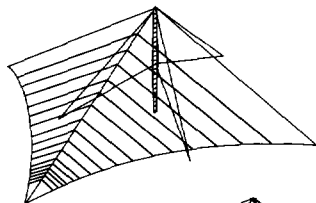




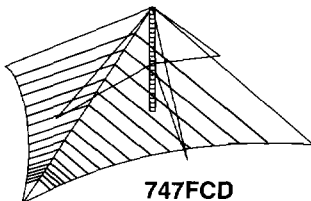
## Electronic Products and Systems

# GRANGER® HF Antennas

Andrew manufactures the complete range of GRANGER HF antennas. These include fixed, transportable and rotatable log-periodic antennas, conical monopoles, broadband dipoles, baluns and multicouplers.



747CD

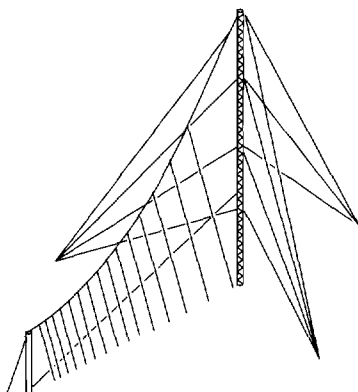


747FCD

### 747 Horizontally Polarized Log-Periodic

- 2 - 30 MHz or 4 - 30 MHz Frequency Range with Single Input
- Up to 20 kW Average 40 kW Peak Power Rating
- Horizontal Polarization
- 2.0:1 Nominal. 2.5:1 Maximum VSWR (2.0 MHz Version)
- Short-, Medium-, and Long-Range Communications

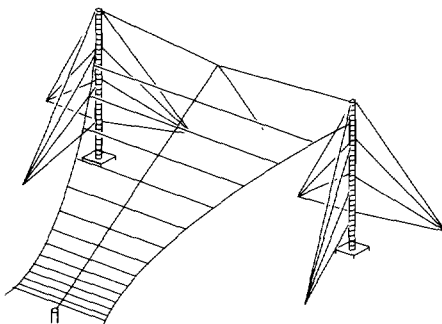
Bulletins 1410 (747CD), 1411 (747FCD)



### 1703 Long-Haul, Log-Periodic

- Choice of Frequency Range: 4.0 - 32, 4.6 - 32, 5.4 - 32, 6.5 - 32 MHz
- Up to 20 kW Average, 40 kW Peak Power Rating
- Vertical Polarization
- 2.0:1 Maximum VSWR
- Low Angle Radiation at All Frequencies
- Low Sensitivity to Off-Path Signals
- Minimum Space Required
- Short-Range Communications (Groundwave)
- Long-Range Communications (Skywave)

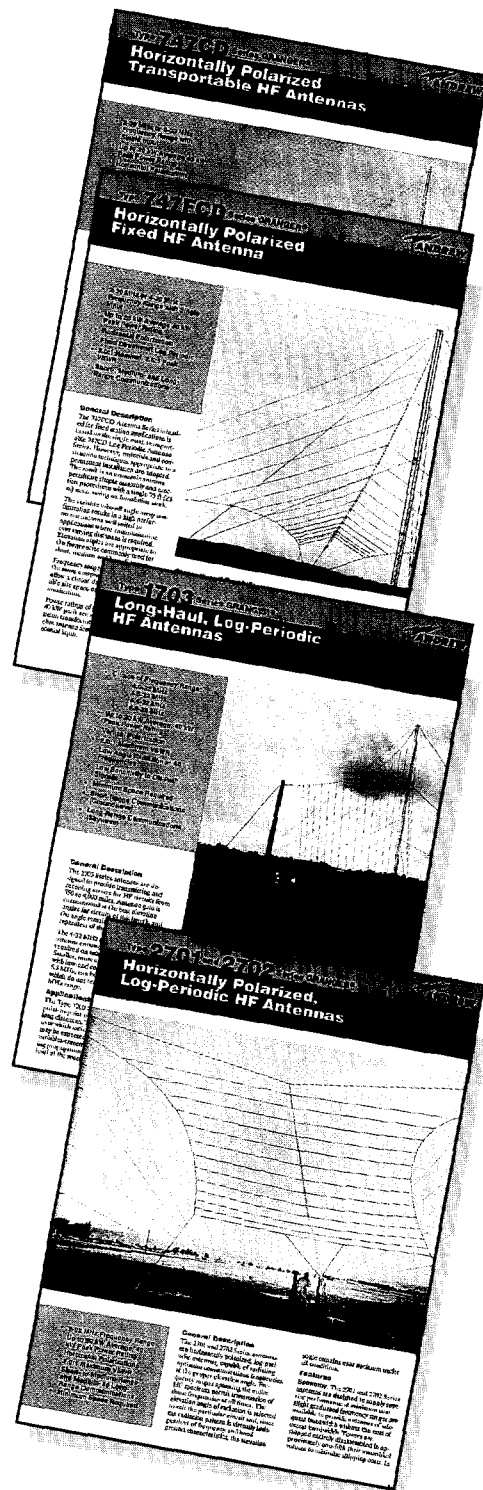
Bulletin 1417

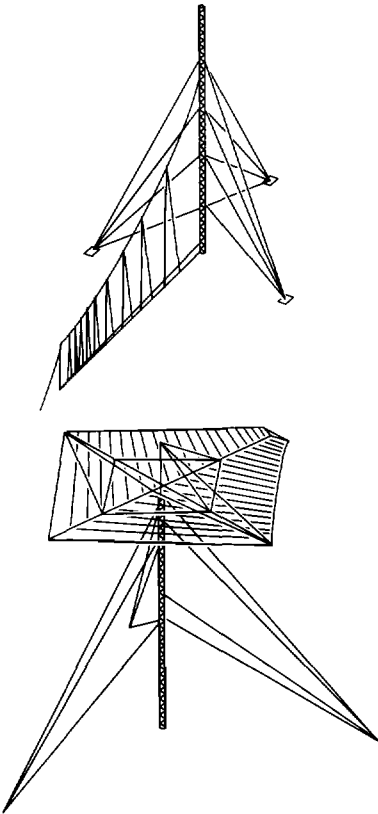


### 2701/2702 Horizontally Polarized, Log-Periodic

- 2 - 32 MHz Frequency Range
- Up to 20 kW Average, 40 kW Peak Power Rating
- Horizontal Polarization
- 2.0:1 Maximum VSWR
- Short- to Medium-Range and Medium- to-Long-Range Communications
- Minimum Space Required

Bulletin 1424





## 2726 Vertically Polarized, Log-Periodic

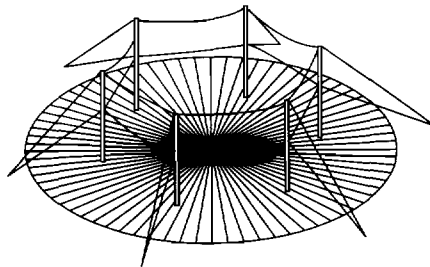
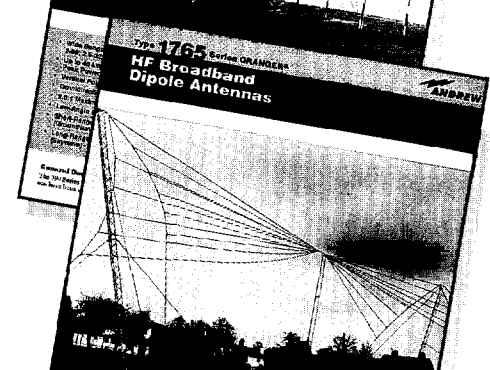
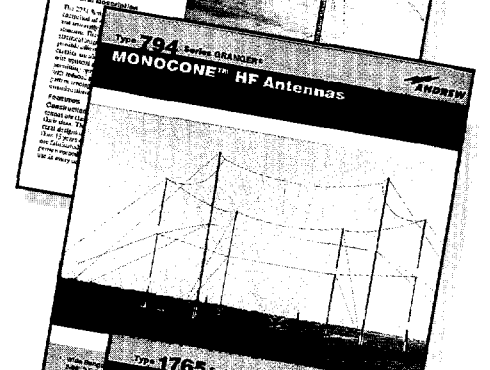
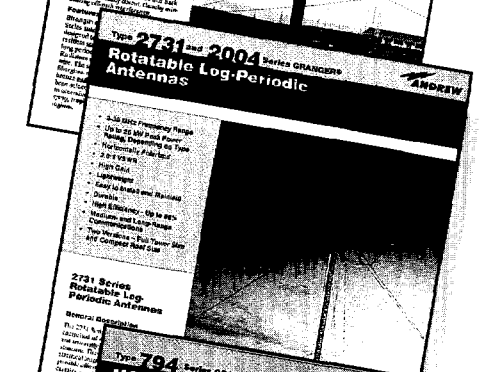
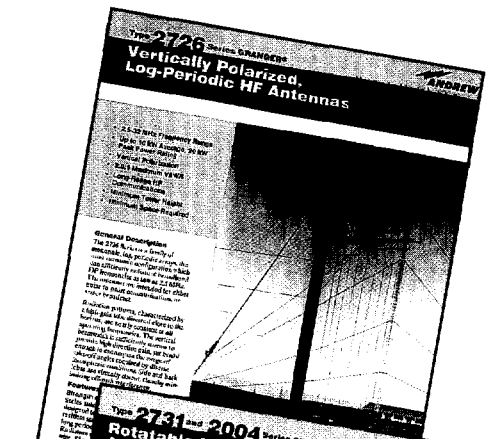
- 2.5 - 32 MHz Frequency Range
- Up to 10 kW Average, 20 kW Peak Power Rating
- Vertical Polarization
- 2.0:1 Maximum VSWR
- Long-Range HF Communications
- Minimum Tower Height
- Minimum Space Required

Bulletin 1426

## 2731/2004 Rotatable Log-Periodic

- 2 - 30 MHz Frequency Range
- Up to 25 kW Peak Power Rating, Depending on Type
- Horizontally Polarized
- 2.0:1 VSWR
- High Gain
- Easy to Install and Maintain
- High Efficiency - Up to 98%
- Medium- and Long-Range Communications
- Two Versions - Full Tower Size and Compact Roof Size

Bulletin 1423



## 794 Monocone

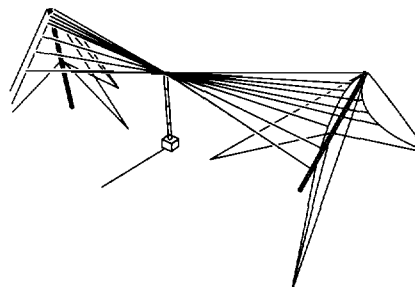
- Wide Range of Frequencies: 2 - 30, 2.5 - 32, 3 - 32 MHz
- Up to 40 kW Average, 160 kW Peak Power Rating
- Vertical Polarization
- 2.0:1 Maximum VSWR
- Low-Angle Radiation Patterns
- Short-Range Communications (Groundwave)
- Long-Range Communications (Skywave)

Bulletin 1416

## 1765 Broadband Dipole

- 1.6 - 30 MHz Frequency Range
- Up to 10 kW Average, 20 kW Peak Power Rating
- Horizontal Polarization
- Omnidirectional
- 2.0:1 Nominal, 2.5:1 Maximum VSWR
- Short-to-Medium Range Communications
- No Resistive Loading, Switching or Tuning

Bulletin 1420

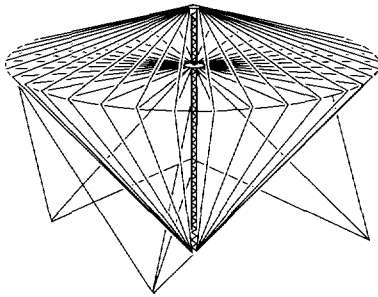




## Electronic Products and Systems

## Patented SPIRA-CONE

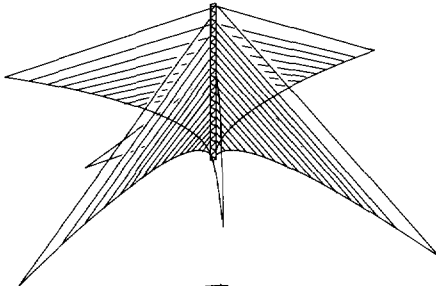
The unique patented SPIRA-CONE antenna, which is a GRANGER HF type, permits simultaneous radiation in high-and low-angle modes without frequency restriction.



### 1794 Monocone

- 1.6 - 32 MHz Frequency Range
- 40 kW Average 160 kW Peak Power Rating
- Vertical Polarization
- Omnidirectional
- 2.0:1 Maximum VSWR
- Long-Range Communications (Skywave)
- Short-Range Communications (Groundwave)
- Low Angle Radiation Patterns
- Minimum Installation Ground Area

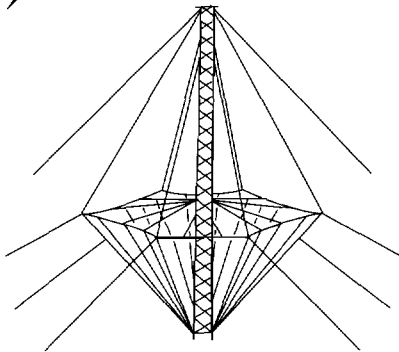
Bulletin 1421



### 2001 Elliptically Polarized Broadband

- Broadband 2 - 30 MHz Frequency Range
- Up to 25 kW Average, 50 kW Peak Power Rating
- Horizontal-Elliptical Polarization to Reduce Fading
- Full Efficiency - No Resistive Loading
- 2.0:1 Maximum VSWR
- Short- to Medium-Range Communications
- On-Site Selection of Polarization Sense

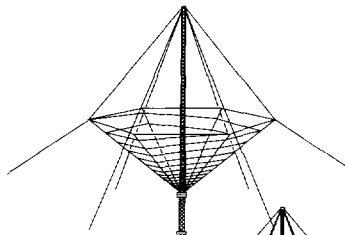
Bulletin 1422



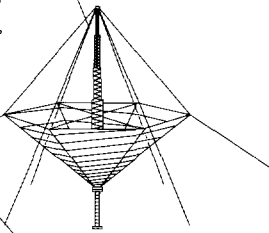
### 2753 Conical Monopole

- 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-, and Long-Range Communications

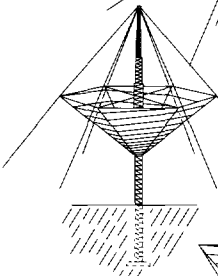
Bulletin 1531



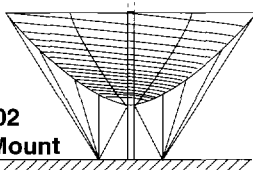
3001  
Full Size



3003MT  
Transportable



3004  
Fixed

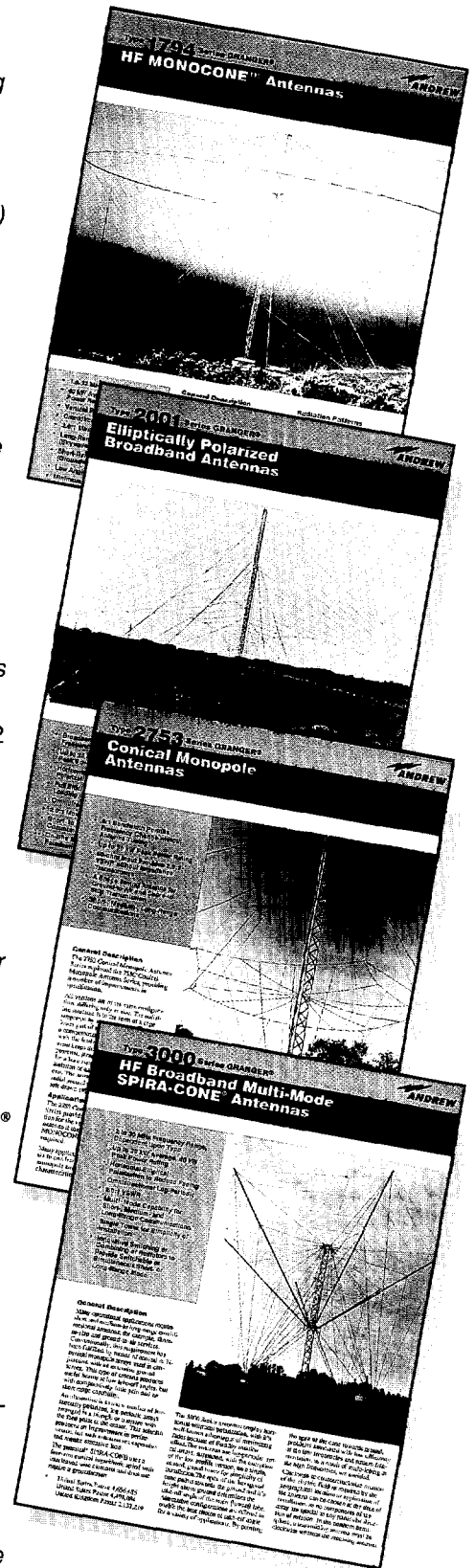


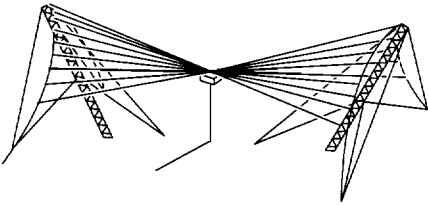
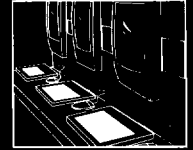
3002  
Roof Mount

### 3000 Broadband Multi-Mode SPIRA-CONE®

- 2 to 30 MHz Frequency Range, Dependent Upon Type
- Up to 25 kW Average, 50 kW Peak Power Rating
- Horizontal-Elliptical Polarization to Reduce Fading
- Omnidirectional Log-Periodic
- 2.0:1 VSWR
- Multi-Mode Capability for Short-, Medium- and Long-Range Communications
- Single Tower for Simplicity of Installation
- Innovative Switching or Combining of Radiators to Provide Switchable or Simultaneous Short- or Long-Range Mode

Bulletin 1405

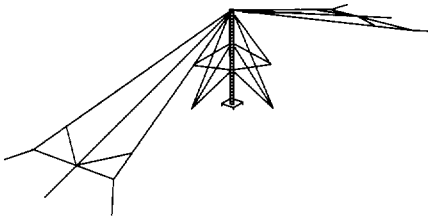




### 3065 Broadband Dipole

- 1.6 - 30 MHz Frequency Range
- Up to 2.5 kW Average, 5 kW Peak Power Rating
- Horizontal Polarization
- Omnidirectional
- 2.3:1 Maximum VSWR
- Short-to-Medium Range Communications
- No Resistive Loading, Switching or Tuning
- Minimum Installation Ground Area

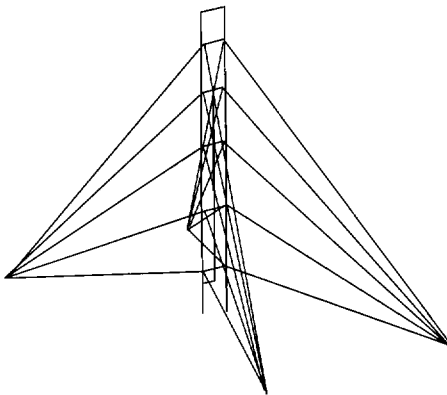
Bulletin 1430



### 4065 Horizontally Polarized, Transportable

- 2 - 30 MHz Frequency Range
- 1 kW Average, 2 kW Peak Power Rating
- Horizontally Polarized
- Omnidirectional
- 2.0:1 VSWR
- Short- to Medium-Range Communications
- Tactical

Bulletin 1532



### 4094 Omnidirectional

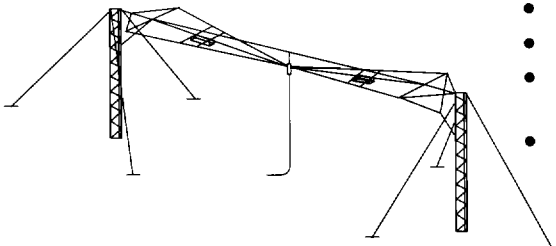
- 2 - 30 MHz Frequency Range
- 1 kW Average, 2 kW Peak Power Rating
- Vertical Polarization
- 2.5:1 Nominal, 3.0:1 Maximum VSWR
- Short-, Medium-, and Long-Range Communications
- Deployable or Fixed Versions

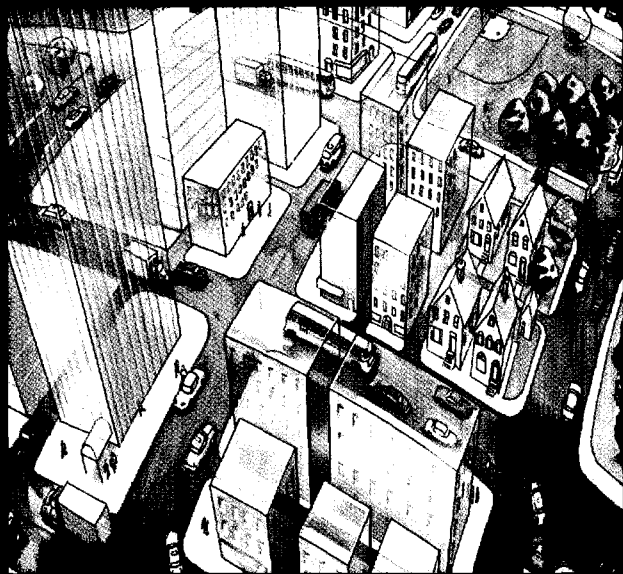
Bulletin 1431

### 5065 Broadband Compact Dipole

- 2 - 30 MHz Frequency Range
- 1 kW average, 2 kW Peak Power Rating
- Horizontal Polarization
- 2.5:1 Nominal VSWR
- Short- to Medium-Range Communications
- Compact Roof Mountable

Bulletin 1534





# *Gyroscope and Navigation Systems*

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