



The RD Series of wideband UHF antennas are lightweight in design, yet rugged in approach. They solve the critical question of using a single UHF antenna for multi-channel Analog and DTV Broadcasting.

Utilizing slot cavity geometry, the RD series antenna, is capable of wideband, low VSWR transmission for up to 120 MHz depending on the selected cavity group and radiation pattern. This capability makes it possible for stations to utilize a single antenna for Analogue and DTV channel allocation and relocation assignments which fall within 120 MHz of each other. Cavities are segmented into four groups. The bandwidth of B, G, H and OM pattern versions is limited to 20MHz within the selected cavity group. A and SK pattern antennas may have a bandwidth up to 120MHz depending on the selected cavity group.

A unique, one-piece aluminium extrusion integrates the antenna cavity and tower mounting backstructure, providing each four bay section with greater strength and power handling. Considering the requirements of tomorrow's broadcasting needs, the RD Series antenna combined with HELIFLEX transmission line, provides an alternative systems solution to heavy, stacked, slotted antennas and panel array antennas, minimizing tower load and maximizing tower space.

The RD antenna can also be used in various stacked arrangements especially in situations where adjacent channel combining may not be desired. By stacking an RD antenna either atop a panel antenna or another RD, increased channel capacity is obtained without pattern degradation as occurs in some other systems where an external feed is used to the top antenna.

**FEATURES / BENEFITS**

- Multichannel operation
- Wide bandwidth/ Low VSWR
- Power rating up to 160kW Average
- Top or Side mount
- Light weight/ Low wind load
- Single or Dual input
- Customized Vertical Pattern
- Multi pattern capacity.



**Technical features**

**STRUCTURE**

<b>Product Line</b>		Antenna TV
<b>Product Type</b>		Band IV/V (UHF) TV Slot Antennas

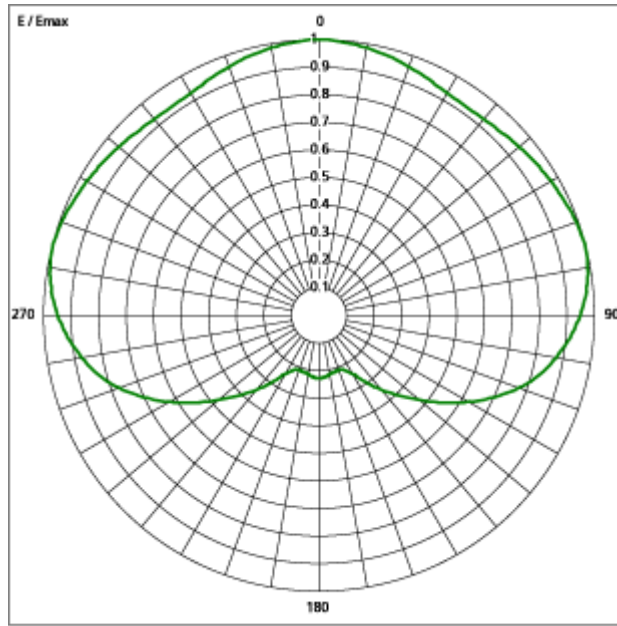


**ELECTRICAL SPECIFICATIONS**

<b>Frequency Range</b>	MHz	488 - 608
<b>Polarization</b>		Horizontal
<b>Nominal Gain (Mid-band)</b>	dBd	A 12.2 B 13.9 G/H 14.7 OM 12.2 SK 13.3
<b>Max. Bandwidth</b>	MHz	120
<b>Bandwith Comment</b>		Antenna Bandwidth. For B,G,H and OM pattern antennas the Bandwidth is restricted to 20MHz within the selected cavity group. For A and SK pattern antennas the Bandwidth may be up to 120MHz depending on the selected cavity group. For further details contact RFS.
<b>Azimuth Radiation Pattern</b>		A, B, G, H, OM, SK, Other Patterns on request.
<b>Power Rating</b>	kW	4 Ave 8 Ave 20 Ave
<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>	$\Omega$	50

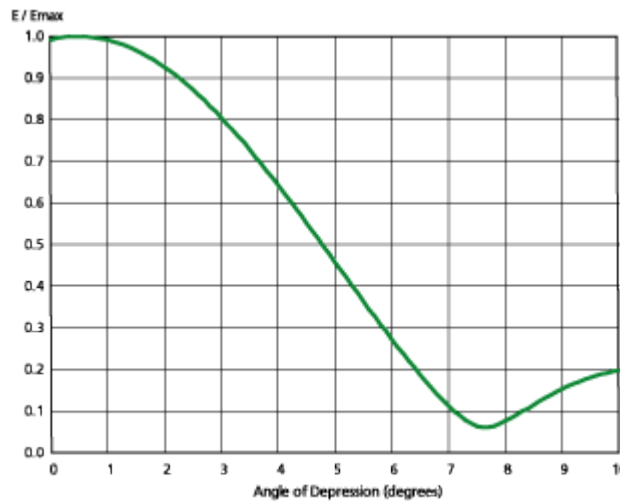
**MECHANICAL SPECIFICATIONS**

<b>Number of Levels</b>		2
<b>Number of Channels</b>		Multichannel
<b>Number of Elements / Bays</b>		8
<b>Input Connector</b>		1-5/8" EIA 3-1/8" EIA 4-1/2" IEC
<b>Dimensions (Height or Length)</b>	cm (in)	Top mount 448 (176.4)      Side mount 439 (172.8)
<b>Effective Area Front (full antenna) No Ice</b>	m <sup>2</sup> (ft <sup>2</sup> )	Top mount 2.60 (28.0) Side mount 2.02 (21.7)
<b>Effective Area Front (full antenna) with 12.5mm(0.5") Radial Ice</b>	m <sup>2</sup> (ft <sup>2</sup> )	Top mount 2.60 (28.0) Side mount 2.02 (21.7)
<b>Weight</b>	kg (lb)	Top mount 409.1 (900) Side mount 235.5 (518)



Pattern A Horizontal

Pattern A Horizontal Gain 1.7 (2.3 dB)



Elevation Pattern - 8 Bay

Elevation Pattern 8 Bay Vertical Directivity 9.77 (9.90 dBd) Beam Tilt (deg) 0.5

[External Document Links](#)  
[RDSeries\\_patterns.pdf](#)

**Notes**

**Note 1 Azimuth Radiation Patterns.**

The RD series is available in several radiation pattern options. Pattern A - Broad cardioid Pattern B - Medium cardioid Pattern G/H - Peanut/Skewed Peanut Pattern OM - Offset Omnidirectional Pattern SK skull shaped. For information relating to the various patterns contact RFS. Pattern A is shown below.

**Note 2 Power ratings**

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.

**Note 3 Mechanical data**

Quoted weights and dimensions are for Pattern A high power



versions. For full mechanical data contact RFS.

Structural design to TIA/EIA-222-f code with 136km/h (85mph) basic windspeed. For use in areas with basic windspeed greater than 136km/h (85mph) contact RFS.

**Note 4 Antenna Bandwidth**

For B,G,H and OM pattern antennas the Bandwidth is restricted to 20MHz within the selected cavity group. For A and SK pattern antennas the Bandwidth may be up to 120MHz depending on the selected cavity group. For further details contact RFS.