



**Jagy1 Series**  
**FOLDED DIPOLE** VHF UHF  
**YAGI 7-Element**  
**144-148 MHz**



**Electromagnetics**  
*"Quality is everything."*

**JAGY-146-7-EM**

**"KA1RCI THUNDER BOOMER"**



**FedEx**  
**Shippable**

- Ham Radio
- Telemetry
- Land mobile networks
- Public security and safety
- Transportation networks



Electrical Specifications		Mechanical Specifications		Environmental	
Model	JAGY-146-7-EM	Model	JAGY-146-7-EM	Model	JAGY-146-7-EM
Frequency Range (MHz)	144 - 148	Length	inches (mm) 156 (3,962.4)	Survival Wind Velocity With no Ice	mph (km/h) 85 (136.85)*
Bandwidth @ 1.7:1 VSWR or Better (MHz)	4	Width	inches (mm) 5.5 (139.7)	Survival Wind Velocity With Ice	mph (km/h) 70 (112.7)*
Polarization	Vertical or Horizontal	Height	inches (mm) 41 (1,041.4)	Maximum Allowable Radial Ice Buildup	inches (mm) 0.5 (12.7)*
Radiation Pattern	Directional	Weight	lb (kg) 15 (6.75)	Equivalent Flat Plate Area	ft^2 (m^2) 2.9 (0.27)*
Nominal Gain (dBd)	9.5 - 10	Yagi Support Boom Outside Diameter Inches (mm)	1.9 (48.26)	Lateral thrust (85mph) 0 Radial Ice Buildup	lbs (N) 85 (378.1)*
Nominal Horizontal 3dB Beamwidth (Deg)	50 - 60	Yagi Support Boom Allowable Clamping Space Inches (mm)	36 (914.4) <small>*See JAGY1 Series application notes for additional details</small>	Torsional moment (85mph) 0 Radial Ice Buildup	ft-lbs (Nm) 460 (622.5)*
Nominal Vertical 3dB Beamwidth (Deg)	38 - 48	Mounting Information	No clamp supplied*	Bending moment (85mph) 0 Radial Ice Buildup	ft-lbs (Nm) 366 (494.2)*
Front to Back Ratio (dB)	18 - 20	<small>*See JAG clamps page for suitable clamps</small>			
Maximum Average Power (Watts)	200	Pigtail (ft) & RF Connector	2 - 2.5 & 'N' male		
Lightning Protection	DC Ground				

JAGY-146-7-EM Product Specification Sheet.

Specifications are subject to change without notice. As a result, all information contained in the present datasheet is subject to confirmation at time of ordering.

Dated: February-12-2011

Issue: 1

Made in Canada

Rev021311.14

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JAG's dedication to continuous Research & Development will result in product improvements as they evolve.



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**JAGY-146-7-EM**

**Features**

- 2-year factory warranty (See page 3)
- Broadband (4 MHz)
- Suitable for multi-frequency systems
- Soldered internal joints
- Segmented for easy transport and installation
- DC Grounded
- Stainless steel hardware
- Easy storage (when disassembled)
- Operation in harsh environments
- Optional mounting accessories available\*
- Natural rubber plugs
- Side or tower top mountable
- Optional coatings such as black powder coat or anodized
- Horizontal or vertical polarization (horizontal polarization requires HPM kit from JAG)

**Description**

The JAGY-146-7-EM aka "The KA1RCI Thunder Boomer" yagi antenna has been developed to meet the needs of amateur radio operators who require a high gain, broadband, premium quality directional antenna providing 9.5 - 10 dBd of gain with a low VSWR across the entire 144-148 MHz frequency band.

Up until 2010, JAG Electromagnetics only made VHF yagis with up to 6-elements. However, in late 2010, KA1RCI required a rugged yagi with 7-elements in order to squeeze out as much forward gain as possible; hence, the "Thunder Boomer", which KA1RCI affectionately named.

The JAGY-146-7-EM antenna consists of a seven-element yagi of exceptional durability and performance. All elements including the driven folded dipole element are maintained at DC Ground potential for lightning protection.

The JAGY-146-7-EM antenna is suitable for mounting on the top or side of a tower or pole. No mounting hardware is supplied with this antenna as site specific mounting hardware is necessary with the Thunder Boomer to assure optimum performance. This Yagi can be installed in either a vertically or horizontally polarized orientation. A special JAG HMK kit is required when mounting for horizontal polarization.

**JAGY-146-7-EM "Thunder Boomer" at a glance**



Antenna arrives



Unpacked and ready for assembly



"Thunder Boomer" fully assembled



Installation

\*Site-specific mounting masts and clamps are recommended for the Thunder Boomer. Please consult JAG to determine suitable accessories for your application.

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# JAG<sup>TM</sup>

Jagy1 Series

FOLDED DIPOLE VHF UHF

YAGI 7-Element

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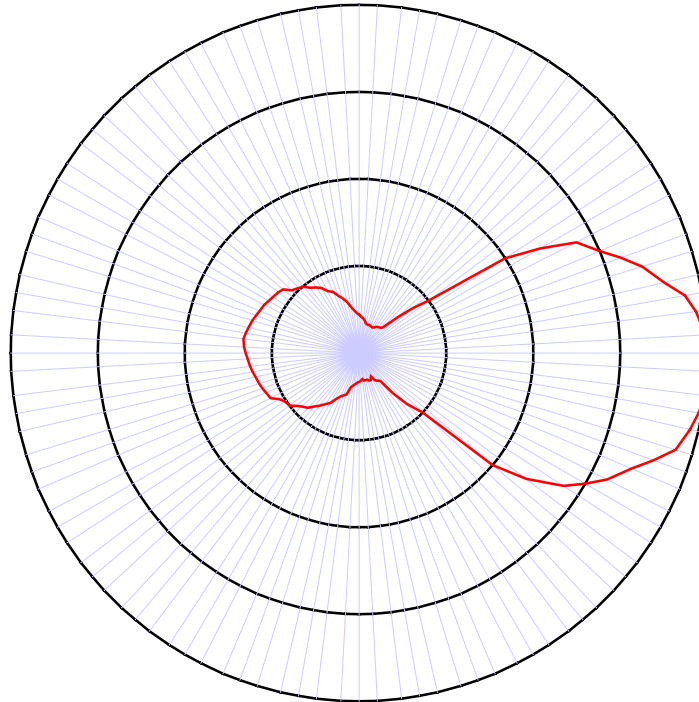


## Electromagnetics

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### JAGY-146-7-EM

#### Vertical Radiation Pattern For Vertical Polarization



Elevation

\* This is a general representation of the Jagy1 Series JAGY-146-7-EM "KA1RCI Thunder Boomer" antenna radiation pattern. For the latest detailed pattern contact JAG Applications Engineering.

### WARRANTY

JAG Electromagnetics warrants all its products against defects in material or workmanship and is only applicable if failure results from these factors within two years from the purchase date by the user. Jag Electromagnetics will be responsible for the supply, at no charge, of new or rebuilt replacements in exchange for defective parts for the duration of the warranty. This warranty does not extend to any JAG products that have been subject to misuse, neglect, accident, improper installation or application. In addition, this warranty does not extend to products that have been repaired or substantially altered outside our manufacturing plant.

JAG Electromagnetics will not be liable for any incidental or consequential damages due to failure of a JAG product under this warranty or any implied warranty. JAG is in no event liable for consequential damages or other costs of any kind as a result of the use of the products manufactured by JAG. No envoy is sanctioned to presume for JAG any other legal responsibility in connection with JAG products. JAG Electromagnetics is not accountable for replacement of any product damaged by lightning.

JAGY-146-7-EM Product Specification Sheet.

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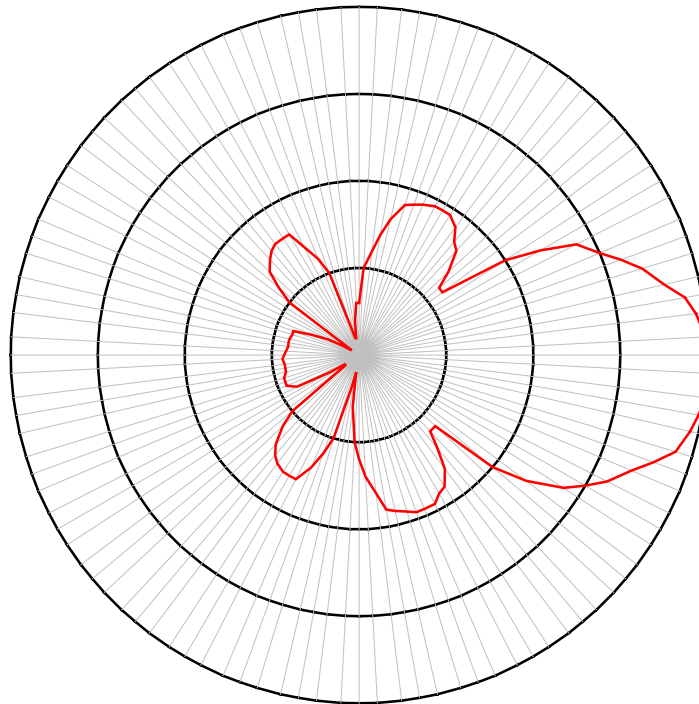


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**JAGY-146-7-EM**

**Horizontal Radiation Pattern For Vertical Polarization**



**Azimuth**

\* This is a general representation of the Jagy1 Series JAGY-146-7-EM "KA1RCI Thunder Boomer" antenna radiation pattern. For the latest detailed pattern contact JAG Applications Engineering.

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