JAG™ Electromagnetics

"Quality is everything."

Delta0 Series
EXPOSED FOLDED DIPOLE 2-Bay Array
800 MHz
900 MHz
806-870 MHz

JAG-850-2-EX

- Civil aviation applications
- Land mobile networks
- Public security and safety
- Transportation networks

Electrical Specifications

Model JAG-850-2-EX	**Value depends on λ spacing and dipole orientations
Frequency Range (MHz)	806 – 870
Bandwidth @ 1.5:1 VSWR or Better (MHz)	64
Polarization	Vertical
Radiation Pattern	Adjustable (See pages 2 & 3)**
Nominal Gain (dBd)	3 – 4.2 (Depending on spacing)**
Nominal Horizontal 3dB Beamwidth (Deg)	205 – 215
Nominal Vertical 3dB Beamwidth (Deg)	33 – 35
Maximum Average Power (Watts)	150
Lightning Protection	DC Ground

Mechanical Specifications

Model JAG-850-2-EX		***Based on if dipoles mounted on 10-foot 2-inch AL mast pipe
Height	inches (mm)***	120 (3,048)
Width	inches (mm)***	13 (330.2)
Depth	inches (mm)***	2 (50.8)
Weight	lb (kg) *Value based on supplied antenna without AL mast	5 (2.25)*
Support Mast Outside Diameter *(See JAG pipes page for suitable masts)	*See JAG Delta0 Series application notes for details	No mast supplied*
Support Mast Allowable Clamping Space	*See JAG Delta0 Series application notes for details	
Inches (mm)		N/A*
Mounting Information		2 dipole clamps supplied
Pigtail (ft) & RF Connector		1 – 1.5 & 'N' Male

Note: See JAG antenna options page for other connectors and pigtail lengths.

Environmental

Model JAG-850-2-EX		
Survival Wind Velocity With no Ice	mph (km/h)	175 (282)* *Values based on 10-foot 2-inch O.D. AL mast & ½λ spacing
Survival Wind Velocity With Ice	mph (km/h)	110 (177)* *Values based on 10-foot 2-inch O.D. AL mast & ½λ spacing
Maximum Allowable Radial Ice Buildup	inches (mm)	0.5 (12.7)* *Values based on 10-foot 2-inch O.D. AL mast & ½λ spacing
Equivalent Flat Plate Area	ft^2 (m^2)	0.96 (0.09)* *Values based on 10-foot 2-inch O.D. AL mast & ½λ spacing
Lateral thrust (100mph) 0 Radial Ice Buildup	lbs (N)	38.5 (171.3)* *Values based on 10-foot 2-inch O.D. AL mast & ½λ spacing
Torsional moment (100mph) 0 Radial Ice Buildup	ft-lbs (Nm)	11 (14.9)* *Values based on 10-foot 2-inch O.D. AL mast & ½λ spacing
Bending moment (100mph) 0 Radial Ice Buildup	ft-lbs (Nm)	66.2 (89.4)* *Values based on 10-foot 2-inch O.D. AL mast & ½λ spacing

JAG-850-2-EX Product Specification Sheet.

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JAG-850-2-EX

Features

- 2-year factory warranty (See page 3)
- Broadband (64 MHz)
- Suitable for multi-frequency systems
- Soldered internal joints
- Small for easy transport and installation
- Field adjustable pattern and gain
- DC Grounded
- Stainless steel hardware
- Easy storage
- Operation in harsh environments
- Optional mast pipe can be supplied*
- Natural rubber plugs
- Side or tower top mountable
- Optional coatings such as black paint
- Ideal for mobile command vehicles
- Ideal for rented or temporary repeaters

FedEx UPS **Shippable**

Description

The JAG-850-2-EX is a 2-bay version of the JAG-850-1-EX. Its unique high efficiency wide bandwidth design allows it to cover the entire 806-870 MHz frequency span with a VSWR of 1.5:1 or better. Because of its bandwidth and very low intermodulation response, the JAG-850-2-EX is useful in a wide range of functions ranging from trunking, cellular, government, transit, telemetry/SCADA, and endless other applications.

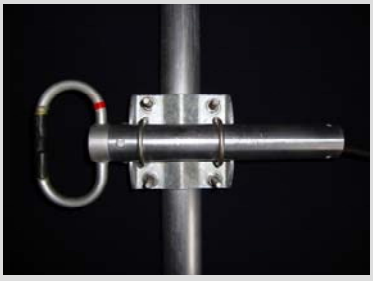
The JAG-850-2-EX as well as the rest of the multi-bay arrays that are based on it feature 6061-T6 aluminum and stainless steel construction. Features such as high quality coax, soldered and welded joints as well as minimized dissimilar metal contacts ensure trouble free operation.

This series (Delta0) is based on an external harness design, which allows easy field adjustment of gain and radiation pattern. The external harness design also offers flexibility in mounting scenarios from tower legs to various pipe sizes. The absence of bulky masts, make Delta0 series easy to transport, install, and ship. Shipping costs are much cheaper for Delta0 series antennas.

Rugged construction, lightweight, and ease of installation, make the JAG-850-2-EX ideal for leased or rented system use. Its bandwidth also makes it perfect to stock for re-use or re-sale.

JAG-850-2-EX at a glance

Note: Only one of the dipoles out of the 2 bays is shown here for illustration purposes.
Gain values below represent complete antenna (not a single dipole).



¼ - wave spacing
(3.5 – 4.2 dBd gain)
(Offset pattern)

½ - wave spacing
(3 – 3.7 dBd gain)
(Bi-directional / Elliptical pattern)

Heavy-duty galvanized clamp w/S.S. hardware

Natural rubber plugs

*Site-specific mounting masts and clamps are recommended for Delta0 Series antennas. Please consult JAG to determine suitable accessories for your application.

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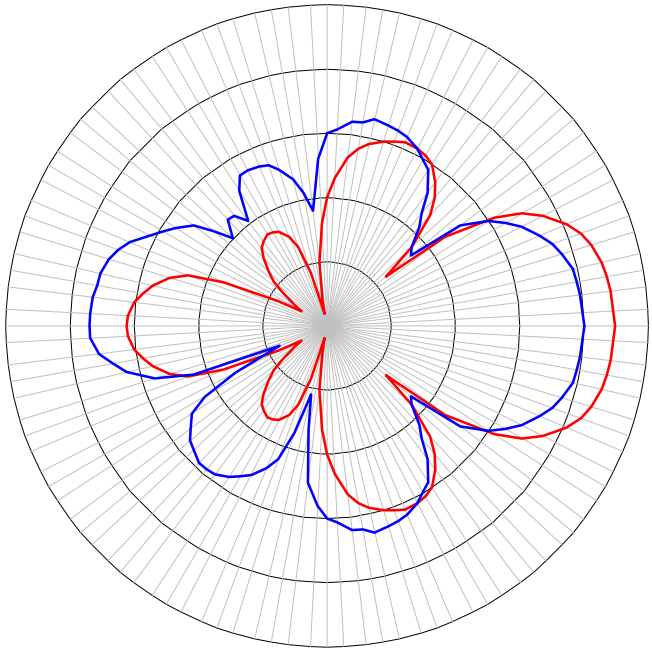
Vertical Radiation Pattern For Vertical Polarization



Quarter Wave Spacing — Half Wave Spacing

Elevation

* This is a general representation of the Delta0 Series JAG-850-2-EX antenna radiation pattern. For the latest detailed pattern contact JAG Applications Engineering.

WARRANTY

JAG Electronmagnetics 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.

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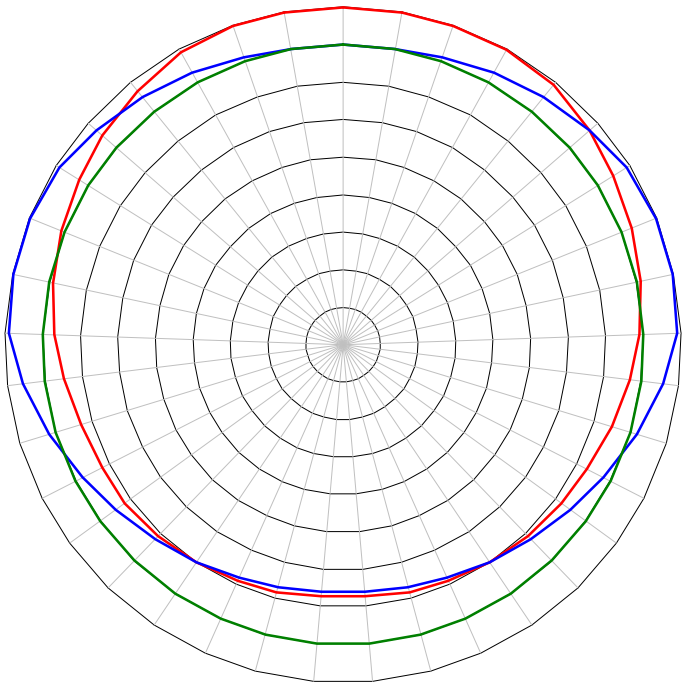
Horizontal Pattern For Vertical Polarization



*Note:
1/4λ Gain ≅ 4.2 dBd
1/2λ Gain ≅ 3.7 dBd
Omni Gain ≅ 2.25 dBd

Azimuth — Quarter Wave Spacing — Half Wave Spacing — Omnidirectional

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