

## 2004 Series Granger Rotatable Log-Periodic Antennas

- 2-30 MHz Frequency Range
- Up to 1 kW Power Rating
- Horizontally Polarized
- 2.0:1 VSWR, Nominal
- High Gain
- Lightweight
- Easy to Install and Maintain
- Durable
- High Efficiency - Up to 98%
- Medium- and Long-Range Communications



### 2004 Series Compact Rotatable Log-Periodic Antennas

#### General Description

The 2004 Series general purpose antenna is designed to fulfill the communications needs of many varied organizations. Its small size and high efficiency afford a reliable and independent form of communications for use by diplomatic services, government agencies and civil aviation authorities.

#### Application

The 2004 Series Log-Periodic Antenna is designed for both ground-based and roof-top installations, where nearby obstructions, site size restrictions or roof pitches may present a problem for other larger antennas. The reduced turning radius of 23 feet (7 meters) decreases the chance of physical interference. The arrays are designed with fully efficient half-wave radiators. There is no electrical loading on the basic types. The wire radiators are sloped forward to be less obtrusive and so require less turning room than the conventional tubular construction antenna arrays.

#### Support Mast Options

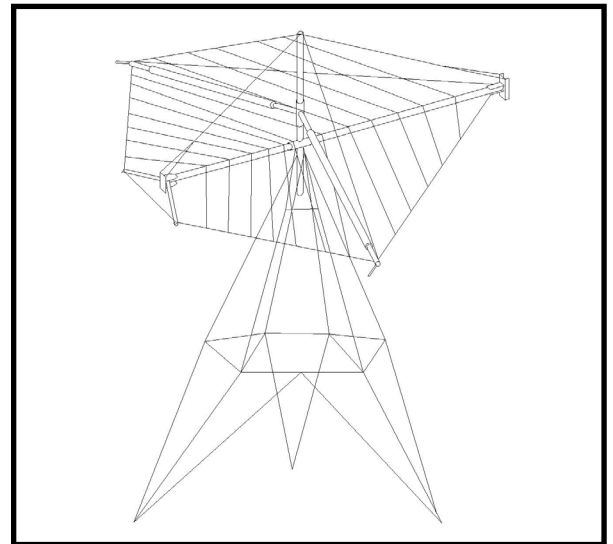
The 2004 Series antenna is designed to be supported via a single central support tower, and is available in heights of up to 78 feet (23.8 meters). Two choices of support structures are available: guyed 17 inch faced galvanized steel towers or our unique self-supporting articulating tower (SSAT) depicted in the above image. The SSAT towers can be erected in three minutes and are available in two different heights. All tower options allow this 2004 log-periodic antenna the ability to withstand a continuous wind load rating of 100 mph (160 km/h).

#### Rotator Unit

These antennas may be ordered with fixed bearing antenna mounting or can be supplied with a heavy duty electrical rotator unit. This optional 2500 Series Antenna Rotator Control unit is a microprocessor based system that provide the remotely controlled Master Control Unit (MCU) angular positioning information at great distances from the antenna tower base. These MCU's are capable of multiple antenna control.

#### Extended Frequency Capability

As an added option the 6.2 MHz version antenna is offered with its lowest operating frequency extended down to 2 MHz through use of a suitable Balun transformer and electrical loading.



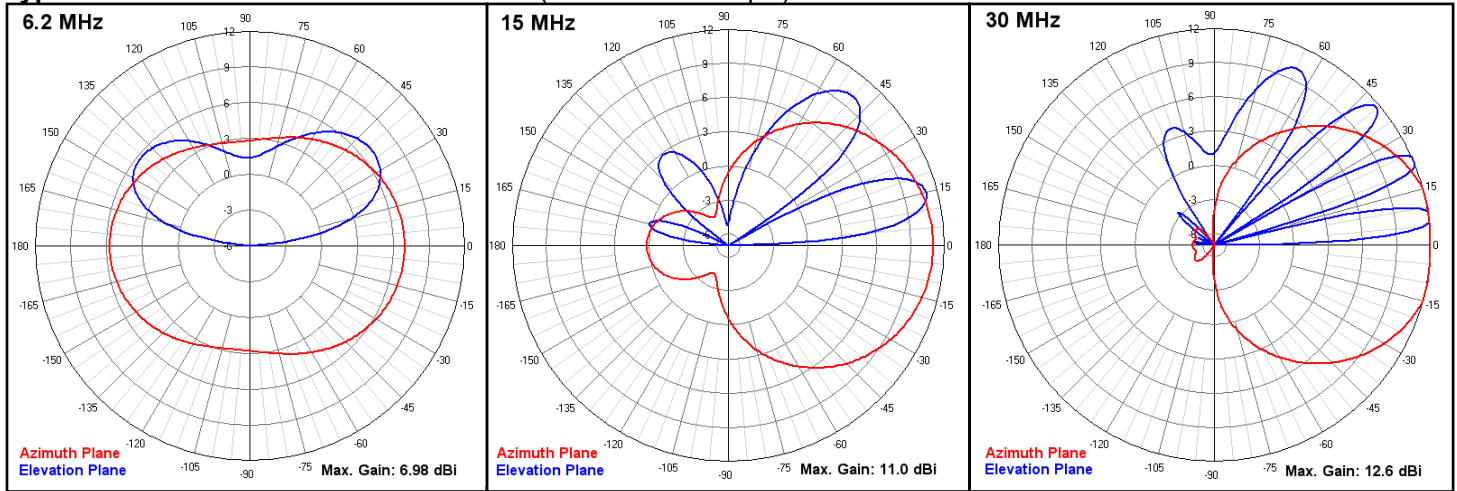
# 2004 Series Rotatable Log-Periodic Antennas

## Characteristics - 2004 Series Antenna

Polarization	Horizontal
Gain	See ordering information chart
Front-to-Back Ratio	12 dB nominal
Azimuth Beamwidth (at half power points)	70° nominal
VSWR	2.0:1 nominal
Wind & Ice Capabilities Survival Rating, mph (km/h)	
Without Ice	100 (160)
With 0.5 in (12 mm) Radial Ice	50 (80)
Rotation*	360°
Tower Height	Various Heights; see above chart
AC Power Required	115/230 VAC; 50/60 Hz, 2KVA

\* Available without rotator and control for fixed bearing application

## Typical 2004-24 Series Radiation Patterns (Relative to Isotropic)



## Ordering Information - 2004 Antenna Model

Type Number <sup>1</sup>	Frequency Range MHz	Power Rating kW Average Peak	Azimuth Beam Width	Input Connector	Gain	F/B Ratio	VSWR nom. <sup>2</sup>	Efficiency Percentage	Turning Radius ft (m)
2004-2	7.5-30	1 2	70°	50 ohm Type N Jack	8 dBi @ 7.5 MHz 12 dBi @ 30 MHz	12	2.0:1	98 (7.5-30 MHz) No Electrical Loading	22.8 (6.95)
2004-3	6.2-30	1 2	70°	50 ohm Type N Jack	7 dBi @ 6.2 MHz 12 dBi @ 30 MHz	12	2.0:1	98 (7.5-30 MHz) No Electrical Loading	28.5 (8.7)
2004-31	2.0-30	Receive Only	70° above 6 MHz	50 ohm Type N Jack	7 dBi @ 6.2 MHz 12 dBi @ 30 MHz	12	2.0:1	90-98 (6.2-30 MHz) 50 to 90 (5.4-6.2 MHz) 25 to 50 (4.4-5.4 MHz) 5 to 25 (2.0-4.4 MHz)	28.5 (8.7)
2004-32	2.0-30	1 2	70° above 6 MHz	50 ohm Type N Jack	7 dBi @ 6.2 MHz 12 dBi @ 30 MHz	12	2.0:1	90-98 (6.2-30 MHz) 50 to 90 (5.4-6.2 MHz) 25 to 50 (4.4-5.4 MHz) 5 to 25 (2.0-4.4 MHz)	28.5 (8.7)
2004-4	10.0-30	1 2	70° above 6 MHz	50 ohm Type N Jack	10 dBi @ 10 MHz 12 dBi @ 30 MHz	12	2.0:1	98 (10-30 MHz) No Electrical Loading	17.76 (5.4)

<sup>1</sup> Type number requires addition of mast option suffix from table below.

<sup>2</sup> VSWR depends upon the height of the array above ground and the influence of unknown adverse factors in built-up areas, such as roof-tops where the antennas may be installed.

## Mast Option Table - 2004 Antennas

Masts	Height <sup>3</sup> , ft (m)	Roof Mount	Ground Mount
Guyed 17" Face Steel Towers	23 (7.0)	-11	-21
	33 (10.0)	-12	-22
	43 (13.1)	-13	-23
	63 (19.2)	--	-24
	78 (23.8)	--	-25
Model 4000 SSAT (Self Supporting Articulated Tower)	23 (7.0)	-14	-26
	33 (10.0)	-15	-27

<sup>3</sup> Overall height includes triangular tower top.

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