



## INSTRUCTION MANUAL

651215700B

# BODA SERIES

## Broadband Outdoor Distribution Amplifiers - Active Return Path

MODEL	STOCK NO.	MODEL	STOCK NO.
BODA 86A-30P	5300P 83	BODA 100A-30P	5300P 13
BODA 86A-40P	5300P 84		

### DESCRIPTION

The BODA 5300 Series is the newest edition to Blonder Tongue's line of two-way broadband distribution amplifiers. The BODA is an outdoor version of the widely used BIDA indoor amplifiers. The BODA features power doubling CATV hybrid technology and has forward bandwidths of 54-860 MHz or 54-1000 MHz, 30 or 40 dB gain (model dependent) and a 5-42 MHz reverse frequency range with 20dB of gain. The amplifier can easily be changed from the factory configured passive return to active return operation by moving internal jumpers.

Designed with cast-aluminum housing, the BODA is ideal for outdoor pedestal as well as indoor back board installations. The housing utilizes a carbonized rubber and wire mesh gasket to provide excellent protection against RFI and moisture ingress. 5/8 inch entry fittings in the housing allow hard line cable to connect directly to the amplifier. For RG-11 or RG-6 cabling applications, two KS-F adapters are included to provide input and output "F" connections. The amplifier has flexible powering features. For indoor mounting the supplied external 60 VAC power supply is connected to the BODA's auxiliary power "F" connector using flexible coax. This feature permits remote powering, so the amplifier can be installed in a desired location for optimum performance without a need for an electrical outlet nearby. Powering can also be accomplished using 60/90 VAC CATV network powering. By changing internal jumpers, the BODA can accept power from its input or output and either stop or pass power through.

### FEATURES

- 860 MHz or 1000 MHz Power Doubling Hybrid Technology
- Cast Aluminum Housing for Outdoor or Indoor Mounting
- 42/54 MHz Split
- -20 dB Directional Coupler Test Points
- Powering Versatility
- Integrated Active Return (defeatable)
- Forward Path Interstage Variable Gain and Slope Controls
- Optional Forward Fixed Equalizer and Attenuator Plug-ins for Input Conditioning
- Reverse Path Variable Gain Control with Provision for Optional Fixed Attenuator



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The lightning flash with arrow-head symbol within an equilateral triangle is intended to alert you to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to persons.



The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

**TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER FROM THIS UNIT. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL**

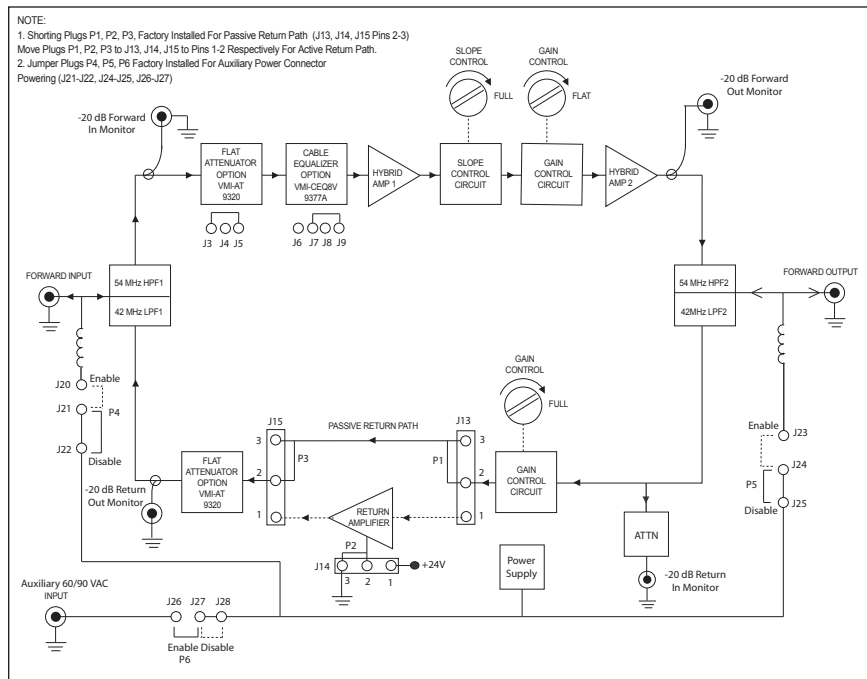
**WARNING: TO PREVENT SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE**

## NOTE TO CATV INSTALLERS

This reminder is provided to call the CATV System Installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

## Returning Product for Repair or Credit

**A Return Material Authorization (RMA) Number is required on all products returned to Blonder Tongue, regardless if the product is being returned for repair or credit.** Before returning product, please contact the Blonder Tongue Service Department at 1-800-523-6049, Ext. 4256 or visit our website: [www.blondertongue.com](http://www.blondertongue.com) for further information.



**Block Diagram**

## SPECIFICATIONS

Model: BODA	86A-30P	86A-40P	100A-30P	Integrated Active Return Path
Stock No:	5300P83	5300P84	5300P13	
Frequency Range (MHz)	54-860	54-860	54-1000	5-42
Gain (dB)	32	41	32	20
Flatness (dB)	±0.75	±0.75	±0.75	±0.5
Gain Control Range (dB)	10	10	10	10
Slope Control Range (dB)	8	8	8	N/A
Input Return Loss (dB)	16	16	16	16
Output Return Loss (dB)	16	16	16	16
Noise Figure (dB)	8.5	9.0	8.5	7.0
No. of Channels (for CSO, CTB & XMD)	129	129	150	6.0
Output Level (dBmV) Sloped	+36/+44	+36/+44	+36/+44	+48
Composite Triple Beat (dB) [CTB]	-62	-62	-53	-73
Crossmodulation (dB) [XMOD]	-62	-62	-54	-61
2nd Order Composite (dB) (CSO)	-61	-61	-56	-61
Impedance (ohms)			75	
Hum Modulation (dB)			-70	
Input/Output Test Port Level Forward (dB)			-20 ±2	
Input/Output Test Port Level Return (dB)			-20 ±2	
Operating Temperature Range			-20° to +60 °C	
Power Requirements			Wall Power Transformers (Input) 105-130 VAC, 60Hz	0.38 Amp Max (Output) 60VAC
Size (L x W x H)			10-1/2" x 7-1/4" x 3-1/4"	(26.4cm x 18.42cm x 8.26 cm)
Shipping Weight				6 lbs (2.7 kg)
<b>Plug-In Accessories</b>				
1) Flat Attenuator (1 - 18 dB in 1dB steps)			#9320 - (*)	
2) Cable Equalizer (0 - 20 dB in 1dB steps)			#9377A - (*)	

(\*) Specify dB

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**THERE ARE NO USER SERVICEABLE PARTS IN THIS UNIT.  
INFORMATION BELOW IS FOR QUALIFIED INSTALLATION PERSONNEL ONLY**

### Field Installable Optional Modules.

(Take care not to bend jack pins when plugging in modules - view orientation of pins through holes provided - pins are polarized to prevent wrong installation - see Location Diagram).

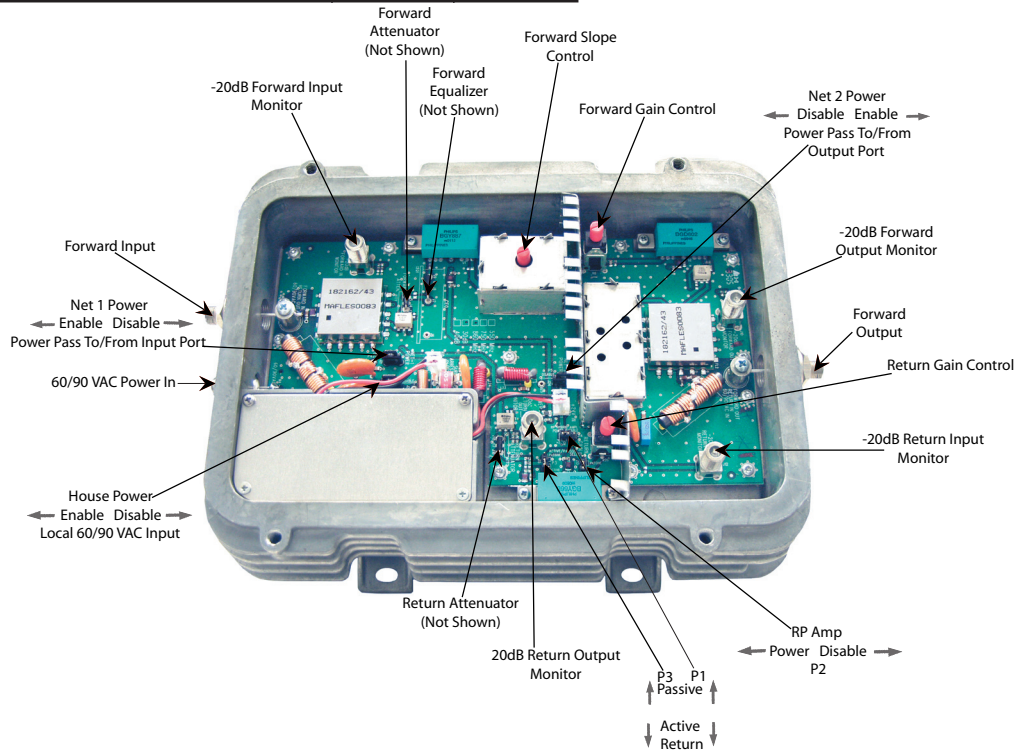
Leakage-current and/or resistance measurements should be made by service technician after repairs are completed to determine that exposed parts are acceptably insulated from the supply circuit.

BODA Equalizer  
Stock No. 9377A (\*)

VMI-CEQ8V MHz Equalizer					
EQ Value	Tilt Comp @ 860 MHz	Loss @ 54 MHz	Loss @ 550 MHz	Loss @ 750 MHz	Loss @ 860 MHz
0	0.00	0.00	0.00	0.00	0.00
1	1.07	-1.52	-1.23	-0.60	-0.46
2	1.89	-2.23	-1.24	-0.16	-0.35
3	2.88	-3.05	-1.38	-0.10	-0.17
4	3.47	-3.81	-2.01	-0.79	-0.35
5	3.86	-4.35	-2.13	-0.94	-0.49
6	4.45	-4.85	-2.32	-0.80	-0.40
7	5.42	-5.67	-2.42	-0.62	-0.25
8	5.99	-6.37	-2.00	-0.79	-0.38
9	7.08	-7.21	-2.68	-0.68	-0.13
10	7.47	-7.89	-2.94	-0.90	-0.43
11	8.21	-8.55	-3.24	-0.96	-0.34
12	9.01	-9.25	-1.60	-0.51	-0.24
13	9.85	-10.27	-4.00	-1.32	-0.42
14	10.76	-10.89	-1.37	-0.36	-0.14
15	11.18	-11.30	-1.40	-0.36	-0.13
16	12.04	-12.29	-1.63	-0.55	-0.25
17	12.69	-12.87	-1.50	-0.48	-0.18
18	13.64	-13.84	-1.86	-0.56	-0.20
19	14.36	-14.52	-1.75	-0.50	-0.16
20	14.94	-15.15	-1.92	-0.58	-0.21

BODA Attenuator  
Stock No. 9320 (\*)

Attenuator Values in dB	
0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18	



**Figure 2  
Module and Control Location Diagram (Top View)**