

## ***PES850C CDMA Repeater for Cellular Mobile Radio Applications***

### ***7 Watt CDMA, Channelized, Over-the-Air, On-Frequency Repeater***

#### **Benefits**

- ❖ Improved Cellular Mobile Radio network coverage and extend range
  - In-Building
  - Suburban
  - Highway
- ❖ Solar Power Optimized – SmartPower™
- ❖ Receive Diversity provides:
  - Operational transparency
  - No degradation to network performance
- ❖ Lower cost than base stations-Save up to 75%
- ❖ Up to 90% less real estate required
- ❖ Faster time-to-market
- ❖ Expandable when greater capacity is needed

#### **Features**

- ❖ High-output power
  - 7-Watts per carrier RF output power rating
  - 1 or 2 CDMA 1x carriers
- ❖ Receive Diversity standard
  - Maintains low RFER
  - Reduces dropped calls
  - Doubles talk time
  - Preserves BTS capacity
  - 3 dB greater link budget
- ❖ Low noise figure
  - Less than 6 dB reverse link NF
- ❖ Forward & Reverse power control (ALC)
- ❖ Compatible with RepeaterNet™— Operations, Administration and Maintenance (OA&M) Software
- ❖ 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



*PES850C CDMA Repeater*

#### **Description**

The PES850C 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 place 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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## PES850C CDMA Repeater – Technical Summary

MODELS and FREQUENCY RANGE (MHz)				
MODEL	BAND	CHAN BW	REVERSE	FORWARD
PES850C-A	A+A'+A"	1.25	824.0~835.0 & 845.0~846.5	869.0~880.0 & 890.0~891.5
PES850C-B	B+B'	1.25	835.0~845.0 & 846.5~849.0	880.0~890.0 & 891.5~894.0

RF OUTPUT POWER				
CARRIERS:	1 Fwd	2 Fwd	1 Rev	2 Rev
Power per Carrier	38.5 dBm, 7 W	38.5 dBm, 7 W	18 dBm, 63 mW	18 dBm, 63 mW

EQUIPMENT CHARACTERISTICS				
GAIN FWD & REV	IF FILTER BANDWIDTH	REVERSE NOISE FIGURE	NO-DAMAGE INPUT SIGNAL	DELAY
65~95 dB in 2-dB steps	3dB: < 1.27 MHz	< 6 dB per path	≤ +10 dBm	< 6μsec
ANTENNA PORTS	VSWR/RL	TEMPERATURE	SIZE, HWD	WEIGHT
Type N(f)	< 1.5:1 / > 14 dB RL	-40° to 55° 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 1-Carrier 350 Watts 2-Carrier	110 ~ 230 VAC 47 ~ 63 Hz
150 Watts 1-Cxr Idle 250 Watts 2-Cxr Idle	+24 VDC
FWD Tx Rho	COMPLIANCE
$\rho > 0.95$	TIA-97-E

ALTERNATIVE POWER OPTIONS	
TYPE	DESCRIPTION
BUPS	6 To 11 Hours Of Backup Power Without AC mains supply
Solar Electric Battery	PV (Photovoltaic) with controlled charging of station battery
Hybrid Solar and TEG	PV with Thermal Electric Generator powered from propane fuel
Hybrid Solar and MG	PV with Motor Generator powered from propane or diesel fuel

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

PES850C Data Sheet  
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