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GSM/EDGE Pico-Cell Booster Amplifier for PCS Band

An Ideal Companion to IP Access Pico-Cells

General Information

Model BDA-1819-10

CCI's Pico-Cell Booster Amplifier improves the performance of low-power Micro Base Stations allowing for cost efficient implementation of high capacity radio networks. By increasing the output power and receive sensitivity of Pico and Micro Base Stations, CCI's Booster Amplifier increases the overall coverage area while improving performance. An ideal companion to an IP Access Pico-Cells, this unit adds **Macro-level coverage** to the Pico-Cell.

Contents

Technical Description

The Booster Amplifier is designed with a very simple interface ideally suited for Pico and Micro base station applications without the need for retrofitting the original equipment. Mounting Options include pole mounting on an antenna tower, wall mounted, or placed at any convenient location when site space is limited. The PicoCell Booster Amplifier is designed for compatibility with the latest GSM/EDGE standard and is guaranteed to maintain the integrity of the GSM signal upon amplification. State-of-the-art LDMOS power amplifier devices are utilized in the Power Amplifier (PA), and monolithic Gallium-Arsenide technology for low-noise receive amplification, with particular emphasis on low system group delay to minimize the Bit-Error-Rate (BER) of digital transmissions.

The Booster Amplifier consists of a single compact unit that can be easily installed at a new or existing BTS site. The unit is housed in a moisture resistant cast enclosure suitable for indoor installations. It contains low noise receive amplifiers, a GSM optimized transmit power amplifier, intermodulation level control circuitry, high-power duplexers, and an integrated power supply to power the unit. A full duplex version is also available that has combined transmit and receive inputs with a common antenna port.

Options

- 01: 24-30 VDC Input
- 02: Full Duplex
- 03: Alternate Up/Down Link Gain (Specify value)

BDA Typical Electrical & Mechanical Specifications

Typical Specifications	Uplink	Downlink
Operating Frequency Range	1850-1910 MHz	1930-1990 MHz
Gain	8 dB	25 dB
System Noise Figure	2.5 dB Max	N/A
System Group Delay	180 nSecs Max.	180 nSecs Max.
Pass-Band Ripple	+/- 0.5 dB Max	+/- 0.5 dB Max
Output Third Order Intercept Point	+27 dBm Min.	+52 dBm Min
Maximum GSM Output Power	+15 dBm Min	+40 dBm (10 W) Min.
Input/Output VSWR	1.5:1 Max	. 1.5:1 Max
Uplink/ Downlink Isolation	80 dB	
Operating Voltage	115/220 VAC or optional 24-30 VDC	
Dimensions	10.23” x 9.0” x 3.55	
Enclosure	Single cast unit, wall mount	
Connectors	Antenna: N, Tx: SMA, Rx: SMA	
Weight	12 lbs. Max	
Mounting	Mounting Ears for wall mount installation	
Operating Temperature	-25° to +50° C Ambient	

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Ordering Information

Model BDA-1819-10

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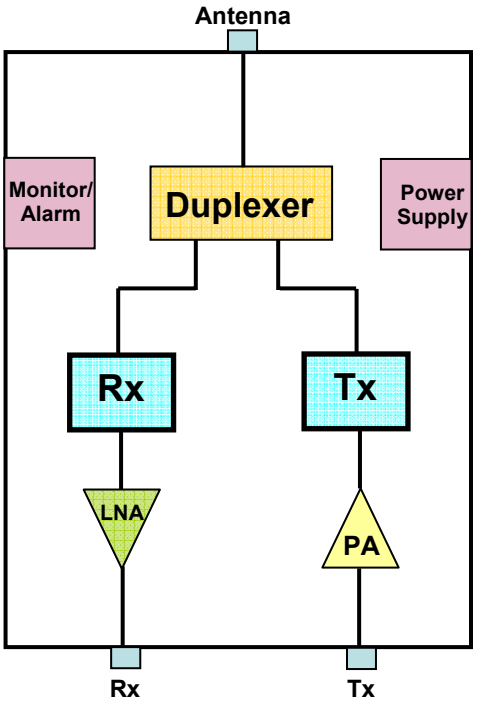
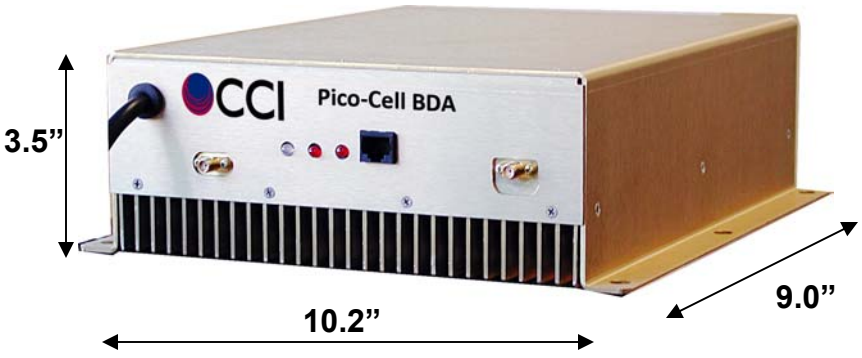
PicoCell Booster Amplifier Block Diagram



Booster Amplifier Mechanical Diagram



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PicoCell Booster Amplifier
FCC Information

The gain on the BDA-1819-10 is fixed at the factory. No internal adjustments can be made in the field. The user must verify that the absolute maximum RF input power to the Picocell Booster Tx input does not exceed the absolute maximum RF input power level (+15dBm) in order for the spurious emissions to be compliant with the FCC spurious emissions limit of –13dBm outside of the assigned frequency block.

This equipment complies with part 24 of the FCC rules. Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

In order to comply with FCC rules for RF exposure, it must be observed that the antenna connected to this equipment must have a minimum separation distance of 3 meters between it and any person.

This equipment was tested as a single channel power amplifier only and should not be used for multi-carrier operation.