

GPS L1 Signal Re-radiating for Indoor Reception

Model: RK-104

Indoor GPS Coverage Solutions up to 10m Re-radiating Range!



RK-104 is a complete GPS L1 band signal re-radiating system with dual antennas to re-transmit real-time GPS satellite outdoor reception to an indoor environment. The system kits include a high gain external GPS antenna, a precisely calibrated amplifier circuit with Helix type re-radiator, and a built-in power supply regulator. The Helix type re-radiator allows multiple GPS receivers perform on-the-fly receiver performance within a closed environment, while the main GPS antenna is located on an unmanned outdoor location. The whole system is designed as PNP (Plug-and-Play) hardware and it can be installed either temporarily or permanently to a secured location by using whether dashboard suction cup or screws.

Wherever in lab/building/underground garage, **RK-104** guarantees to bring and re-radiate GPS signal that meets your requirement.

Features

- Compact size/low cost/high performance
- Polycarbonate radome with fully waterproof at IP66 rating
- Permanently screw mount/dashboard suction cups
- One external re-radiator for multiple, different GPS receivers
- Real-time GPS satellites outdoor reception to an indoor environment
- Cable length as long as 40m RF cable, extendable to 100m
- Re-radiating range as long as 5 ~ 10m
- Easy to install, the package covers all parts you need

Applications

RK-104 is ideal indoor GPS coverage solutions for

- Hangars
- Fire Stations
- Police Stations
- GPS Labs
- GPS Workshops
- GPS Retail Stores
- GPS Production Line
- GPS Repair Service
- GPS Signal Reception in Underground Garage such as Tunnels and Mines etc.

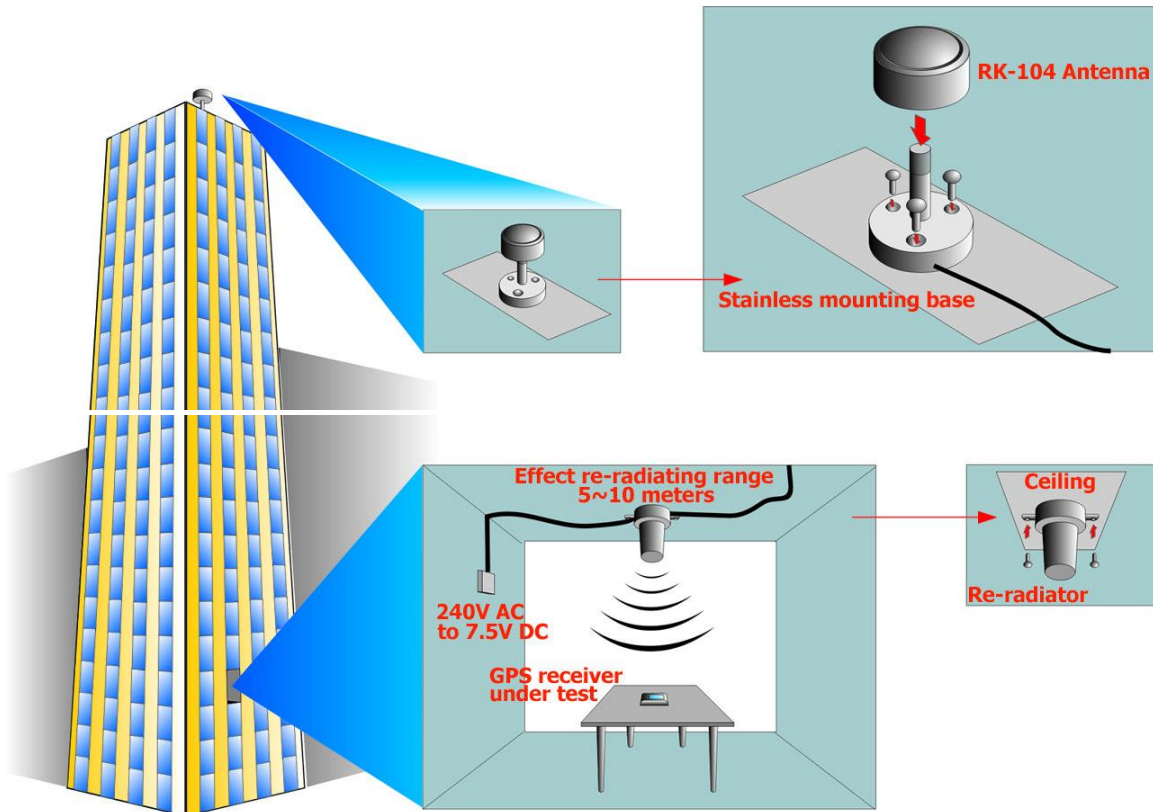
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Installation



Installation Steps

1. Locate and mount the RK-104 external antenna on the center roof of building horizontally with the best visibility of the sky
2. Locate and mount the RK-104 helix type re-radiator to the ceiling with its cylinder facing and against the center of the testing bench.
3. Connect the RK-104 external antenna to the helix type re-radiator with 40m RG58 A/U RF cable.
4. Power up the system by plugging the AC 115V (240V) to DC 9V adapter

Note: The helix type re-radiator has to be located/mounted inside the building with adequate isolation from the RK-104 external antenna to avoid interference.

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**Specifications**

General Description	Professional GPS re-radiating system		
Physical Construction	Construction: Polycarbonate radome enclosure, cast die at the bottom, sealed with weatherproof rubber.		
	Dimensions: Antenna: 4.5" in diameter & 2.9" in height Helix type re-radiator: 37mm (L) x 35mm (W) x 71mm (H) Regulator: 65mm (L) x 32mm (W) x 43mm (H)		
	Cable Length: 40m RG-58 A/U		
	Standard Connector: Antenna: TNC Jack, re-radiator: SMA Jack		
	Weight: Antenna: 237g Helix type re-radiator: 48g Regulator: 85g		
	Standard Mounting: Stainless bracket mount		
	Color: Antenna: White Helix type re-radiator: Black Regulator: Black		
	Performance Specification	External Antenna	Polarization: R.H.C.P.
			Absolute Gain @ Zenith: +5 dBi typically
			Gain @ 10° Elevation: -5 dBi typically
General: L1 frequency, 1575.42 MHz +/-1.023 MHz			
Gain: 27 dB typically			
Bandwidth: 2 MHz min.			
Noise Figure: 2.0 max.			
Axial Ratio: 3dB max.			
Out of Band Attenuation: 20 dB min. @ Fo +/- 50Mhz			
VSWR: 2.0 max.			
Output Impedance: 50 ohm			
Helix Type Re-radiator	Re-radiating Range: 5-10m		
Electrical Specification	Supply Voltage: 100~240V AC to 7.5V DC Regulator		
	Power Consumption: 48mA (+/- 5%) @ 7.5V DC		
Environmental Specification	Operating Temperature: -30° to +85° C		
	Storage Temperature: -40° to +90° C		
	Operating Humidity: 95% RH, non-condensing		

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