Communication Components Inc.

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Cellular 125W GSM-EDGE Cell Booster/Combiner

General Information

Model DAB-850-125

Model DAC-850-125

The 125W Dual Amplifier Booster and Dual Amplifier Combiner Modules are integral components of Communication Component Inc.'s Cellular GSM-EDGE Cell Booster System. The Cell Booster System provides the means to add capacity or increase the coverage area and penetration of existing GSM-EDGE sites. The 125W Dual Amplifier Combiner (DAC) module combines multiple GSM channels onto a common antenna port without suffering any combining losses. Consequently, capacity of existing sites can be expanded with the existing cabling and antenna infrastructure. The 125W Dual Amplifier Booster (DAB) module significantly increases the downlink power of the Base Transceiver Station (BTS). When used in conjunction with a Tower Mount Amplifier (TMA), the Dual Amplifier Booster can significantly increase the footprint of rural sites and improve in-building penetration in urban locations.

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Technical Description

The GSM Cellular Cell Booster System was specifically designed to integrate with GSM-EDGE base stations without any need for retrofitting the original equipment. The core modules include a Dual Amplifier Booster Module and a Dual Amplifier Combiner Module. The Cell Booster system is further complemented with a range of Duplexer Modules, Power Supply Modules, and Splitter/ VSWR modules. The Cell Booster system can be configured with any combination of the above modules to seamlessly integrate with the carriers BTS equipment and achieve the desired performance results.

The 125W Dual Amplifier Booster Module (DAB) consists of two linear power amplifiers with intermodulation level control circuitry, each capable of generating 125 Watts of useable GSM signal. The Dual Amplifier Combiner Module (DAC) is identical to the DAB Module with the exception of a power hybrid combiner at the output which combines both signals to provide two 60 Watt GSM-EDGE signals on a common output. Both modules incorporate CCI's proprietary *GSM-EDGE failure-detect* circuitry that tracks the amplified GSM signal by timeslot and actively controls and monitors the performance of both amplifiers, providing dry relay contact closures that can be tied into the BTS alarm circuit.

Cellular 125 Watt Booster/Combiner Module Electrical Specification

	DAB-850-125	DAC-850-125
Operating Frequency:	869-894 MHz	
Rated GSM/EDGE Output Power:	125 Watts (per channel)	60 Watts (per channel), 120 Watts (composite)
1 dB Compression Point:	53 dBm Min. (per channel)	50 dBm Min. (per channel)
Number of Inputs/ Outputs:	2 Inputs / 2 Outputs	2 Inputs / 1 Outputs
Gain:	10 dB	7 dB
Gain Flatness:	+/-0.5 dB Max.	
Input VSWR	1.4:1 Min; 1.25:1 (typical)	
Port to Port Isolation	85 dB typical	
Power Supply Voltage:	28 VDC Nominal, 22-30VDC	
Current Consumption:	12 AMPS Typical per Channel	
Dimensions:	8.75"L x 3.5"W x 12"D	
Connectors	N female	
Weight	13 Lbs. Max.	
Operating Temperature:	-25° to +65° C Ambient	

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Ordering Information

125W Dual Amplifier Booster Module:
CCI Model DAB-850-125

125W Dual Amplifier Combiner Module:
CCI Model DAC-850-125

19" Rack Mount Trays:
CCI Model TRA-1819 (5U)
CCI Model TRA-1819-2U
CCI Model TRA-1819-2M

Mechanical Diagram

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