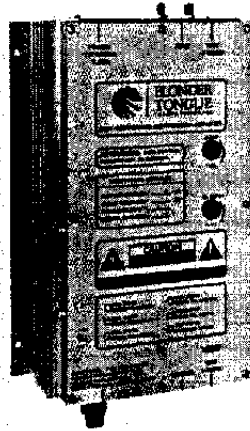


**BROADBAND INDOOR DISTRIBUTION AMPLIFIERS**

BIDA 300-50
Stock No. 5400-35

BIDA 450-50
Stock No. 5400-45

BIDA 550-50
Stock No. 5400-55



BIDA 300-30
Stock No. 5400-33

BIDA 450-30
Stock No. 5400-43


Stock No. 5400-53

MADE IN USA

DESCRIPTION

The Blonder Tongue BIDA is a completely self-contained broadband indoor distribution amplifier designed specifically for CATV and SMATV signal distribution systems which use a "cable drop" as a signal source. Six models are available, the #5400-53 and -55 with 50 to 550 MHz bandpass, #5400-43 and -45 with 50 to 450 MHz bandpass, and the #5400-33 and -35 with 50 to 300 MHz bandpass. The basic amplifier is configured for one-way operation. Optional field installable modules provides two-way capability with either a passive or active sub-channel return path.

The #5400-35, -45, and -55 have a flat operating gain of 50 dB which can be adjusted down to 34 dB with the variable attenuator. The #5400-33, -43, and -53 have a flat operating gain at 32 dB which can be adjusted down to 15 dB. Gain and slope controls are located on the front panel for easy set-up and adjustment. Two -30 dB backmatched test points are provided to permit testing without interruption of service.

In applications where input signals are too high or where greater cable equalization is necessary, the BIDA can be reconfigured by using plug-in attenuators and cable slope equalizers to meet particular requirements.

Push-pull, hybrid IC modules enable the BIDA to operate at high output levels while retaining low distortion characteristics.

The aluminum chassis is designed to provide excellent heat dissipation thus allowing operation at high ambient temperatures with no degradation of performance or reliability.

FEATURES

- Hybrid IC Circuitry for High Output with Low Distortion.
- Exceptional Temperature Stability Range of -20° C to +60° C.
- Designed for Critical Applications Requiring High Gain.
- Front Panel Gain and Slope Controls for Easy Adjustments.
- Field Installable Options provide Two-Way Capability (Passive or Active).
- Externally Accessible Test Points Permit In-Service Testing.
- Aluminum Chassis Designed for Superior Heat Dissipation to Insure Component Reliability.
- Exceeds FCC Specs for Both Conducted and Radiated Interference @ Full Output Level.
- External Fuse for Ease of Replacement.
- LED Pilot Light.
- Line Transient Protection.

**BLONDER TONGUE**

One Jake Brown Road, P.O. Box 1000
Tel: (908) 679-4000

LABORATORIES, INC.
Old Bridge, NJ 08857-1000 USA
Fax: (908) 679-4353

SPECIFICATIONS

Model: BIDA Stock No.	300-30 ²	300-50 ²	450-30 ²	450-50 ²	550-30 ²	550-50 ²	BIDA RA #5402 ^{3,5}	
	5400-33	5400-35	5400-43	5400-45	5400-53	5400-55	Passive	Active
Frequency Range (MHz)	50-300		50-450		50-550		5-30	5-30
Gain (dB)	33	50	33	50	33	49	-1.0	24
Flatness (dB) ⁴	±0.5		±0.75		±0.75		±0.5	±0.5
Gain Control Range (dB)	17		15		15		-	≥12
Slope Control Range (dB)	10		10		10		-	≥12
Input Return Loss (dB)	14		14		14		16	16
Output Return Loss (dB)	14		16		14		16	16
Noise Figure (dB)	6.0		6.0		7.0		-	6.0
No. of Channels (for CTB & XMD)	35		60		77		-	-
Output Level (dBmV)	+48		+46		+44		-	+42
Composite Triple Beat (dB) [CTB]	-60		-60		-58		-	-60 ⁶
Crossmodulation (dB) [XMOD]	-61		-61		-61		-	-60 ⁷
2nd Order Intermodulation (dB)	-75		-75		-70		-	-72 ⁸
Hum Modulation (dB)			-65				-	-65
Input/Output Test Point Level (dB)			-30					
Fuse			0.375A					N/A
Operating Temperature Range			-20° to +60° C					-
Power requirements			105 - 130 VAC, 60 Hz					+24 VDC @ 60 mA
Size (L x W x H)			11-1/2" x 7-1/8" x 2-11/16"					4-3/4" x 1-3/8" x 2-1/4"
Shipping Weight			5-3/4 lbs.					3 oz
Plug-In Accessories								
1) Flat Attenuator (6, 12, 18 dB)			#5410 - (*)					
2) Cable Equalizer (6, 12, 18 dB)	#5413 - (*)		#5414 - (*)		#5415 - (*)			
3) Return Filters (5-30 MHz)			#54011					
4) Return Amplifier (5-30 MHz)			#5402					

(*) Specify dB

NOTES

1. Specification chart represents overall performance between the BIDA amplifier's input and output connectors with various optional field installed modules.
2. One-way configuration represents basic amplifier as sold with factory installed 0 dB Flat Attenuator and 0 dB Cable Equalizer.
3. Two-way configuration represents basic amplifier with field installed sub-channel passive or active return modules.
4. Measured at full gain with 0 dB slope.
5. Reverse amplifier distortion specs. are measured with $V_o = 42$ dBmV flat with three channel Loading.
6. Single-Triple Beat
7. $V_o = +48$ dBmV: Ch. 2 + Ch. 13
8. $V_o = +48$ dBmV: Ch. T-7 + T-8

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

The lightning flash with arrowhead 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 electric shock to persons.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



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 ELECTRIC SHOCK, DO NOT REMOVE COVER FROM THIS UNIT. NO USER—SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

MOUNTING

The BIDA Amplifier can easily be mounted to any flat surface. Select a mounting site which will provide adequate ventilation and allow the unit to operate within the specified temperature range. Four pre-drilled mounting holes are provided. Use #10 screws (not supplied).

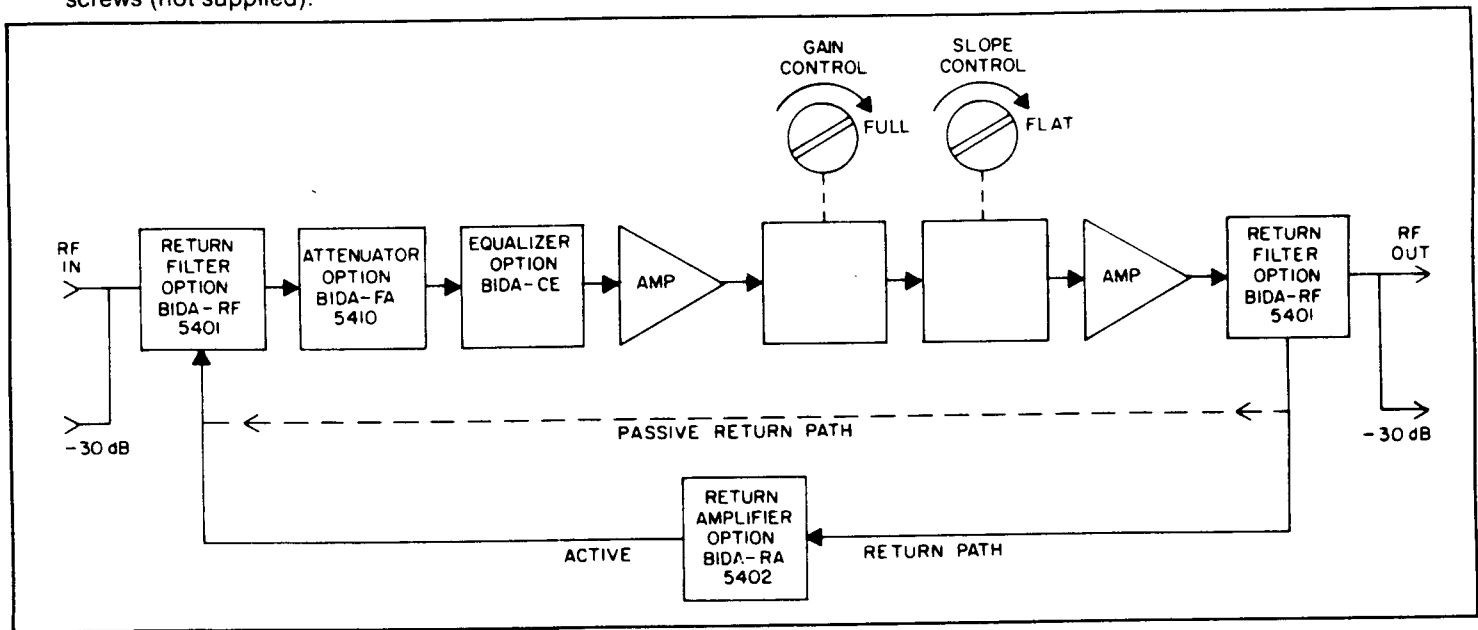


Figure 1 BIDA Block Diagram

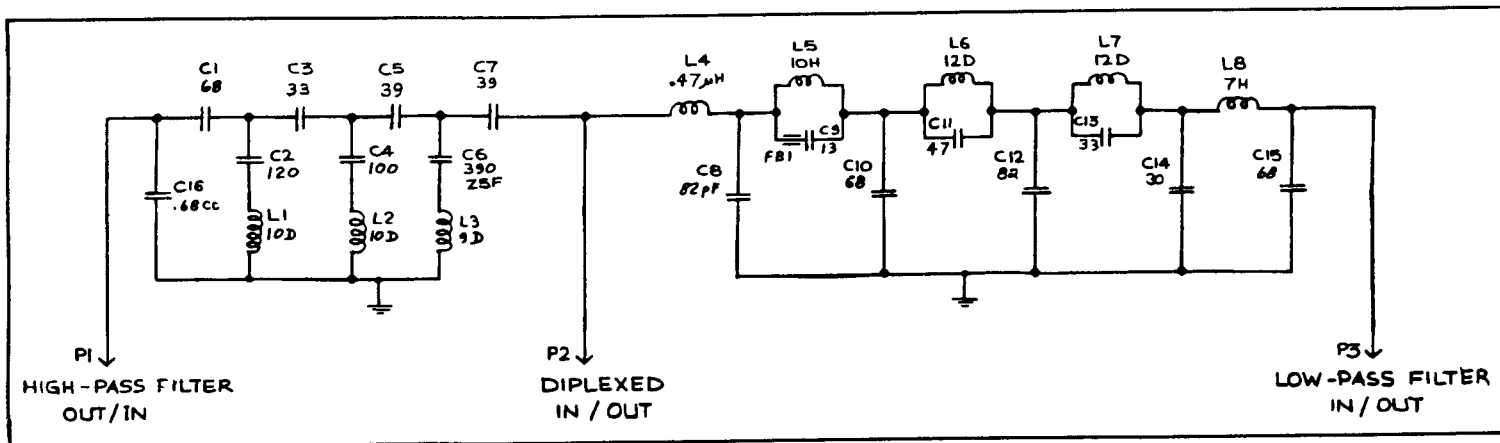
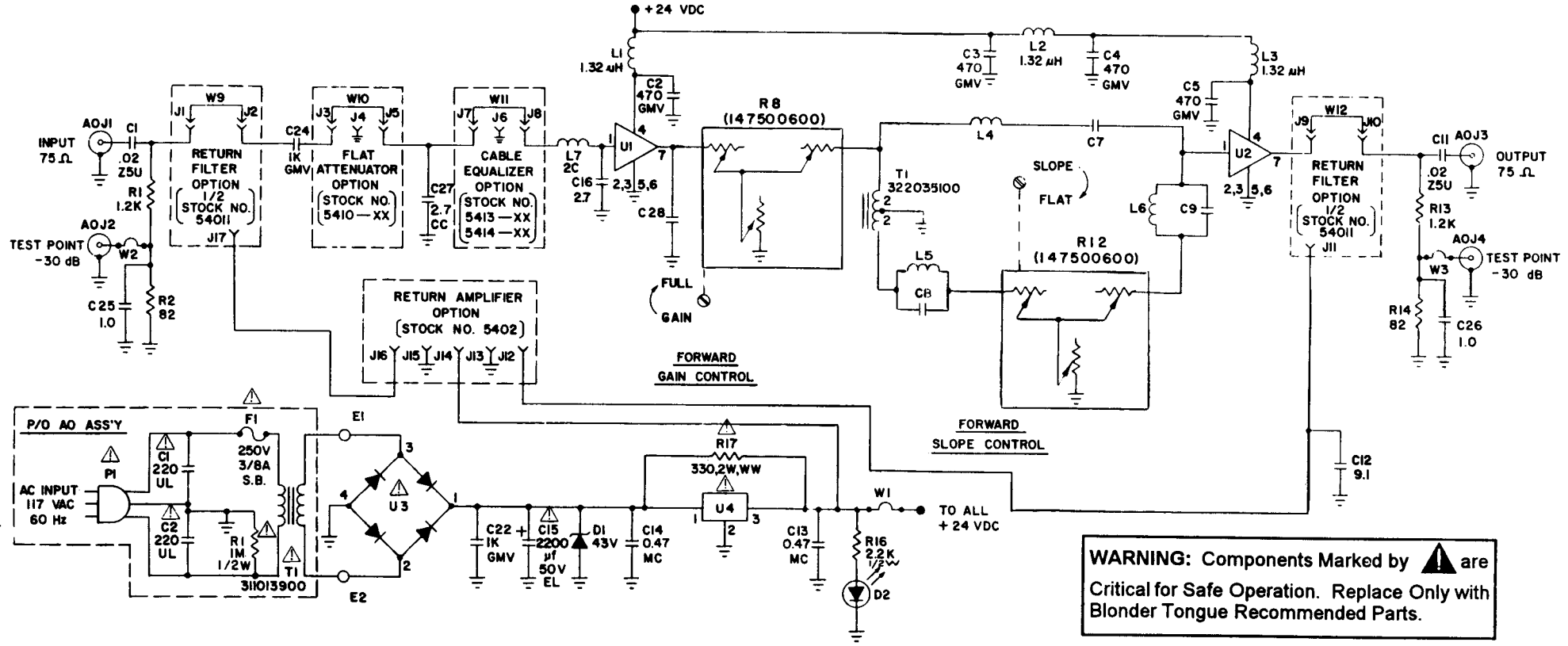
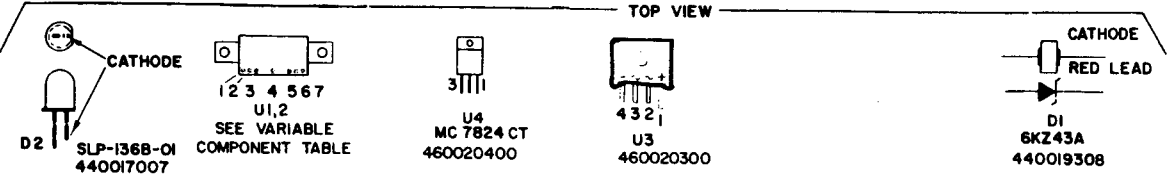


Figure 2 Schematic Diagram BIDA Return Filter

NOTES:-

1. ALL RESISTORS ARE CARBON COMPOSITION, ±5% TOLERANCE, 1/4 WATT, VALUE IN OHMS UNLESS NOTED. K=1000
2. ALL CAPACITORS ARE DISC CERAMIC, ±5% TOLERANCE, NPO, 500 VCLT, VALUES IN pF; DECIMAL VALUES ARE IN μF, UNLESS NOTED.
3. MC = MONOLITHIC CERAMIC, EL = ELECTROLYTIC, CC = CERAMIC COMPOSITION.
4. SEE VARIABLE COMPONENTS CHART FOR UNLISTED VALUES.
5. W8 AND W13 GROUND TO GROUND JUMPERS ARE NOT SHOWN.



WARNING: Components Marked by are Critical for Safe Operation. Replace Only with Blonder Tongue Recommended Parts.

Model	Stock No.	Variable Components											
		R18	C7	C8	C9	C28	C30	L4	L5	L6	L8	U1	U2
BIDA 300-30	5400-33	NU	4.7	6.2	6.2	NU	NU	5C	4C	4C	NU	460017303, BGY 84A	460020903, BGY 85
BIDA 300-50	5400-35	NU	4.7	6.2	6.2	NU	NU	5C	4C	4C	NU	460017303, BGY 84A	460017403, BGY 88
BIDA 450-30	5400-43	NU	3.9	4.7	4.7	2.7	NU	2C	2C	2C	NU	460017303, BGY 84A	460020903, BGY 85
BIDA 450-50	5400-45	NU	3.9	4.7	4.7	2.7	NU	2C	2C	2C	NU	460017303, BGY 84A	460017403, BGY 88
BIDA 550-30	5400-53	120	2.2	3.3	3.3	1.5	4.7	3S	2S	2S	6C	460023903, BGY 584A	460024903, BGY 585
BIDA 550-50	5400-55	120	2.2	3.3	3.3	1.5	4.7	3S	2S	2S	6C	460023903, BGY 584A	460024903, BGY 585

ASSEMBLY : A1

NOTES:

1. UNLESS OTHERWISE NOTED, RESISTORS ARE 1/4 WATT, 5% TOLERANCE, VALUES ARE IN OHMS, K=1000.
2. UNLESS OTHERWISE NOTED, CAPACITORS ARE 5% TOLERANCE, DISC CERAMIC TYPES. VALUES GIVEN ARE IN PICOFARADS, EXCEPT DECIMAL VALUES WHICH ARE IN MICROFARADS. MC= MONOLYTHIC CERAMIC

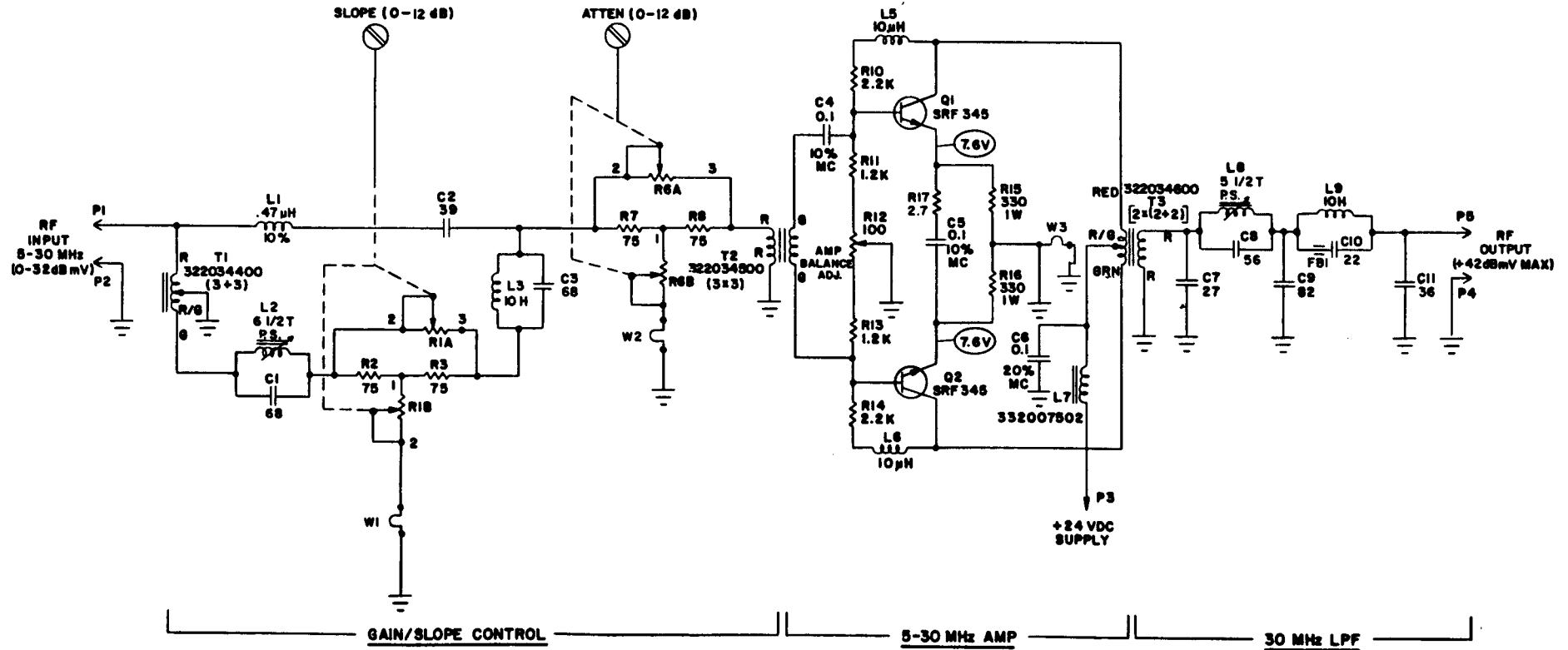
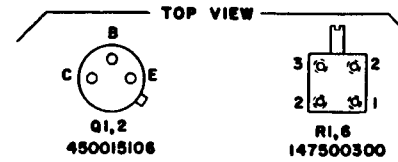


Figure 4 Schematic Diagram BIDA Return Amplifier

NOTE TO CATV INSTALLER

A 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.

Note: Field service information is provided only for qualified commercial equipment installation personnel. There are no user serviceable parts in the BIDA.

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 thru holes provided - pins are polarized to prevent wrong installation - see Location Diagram).

Voltages may be checked against the schematic 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.

BIDA-RF Return Filter Set

Stock No. 54011

Plug-in return filter adds passive reverse path to BIDA series amplifiers. Each BIDA-RF Plug-in contains a high pass (50-600 MHz) and a low pass (5-30 MHz) filter element with a common (5-600 MHz) connecting point. A sheet metal cover is mounted over the circuitry to improve stability and prevent accidental detuning during shipping, handling, and installation. The filters separate sub-band (return) signals from VHF (forward) signals for processing within the amplifier. Two identical BIDA-RF units in the set make an amplifier bi-directional. A passive-return jumper wire is supplied to complete the sub-band path. The jumper wire is to be inserted between J 12 and J 16. (See location diagram). Before inserting filters, remove the two factory installed VHF (forward) bypass jumpers, W 0 (between J 1 & J 2) and W 12 (between J 9 & J 10).

BIDA-RA Return Amplifier

Stock No. 5402

Plug-in return amplifier adds reverse path gain to BIDA series amplifiers. The BIDA-RA is a sub-band (5-25 MHz) amplifier with 24 dB gain. It contains a 12 dB variable slope control and a 12 dB variable gain control. A BIDA-RF return filter set (D54011) is required to complete the system. The passive return jumper is discarded.

BIDA-FA-(*) Flat Attenuator

Stock No. 5410

Plug-in flat attenuator pad for reducing forward gain in BIDA series amplifiers. The BIDA-FA is available in fixed values of 6, 12, 18 dB. Before inserting, remove the factory installed "0 dB" jumper wire W 10 (between J 3 & J 5).

* Specify dB value.

BIDA-CE Cable Equalizer

Stock No. 5413 (for BIDA 300 MHz) - BIDA CE-3-(*)

Stock No. 5414 (for BIDA 450 MHz) - BIDA CE-4-(*)

Stock No. 5415 (for BIDA 550 MHz) - BIDA CE-5-(*)

Plug-in cable equalizer for increasing forward slope in BIDA series amplifiers. The BIDA-CE provides attenuation that varies inversely with frequency to correct inherent tilt of coaxial cable used in distribution systems. A sheet metal cover is mounted over the circuitry to improve stability while preventing accidental detuning during shipping, handling, and installation. The BIDA-CE is available in fixed values of 6, 12, and 18 dB. Before inserting, remove the factory installed "0 dB" jumper wire W 11 (between J 7 & J 8).

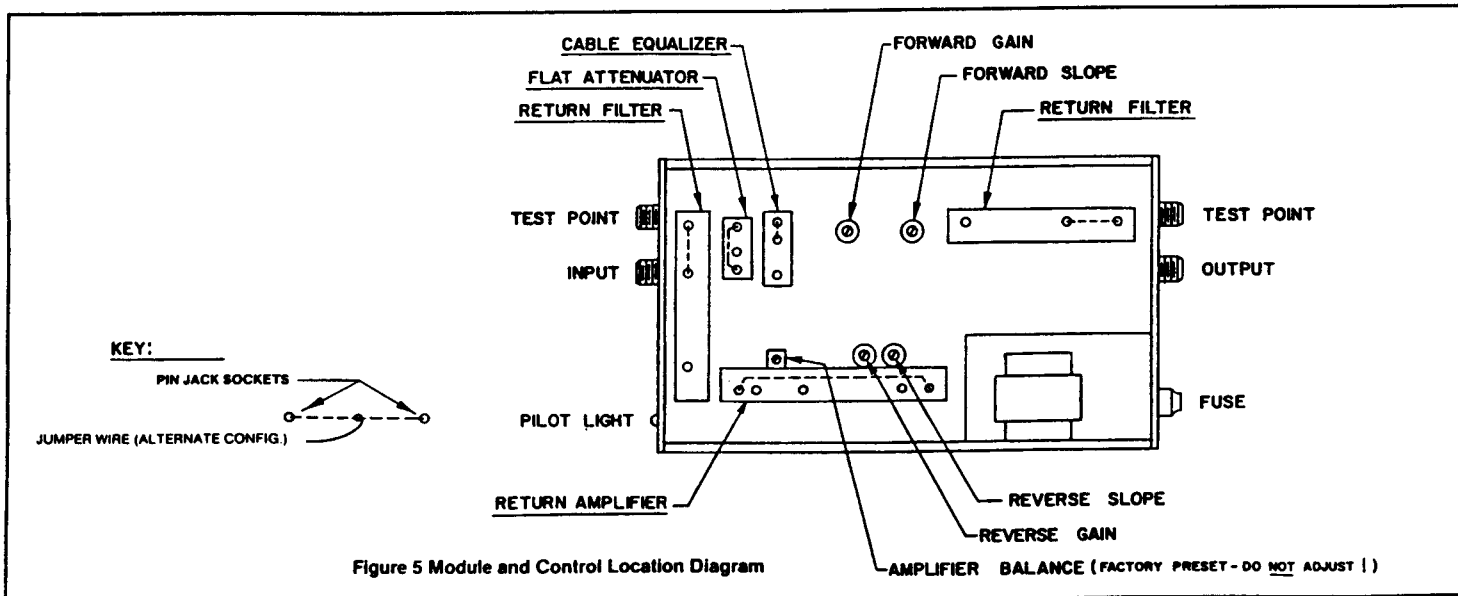
* Specify dB value.

Note: The unit is shipped with 18 gauge jumpers which are not re-installable. Do not remove jumpers except when installing optional equipment modules.

Accessory Identification

For future reference, it is recommended that the type and value of the accessories installed in the BIDA be marked in the space provided on the front panel. The full sized reproduction below may also be copied and used for that purpose.

Accessories Installed	
Flat Attenuator dB	_____ dB
Cable Equalizer dB	_____ dB
Return Filter	_____
Return Amplifier	_____



SERVICE NOTE

Parts and service for this product and other Blonder Tongue products are available from:

Blonder-Tongue Laboratories, Inc.
Service Department

One Jake Brown Road

Old Bridge, NJ 08857-1000

Phone (908) 679-4000 Ext. 257

Fax: (908) 679-4353