

General Information



The ClearWave Multi-Carrier Power Amplifier MCPA-850-200 manufactured by Communication Components, Inc. (CCI) is a linear, feed-forward power amplifier that operates in full iDEN frequency band from 851 MHz to 869 MHz. The amplifier can simultaneously transmit multiple carriers, with better than -65dBc third order intermodulation distortion (IMD). It is designed for use in iDEN BTS systems and is ideally suited for use in Motorola base stations. One amplifier MCPA-850-200 can provide more than 200 watts of

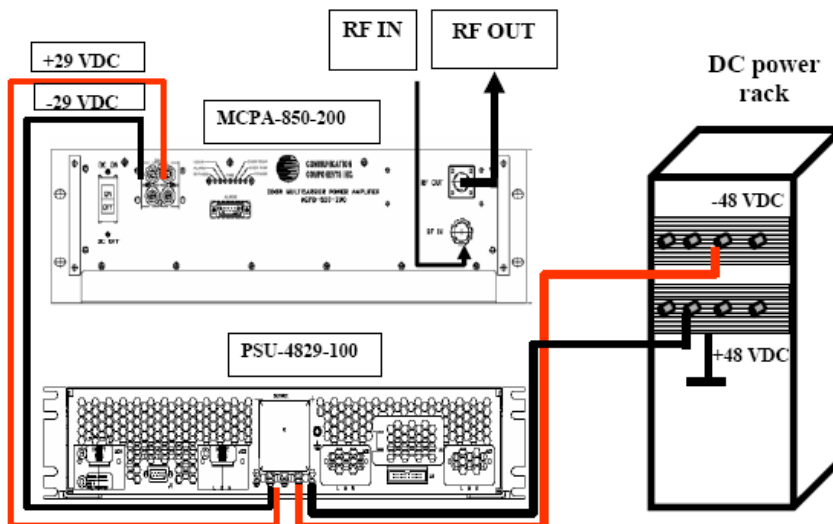
combined power with multiple iDEN carriers.

Technical Description

The primary application of ClearWave MCPA is to compensate for the RF power lost in hybrid combiners and to increase the power per channel transmitted from Quad Base Radios (Q-BR) to antenna. Implementation of ClearWave amplifiers in existing and future iDEN systems allows carrier achieve required channel power balance between Legacy BR and Q-BR in a very efficient way even in high capacity sites where several Q-BR must be combined to operate on one antenna.

The ClearWave modules are also capable of parallel operation to produce higher power output. By-pass module, which is a part of the system allows for fail-safe operation. Redundant amplifier option is also available. This compact solid-state system occupies only 3U of rack space and designed to provide trouble-free operation with minimum maintenance. The system's modular construction and clear visual LED-based operational status and fault indicators help minimize downtime and allow easy system monitoring. The turn-on and turn-off sequences of voltages are fully automatic, as is overload protection and failure mode recycling. There are no requirements for manual adjustments or controls after system is launched in operation. The amplifier module has a status connector for monitoring the amplifier from laptop computer in the field. The front panel of the ClearWave amplifier has status/fault visual indicators and one DC ON/ OFF switch. Primary power for the amplifier is +29 VDC. ClearWave MCPA must be powered by dedicated power supply PSU-4829-100, which is connected to -48 VDC power distribution panel located on the site.

Interconnection Diagram



PRODUCTS MANUFACTURED BY: Communication Components Inc., www.cciproducts.com

MCPA-850-200 Electrical Specification

Combined Output Power	200 W
Number of iDEN Channels	Unlimited
Operating Frequency Range:	851-869 MHz
Maximum Input Power for the Gain=12 dB	13 W
Maximum Input Power for the Gain=6 dB	50 W
Input VSWR	1.35:1 Max.
Output VSWR	1.5:1 Max
Factory Gain Setting	3-12 dB
Instantaneous Bandwidth	20 MHz
Intermodulation Distortion	-65 dBc
Harmonics	-55 dB
Gain Variation with Temperature	+/-0.5 dB
Minimum Channels Spacing	Contiguous to 18 MHz
Insertion Loss in By-Pass Mode	0.4 dB
Maximum Reflected Power	100 Watts
Operating Temperature	0 to +50 degrees Celsius
Input Voltage	26-29 VDC
Monitoring and Alarms	Overheating, RF overdrive, VSWR, DC Power, PA failure
Visual Alarm	Front Panel LED's for alarm indication
Monitoring Signal	Dry form A contact closure alarm. Open contact indicates failure
Front Panel Indicator	Front Panel LED's for status indication
Front Panel Control	DC ON/Off Switch

PRODUCTS MANUFACTURED BY: Communication Components Inc., www.ccjproducts.com