

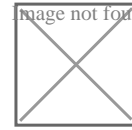


**828HP-4DA**

FM Sidemount Antenna

828HPDA Series

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The 828DA series of FM side mount antennas are designed for FM broadcasting applications which require circular polarization and low wind loads.

These Band II antennas have a nominal gain of -1dBd per plane of polarization and are fitted with a horizontal reflecting element to provide some improvement in the directionality of the horizontal radiation pattern.

The stainless steel design ensures that the antenna will give years of trouble free performance in the most hostile environments. The higher power series are pressurized to add further environmental protection.

Elements will tolerate a degree of light icing but for more severe environments, radomes are available. Contact RFS for details.

All 828DA series antennas can be arrayed in any number of levels to suit most applications. The parallel feed system facilitates the customization of null fill and beam tilt to suit customer requirements.

The standard 828DA antenna series is for high power applications; for medium power select the 828MPDA series.

Both series have 3 models designed for bandwidth of 10MHz. Additional factory tuning is available to achieve superior return loss specifications.

A wideband series of the 828DA antenna, the 828HPDA covers the entire FM band from 88 to 108MHz and utilizes half wavelength spacing. The 828HPDA series antennas are high power arrays.

The wide variety of possible configurations ensures that this antenna range meets the needs of most users on both price and performance.

**FEATURES / BENEFITS**

- Directional horizontal radiation pattern
- Low downward radiation
- Rugged stainless steel construction for maximum corrosion protection
- Various power ratings available
- Mixed polarization
- Broadband operation to facilitate antenna sharing
- 828DA and 828HPDA models pressurized
- 828MPDA series designed specifically for un-pressurized operation
- Optional optimal array tuning
- Low windload to minimize tower or mast costs
- Radomes are an available option for all 828DA series
- Temperature range -40 to +60 degrees C available.

**Technical features**

**STRUCTURE**

<b>Product Line</b>		Antenna TV
<b>Product Type</b>		Band II (VHF) 828HP-4DA FM Sidemount Antennas

**ELECTRICAL SPECIFICATIONS**

<b>Frequency Range</b>	MHz	88 - 108
<b>Operating Frequency Ranges</b>	MHz	88 - 108
<b>Polarization</b>		Circular
<b>Gain per Plane of Polarization</b>	dBd	4.16
<b>Return Loss</b>	dB	20 Note 1
<b>Power Rating</b>	kW	20
<b>Input/Power Rating Comment</b>		Power ratings are for single input models. Dual input cavity versions can provide higher power ratings. Contact RFS for details. Connector types and impedance may be varied to suit customer requirements, contact RFS for details.
<b>Impedance (unbalanced)</b>	Ω	50

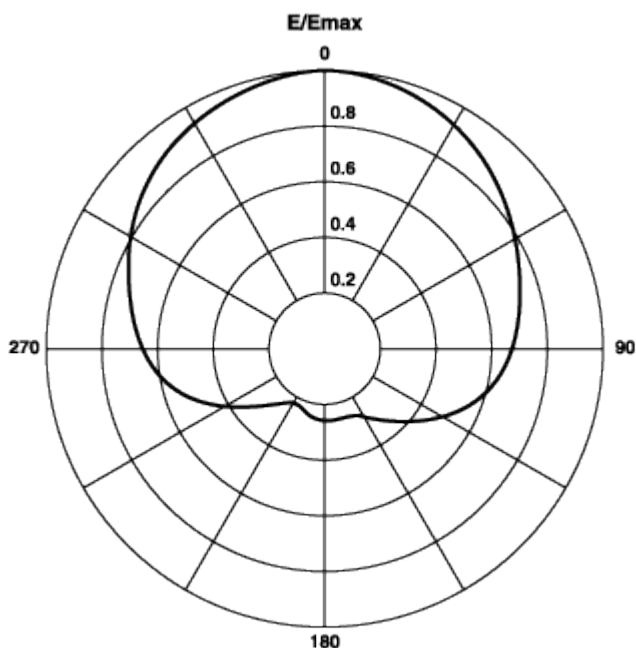


**MECHANICAL SPECIFICATIONS**

Number of Levels		4
Input Connector		Single element 7/8" EIA Array 7/8"EIA 1-5/8" EIA 3-1/8" EIA 4-1/2" EIA
Mounting (Standard)	mm (in)	Brackets for 60mm (2-3/8") pole mount
Effective Area Front (full antenna) No Ice	m <sup>2</sup> (ft <sup>2</sup> )	0.06 (0.65) Single Bay
Effective Area Front (full antenna) with 12.5mm(0.5") Radial Ice	m <sup>2</sup> (ft <sup>2</sup> )	0.06 (0.65) Single Bay
Effective Area Side (full antenna) No Ice	m <sup>2</sup> (ft <sup>2</sup> )	0.25 (2.35) Single Bay
Effective Area Side (full antenna) 12.5mm (0.5") Radial Ice	m <sup>2</sup> (ft <sup>2</sup> )	0.25 (2.35) Single Bay
Pressurization Operational	kPa (psi)	10 - 25 (1.5 - 3.6)
Pressurization Test	kPa (psi)	100 (15)
Weight	kg (lb)	14.5 (32) Single Bay

**PACKAGING INFORMATION**

Shipping Weight, Kg (lb)	kg (lb)	14.5 ( )
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Horizontal Radiation Pattern for Combined Horizontal and Vertical Polarisation

**External Document Links**

**Notes**

**Note 1** Arrays are factory tuned for a broadband performance and a return loss of 20dB across the specified bandwidth is achieved. Optional factory tuning for optimum narrow band performance will achieve a 30dB return loss over +/- 1MHz from the specified frequency. Arrays may be supplied un-tuned with a



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resulting return loss of 14dB.

**Note 2** Array power ratings are limited by the radiator and power divider input connectors used. Typical limits are : 7-16 DIN 3.5kW, 7/8" EIA 5kW, 1-5/8" EIA 10kW and 3-1/8" EIA 40kW.

**Note 3** Mechanical specifications: For 828MPDA and 828DA the single bay Effective Area Front is 0.05 sq m (0.54 sq ft), Effective Area Side is 0.19 sq m (2.04 sq ft). For 828HPDA, single bay Effective Area Front is 0.06 sq m (0.65 sq ft), Effective Area Side is 0.25 sq m (2.35 sq ft).