

PES1900Gi GSM Repeater for PCS Applications

5 Watt GSM, PCS Segment Selective, Over-the-Air, On-Frequency Repeater

Benefits

- ❖ Improved PCS network coverage
 - In-Building
 - Distributed antenna systems
 - Suburban
 - Highway
- ❖ Solar Power Optimized – SmartPower™
- ❖ Lower cost than base stations-Save up to 75%
- ❖ Up to 90% less real estate required
- ❖ Faster time-to-market
- ❖ Flexible capacity

Features

- ❖ Optimized for In-Building and Distributed antenna system applications
- ❖ Compatible with GSM, GPRS and EDGE signals
- ❖ Compatible with RepeaterNet™— Operations, Administration and Maintenance (OA&M) Software
- ❖ High-output power, multi-carrier performance
 - 5-Watt composite RF output power rating
- ❖ Choice of selective bandwidth, 1.2, 4.8 or 10 MHz
- ❖ Frequency Hopping compatible within selective bandwidth.
- ❖ Low noise figure
 - Less than 6 dB reverse link NF
- ❖ Forward & Reverse power control (ALC)
- ❖ RepeaterNetCraft™ - User-friendly supervisory control and alarm network software for OA&M
 - Craft Port and Dial-up access
- ❖ One-year warranty
- ❖ Weatherproof and rustproof NEMA 3R compliant all-aluminum cabinet
- ❖ Wall mount & pole mount cabinet configurations
- ❖ Simple maintenance concept: Field replaceable unit gets you back on the air fast
- ❖ Easy installation – less than 60 minutes

Applications

Improve GSM signal levels and effective PCS network coverage in shadowed areas. Extend network coverage beyond BTS range. Typical applications include rural highways, hospitals, office buildings, tunnels, airports, and convention centers.



PES1900Gi GSM Repeater

Description

The PES1900Gi is housed in a NEMA-3R rated, all-weather, white cabinet. The repeater can be mounted on walls, poles or tower structures.

A removable back-mounting plate simplifies installation and maintenance. The lightweight-mounting plate is securely installed first, and then the repeater unit is slipped into mating slots.

RF, mains power, alarm wiring and telephone line connections are all available at the bottom of the repeater for improved weather protection.

Equipment is setup using supplied software that communicates with the repeater controller. A Craft laptop computer or Local Maintenance Terminal connects to the serial Craft port in the lower section.

PESi Support

Peninsula Engineering Solutions is ready to support your project needs including design of repeater applications and alternate power systems; furnish remote site power equipment, antenna systems and more.

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PES1900Gi GSM Repeater – Technical Summary

MODELS and FREQUENCY RANGE						
MODEL	BLOCK	BANDWIDTH, CARRIERS			REVERSE	FORWARD
		Option 1	Option 2	Option 3		
		1.2 MHz	4.8 MHz	10.2 MHz		
090-3600Gi	A	2 CXR ¹	8 CXR	17 CXR	1850~1865 MHz	1930~1945 MHz
090-3610Gi	B	2	8	17	1870~1885	1950~1965
090-3620Gi	C	2	8	17	1895~1910	1975~1990
090-3630Gi	D	2	8	8 ²	1865~1870	1945~1950
090-3640Gi	E	2	8	8 ²	1885~1890	1965~1970
090-3650Gi	F	2	8	8 ²	1890~1895	1970~1975

RF OUTPUT POWER				
CARRIERS:	1	2	8	17
Power per Carrier	37 dBm, 5 W	33 dBm, 2 W	27 dBm, 0.5 W	23 dBm, 0.2 W

PCS SYSTEM COMPATIBILITY				
SYSTEM:	GSM	GPRS	EDGE	W-CDMA

EQUIPMENT CHARACTERISTICS				
FORWARD GAIN	REVERSE GAIN	REVERSE NOISE FIGURE	NO-DAMAGE INPUT SIGNAL	DELAY
65~95 dB in 2-dB steps	65~95 dB in 2-dB steps	< 6 dB	≤ +10 dBm	< 6μsec, 1.2 MHz BW < 3μsec, 4.8 MHz BW < 3μsec, 10.2 MHz BW
MINIMUM INPUT POWER		ANTENNA PORTS	VSWR	RETURN LOSS
-95 dBm for 20 dB C/N and 0 dBm output		Type N(f)	< 1.5:1	> 14 dB
OPERATING ALTITUDE	OPERATING TEMPERATURE	STORAGE TEMPERATURE	SIZE, HWD	WEIGHT
4500 meters, AMSL	-40° to 55° C	-40° to 85° C	16 x 14 x 11.5 inch 406 x 356 x 292 mm	50 lbs 23 kg

MAINS POWER	
POWER CONSUMPTION	INPUT VOLTAGE OPTIONS
200 Watts Full Power	110 ~ 230 VAC 47 ~ 63 Hz
150 Watts Idle	+24 VDC

ALTERNATIVE POWER OPTIONS	
TYPE	DESCRIPTION
BUPS	6 To 11 Hours Of Backup Power Without AC mains supply
Solar Electric Battery	PV (Photovoltaic) and station battery
Hybrid Solar and TEG	PV with Thermal Electric Generator
Hybrid Solar and MG	PV with Motor Generator

SUPERVISION					
ITEM	OUTPUT	ITEM	OUTPUT	ITEM	OUTPUT
Critical Alarm	Form C Relay	Remote Control Relays (2)	Form C Relay	External Battery Monitor	Analog DC Volts
Major Alarm	Form C Relay	Digital Outputs (2)	Opto-Isolated TTL	BUPS Monitor	6 Alarms
Minor Alarm	Form C Relay	Digital Inputs (2)	Opto-Isolated TTL		

LED INDICATORS	
System Ready	Major Alarm
Critical Alarm	Minor Alarm

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¹ CXR = Carrier. 600 kHz spacing used for GSM/GPRS/EDGE multi-carrier capacity estimate.

² Passband extends into adjacent blocks.

Peninsula Engineering Solutions may change specifications as necessary to meet industry requirements.

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