



# GPS/GLONASS/QZSS L1 Signal Re-radiating for Indoor Satellites Signal Reception

**MODEL: RK-108**

**WI-RD-D- V1.1**

Connector-free antenna solution for handheld GPS/GLONASS/QZSS receivers with up to 10meter re-radiating range

© San Jose Technology, Inc. All specifications subject to change without notice.



**RK-108** is a complete GPS/GLONASS/QZSS band signal re-radiating system with dual antennas to re-transmit real-time GPS/GLONASS/QZSS satellite outdoor reception to an indoor environment. The system kits include a high gain external GPS/GLONASS/QZSS 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/QZSS receivers perform on-the-fly receiver performance within a closed environment, while the main GPS/GLONASS/QZSS 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 temporarily or permanently to a secured location by using whether dashboard suction cup or screws.

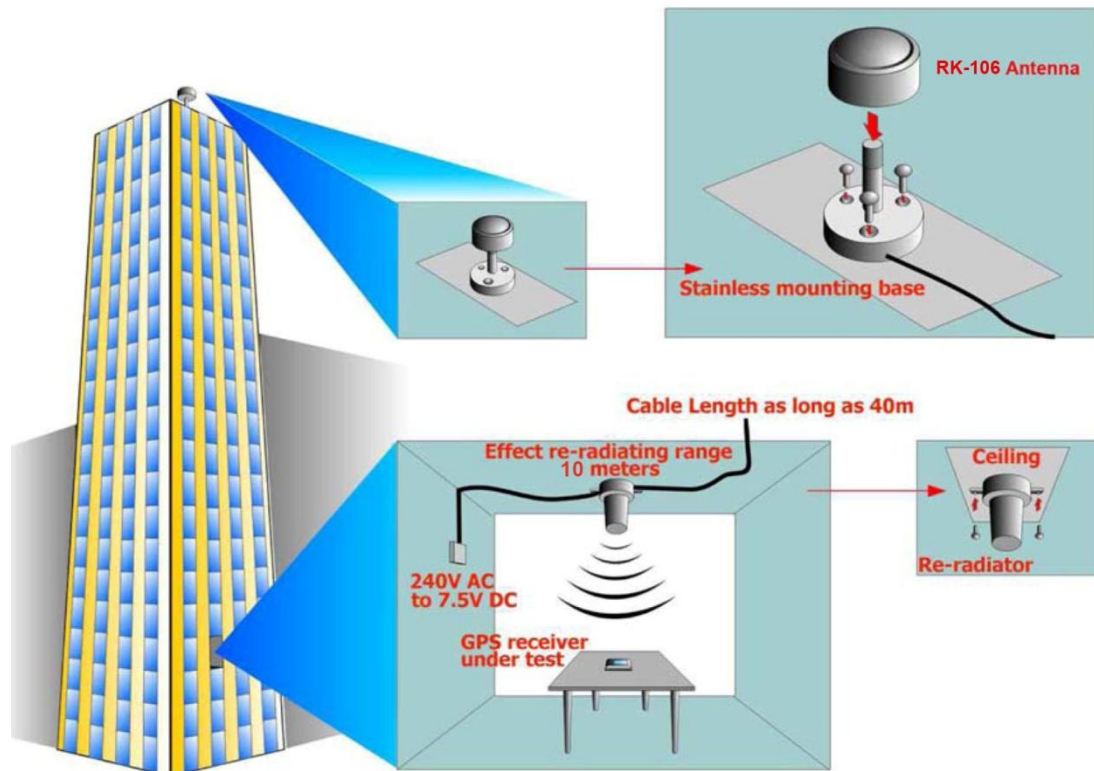
Wherever in lab/building/underground garage, RK-108 guarantees to bring and re-radiate GPS/GLONASS/QZSS signal that meets your requirement.

### 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/QZSS receivers
- Real-time GPS/GLONASS/QZSS satellites outdoor reception to an indoor environment
- Cable length as long as 40m RF cable
- Idea for GPS/GLONASS/QZSS lab/ GPS/GLONASS/QZSS retail store/ GPS/GLONASS/QZSS production line/ GPS/GLONASS/QZSS repair service
- Re-radiating range as long as 10m

### Applications

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



**RK-108 Interconnection Diagram**

### Installation

1. Locate and mount the RK-108 external antenna on the center roof of building horizontally with the best visibility of the sky.
2. Locate and mount the RK-108 Ceramic type re-radiator to the ceiling with its cylinder facing and against the center of the testing bench.
3. Connect the RK-108 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

## Specifications

General Description	Professional GPS/GLONASS/QZSS 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	Option: 100M RG8U
	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
Absolute Gain @ Zenith: +4 dBiC typically		
Gain @ 10° Elevation: -5 dBi typically		
Frequency: 1559 ~ 1610MHz		
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: 10m	
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	

(\*PS: The specification is subject to change without prior notice)

© San Jose Technology, Inc.  
All specifications subject to change without notice.