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OPERATING MANUAL

for the

MODEL A-1 HI-FI AUDIO AMPLIFIER

BLONDER-TONGUE LABORATORIES, INC.
NEWARK 2, NEW JERSEY

FIRST CLASS
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NEWARK, N. J.

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BLONDER-TONGUE LABORATORIES, INC.

9 ALLING STREET

NEWARK 2, NEW JERSEY

The Blonder-Tongue high fidelity Audio Amplifier features:

- Audio Baton System . . . enables complete listening enjoyment.
- Special low noise pre-amp stage.
- Plenty of reserve power.
- Small, compact size . . . packs more power than many larger sized units. (12 watts on music wave forms.)
- Can be used as amplifier for second stereo channel.

1. SPECIFICATIONS

1.1 Inputs:

Magnetic Phono: 10 MV at 47K ohms impedance

Xtal Phono: 0.6V min. to 5V max. at equivalent to 3 megohms impedance

Tuner: 0.7V min. to 5V max. at 500K ohms impedance

Aux/tape: 0.7V min. to 5V max. at 500K ohms impedance

1.2 **Outputs:** Speakers 4, 8 and 16 ohms.

1.3 **Performance:** 12 watt output (on music wave forms).
"Audio Baton" tone control system individual control ranges:

Bass:	50 cps + 6 db and - 10 db
Lo Middle:	300 cps + 15 db and - 20 db
Hi Middle:	1600 cps + 15 db and - 20 db
Treble:	8500 cps + 15 db and - 6 db

Much greater boost and cut available by operating more than one control.

Harmonic Distortion: 1% at 10W (12 watts on music wave forms).

Frequency Response: 30 to 15,000 cps \pm 1/2 db at 2 watts.

Phono Equalization: RIAA, basic. Infinite variety available with "Audio Baton" tone control system.

1.4 Power Requirements: 117V, 60 cycles, AC only, 40 watts.

1.5 Replacement Tubes: 7025, 12AX7, 6AV6, 6V6GT(2), 6X4.

1.6 Size (cabinet): 8 3/8 x 5 3/8 x 6 7/8" (W, H, D).

1.7 Shipping Weight: 9 lbs.

2. INSTALLATION

2.1 Plug the Amplifier line cord into a 110-120 volt AC outlet (regular 60 cycle household current).

2.2 Connect to output of phonograph, tuner, tape, preamplifier or auxiliary equipment. (See Fig. 1.)

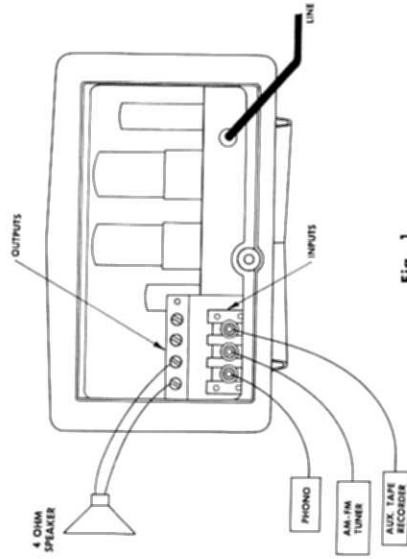


Fig. 1
Rear View of a Typical Audiophile's Layout

2.3 Connect speaker to output terminals. The Amplifier will accommodate a speaker with impedances of 4, 8 or 16 ohms. (See Fig. 1.)

CAUTION: Be certain your speaker can handle 12 watts of program material.

2.4 Set function selector switch to appropriate position (phono mag, phono xtal, tuner or tape/aux). See Fig. 2.

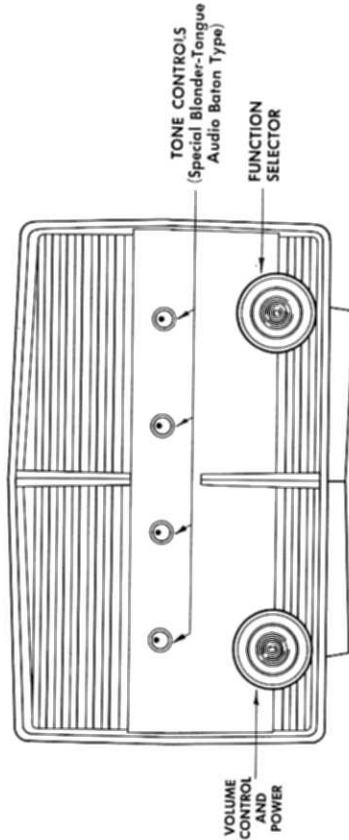


Fig. 2
Front View

- 2.5 Turn on volume control and set to desired listening level.
- 2.6 Begin by setting the four tone controls for flat response (position dot on Control Knob). The tone controls on this Amplifier permit complete control over the frequency response of the high fidelity system. Some of the uses of the "Audio Baton" tone controls are:

- A Highlight or bring out individual instruments or voices in musical compositions.
- B Increase or reduce the presence effect, that is, cause the performer to seemingly advance from the background or recede into it.
- C Reduce distortion in the mid-frequency range without attenuating the high frequencies.
- D Correct for the non-flat response of the pick-up, record, speaker, etc.
- E Create special effects. Such as telephone sound, background music response, hollow sound, etc.
- F Increase speech clarity, especially in the presence of noise.
- G Aid the hard-of-hearing. By properly manipulating the tone controls of the Audio Amplifier, it is possible to hear more high fidelity music without using a hearing aid.

2.7 How to Take Advantage of the Foregoing Capabilities:

- A If a Cello is playing notes in the octave above middle C and the Lo-Middle control is advanced, the notes will sound louder. If no other instruments are sounding notes in the same range, the Cello will be brought out. Reducing the setting of the Lo-Middle knob will diminish the Cello sound.
- B Frequencies in the 2,000 to 4,000 cps range are called the Presence Frequencies. If the amplitude of the response is increased in this range, solo performers will seem to advance from the background. The Hi-Middle control may be used for this purpose. Reducing the settings on this control will cause solo performers to seemingly recede into the background.
- C Program material with substantial amounts of intermodulation distortion (such as might result from a well-worn record, a poor loudspeaker, or an improperly aligned tuner) may be made to sound better by the attenuation of frequencies in the middle range because most of the stronger intermodulation components exist here. Reducing the setting of the Lo-Middle and Hi-Middle controls will accomplish this objective.
- D Improperly designed loudspeaker enclosures often cause a booming effect in the bass range. The bass control, when reduced, is effective in substantially reducing this boom. If a particular composition has a shrill tone quality, reduce the setting of the Hi-Middle control. See Fig. 3 for further subjective tonal descriptions and how to correct them.
- E Background music response is created by turning the Lo-Middle and Hi-Middle knobs counter-clockwise.
- F Intelligible reproduction of speech requires a frequency range of approximately 200 to 2,700 cps. The tone controls may be used to attenuate noise components of other frequencies and improve the signal-to-noise ratio of noisy speech.

G Hearing aids do two things: they increase volume of sound for the sensitivity-deficient ear and predistort the frequency response of the sound in order to compensate for the non-flat frequency response of the ear. The tone controls may also be used to compensate for the frequency response deficiencies of an ear, permitting the hard of hearing person to listen to hi-fi music without an aid and yet obtain the frequency response correcting advantages of an aid.

2.8 Notes on Operating Your Tone Controls:

If you should desire more boost from any one control, start with all knobs 1/5 rotation up from the full-closed position instead of the half way point. This will permit 20 db boost on each knob. When equalizing the response of records having faulty tone quality, small changes, perhaps as low as 3 or 4 db on a knob, are usually sufficient. Listen for at least 15 seconds after a change has been made to become accustomed to each new adjustment. If distortion is present, as indicated by a rough or kazoo type sound, increase the attenuation of the high frequencies, starting at the 10,000 cycle knob and working down.

	Extreme low below 100	Low 100-300	Lower Middle 300-800	Upper Middle 800-1500	Lower High 1500-3000	Middle Highs 3000-5000	High 5000-8000	Extreme High Above 8000
Excess	Booming	Grunt	Soft		Shrill	Tinkly	Harsh	
			Muddy		Brassy		Hard	
			Solid		Metallic			
			Dead, dull or thick					
		Boom	Flat	Masculine	Bright			
			Sounding	Baritone	Brilliant			
			Body		Crisp		Brittle	
			Mellow					
Normal								
			Lean	Warm			Soft	
			Thin	Soprano				
Deficiency			Tinny					

Fig. 3

3. MAINTENANCE AND REPAIR

- 3.1 Maintenance of the Model A-1 Audio Amplifier consists of occasional replacement of tubes. For replacement of the tubes, remove chassis by removing two screws on bottom of cabinet and one in the back of the cabinet.
- 3.2 For repair, return the unit to your dealer or local service man. If this service is not available locally, pack the unit carefully and ship it prepaid to:

BLONDER-TONGUE LABORATORIES, INC.

Service Department
9 Alling Street

Newark 2, New Jersey

Warranty

This unit is fully guaranteed to be free from defects in workmanship and components for 90 days from date of purchase. The accompanying warranty card should be filled out completely and promptly returned to the factory. If the unit should require adjustments or parts replacements during the warranty period, return it to your dealer or if this service is not available locally, pack it carefully and ship it prepaid to: BLONDER-TONGUE, Service Department, 9 Alling Street, Newark 2, New Jersey. A packing slip complete with name and address, serial number and nature of difficulty should be enclosed.

WARRANTY CARD VOID UNLESS COMPLETED AND RETURNED WITHIN 10 DAYS AFTER PURCHASE

FILL IN AND RETURN THIS CARD

How did you hear of Blonder-Tongue?

Dealer Friend Advertising
Do you own other Blonder-Tongue products?

Yes No Yes No
If Yes: Standard Stereo

Brand of Components?

Phone

Amplifier

Tuner

Speaker

Are you married? Yes No

Please check your age group:

Under 20 20-35 over 35

What is your occupation?

How do you like this unit?

Date of purchase

Model # **A-1**

Serial #

Warranty (gray sticker) #

Dealer Name

Address

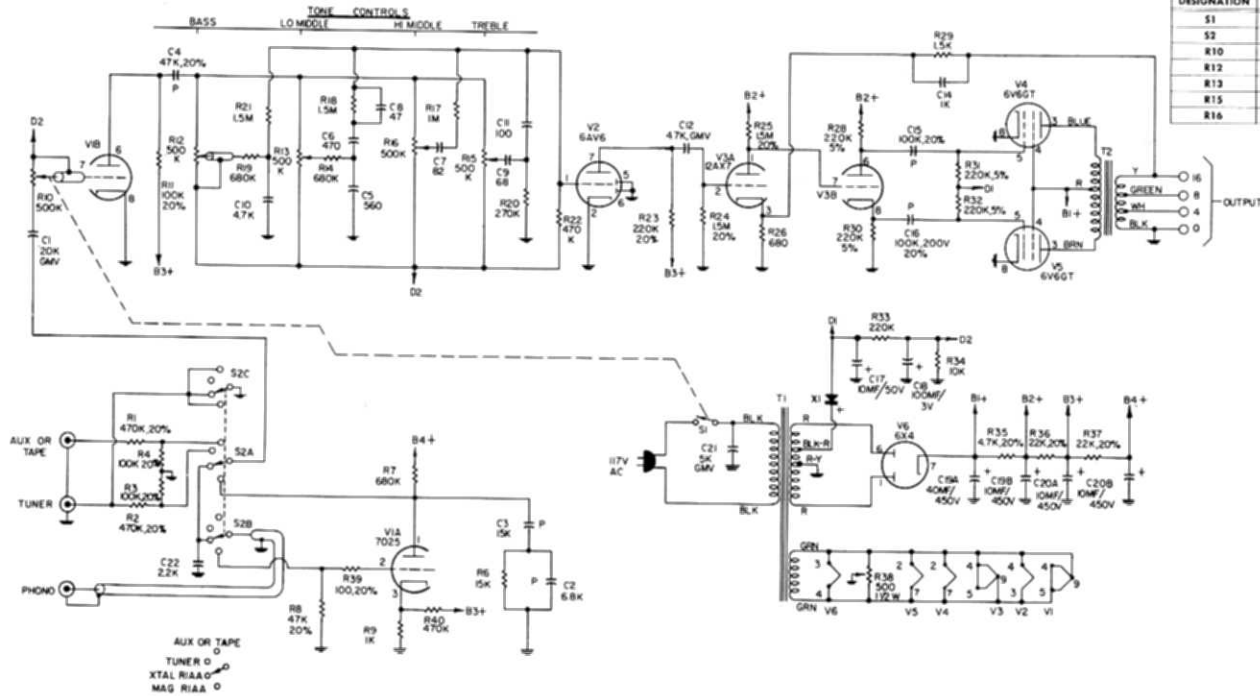
Your Name

Address

NOTES:

1. All Resistors in ohms; K = 1,000, M = 1,000,000.
2. All Capacitors in mfd except Electrolytics (mf).
3. All Resistors and Capacitors are 10% unless otherwise specified.
4. All Paper Cap. 400 WVDC unless otherwise specified.
5. All Disc Cap. 500 WVDC unless otherwise specified.
6. All Res. are 1/2 watt unless otherwise specified.
7. All Cap. are ceramic unless otherwise specified by the following symbols:
P = Paper, + Electrolytic.

3.3 Schematic:



CONTROLS

FUNCTIONAL DESIGNATION	DESCRIPTION
S1	POWER SWITCH
S2	INPUT SELECTOR
R10	VOLUME CONTROL
R12	BASS 30-150 CPS
R13	LO MIDDLE 150-700 CPS
R15	TREBLE 3500-15000 CPS
R16	HI MIDDLE 700-3500 CPS