Electro-Voice®

ELECTRONICS SERVICE MANUAL

E-V 1144A SOLID STATE AMPLIFIER

ELECTRO-VOICE INC., BUCHANAN, MICHIGAN 49107

INDEX

INTRODUCTION

This service manual was designed with the technician in mind. It has been kept as brief as possible without over-simplification. All procedures are presented in a clear step-by-step manner. Although we have tried to anticipate all of your problems and questions, in special instances you may need additional guidance. Address any such inquiries to our Technical Service Department.

The sheets are punched to fit a three-ring binder so that any production changes and additional service tips can be easily added. This will keep your Electro-Voice Service Data as up-to-date as possible.

DESCRIPTION

Representing an entirely new and unique approach to the design of stereo high fidelity components, the Electro-Voice E-V 1144A stereo control amplifier incorporates the latest "state of the art" transistor circuitry in an exquisitely styled, remarkably small package. Despite its small size, the E-V 1144A delivers 65 watts IHF music power with low distortion.

In addition to superb styling and performance, the E-V 1144A amplifier offers many operating conveniences. A color-coded volume control allows simple operation, even by those unfamiliar with component stereo. Colorful indicator lights show at a glance the program source selected. The front panel stereo headphone jack is live at all times, while a speaker mute switch allows the speakers to be disabled at will without affecting headphone operation.

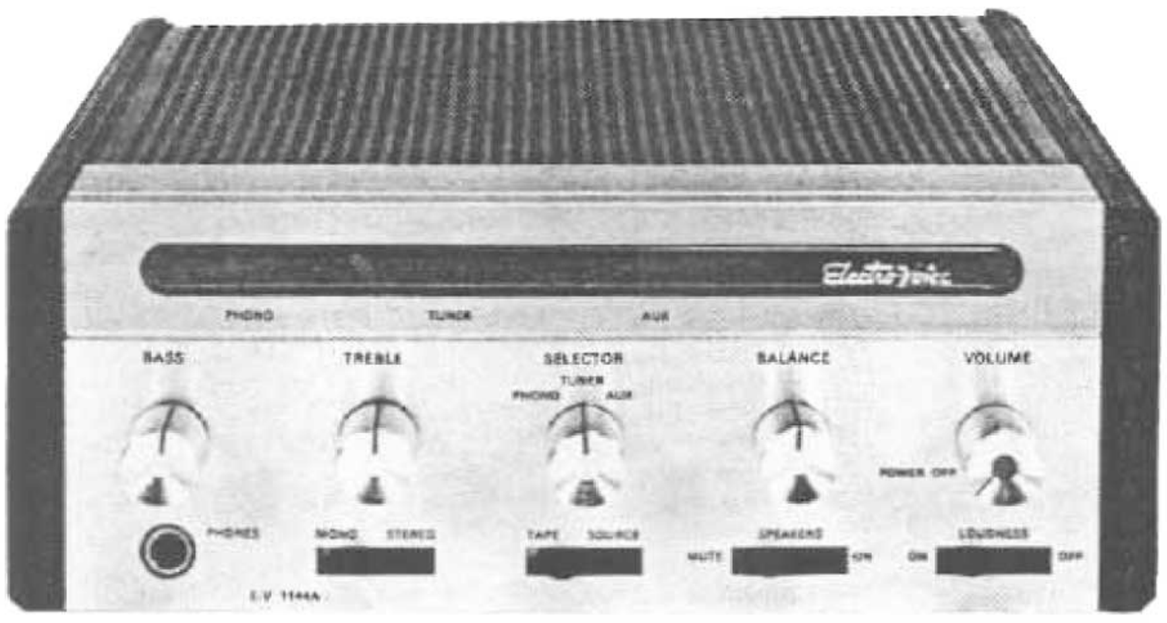


FIGURE 1

SPECIFICATIONS

POWER OUTPUT	
IHF Music Power:	65 watts into 4 ohms
	50 watts into 8 ohms
Continuous Sine Wave:	18 watts per channel
FREQUENCY RESPONSE:	±1.5 db, 20-20,000 Hz at rated output
	±1.5 db, 20-30,000 Hz at 1 watt
HARMONIC DISTORTION:	Less than 1.0% at rated output
HUM and NOISE	
High Level Inputs:	Better than 70 db below rated output
Magnetic Phono Input:	Better than 60 db below rated output
CHANNEL SEPARATION:	40 db minimum at 1,000 Hz
INPUTS:	Mag Phono—Tuner—Aux—Tape (high level)
INPUT SENSITIVITY	
Phono:	3 mv
Tuner, Aux, Tape:	150 mv
CONTROLS (ROTARY)	
Bass:	+10 db, −12 db at 50 Hz
Treble:	+10 db, −12 db at 10,000 Hz
Selector:	Phono—Tuner—Aux
Balance:	
Volume:	With On/Off Switch
CONTROLS (SWITCHES)	
Mode:	Stereo/Mono
Tape Monitor:	Source/Tape
Loudness:	On/Off
Speaker:	On/Mute
OUTPUTS	
Speakers:	4—16 ohms per channel
Stereo Tape Recorder	
Stereo Headphones:	On front panel
OUTPUT DAMPING FACTOR:	one switched
	one unswitched
POWER REQUIREMENTS:	110—120 volts
	50—60 cycle AC
DIMENSIONS:	3-3/8" high, 8-3/8" wide, 10-1/4" deep

FEATURES

LOUDNESS CONTROL: Compensates for decreased efficiency of the human ear to low frequencies at low listening levels. Only in effect below 12 o'clock position of volume control.

SPEAKER MUTING SWITCH: Disables speakers for headphone listening. Output is available at the headphone jack regardless of muting switch position.

COLORED INDICATOR LIGHTS: Show the input source selected—phono, tuner, auxiliary.

CONTROL FUNCTIONS

TAPE/SOURCE: Selects either tape (high level) or inputs controlled by selector switch. Allows you to monitor what has actually been recorded on tape.

STEREO/MONO: Allows either two-channel amplification of stereo signal source or combines input signals for monophonic reproduction through both speakers. Monophonic input plays back through both speakers with switch in mono position.

SPEAKER MUTE: Permits either simultaneous headphone and loudspeaker or headphone listening only.

LOUDNESS: Causes volume control to automatically boost bass at low setting which compensates for hearing deficiencies at low levels.

SELECTOR: Allows choice of signal source—phono, tuner, or other high level source (auxiliary).

BASS: Approximately 12 db boost and 16 db cut at 50 Hz (both channels) to compensate for speaker system characteristics and listening preference.

TREBLE: Approximately 12 db boost and 16 db cut at 10,000 Hz, both channels.

BALANCE: Allows choice of left or right speaker operation and provides method of compensating for other system imbalances.

VOLUME-OFF/ON: Controls listening level and, when used in conjunction with loudness control, maintains natural sound balance even at low volume levles.

PREPARING FOR OPERATION

1. Be sure power switch (on volume control) is "off" before plugging amplifier into wall outlet supplying 115—120 volts AC.

2. Connect left and right channel speakers at terminal block using diagram printed on bottom of amplifier. NOTE: AVOID SHORTING SPEAKER TERMINALS TO KEEP FROM BLOWING OUTPUT FUSES.

3. Connect outputs from tape recorder, turntable or changer and tuner to corresponding input jacks.

4. Set tape/source switch to source position and turn selector to appropriate input. Note: if tape player is used, put tape/source in tape position.

5. Turn unit on by advancing volume control until a click is heard. Advance control to a comfortable level and set tone controls at approximately 12:00.

6. Set balance control for equal output from both speakers.

7. Check speaker phasing by reversing leads to one speaker while standing mid-way between and in front of the speakers. The stereo/mono switch should be in the mono position for this check. Make final speaker connection with the polarity that delivers fullest bass and causes the sound to appear to come from the area between the speakers.

DISASSEMBLY

REMOVING BLACK METAL COVER

1. Remove phillips head screws in rear of cabinet. (See Figure 2 below)

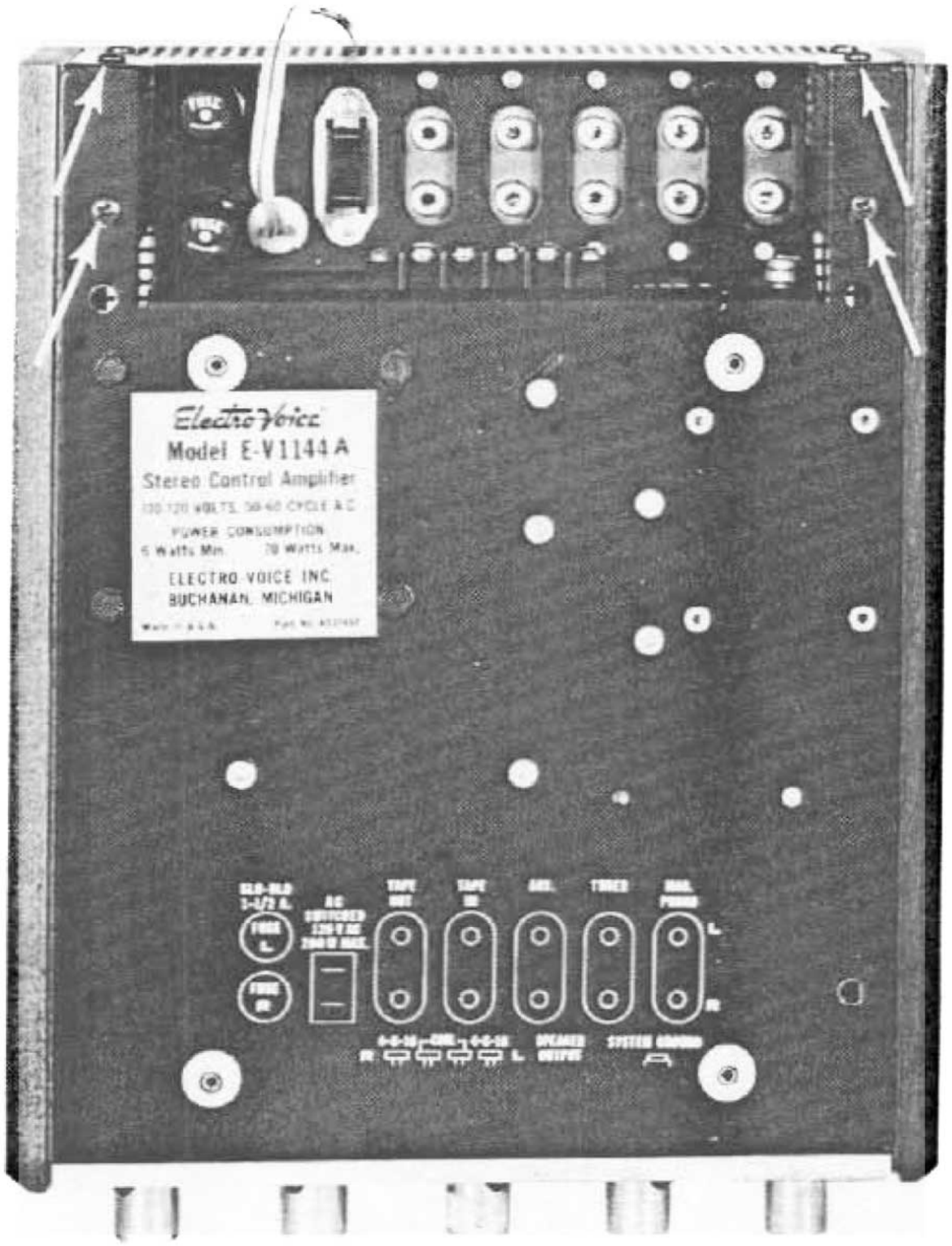


FIGURE 2

2. Slide cover back and remove.

REMOVING WALNUT END PANELS

3. Remove phillips screw from each panel. (See Figure 2 above)

4. Remove brass grounding strap.

5. Pull back firmly on panel to disengage metal clip.

REMOVING FRONT PANEL

6. Remove the control knobs by pulling forward.

7. Remove felt washers behind knobs.

8. Remove 2 nuts from threaded studs on front panel. (See Figure 3 below)

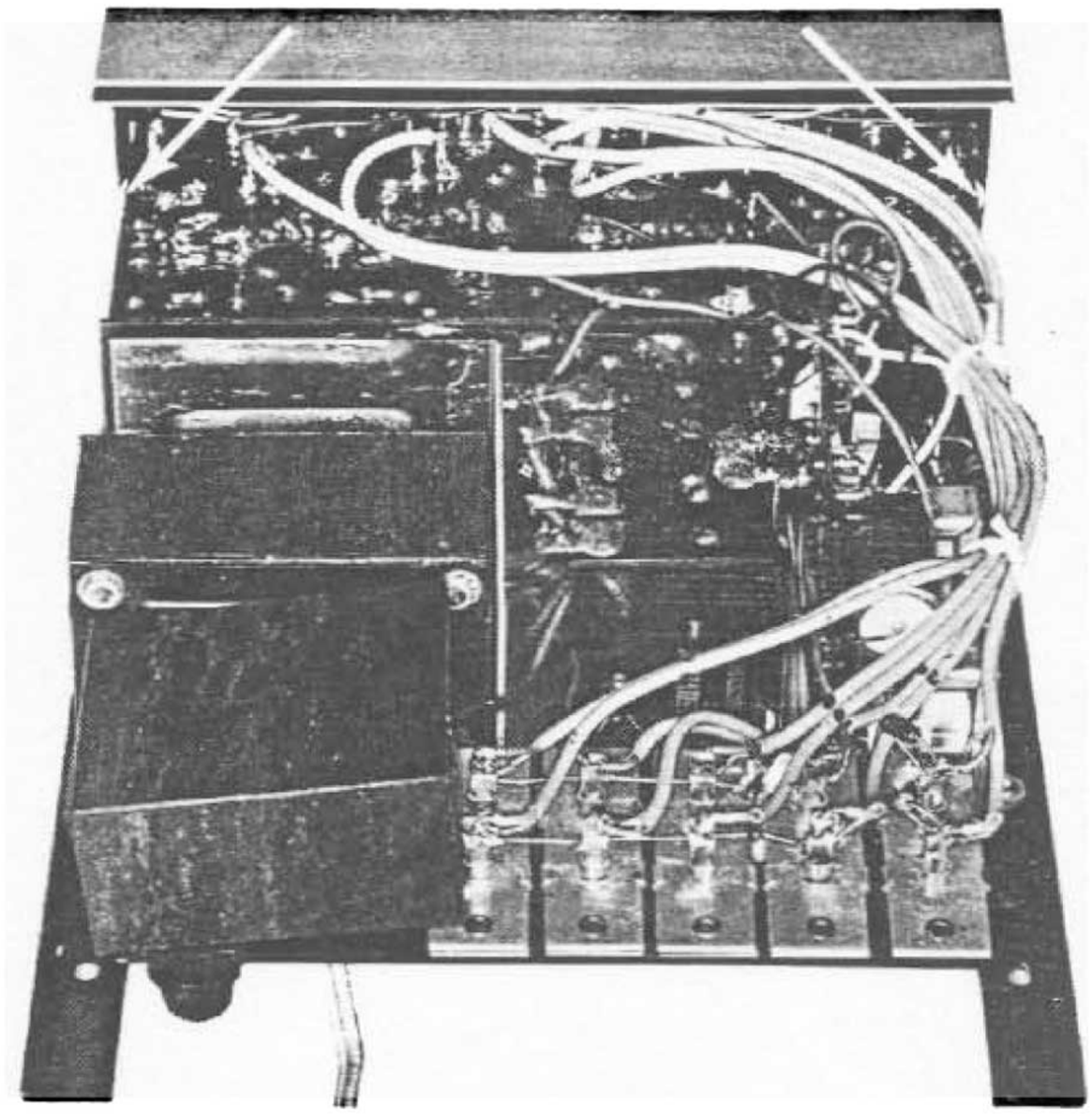


FIGURE 3

9. Remove the front panel.

REPLACING LAMPS AND FUSES

REPLACING FUNCTION INDICATOR LAMPS

1. Follow Steps 1 thru 9 under disassembly.
2. Loosen silk tape holding fishpaper shield in place.
3. Bend shield back to gain access to bulbs. (See Fig. 4)
4. Replace defective lamp(s) and reverse steps above.

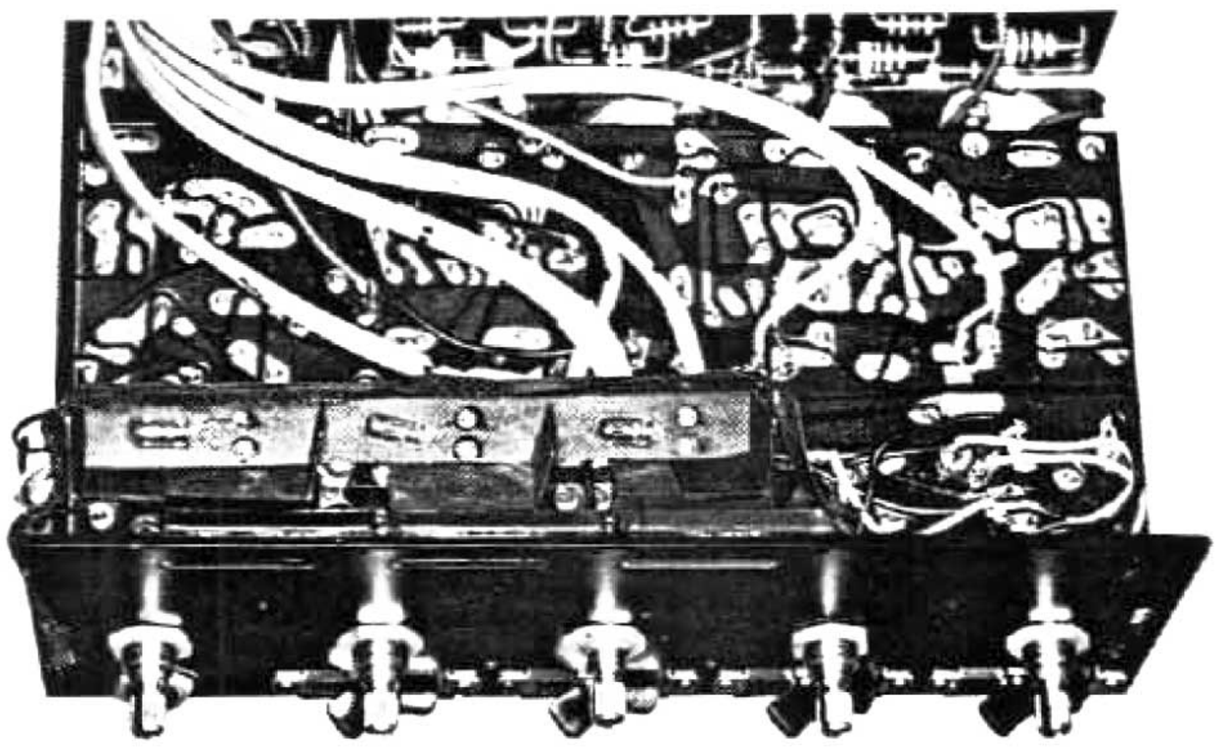


FIGURE 4

REPLACING OUTPUT FUSES (F2 & F3)

1. Follow Step 1 and 2 under disassembly.
2. Pry defective fuse from holder.
3. Replace with 1.5a SLO-BLO fuse and reassemble amplifier.

REPLACING POWER FUSE (F1)

1. Follow Steps 1 and 2 under disassembly.
2. Pry defective fuse from holder.
3. Replace with a 1.5a SLO-BLO fuse and reassemble amplifier.

PARTS IDENTIFICATION

TRANSISTORS

43054	Lo-Noise
43044	SE-6002
43045	SE-4002
43046	B10167

COMPONENTS

42407	2500 @25 wv capacitor
43067	750 @ 100 piv diode
15200	Driver transformer
15174	Power transformer

SWITCHES & CONTROLS

46415	Balance (25k)
46412	Volume (25k)
46413	Bass/Treble (100k)
56084	Selector switch
56075	Rocker switch

PRINTED BOARDS

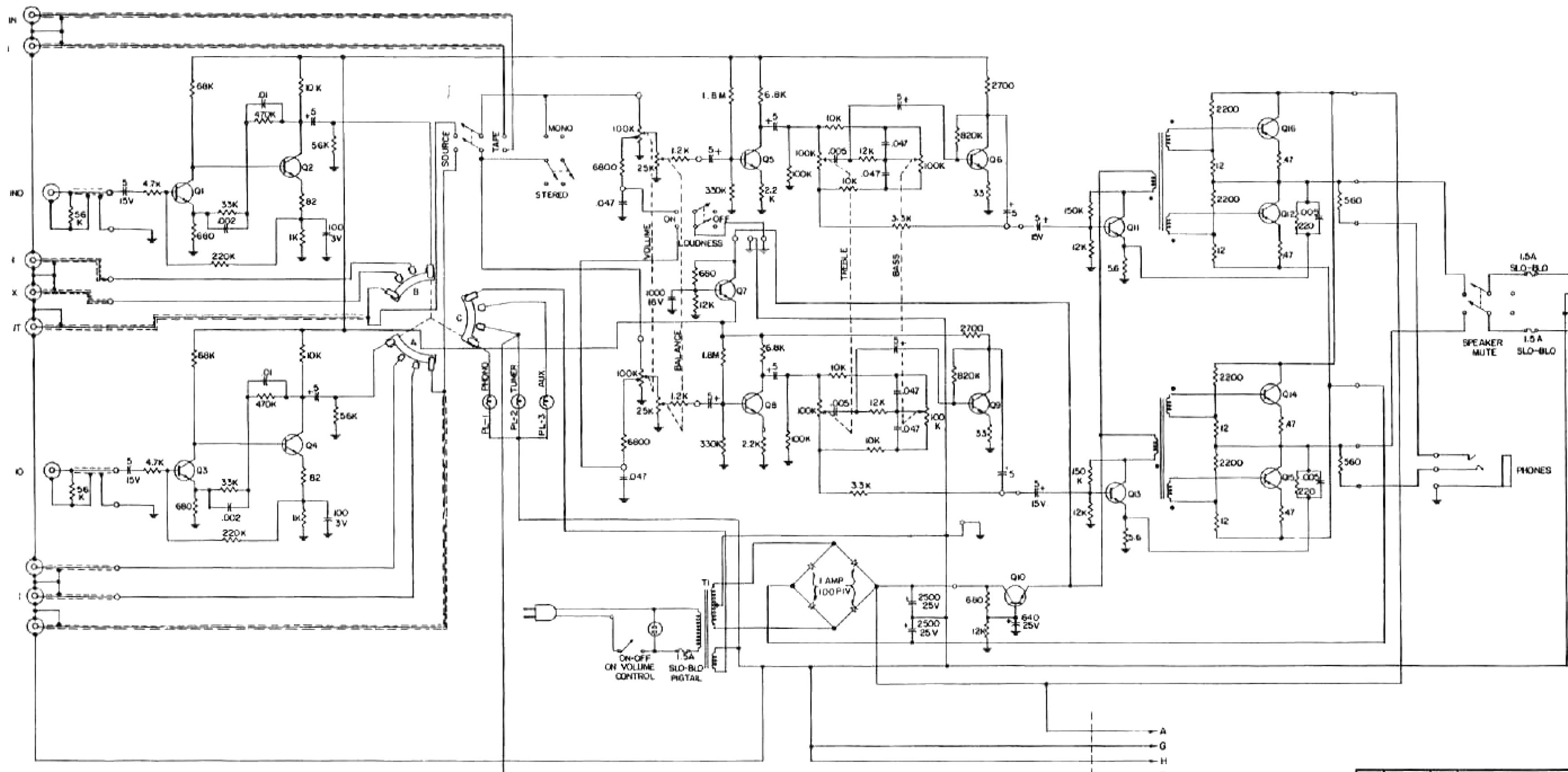
84949	PC-1 Preamp complete
84950	PC-2 Driver/Power Amp complete
84950	PC-3 Driver/Power Amp complete
84951	PC-4 Power Supply complete
77116	Power Supply (board only)

MISCELLANEOUS

17139	Phone Jack
17137	Phono Jack (dual)
20797	Strain Relief
27258	Speaker terminal strip
76660-BX	Side Panel Clip
16412	Power Cord
20893	Heat Sinks
20747	Mica Insulator
77117	Fishpaper Lamp Board
77118	Ground Strap
43055	Bulb
38294	Felt Washer
A85081-ED	Front Panel
A76484	Side Panel
A76489-JD	Top Cover
A76499-RA	Lens

KNOBS

76558-CX	Volume On/Off
76557-CX	Bass/Treble/Balance
76717-CX	Selector Switch



Q1, 3 ——— FAIRCHILD 51785 or GE 2N3900A or MOTOROLA MPS-6521

Q2, 4, 5, 6, 8, 9 ——— FAIRCHILD SE4002

Q7, 10, 11, 13 ——— FAIRCHILD SE6002

Q12, 14, 15, 16 ——— BI0167

PL-1, 2, 3 — LAMP, 6.0V, .2A, IEE* 2112

NOTES:

1. ALL RESISTOR VALUES ARE IN OHMS AND ½ WATT UNLESS OTHERWISE SPECIFIED.

2. ALL CAPACITOR VALUES ARE IN MFD UNLESS OTHERWISE SPECIFIED.

CONNECTION FOR 1177B AND 1178B RECEIVERS

BILL OF MATERIAL FOR ONE COMPLETE UNIT

DO NOT SCALE DRAWING

TITLE: SCHEMATIC, AMPLIFIER

Electro-Voice, ELECTRO VOICE, INC. BUCHANAN, MICHIGAN

MODEL: EV- 1144 A

PART NO. 327-8