



INSTRUCTION MANUAL

651122600 E

*Masterline*®



**MUVB-35**

UHF/VHF/FM  
Distribution Amplifier  
Stock No. 1451



**BLONDER TONGUE** LABORATORIES, INC.

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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.

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

### NOTE TO CATV SYSTEM INSTALLER

This reminder is provided to call the CATV System Installers 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.

### DESCRIPTION

The MUVB-35 is a medium gain, broadband amplifier which amplifies UHF, VHF and FM signals. It is designed for use in medium size "on-channel" MATV systems. The VHF section has separate gain controls for high and low bands and the exclusive, patented\* "inductively coupled emitter feedback" circuit which combines low distortion with a low noise figure.

The UHF section features a solid state interstage attenuator type gain control for excellent stability and low noise. A switchable input mode permits the use of either a combined UHF/VHF antenna or separate UHF and VHF antennas in a system.

A special feature of the MUVB-35 is its wide dynamic range, that is, the range of signals it will accept from the weakest signal that will not produce "snow" to the strongest signal that will not cause cross-modulation.

The MUVB-35 employs high-input capability transistors as the first stages of the VHF and UHF amplifiers, allowing the gain controls to be placed after the input stages. This gain control feature allows a reduction in gain of 12dB to prevent strong signal overload with only 5dB more noise added to all signals, as opposed to 12dB more noise in conventional amplifiers which have their gain controls ahead of the input stage.

\*Patent Number 3,413,563

### FEATURES

- UHF gain to 890 MHz - ideal for translator reception.
- Switchable FM Bandstop Filter prevents overload from strong FM stations.
- Wide gain control range.
- VHF split band amplification reduces distortion. Also allows operation with large high band/low band ratios and greater high band output capability by block tilting.
- Separate gain controls for low band and high band VHF and UHF.
- Gold metalized output transistors and unique thermal design assure long-lasting, reliable performance.

## SPECIFICATIONS (Typical)

	UHF	VHF/FM
Gain:	37 dB	35.5 dB
Gain Control Range:	18 dB	LB 25 dB, HB 19 dB
Input Return Loss:	6 dB R.L.	10 dB R.L.
Output Return Loss:	9 dB R.L.	11 dB R.L.
Maximum Recommended Output for -46dB Cross-modulation:	49 dBmV for each of three channels in the UHF band.	49 dBmV for each of three channels in the low band and four in the high band.
Minimum Recommended Input for TASO Grade 1 (excellent) picture (at full gain):	-6 dBmV	-6 dBmV
Typical Noise Figure (full gain):	6.2 dB	6.2 dB
Power Requirement:	117 VAC, 60 Hz, 0.12 amp.	
Dimensions:	11-7/8" L X 5-7/32" W X 1-3/4" H	
Shipping Weight:	3-1/4 lbs.	

## INSTALLATION

### MOUNTING

The MUVB-35 may be mounted on any flat surface or it may be bolted to a standard 19 inch blank EIA rack panel. For highest reliability, choose a location close to the antenna downlead where the unit will not be subjected to temperature extremes outside of its rated operating ambient range.

### CONNECTIONS TO UNIT INPUT:

1. Separate UHF and VHF antennas - Connect UHF and VHF antenna lead-ins to the UHF and VHF INPUT jacks respectively. Set the U/V Input Switch to "SEPARATE."
2. Combined UHF/VHF antenna - Connect the UHF/VHF antenna lead-in to the UHF/Combined INPUT. Set the U/V Input Switch to "Combined."

### OUTPUT:

Connect MUVB-35 OUTPUT to the distribution system.

### GAIN CONTROL ADJUSTMENTS

The GAIN CONTROLS should be adjusted for maximum output with no observable cross-modulation. (Cross-modulation appears on a TV screen as "windshield wiper" effect, crosshatch, flickering, or loss of sync.)

Ideally, the output level should be set using a field strength meter. However, if a field strength meter is not available, a TV set, an adjustable attenuator, and a matching transformer may be used. After installation of the MUVB-35 into the distribution system connect the TV set through the matching transformer and the attenuator to the OUTPUT jack of the MUVB-35 and proceed as follows:

1. Set attenuator to equal total calculated loss of distribution system.
2. Using a 3/32" small screwdriver, turn all three GAIN CONTROLS to minimum gain (fully counterclockwise).
3. Observe picture on all high band (7-13) channels. Choose the weakest channel.
4. Turn CH. 7-13 GAIN CONTROL clockwise until cross-modulation is visible in picture. Back off slowly until cross-modulation disappears.
5. If no cross-modulation appears, set CH. 7-13 GAIN CONTROL fully clockwise to full gain.
6. Recheck all high band channels. Reduce gain if cross-modulation appears on any channel.
7. Observe picture on all low band (2-6) channels. Choose the weakest channel.
8. Turn CH. 2-6, FM GAIN CONTROL clockwise until cross-modulation is visible in picture. Back off slowly until cross-modulation disappears.
9. If no cross-modulation appears, set CH. 2-6, FM GAIN CONTROL fully clockwise to full gain.
10. Recheck all low band channels. Reduce gain if cross-modulation appears on any channel.
11. Recheck the high band channels. If interference is seen, and was not present in step 6, reduce CH. 2-6, FM GAIN CONTROL until interference disappears.
12. If a field strength meter is available use the settings shown in the chart for LOW BAND and HIGH BAND as typical maximum per channel VHF OUTPUT levels. NOTE: Leave an additional safety margin for daily or seasonal signal strength variations and for FM signals.
13. Observe picture on all UHF channels. Choose the weakest channel.
14. Turn UHF GAIN CONTROL clockwise until cross-modulation is visible in picture. Back off slowly until cross-modulation disappears.
15. If no cross-modulation appears, set UHF GAIN CONTROL fully clockwise to full gain.
16. Recheck all UHF channels. Reduce gain if cross-modulation appears on any channel.
17. If a field strength meter is available, use output settings shown in chart.

Low Band
2 Ch.: 52 dBmV
3 Ch.: 49 dBmV
5 Ch.: 46 dBmV

High Band
2 Ch.: 52 dBmV
4 Ch.: 49 dBmV
7 Ch.: 46 dBmV

UHF Band
2 Ch.: 50 dBmV
4 Ch.: 47 dBmV
7 Ch.: 44 dBmV

FM TRAP: Set switch to "TRAP" to attenuate strong FM channels; set switch to "FLAT" when no interference is present.

## Service

This product is designed to give long, trouble-free service when installed according to instructions found in this booklet. If you suspect trouble, check all connections between the antenna, amplifier and TV set. Check your cables for breakage and shorts. If you cannot restore normal operation, refer to *Returning Product for Repair (or Credit)* below.

### **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.

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