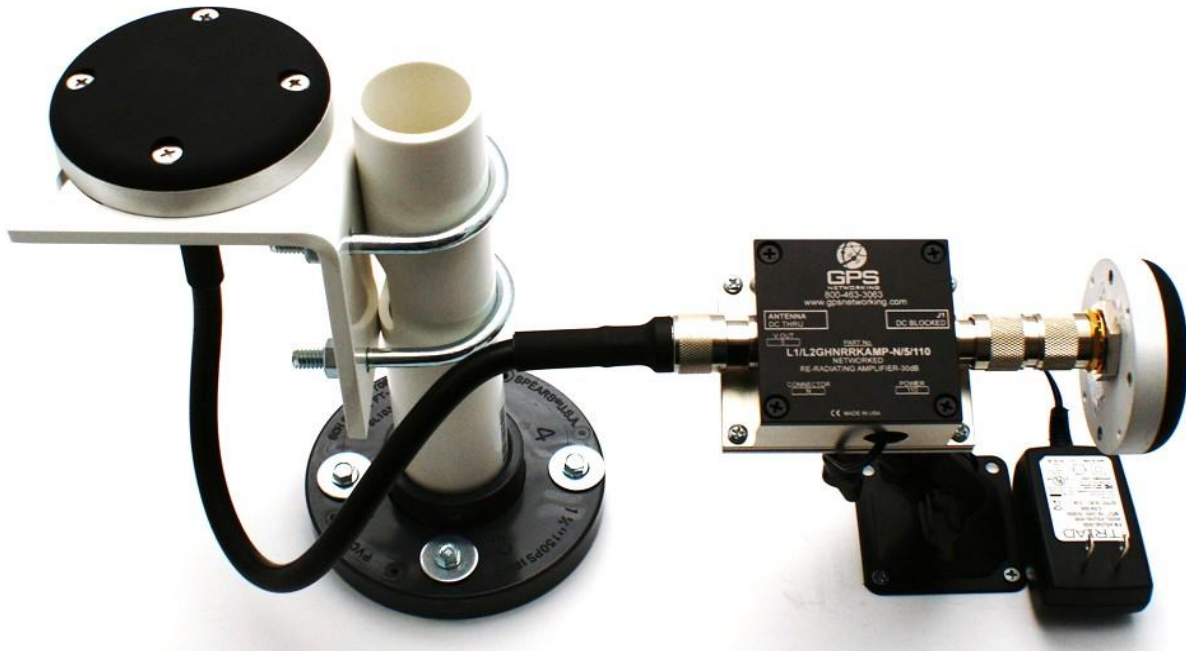




# ***PNRRKIT***

## ***Portable Networked Re-Radiating Kit Technical Product Data***



### Features

- **Utilizes Existing Roof Antenna**
- **Re-Radiating Amplifier with Power Supply**  
Typical Gain 30dB
- **Optional Mounting Kit Hardware**  
Adjustable Re-Radiating Mount
- **Variable Gain Option**  
Re-Radiating Amp Gain Varies from approx 0-23 dB gain
- **Variable Gain Option with LCD Display**  
Push Button Control in 1dB Increments 0-30dB gain

### Description

The GPS Portable Networked Re-Radiating Kit (PNRRKIT) is a re-radiating system that allows re-radiation of the GPS L1 signal indoors. The PNRRKIT consists of a re-radiating amplifier with a wall mount plug-in transformer that powers the entire system, and a passive re-radiating antenna. The GPS L1 signal from the roof antenna (not included) is amplified and radiated indoors. Thus, if a receiver has line of sight with the re-radiating antenna, it can receive the GPS signal indoors up to 100 feet. A cable from the roof antenna to the re-radiating kit is required and can be purchased separately.

# Re-Radiating Amplifier Electrical Specifications, T<sub>A</sub> = 25<sup>0</sup>C

Parameter	Conditions	Min	Typ	Max	Units
Freq. Range	Ant – J1	1.1		1.7	GHz
In/Out Imped.	Ant, J1		50		Ω
Gain <sup>(1)</sup>					dB
		29	30	31	dB
Input SWR <sup>(2)</sup>	J1 - 50Ω			1.8:1	-
Output SWR	Ant - 50Ω			1.8:1	-
Noise Figure	Ant – J1		3.3	3.5	dB
Current			20	30	mA
Gain Flatness	L1 – L2   ; Ant – J1		0.5	1	dB
Reverse Isolation	J1 – Ant	35			dB
Group delay Flatness	τ <sub>d,max</sub> - τ <sub>d,min</sub> : Ant – J1			1	ns

Re-Radiating Amp System Power Supply Options		
Source Voltage Options	VOLTAGE INPUT	STYLE
	110VAC	Transformer (Wall Mount)
	220 VAC	Transformer (Wall Mount)
	240 VAC (United Kingdom)	Transformer (Wall Mount)
	Customer Supplied DC 9-32 VDC	Military Style Connector
Re-Radiating Amp Gain Control Options		
Standard Gain	30 dB (Custom Gain between 0-30dB available upon request)	
Variable Gain	-3 ≤ Gain ≤ 23dB	
Variable Gain with LCD Display	0-30dB gain range with push button control in 1dB increments	
RF Connector Options		
Connector Options	CONNECTOR STYLE	CHARGE
	Type N-female	NC
	Type SMA-female	NC
	Type TNC-female	NC
	Type BNC-female	NC
	Other	Contact GPS Networking

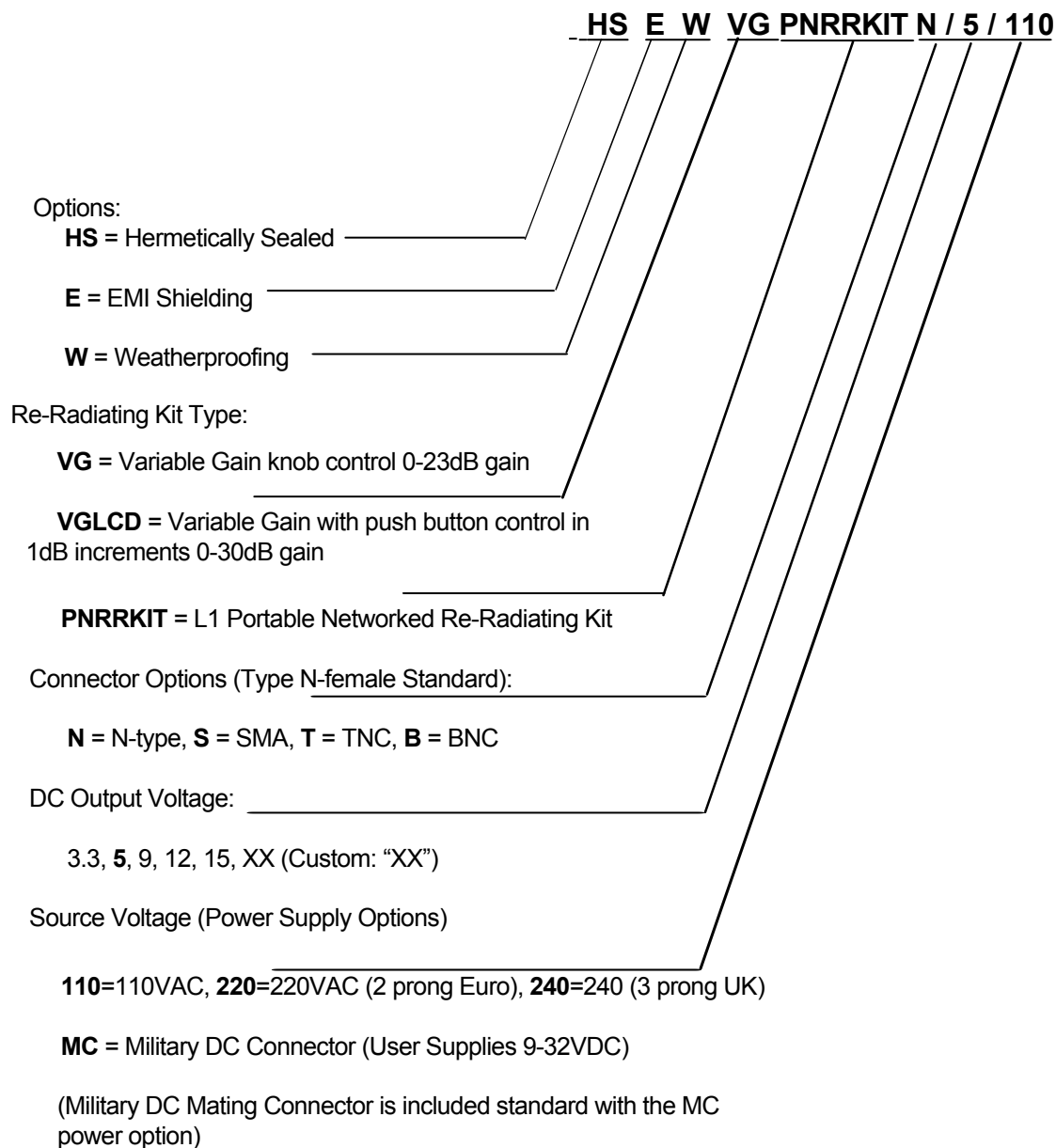
# Re-Radiating **Antenna** Electrical Specifications, T<sub>A</sub> = 25<sup>0</sup>C

Parameter	Conditions	Min	Typ	Max	Units
Frequency	See Passive Antenna Specifications page 6				GHz
Bandwidth					MHz
Impedance			50		Ω
Peak Gain			3		dBic
Output SWR				1.5:1	-
Polarization			RHCP		-



Contact NavtechGPS for product details. [www.NavtechGPS.com](http://www.NavtechGPS.com)  
+1-703-256-8900 • 800-628-0885 • [info@navtechgps.com](mailto:info@navtechgps.com)

## Part Number Configuration



Contact GPS Networking Technical Support at 719-595-9880 or [salestech@gpsnetworking.com](mailto:salestech@gpsnetworking.com) for any questions regarding non-standard configurations and corresponding part numbers)

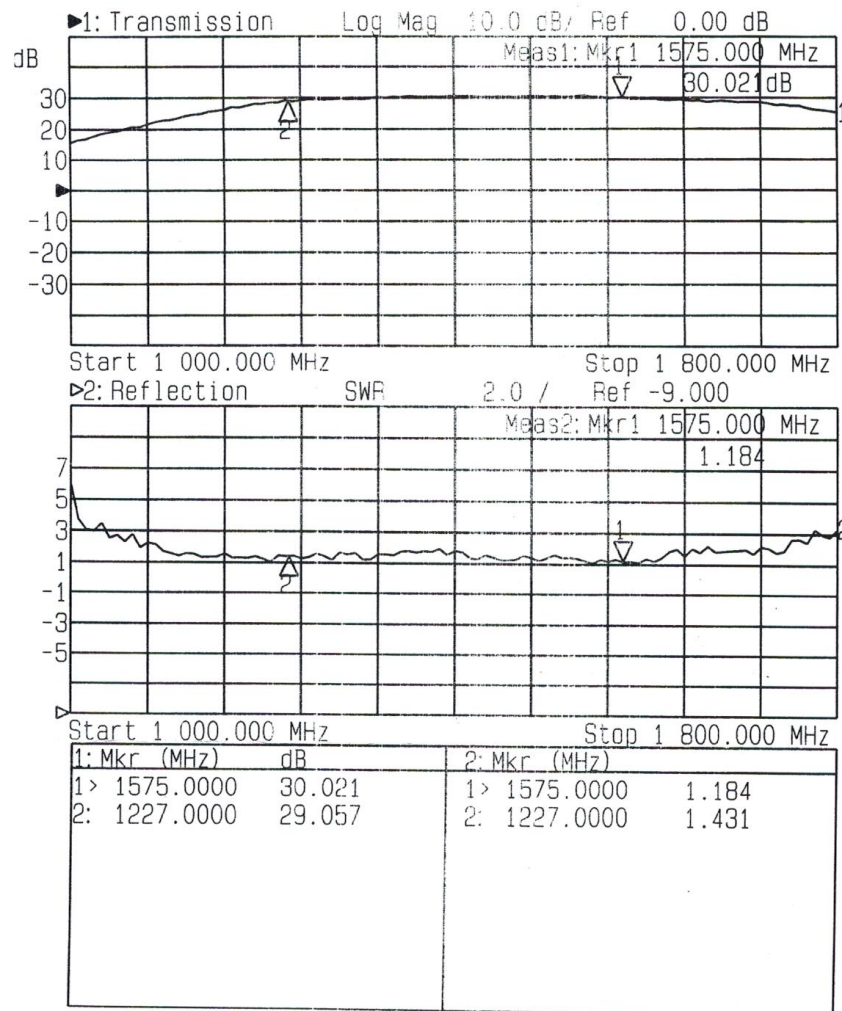


Contact NavtechGPS for product details. [www.NavtechGPS.com](http://www.NavtechGPS.com)  
+1-703-256-8900 • 800-628-0885 • [info@navtechgps.com](mailto:info@navtechgps.com)

Performance:

**NRRKAMP** (Re-Radiating Kit Amp Standard Gain)

Input SWR (Ant. Port) and Frequency Response: Ant. To J1) (Typical, type N connectors):



Contact NavtechGPS for product details. [www.NavtechGPS.com](http://www.NavtechGPS.com)  
+1-703-256-8900 • 800-628-0885 • [info@navtechgps.com](mailto:info@navtechgps.com)

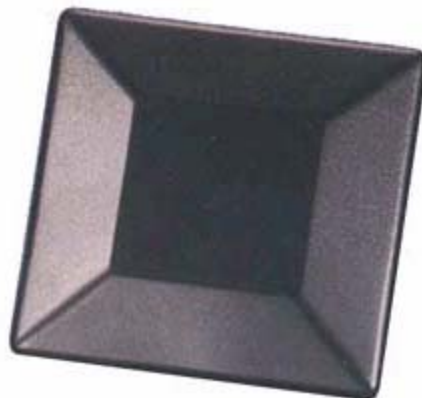
## GPS ANTENNA SPECIFICATIONS

**RoHS Compliant**

**Model No.: PA175S**

<b>Antenna:</b>	
Center Frequency	1575 ± 3 MHz
VSWR	1.5:1 max.
Bandwidth	20MHz min. at -10dB
Impedance	50Ω
Axial Ratio	3dB max. $\theta=0^\circ$
Peak Gain	4dBic min.
Ground Plane	70 mm x 70mm
Gain Coverage	$\geq -4\text{dBic}$ at $-90^\circ \leq \theta \leq 90^\circ$ (over 75% volume)
Power Handling	1 watt
Polarization	RHCP
<b>Mechanical:</b>	
Weight	48g max.
Size	66 x 66 x 18 mm
Connector	SMA jack
<b>Environmental:</b>	
Working Temperature	$-40^\circ\text{C} < T < +85^\circ\text{C}$
Storage Temperature	$-50^\circ\text{C} < T < +95^\circ\text{C}$
Vibration	Sine Sweep, 1G(0-P), 10-150-10Hz each axis
Humidity	95%~100% RH

Note: Specifications subject to change without notice.



## Re-Radiating Kit Amplifier

Finish Housing and Base Plate: ELECTROLESS NICKEL PLATED  
MIL-C-26074C CLASS 1, .0001-.0003 MAX  
Finish Lid: ANODIZE, TYPE II, CLASS 2, BLACK, per MIL-A-8625

GPS NETWORKING		<b>ASSY, 1X1 STANDARD</b>		Do Not Scale Draw Remove All Burrs And Sharp Edges to 0.005 Root Radius	
Issued By	Date	Design By	Issued By		
BCP	09/04/15				
Drawn By	Date	Proj. By	Issued By		
Material	Quantity / Used Qty	Material / Used Qty	See Note		
116 Aluminum					
370 D Industrial Std Fusion Weld CO 11607			31 = 0.000 301 = 0.010 300 = 0.005 Angle #1 Surface Finish Check Hole ✓ Inch Dimensions		
Draw Number		ISO File	Sheet	Sheet	
<b>ASSY, 1X1 STANDARD</b>		ISO File	Sheet	Sheet	