

Over-the-Air 850C Network Repeater™

The Only 7.0 Watt CDMA Channelized Repeater with Receive Diversity

IMMEDIATE BENEFITS

- ⇒ Diversity feature 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
- ⇒ Excellent return-on-investment

FEATURES

- ⇒ High-output power
 - 7.0 Watts per carrier
 - 1 or 2 Carriers
- ⇒ IS-95/97 Compliant
- ⇒ Receive diversity standard
 - Maintains low RFER
 - Prevents dropped calls
 - Doubles talk time
 - 3 dB more link budget
- ⇒ Low noise figure
 - Less than 6 dB on reverse link
- ⇒ Uplink & Downlink power control (ALC)
- ⇒ Simple maintenance concept: Field replaceable unit gets you back on the air fast
- ⇒ RepeaterNet™ – User-friendly supervisory control and alarm network software for OA&M
 - Windows® 95/98/NT (Craft)
 - Windows® NT (NMS)
 - Graphical User Interface
 - Regional or National Control for up to 5000 Network Repeaters
 - Fully supports Repeater Hybrid Network (RHN) designs



The Repeater Technologies OA850C NR

OA850C PERFORMANCE ADVANTAGES

- ⇒ Diversity Standard
 - Retains battery talk time
 - Preserves BTS capacity
 - Maintains Reverse Frame Error Rate
 - Extends range
- ⇒ High Output Power
 - Extends range
 - Lowest cost for covering rural highways
 - Provides more in-building RF power for Passive Distributed Antenna Architecture
 - Fills in larger holes
- ⇒ 2nd Channel at same RF power
 - Maintains original footprint when 2nd carrier is added
- ⇒ RepeaterNet™
 - Allows all repeaters to be integrated into the NOC via a single RepeaterNet NMS

OA850C NR—Technical Specifications

1 or 2 Channel Network Repeater

MODELS AND FREQUENCY RANGE (MHz)				
MODEL	CHANNEL BANDWIDTH	BAND	FORWARD	REVERSE
OA850C-A	1.25 MHz	A+A'+A''*	869.0-880.0 & 890.0-891.5	824.0-835.0 & 845.0-846.5
OA850C-B	1.25 MHz	B+B''*	880.0-890.0 & 891.5-894.0	835.0-845.0 & 846.5-849.0

* Also available with Standard Spectrum (A or B) 10 MHz front-end filtering.

RF CHARACTERISTICS			
LINK	RF OUTPUT POWER PER CARRIER AT THE ANTENNA PORT#		GAIN (in 2 dB steps)
	1-CHANNEL	2-CHANNEL	
Forward	+38.5 dBm	+38.5 dBm	65-95 dB
Main Reverse	+18 dBm	+18 dBm	65-95 dB
Diversity Reverse	+18 dBm	+18 dBm	65-95 dB

As measured with Pilot, Page, Sync, and 6 Traffic Channels

MECHANICAL/ELECTRICAL CHARACTERISTICS						
POWER CONSUMPTION		SIZE	WEIGHT	INPUT VOLTAGE OPTIONS	TEMPERATURE	ANTENNA CONNECTIONS
1-Channel	205 Watts	16H x 14W x 11.5D (inch)	<50 lbs or	117/230 Vac	-40° to 55°C ambient	Type N (f)
2-Channel	350 Watts (total)	406H x 356W x 292D (mm)	<23 kg	or +24 Vdc		

ADDITIONAL CHARACTERISTICS						
WAVEFORM QUALITY FACTOR DEGRADATION (Rho)	SPURIOUS RESPONSE	3 dB SAW FILTER BANDWIDTH	GROUP DELAY	MAXIMUM INPUT SIGNAL (without damage)	VSWR	NOISE FIGURE
$\rho > 0.95$	Per ANSI J-STD-008	<1.27 MHz	<6 μ sec	+10 dBm	<1.5:1	<6 dB per path

REPEATER NET ALARM, MONITORING, AND CONTROL		
ACCESS OPTIONS	GUI	FUNCTIONS
<ul style="list-style-type: none"> RS-232 (local) POTS (dial-up) Wireless Modem 	<ul style="list-style-type: none"> Windows® 95/98 Windows® NT (NMS) 32-bit Point-and-click Pull-down Menus 	<ul style="list-style-type: none"> Summary Alarm Interrupt Reporting Definable Threshold Remote control; Gain, Channel, and PA On/Off

ALTERNATE POWER OPTIONS	
TYPE	DESCRIPTION
BUPS	6 to 11 hours of backup power without AC.
Solar Power	PV (Photovoltaic) with regulated charging to batteries.
Hybrid Solar and TEG	PV with thermal electric propane generation assistance.
Hybrid Solar and MG	PV with propane or diesel generation assistance.

INPUTS AND OUTPUTS						LED INDICATORS
LOCAL I/O	OUTPUT TYPE	LOCAL I/O	OUTPUT TYPE	LOCAL I/O	OUTPUT TYPE	
Critical Alarm	Form C Relay	Remote Control Relays (2)	Form C Relay	External Battery Monitor	Analog (DC Volts)	System Ready
Major Alarm	Form C Relay	Digital Outputs (2)	Opto-isolated TTL	BUPS Monitor	6 Alarms	Critical Alarm
Minor Alarm	Form C Relay	Digital Inputs (2)	Opto-isolated TTL			Major Alarm
						Minor Alarm

PART NO. 523-5100-01
Issue 7
October 2000