

RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	ECC83 12AX7	+60K	1.5meg	1200Ω	FIL	FIL	+340K	22K -1meg	2400Ω -0Ω	FIL
V2	7247	+63K	0Ω	1500Ω	FIL	FIL	+63K	220K 470K	1000Ω	FIL
V3	ECC83 12AX7	+345K	200K 470K	1100Ω	FIL	FIL	+345K	200K 470K	1100Ω	FIL
V4	6SN7GTB	+345K	+33K	18K	+1.3meg	+37K	18K	FIL	FIL	
V5	7591	TP	FIL	+120Ω	+1800Ω	10Ω	200K	FIL	+1800Ω	
V6	7591	TP	FIL	+130Ω	+1800Ω	10Ω	200K	FIL	+1800Ω	
V7	ECC83 12AX7	+60K	1.5meg	1200Ω	FIL	FIL	+340K	22K -1meg	2400Ω -0Ω	FIL
V8	7247	+63K	0Ω	1500Ω	FIL	FIL	+63K	220K 470K	1000Ω	FIL
V9	6SN7GTB	+345K	+33K	18K	+1.3meg	+37K	18K	FIL	FIL	
V10	7591	TP	FIL	+120Ω	+1800Ω	10Ω	200K	FIL	+1800Ω	
V11	7591	TP	FIL	+130Ω	+1800Ω	10Ω	200K	FIL	+1800Ω	
V12	GZ34 5AR4	NC	1	NC	24Ω	NC	33Ω	NC	1	

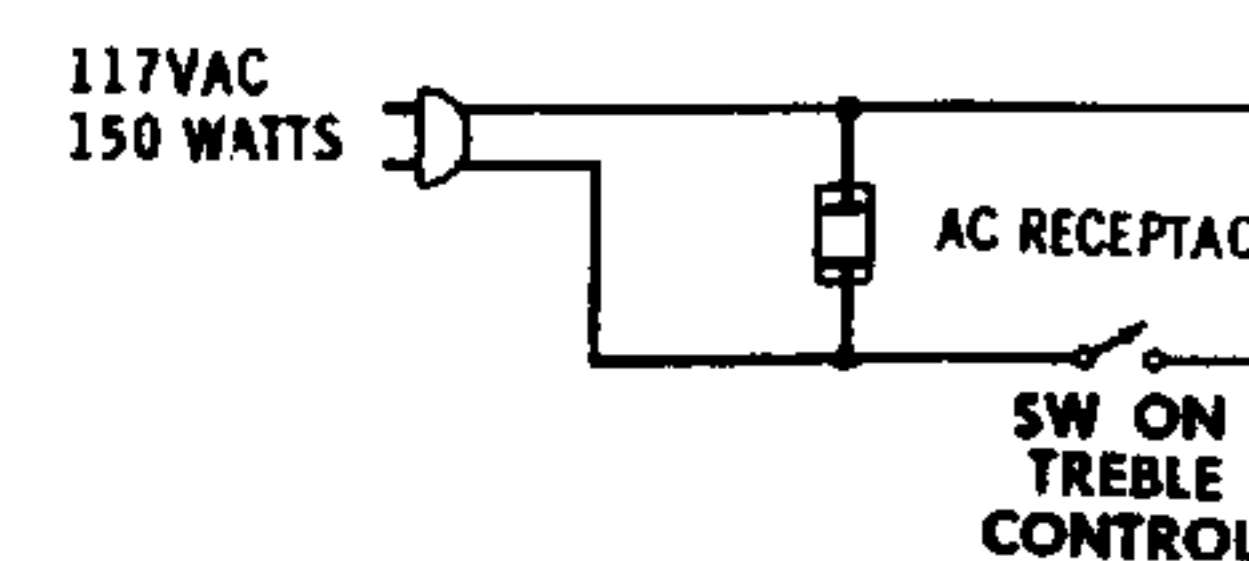
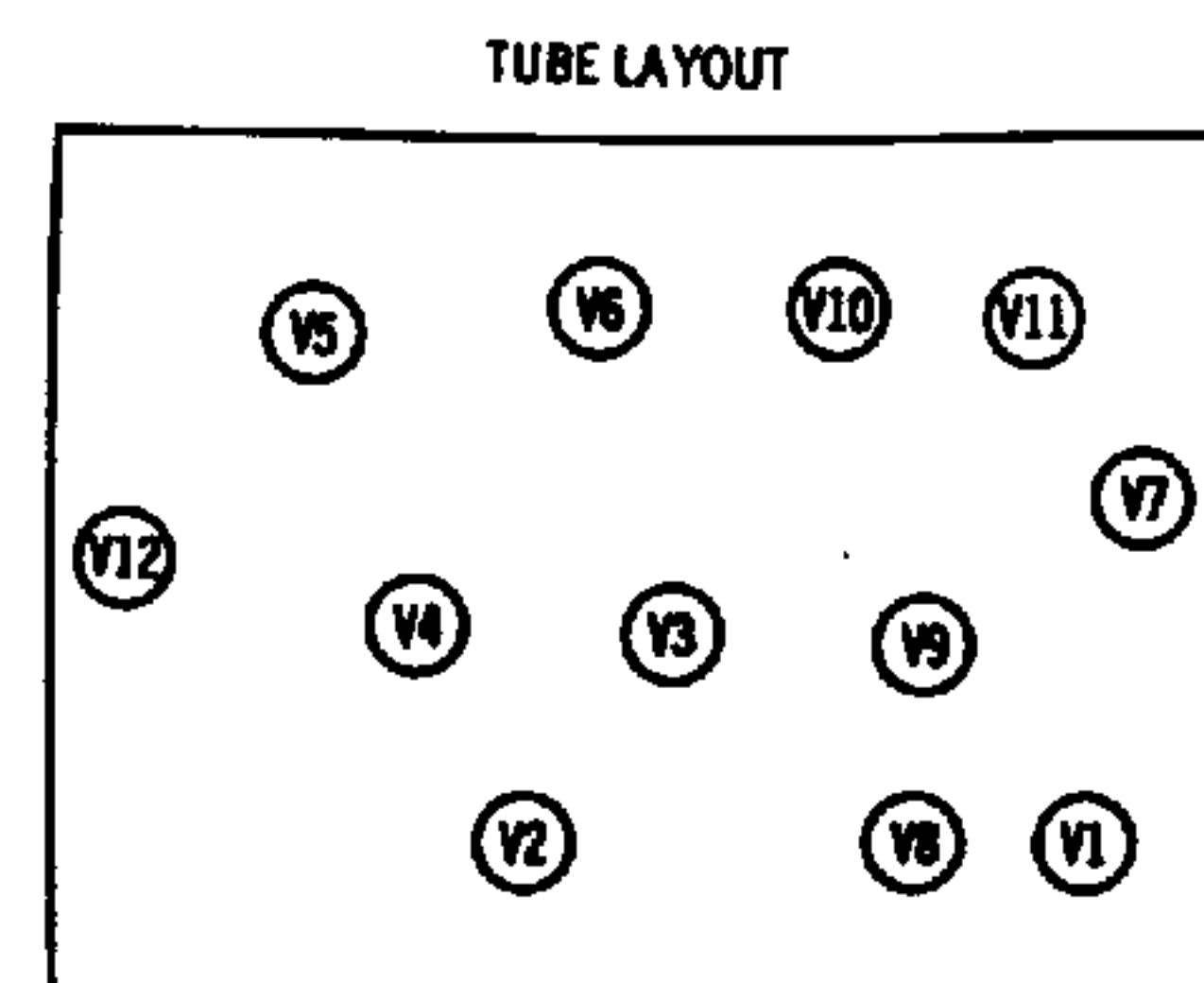
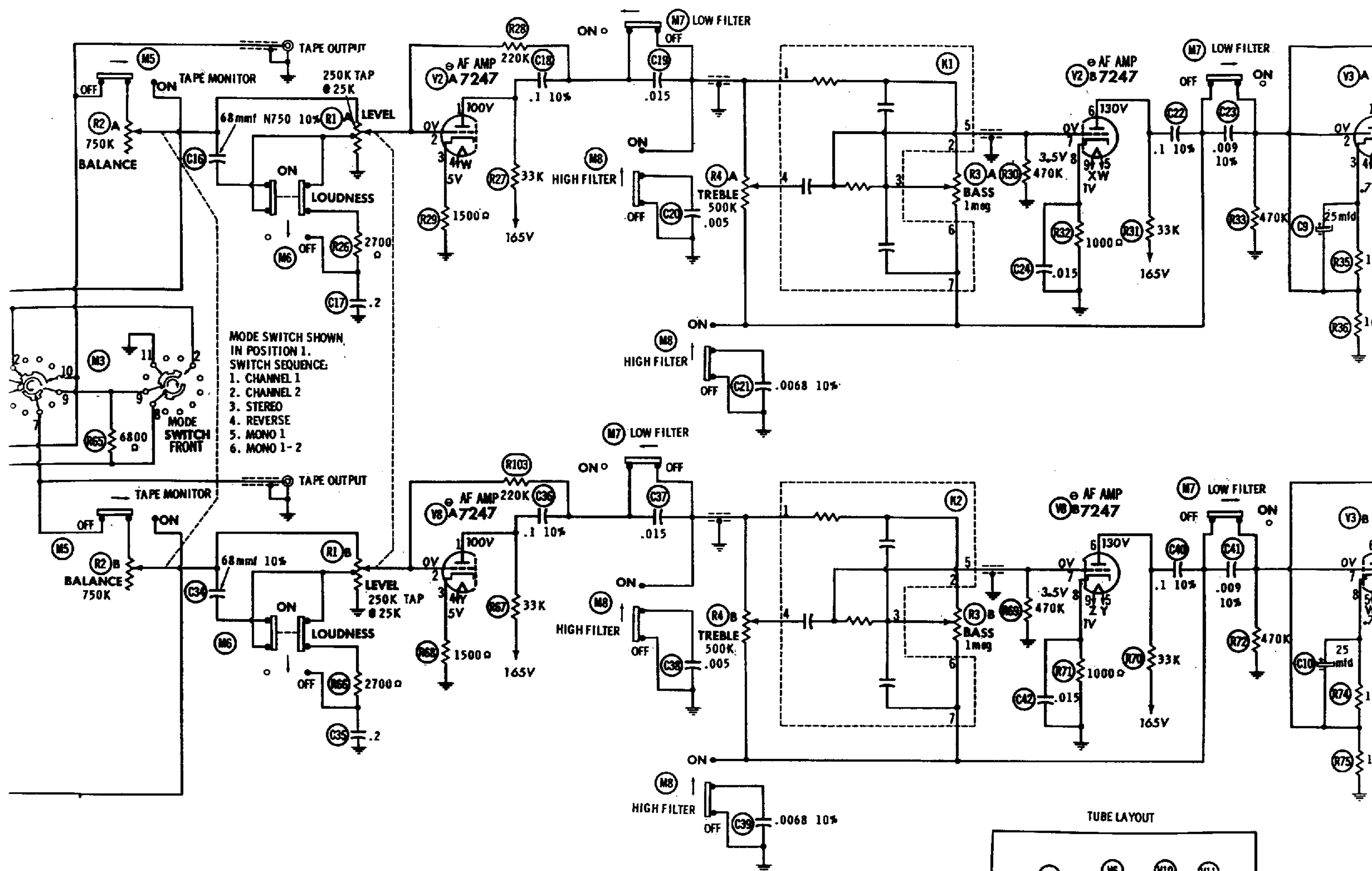
1 THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.  
ALL MEASUREMENTS MADE IN CHANNEL #1 "TAPE-AUX" POSITION WITH ALL FILTERS OFF UNLESS OTHERWISE DESIGNATED.  
- MEASURED IN "MX-AUX" POSITION.  
■ MEASURED WITH "LO FILTER" ON.  
† MEASURED FROM PIN 8 OF V12.

NC NO CONNECTION TP TIE POINT

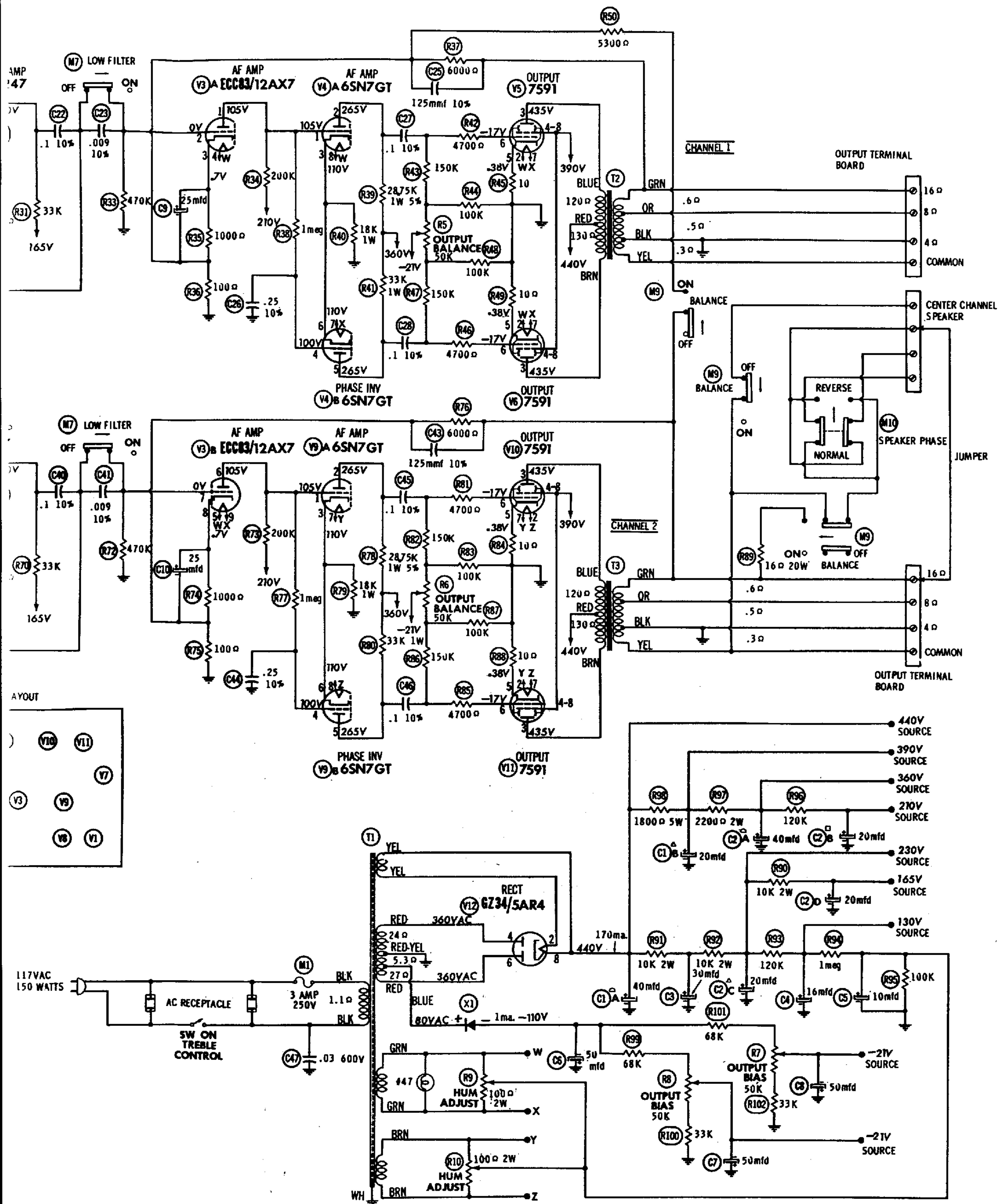
NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

- DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
- Socket connections are shown as bottom views.
- Measured values are from socket pin to common ground.
- Line voltage maintained at 117 volts for voltage readings.
- Nominal tolerance of component values makes possible a variation of ±15% in voltage and resistance readings.
- All controls at minimum, proper output load connected.

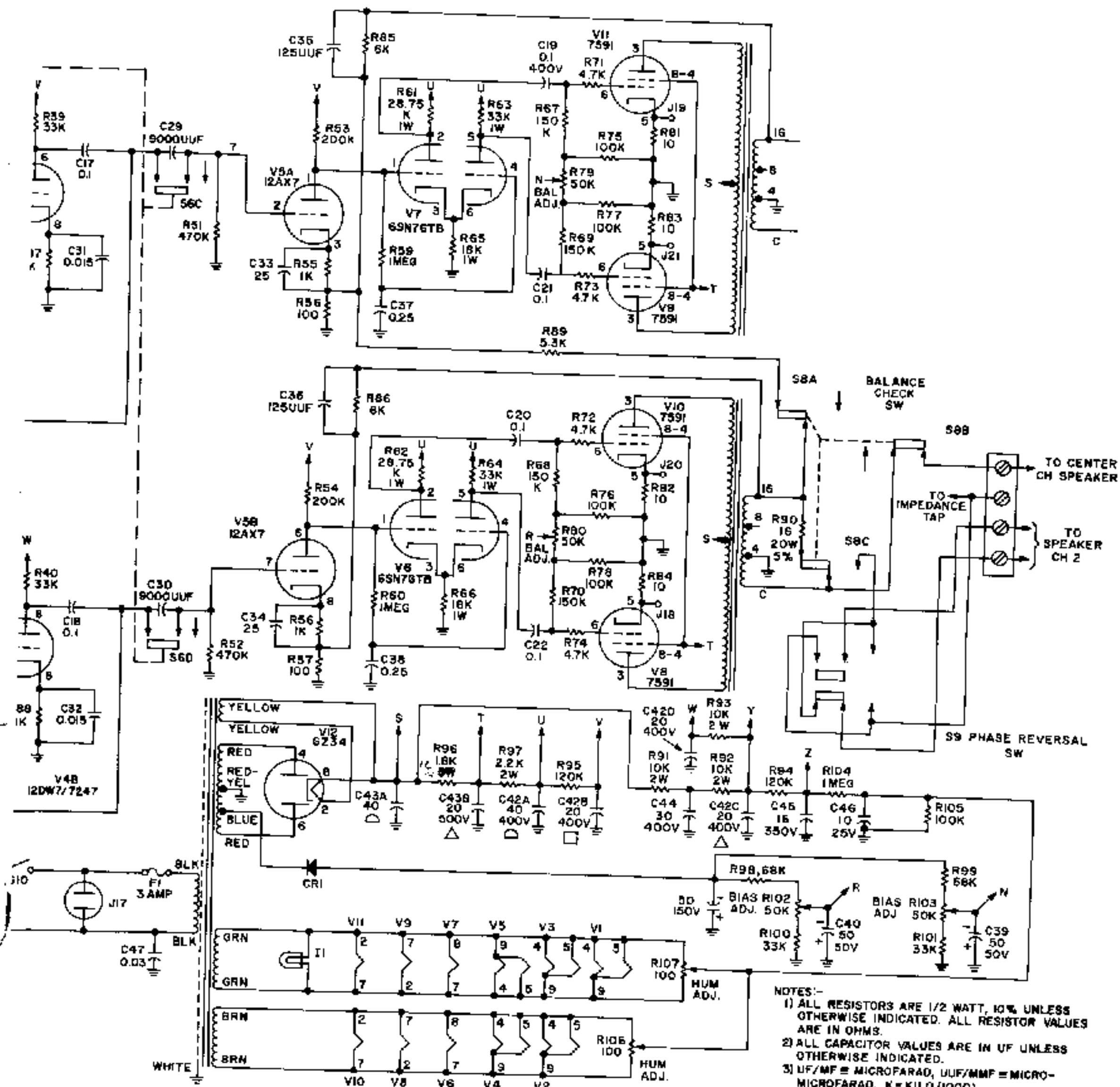






EICO MODEL  
ST-70

## ST 70 - SCHEMATIC DIAGRAM



- NOTES:-
- 1) ALL RESISTORS ARE 1/2 WATT, 10% UNLESS OTHERWISE INDICATED. ALL RESISTOR VALUES ARE IN OHMS.
  - 2) ALL CAPACITOR VALUES ARE IN UF UNLESS OTHERWISE INDICATED.
  - 3) UF/MF = MICROFARAD, UUF/MMF = MICRO-MICROFARAD, K = KILO (1000).



## OUTPUT CONNECTIONS

### TAPE RECORDER

The TAPE OUT 1 & TAPE OUT 2 jacks are intended for feeding signals out to the "line" recording inputs of a tape recorder. These are independent outputs for channel 1 and channel 2, respectively. They are unaffected by the LEVEL, BALANCE, BASS, TREBLE, HI FILTER, and LO FILTER controls.

### SPEAKER CONNECTIONS

**WARNING:** Do not operate the amplifier without first connecting speakers to the speaker connection terminals, exactly as described below.

Every speaker has a rated impedance, which may be 16, 8, or 4 ohms. For an amplifier to provide rated power output with rated distortion, the speaker used with it must be connected to the output transformer tap corresponding to its impedance.

On the rear apron of the unit, there are three 4-connection Terminal Boards (TB). Imprinted on the apron is a diagram for connecting up to three speakers, one each for channels 1 and 2, and an optional center channel speaker.

To agree with the established conventions of stereo, connect the left speaker to the channel 1 output, and the right speaker to the channel 2 output, after reading the connection information below.

The board at the left, TB1, carries the impedance taps for channel 1. The board at the lower right, TB3, carries the impedance taps for channel 2.

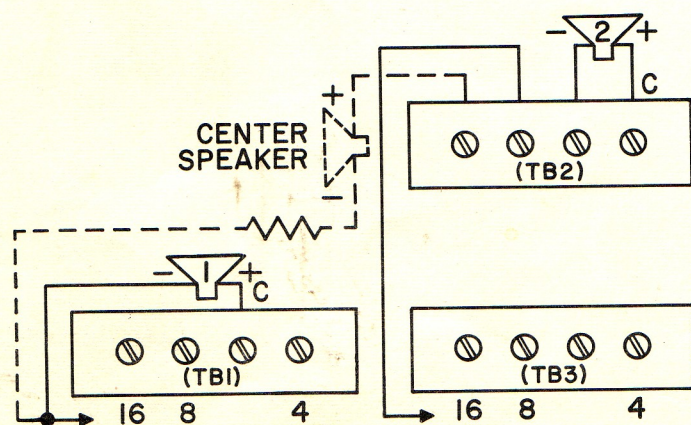
The left board, TB1, carrying the channel 1 impedance taps (16, 8, 4Ω), also includes the common terminal (C) for channel 1. The channel 1 speaker is connected to this common terminal C and the appropriate channel 1 impedance tap, as shown.

The lower right board, TB3, carrying the channel 2 impedance taps (16, 8, 4Ω), must not be used for connecting the channel 2 speaker. The upper right board, TB2, provides the connection terminals for the channel 2 speaker. As the diagram shows, the channel 2 speaker is to be connected between the right-hand pair of terminals on board TB2. Note that the terminal at the extreme right is marked "C", this being the common terminal for channel 2.

To complete the connection of the channel 2 speaker, a jumper wire must be connected between the third terminal from the right on the upper right board, TB2, and the appropriate impedance tap on the lower right board, TB3, as shown in the diagram.

There is a third speaker shown in the diagram, labelled CENTER SPKR. (OPTIONAL). A resistance symbol is shown in series with this speaker, as well. This resistance symbol stands for an attenuator to reduce the level of the center speaker appreciably below that of the channel 1 and 2 speakers so as to produce "center fill" without markedly diminishing the stereo effect. For this purpose we recommend an adjustable 50 ohm, 25 watt wire-wound dropping resistor such as the Ohmite "Dividohm", mounted on the rear panel of the center channel speaker adjacent to the speaker terminals. Connect the sliding divider on the resistor to one of the speaker terminals, allowing enough slack to permit the slider to be moved along the body of the resistor. Now connect the other speaker terminal to the extreme left-hand terminal on the upper right board, TB2, on the amplifier, and then connect one end terminal of the dividing resistor to the same impedance tap on the left board, TB1, used for the channel 1 speaker. These connections are shown in the diagram.

The speaker connection diagram imprinted on the rear apron of the amplifier is reproduced in Figure 1, with additional polarity indications which will assist in phasing the speakers properly if your speakers are marked as to polarity. A physical representation of the speaker connections is given in Fig. 2. If your speakers are not marked as to polarity, use the phasing method given below. Have the SPKR PHASE switch set at N through-out.



**SPEAKER TERMINALS FIG. 1**