



UHF Wideband Antennas RD Series

Product Description

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 Specifications

| | |
|---|---|
| Product Line | Antenna TV |
| Product Type | Band IV/V (UHF) TV Slot Antennas |
| Frequency Range, MHz | 578 - 704 |
| Polarization | Horizontal |
| Number of Levels | 4 |
| Number of Channels | Multichannel |
| Number of Elements / Bays | 16 |
| Nominal Gain (Mid-band), dBd | A 14.7;B 16.4;G/H 17.3;OM 14.8;SK 15.9 |
| Bandwidth, MHz | Up to 120 Note# 4 |
| Azimuth Radiation Pattern | A, B, G, H, OM, SK, Other Patterns on request. |
| Input Connector | Lo Pwr 3-1/8" EIA; Med Pwr 3-1/8" EIA; Hi Pwr 6-1/8" EIA Note#2 |
| Power Rating, kW | Lo Pwr 8 Ave; Med Pwr 16 Ave; Hi Pwr 40 Ave Note#2 |
| Impedance, ohms | 50 unbalanced |
| Weight, kg (lb) | Top mount 854.5 (1880);Side mount 405.5 (892) |
| Dimensions (Height or Length), cm (in) | Top mount 771 (303.6);Side mount 760 (300.0) |
| Effective Area Front (full antenna), sq m (sq ft) | Top mount 4.18 (45.0);Side mount 3.20 (34.4) |

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

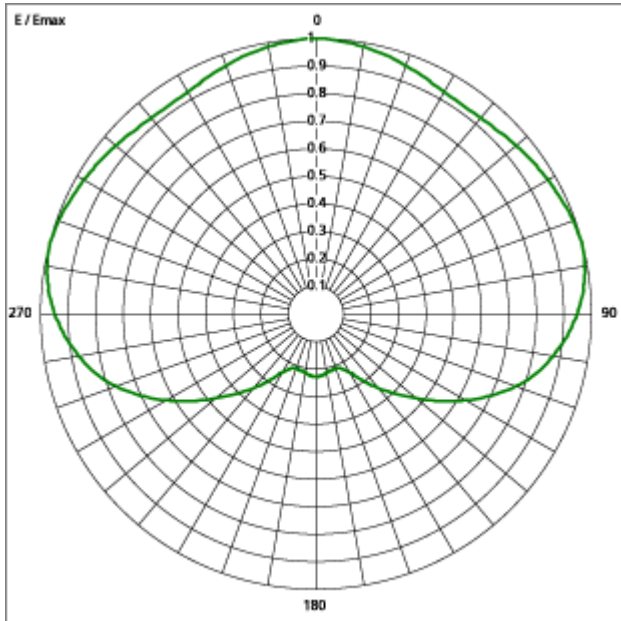
For B,G,H and OM pattern antennas the Bandwidth is restricted to 20MHz within the selected cavity group. For A and SK pattern antennas the Bandwidth may be up to 120MHz depending on the selected cavity group. For further details contact RFS.

Other Documentation

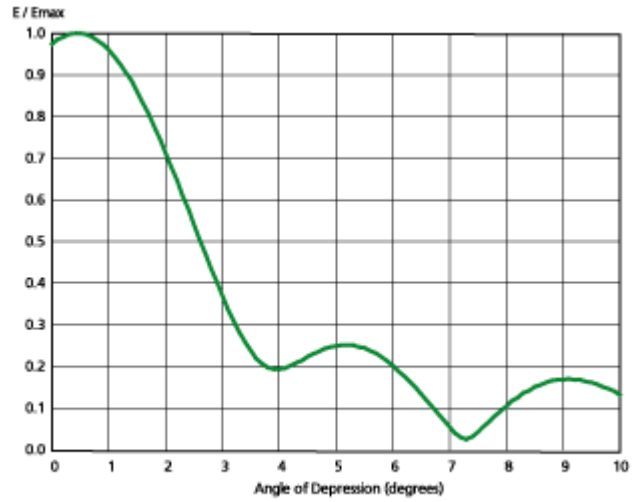


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[RDSeries_patterns.pdf](#)



Pattern A Horizontal



Elevation Pattern - 16 Bay

All information contained in the present datasheet is subject to confirmation at time of ordering