GPS/GLONASS Signal Re-radiating for Indoor Satellites Signal Reception

MODEL: RK-306

WI-RD-D-049 V1.1

Connector-free antenna solution for handheld GPS/GLONASS receivers/ with up to 30-meter re-radiating range!

RK-306 Detailed

RK-306 is a complete GPS/GLONASS band signal re-radiating system with dual antennas to re-transmit real-time GPS/GLONASS satellite outdoor reception to an indoor environment. The system kits include a high gain external GPS/GLONASS antenna, a precisely calibrated amplifier circuit with ceramic patch re-radiator, and a built-in power supply regulator. The ceramic patch re-radiator allows multiple GPS/GLONASS receivers perform on-the-fly receiver performance within a closed environment, while the main GPS/GLONASS antenna is located on an unmanned outdoor location. The satellites signal power level at the receiving antenna is approximately -130dBm (spreading over 2 MHz), so the desire signal is below the thermal noise floor. The whole system is designed as PNP (Plug-and-Play) hardware and it can be installed either

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temporarily or permanently to a secured location by using whether dashboard suction cup or screws.

Wherever in lab/building/underground garage, RK-306 guarantees to bring and re-radiate GPS/GLONASS 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/GLONASS receivers
- Real-time GPS/GLONASS satellites outdoor reception to an indoor environment
- Cable length as long as 40m RF cable
- Idea for GPS/GLONASS lab/ GPS/GLONASS retail store/ GPS/GLONASS production line/ GPS/GLONASS repair service
- Re-radiating range as long as 30m

Applications

- GPS/GLONASS Labs
- GPS/GLONASS Retail Stores
- GPS/GLONASS Production Line
- GPS/GLONASS Repair Service
- GPS/GLONASS Signal Reception in Underground Garage

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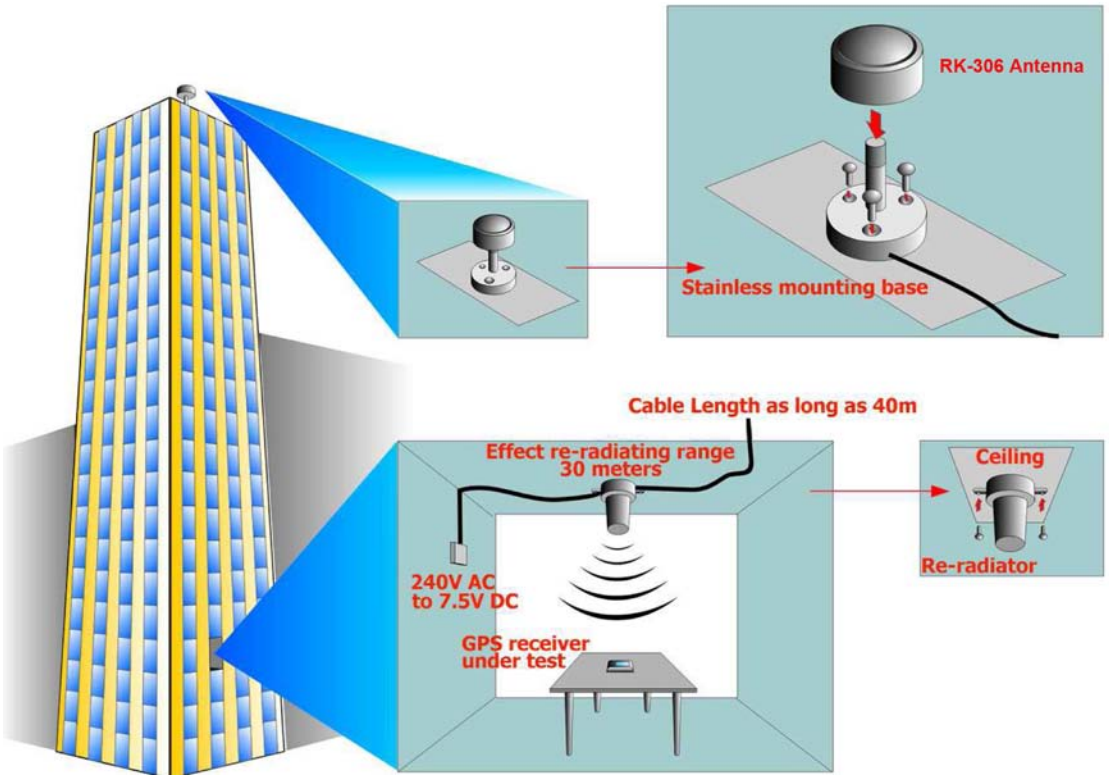

RK-306 Interconnection Diagram

Installation

1. Locate and mount the RK-306 external antenna on the center roof of building horizontally with the best visibility of the sky.
2. Locate and mount the RK-306 Ceramic type re-radiator to the ceiling with its cylinder facing and against the center of the testing bench.
3. Connect the RK-306 external antenna to Ceramic type re-radiator with 40m RG58 A/U RF cable.
4. Power up the system by plugging the AC 115V (240V) to DC 7.5V adapter

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Specifications

General Description	Professional GPS/GLONASS 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 Ceramic patch re-radiator: 85mm (L) x 80mm (W) x 88mm (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: 210g Ceramic patch re-radiator:181g Regulator: 85g	
	Standard Mounting: Stainless bracket mount	
Performance Specification	External Antenna	Polarization: R.H.C.P.
		Absolute Gain @ Zenith: +4 dBiC typically
		Gain @ 10° Elevation: -5 dBi typically
		GPS frequency: 1575.42 MHz ± 10 MHz GLONASS frequency: 1602 MHz ± 8 MHz
		Gain: 27 dB typically
		Bandwidth: 50 MHz min @ -10dB
		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
	Ceramic patch Re-radiator	Re-radiating Range: 30m
Electrical Specification	Supply Voltage: 100~240V AC to 7.5V DC Regulator	
	Power Consumption: 48mA (+/- 10%) @ 7.5V DC	
Environmental Specification	Operating Temperature: –30°C to +80°C	
	Storage Temperature: –40°C to +85°C	
	Operating Humidity: 95% RH, non-condensing	

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