



Mobile GPS Re-radiating Antenna **MODEL: RA-45**

Connector-Free Antenna Solution for Handheld GPS Devices



The RA-45 is an advanced GPS L1 C/A Code Re-radiating System to allow signal reception inside vehicles and vessels for all kinds of hand-held GPS receivers.

With signal obstruction and reception failure, in-vehicle/vessel applications of hand-held GPS used to be a big headache for most users. When utilizing in-vehicle/vessel, the built-in antennas of hand-held GPS

receivers can merely receive satellite signals from a limited view of the sky due to the environmental obstruction. Contrarily, the RA-45 performs equally well either in-vehicle/vessel or out-vehicle/vessel owing to the advanced technology of the re-radiating antenna rod.

The system consists of a re-radiating antenna rod, a highly efficient antenna enclosed in a fully weatherproof/ low profile polycarbonate radome & a 12V DC ciga lighter adapter. A series of tests have been conducted using the RA-45 and the results obtained are excellent, with full lock being obtained on all visible satellites. All you have to do is to plug the adapter to your ciga lighter, secure the GPS antenna onto your car roof, and attach the re-radiating antenna rod close to the built-in antenna of your hand-held GPS device. The satellite signals from all over the sky are on their way to you!

Re-radiating Antenna Specifications

General Description: GPS Re-radiating Low Cost Antenna for handheld GPS receivers with built-in antenna

Physical Construction:

- Construction: Polycarbonate radome enclosure, die-cast-shell at the bottom, waterproof rubber- gasket seals.
- Dimensions: 58mm (L) x 48mm (W) x 15mm (H).
- Weight: 65grams.
- Standard Mounting: 2 magnet mounts, screw mount with 2 M3 tapped holes on the base.
- Optional mounting plate: Metal flanges with holes for permanent mount.

Antenna Element:

- Polarization: R.H.C.P. (Right Handed Circular Polarization).



- Absolute Gain @ Zenith: +5 dBi typical.
- Gain @ 10° Elevation: -1 dBi typical.
- Axial Ratio: 3 dB max.
- Output VSWR: 1.5:1 max.
- Output Impedance: 50 Ω

Low Noise Amplifier:

- Center Frequency: 1575.42 Mhz +/- 1.023 Mhz.
- Power Gain: 27 dB typical.
- Bandwidth: 2 MHz min.
- Noise Figure: 1.5 min.
- Outer Band Attenuation: 20 dB min. @ Fo +/-50 Mhz.
- Supply Voltages: 7-14V DC.
- Current Consumption: 28mA +/- 3mA.
- Output Impedance: 50 Ω

Overall Performance:

- Center Frequency: 1575.42 Mhz.
- Gain: 30 dB min.
- Noise Figure: 2.0 max.
- Axial Ratio: 3 dB max.
- VSWR: 2.0 max.
- Output Impedance: 50 Ω
- RE-radiating range: 30cm

Environmental Spec.:

- Operating Temperature: -30°C~ +85°C.
- Storage Temperature: -40°C~ +90°C.
- Relative Humidity: 95% non-condensing.
- Water Resistance: 100% waterproof.

