

UltraScan DR II

2, 7, and 13 GHz Central Receive Antenna

Applications

- Steerable Central Receive Antenna

Features

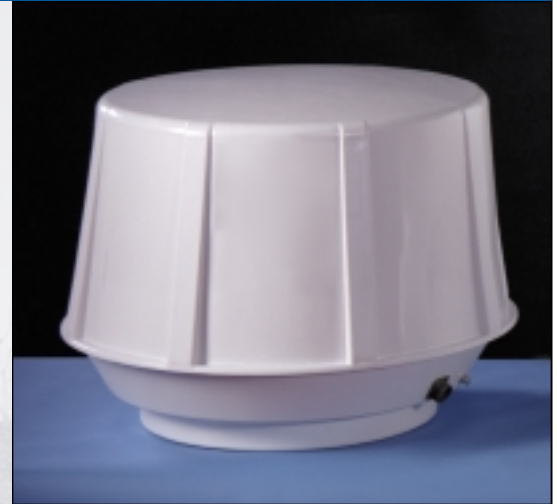
- All solid state switching: no RF electro-mechanical switches
- New, improved low noise amplifier and filter integrated into feed for PCS interference protection
- New LNB design offers low noise figure, high dynamic range and third order intercept point
- New, improved lower noise block downconverter (used with 7 & 13 GHz systems)
- Low noise amplifier and filter integrated into feed
- Low profile
- Lightweight
- Broadband design:
 - Wideband, 2/2.5 GHz
 - Optional dualband, 2/7 GHz
 - Optional triband 2/7/13 GHz
- Right circular, left circular, horizontal, and vertical polarization

Rotator

- Ruggedized rotating mechanism
- Dual speed
- Easily removed top radome for ease of access
- Build-in surge suppression
- All external metal parts are aluminum with stainless steel hardware

LNA/Block Downconverter

- 26 dB gain LNA
- 6.4/7 and 13 GHz block downconverter (used with dual-band and triband systems)



Overview

The MRC UltraScan is a ruggedized offset fed antenna enclosed in a low profile radome that minimizes space needs and wind loading. The UltraScan is available in single, dual and tri-band systems covering standard bands from 2 to 15 GHz.

The UltraScan antenna uses modern solid-state MMICs to perform RF switching in the feed, thus eliminating all electro-mechanical RF switches. To provide optimal performance, the UltraScan feed assembly includes low noise amplifiers, solid state RF switches, RF band filter, and microstrip combiners and hybrids in an integrated RF assembly. LNA gain reduction is provided as a standard feature to reduce receiver overloading under strong signal conditions.

The dual-speed rotator is enclosed in a low-profile, aesthetically pleasing radome. It has been designed using proven technology for reliability. Lightning and surge suppression is provided within the unit. The rotator and enclosure are constructed of aluminum and stainless steel, thus eliminating the possibility of corrosion.

The combination of a high dynamic range LNA and sharper filtering make the UltraScan a “bullet-proof” solution to the problem of PCS interference. The UltraScan can be ordered with a continuous rotation option, which includes slip rings and an RF rotary joint. MRC also offers a range of modern, easy to use antenna control systems for the UltraScan antenna and the CodeRunner 4 Central Receiver.

SPECIFICATIONS

GENERAL

Antenna Type:Offset Fed Parabola

Model:	2 GHZ	6.5/7 GHZ	13 GHZ
Frequency Range, GHz*:	1.99 to 2.5	6.45 to 7.125	12.7 to 13.2
Gain, nominal †:	20 dBi	29 dBi	31 dBi
Beamwidth, horizontal**:	14°	4.2°	3.5°
Beamwidth, vertical**:	22°	7.2°	5°

Front to Back Rejection:-25 dB minimum
 Side Lobe Rejection:-20 dB minimum

* 1.7 to 1.85 and 2.3 to 2.7 GHz also available.
 † Gain is for basic antenna net of switching option.
 ** HPBW specifications are mid-band.

REFLECTOR

Type:18" x 30" offset
 Construction:High strength, lightweight
 Polarization:Quad polarization standard
 (left circular, right circular, horizontal, and vertical)

FEED

Configurations:2 GHz Broadband, 2/7 GHz Dual Band,
 or 2/7/13 GHz Triband
 LNA:Built in 26 dB gain LNA
 Dual Band:6.4/7 GHz block downconverter
 Triband:6/13 GHz block downconverter

ROTATOR

Dual Speed:Slow: 3°/second
Fast: 15°/second
 Operating Wind Load:Exceeding 100 mph
 Rotation:360°, -5°overlap

ENVIRONMENTAL

Temperature Range:-30°C to +60°C

PHYSICAL

Reflector Size:18" h x 30" w (46 x 76 cm)
 Antenna Size with Radome:28" h x 35" dia (71 x 89 cm)
 System Weight:65 lbs (29.5 kg)

ORDERING INFORMATION

ULTRASCAN ANTENNA SYSTEMS

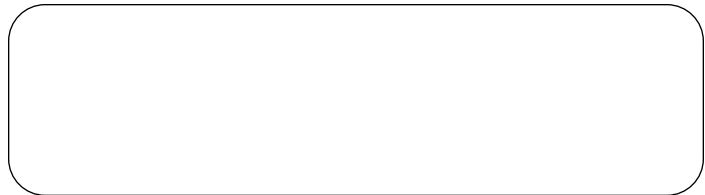
URA-22/2.5 GHz UltraScan II Quad Polarization
 URA-272/7 GHz UltraScan II Dual-Band
Quad Polarization
 URA-2C2/2.5 GHz, Quad Polarization,
Continuous Rotation, UltraScan II
 URA-27C2/7 GHz Dual-Band Quad Polarization,
Continuous Rotation, UltraScan II
 URA-2713Triband Quad Polarization
 URA-2713CTriband Quad Polarization,
Continuous Rotation

ULTRASCAN OPTIONS

842746-2-xControl cable and connectors
 (x = specify length in feet)
 101609-1High Gain Linear Amp, 22 dB,
DC without bypass



UltraScan Antenna with radome removed



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