

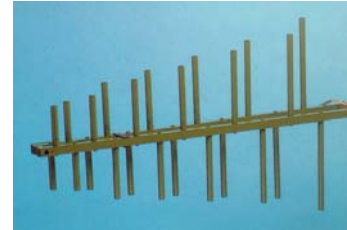
Radio Relay (Wide Area Systems) Antenna Overview

Type - See Table

Racal Antennas has expanded its range of radio relay (wide area systems) antennas covering the main band 1, 3+ and 4 frequency bands. All antenna are rugged in construction, quick and easy to assemble and ideal for tactical use in the most severe environmental conditions.

Band 1 - Log Periodic - 225-450MHz

The 999 log periodic array has been designed for a range of applications including tactical surveillance, monitoring, electronic countermeasures and point to point communications. Rugged in construction it is quick and easy to assemble and ideal for tactical use where severe environmental conditions may exist. Vertical or horizontal modes of operation can be chosen and very similar radiation patterns are produced in both orientations. Mechanical fittings are of stainless steel construction and the boom section insulators are manufactured from glass-reinforced polyester.



Band 1 Log Periodic

Band 1 - Corner Reflector - 225-450MHz

The 1607 corner reflector antenna is suitable for tactical deployment operating over 225 to 400 MHz frequency band (Band 1). In addition to its outstanding electrical performance, its main features are its lightweight rugged design, ease of use and low wind drag. The design is based on a corner reflector with a fully welded lightweight aluminium reflector and a dipole feed assembly. The antenna is linearly polarised, with two mounting spigots at the rear provided for either horizontal or vertical polarisation. For ease of transportation each reflector can be folded into a flat position, which also protects the feed. For ease of transportation and stowage a bi-fold reflector version is also available to further reduce the size of the collapsed antenna.



Band 1 Corner Reflector

Band 3+ - Gridded Dish - 1350-2690MHz

The 1604 gridded dish antenna is suitable for tactical deployment operating in the 1350 to 2690 MHz band (Band 3+) utilising a single feed. In addition to its outstanding electrical performance, its main features are lightweight rugged design, ease of use and low wind drag. The design is based on a front-fed gridded parabola, including a proprietary wide band feed within a sealed unit. For ease of transportation and stowage the feed may be readily removed from the reflector. A split reflector version is also available to further reduce the stowed size. The gridded reflector is of welded aluminium construction with two 40mm mounting sockets to enable rapid mast mounting and polarisation alignment.



Band 3+ Gridded Dish

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Radio Relay (Wide Area Network) Antenna Overview

Type - See Table

Band 4 - Solid Dish - 4.4-5.0MHz (5.725-5.850MHz)

The 1623 dish antenna has been designed for point-to-point radio relay communications in the 4.4-5.5 GHz band (Band 4) and 5.725-5.850MHz ISM band. It maintains excellent performance over the full frequency range with a front to back ratio of better than 25dB and excellent sidelobe control. Polarisation is achieved by mounting the antenna using one of two 40mm sockets on the rear of the antenna. It's robust, lightweight design is ideally suited to harsh military environments.

Telescopic Support Masts

Racal Antennas manufactures a wide range of telescopic support masts suitable for deploying radio relay antennas in the field. Manufactured from either aluminium or composite materials, they can be rapidly deployed with heights available up to 50 metres. Once erected, masts can still be rotated by 360 degrees and locked in position to enable antenna pointing. Racal Antennas also manufactures a wide range of headload accessories to meet the need for reliable and flexible communications. Antenna rotators, tilters and polarizers are used to enable accurate antenna alignment, controlled via manoeuvring ropes at ground level. Optional motorised versions are available where remote operation is required. Cross booms enable multiple headloads to be installed on the same mast and, if combined with rotators and tilters will enable independent alignment of each antenna.



Band 4 Dish



Band 4 antenna mounted on telescopic support mast with rotator/tilter

Model	999	1607	1604	1623
Frequency Range	225-400MHz	225-400MHz	1350-2690MHz	4.4-5.0MHz
Gain	6-8dBi	9.2 dBi (min)	>26 dBi @ 2690 MHz	27.7dBi
VSWR	2:1 max	2:1 max	2:1 max	1.5:1 max
Polarisation	Horizontal or Vertical	Horizontal or Vertical	Horizontal or Vertical	Horizontal or Vertical
Input Impedance	50 Ω	50 Ω	50 Ω	50 Ω
Front to Back Ratio	>15dB	>20dB	>25dB	>35dB
Power Handling	50W	50W	50W	20W
Input Connector	N Type Socket	N Type or Spinner 4-11 Socket	N type or Spinner 4-11 Socket	N Type Female
Dimensions	1300 x 650mm	1475 x 820 x 580mm	1320 x 1180 x 270mm	800 x 350mm
Weight (approx)	3kg	8kg	11kg	7.3kg

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