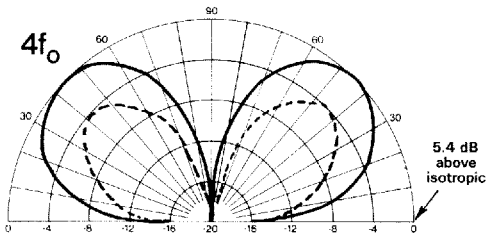
(same as Fixed Version except as follows)

Frequency Range, MHz	4.0 to 24.0	
Input Connector	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
Wind Survival Rating, mph (km/h)		
Without ice	100 (160)	
With 0.5 in (13 mm) radial ice	50 (80)	

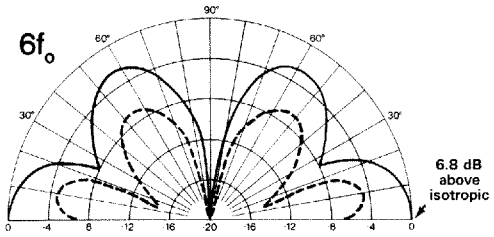
Elevation Plane Radiation Patterns



Directivity, dB Relative to Beam Maximum



Directivity, dB Relative to Beam Maximum



Directivity, dB Relative to Beam Maximum

———— Patterns over perfectly conducting ground at scaled operating frequencies.

f_o is lowest operating frequency

– – – – – Calculated patterns over average soil 6.0 to 24 MHz antenna without influence of ground screen. Addition of ground screen may be expected to increase gain about 1 dB at elevation angles in region of 5° to 10°.

Ordering Information

Type Number	Frequency Range MHz	Height ft (m)	Ground Screen Diameter ft (m)	Outer Guy Radius ft (m)
2753-1-(*)	1.6-9.6	100 (30.5)	300 (91)	90 (27.5)
2753-2-(*)	2.0-12.0	80 (24.4)	240 (73)	61 (18.6)
2753-4-(*)	2.8-16.8	60 (18.3)	170 (52)	55 (16.7)
2753-6-(*)	4.0-24.0	40 (12.2)	120 (36)	35 (10.6)
2753T-6-(**)	4.0-24.0	40 (12.2)	120 (36)	35 (10.6)
2753-8-(*)	6.0-28.0	27.5 (8.4)	80 (24)	21 (6.5)

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

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

Bulletin **1531B** 4/00

Data subject to change without notice
Printed in U.S.A.

Andrew Corporation
10500 West 153rd St.
Orland Park, IL 60462
U.S.A.
From North America:
1-800-255-1479
Fax: 1-800-349-5444
Intl.: 708-873-2307
Fax: 708-349-5444

Andrew Canada, Inc.
606 Beech Street, West
Whitby, Ontiario, Canada
L1N 5S2
Tel: 905-668-3348
Fax: 905-668-8590

Andrew Ltd.
Ilex Building, Mulberry
Business Park
Fishponds Road
Wokingham, Berkshire
England, United Kingdom
RG41 2GY
Tel: +44 118-936-6700
Fax: +44 118-936-6777

Fax-on-Demand
From North America:
1-800-861-1700
International:
708-873-3614

Visit us on the Internet at:
http://www.andrew.com