Communication Components Inc.
Tel: 201-342-3338
Fax: 201-342-3339
Email: sales@cciproducts.com

- Model BDA-8087-80-SMR800
- Model BDA-8087-80-SMR900
- Model BDA-8087-80-CELLA
- Model BDA-8087-80-CELLB
- Model BDA-8087-80-CELLA&B

Bi-directional Amplifier for Cellular & SMR Bands

General Information

Communication Components, Inc. Bi-directional Amplifier (BDA) improves the sensitivity of base stations in indoor locations where there is a significant amount of propagation loss in RF distribution systems. The BDA block is available for operation in all Cellular SMR800 & SMR900 operating frequency bands with different maximum gain values.
The BDA is ideal for use any structures with limited signal penetration such as office buildings, industrial facilities, tunnels and subways and is suitable for installation in the most demanding indoor and outdoor environments.

Contents

Technical Description

The BDA was specifically designed for low system group delay to minimize the Bit-Error-Rate (BER) of digital transmissions.
The BDA block consists of a single compact unit with two RF connectors. It is rugged and can be easily connected during cable installation. It has a moisture proof NEMA 4X enclosure suitable for indoor and outdoor installation with two low noise medium power amplifiers, independently controlled up-link and down-link Attenuators and Automatic Gain Control (AGC), dual duplexers, and bias tee's.
The BDA can be powered by a conventional 110/220 VAC source using a built in power supply or, alternatively, DC voltage can be supplied to the BDA via an external DC input or via the center conductor of the RF coax. cable.
Automatic Gain Control (AGC) and Manual Gain Control (MGC) is available in both the up-link & down-link path with over 30 dB attenuation range to eliminate the possibility of saturating the amplifier and maintaining the inter-modulation products at an acceptable level during all operating conditions.
An optional microprocessor based monitoring and alarm interface is available to check all BDA system parameters and report status to a local or remote controller.

Options

- 01: 110/220 VAC Input
- 02: External DC Input
- 03: Coax DC Input (Internal bias tee)
- 04: Up and Down Link Attenuators
- 05: Automatic Bypass Switching
- 06: Monitoring Interface
- 07: Automatic Gain Control (AGC)

Bi-directional Amplifier Electrical & Mechanical Specification

SPECIFICATION	Up-Link Frequency Range	Down-Link Frequency Range
Model: BDA-8087-80-SMR800	806 - 821 MHz	851 - 866 MHz
Model: BDA-8087-80-SMR900	896 - 901 MHz	935 - 940 MHz
Model BDA-8087-80-CELL A	824-835 & 845-846.5 MHz	869-880 & 890-891.5 MHz
Model BDA-8087-80-CELL B	835-845 & 846.5-849 MHz	880-890 & 891.5-894 MHz
Model BDA-8087-80-CELL A&B	824 - 849 MHz	869 - 894 MHz
System Gain @ 0 dB attenuation:	80 dB min., 82 dB Typical	
System Noise Figure:	3 dB Max., 2.5 dB Typical	
System Group Delay:	180 nanosecond Max.	
Pass-band Ripple:	0.5 dB P-P Max.	
Output Third Order Intercept Point:	+46 dBm Min., +47 dBm Typical	
1 dB Compression Point:	+30 dBm Min., +31 dBm Typical	
Maximum Input Level:	-50dBm @ 0dB Attenuation, -19dBm @ 31dB Attenuation Setting	
Input /Output VSWR:	1.5:1 Max.	
Up-Link-Down-Link Isolation	90 dB	
Manual Gain Control (MGC)		
Attenuation Type:	Variable	
Attenuation Range:	31 dB Min. in 1dB Steps	
Automatic Gain Control (AGC)		
Attenuation Range:	20 dB Min., 30 dB Typical	
Operating Voltage:	115/220 VAC or 12VDC	
Dimensions:	12”x 10”x 5”	
Enclosure:	NEMA 4X Weather Proof	
Connectors:	N Type female	
Weight:	10 Lbs. Max.	
Mounting:	Mounting Ears for any surface installations	

*** The output power set point for the AGC circuit can be factory preset to the customers requirement to limit 3rd order IM for multiple carriers. Unless otherwise specified, the AGC set point will be set to limit the 3rd order IM products to below -13 dBm.**

Communication Components Inc.

Tel: 201-342-3338 Fax: 201-342-3339

Communication Components Inc.

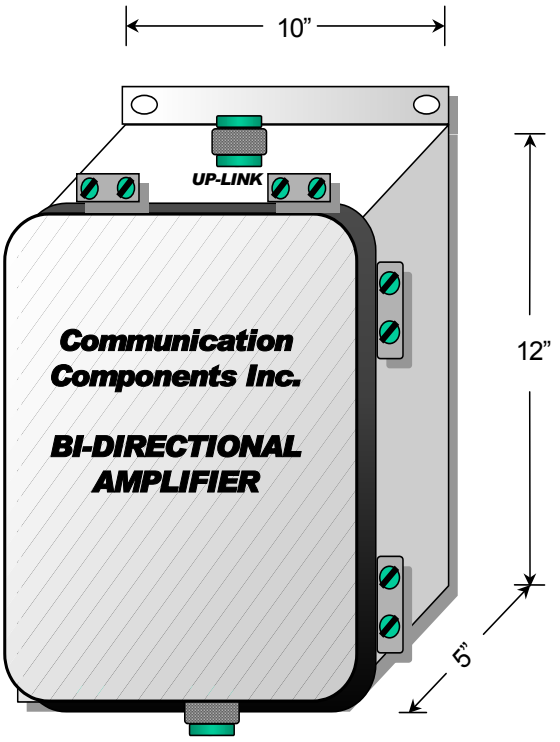
89 Leuning Street
South Hackensack, NJ 07606
Tel: 201-342-3338
Fax: 201-342-3339
Email: sales@cciproducts.com

Www.cciproducts.com

Ordering Information

- Model BDA-8087-80-SMR800:
  For SMR 800 Band Operation
- Model BDA-8087-80-SMR900:
  For SMR 900 Band Operation
- Model BDA-8087-80-CELLA:
  For Cellular A Band Operation
- Model BDA-8087-80-CELLB:
  For Cellular B Band Operation
- Model BDA-8087-80-CELLA&B
  For Cellular A&B Band Operation

BDA Indoor/Outdoor Unit Mechanical Diagram



Block Diagram