

SPECIFICATION SHEET

GROUND BASED ANTENNA, OMNI-DIRECTIONAL MODEL dBs 5000

dBs PART NUMBER 500030-100



The dBs 5000 is an omni-directional broadband, 10 element, high performance, collinear dipole phased array designed specifically for use as a 5 GHz ground uplink antenna. It exhibits low side lobe levels and negative angle radiation (minimizes multipath). The above-the-horizon null-filled pattern minimizes the radiated cone of silence. The antenna handles input power to 10 watts and operates over its entire frequency range with an input VSWR at 50 Ω of less than 2.0:1.

This antenna provides vertically polarized, omni-directional coverage with the main beam of radiation tilted upward to minimize the effects of ground reflections.

The array is enclosed and effectively weatherproofed within a 6.25" O.D. filament wound fiberglass radome for prolonged trouble-free use under severe environmental conditions. Mounting is made by means of a built-in pipe adapter that accepts a 3" O.D. mounting pipe. The RF input/output port is a Type N receptacle.

Obstruction light power is fed through the array and a provision is made for mounting an obstruction light and/or lightning arrestor at the top of the array. Lightning rod kit, obstruction light, and plate adapter are available option items.

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SPECIFICATIONS/CHARACTERISTICS

TYPE: Omni-directional, phased array

CIRCULARITY: Omni-directional ± 2 dB

FREQUENCY RANGE: 5030 through 5091 MHz
(no adjustments or tuning required)

ARRAY: 10 active dipole radiator assemblies

POLARIZATION: Vertically Polarized

GAIN, MAIN BEAM: 9 dB/iso, minimum

GAIN, HORIZON: 7 dB/iso, minimum

MAIN BEAM ELEVATION LOCATION: Between
 $3^{\circ} \pm 1^{\circ}$ above horizon

SLOPE (VICINITY OF HORIZON): 1 dB/ $^{\circ}$ min

POWER HANDLING CAPABILITY: Up to at least
10 Watts

IMPEDANCE: 50 Ω nominal

VSWR: Not greater than 2.0:1 (5030-5091 MHz)
measured at end of low loss cable not exceeding 5
feet in length.

VERTICAL FIELD PATTERN:

SIZE: 34" long, 10 radiator assemblies (driven
elements) plus RF choke assemblies at each end, 6
1/8" O.D. radome. Has top cap and base with
mounting fixture.

WEIGHT: 18 lbs. (excluding obstruction light,
lightning rod assembly, and mounting fixtures)

PHYSICAL DESIGN: A metal tube, 0.75" O.D. x
0.712" I.D. (0.038" wall thickness) runs through
center of antenna for full length. RF transmission
lines are located within this tube. Tube also used as
lightning down conductor.

WEATHER PROOFING:

ENVIRONMENTAL:

ANTENNA MOUNTING: The configuration of the
antenna base is such that the antenna can be
mounted directly to a 3" O.D. nominal pipe.

WIND LOADING: 100 mph

TEMPERATURE: -50° C to $+70^{\circ}$ C

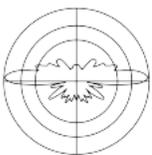
HUMIDITY: Up to 100%

MONITOR PORTS: N/A

CONNECTORS RF: Type N Female Jack, 1 each

OPTIONAL ITEMS:

- **OBSTRUCTION LIGHT:** Optional, red
dual lamp obstruction light fixture with two
red globe covers. Connector is MS-
3112E8-3P
- **LIGHTNING ROD ASSEMBLY:** Optional, air
terminal and bracket, powder coat painted
white, aluminum (P/N 510625-100: Rod 18" L
x 0.5" Dia @ 6 oz. Bracket 4.5" L x 2.5" W x
0.75" H @ 1 lb.)



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