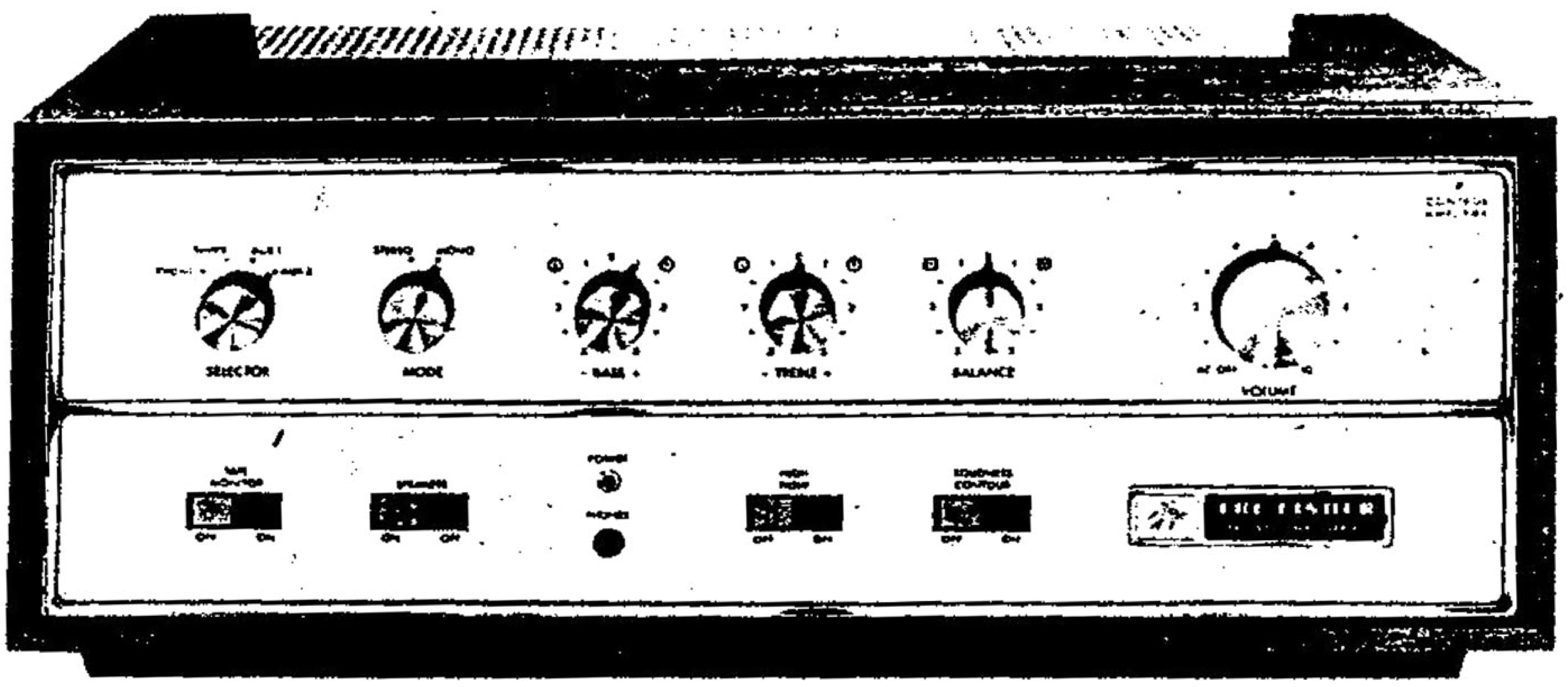
Service Manual

THE FISHER



X-44

KX-90

$1.00

PARTS DESCRIPTION LIST

CAPACITORS

Symbol	Description	Part No.
C1	Electrolytic, 100uF, 250V	C50180-15
C2	Electrolytic, 4-section: A — 100uF, 250V; B — 40uF, 400V; C — 20uF, 350V; D — 20uF, 350V	C50180-77
C3	Electrolytic, 2-section: A — 20uF, 250V; B — 200uF, 70V	C50180-73
C4	Molded, .01uF, 600V	C2747
C5, 6	Disc, .01uF, 500V	C50089-3
C7, 8	Mylar, .022uF, 400V	C50574-8
C9, 10	Disc, .001uF, 1000V	C50072-3
C11, 12	Disc, 3300pF, 1000V	C50072-11
C13, 14	Mylar, .033uF, 400V	C50574-9
C15, 16, 27, 28	Disc, 680pF, 100V	C50072-2
C17, 18	Disc, 33pF, 1000V	C50070-15
C19, 20	Disc, .02uF, 500V	C50089-5
C21, 22	Disc, 220pF, 1000V	C50072-20
C23, 24	Mylar, .047uF, 630V	C50197-101
C25, 26	Mylar, .047uF, 400V	C50197-30

MISC. — ELECTRICAL

Symbol	Description	Part No.
SD1, 2	Silicon Diode, 400 P.I.V., 750 ma	SR50472
T1	Output Transformer, Left Channel	T1109-114-1
T2	Output Transformer, Right Channel	T1109-114-2
T3	Power Transformer	T1109-115
	Power Transformer, Multivoltage (for KX-90 only)	TY1255-115
——	No. 1847 OF Pilot Lamp	150009-8
PC1, 2	Printed Circuit, Equalization	PC50187-3
PC3, 4	Printed Circuit, Tone Control	PC50187-17

RESISTORS

Symbol	Description	Part No.
R1, 2	Deposited Carbon, 100K-ohm, ⅛ W	R12DC104J
R3, 4, 5, 6	Deposited Carbon, 68K-ohm, ⅛ W	R12DC683J
R7, 8, 31, 32, 39, 40	Deposited Carbon, 10K-ohm, ⅓ W	R33DC103J
R9, 10	Glass, 330K-ohm, 1W	R30G334J
R11, 12	Glass, 2.2K-ohm, 1W	R30G222J
R13, 14	Deposited Carbon, 220K-ohm, ⅓ W	R33DC224J
R15, 16	Deposited Carbon, 2.2M, ⅓ W	R33DC225J
R17, 18	Deposited Carbon, 47K-ohm, ⅛ W	R12DC473J
R23, 24, 37, 38	Deposited Carbon, 470K-ohm, ⅓ W	R33DC474J
R25, 26	Deposited Carbon, 180K-ohm, ⅓ W	R33DC184J
R27, 28	Deposited Carbon, 2.7K-ohm, ⅓ W	R33DC272J
R29, 30	Deposited Carbon, 22K-ohm, ⅓ W	R33DC223J
R33, 34	Deposited Carbon, 1.2K-ohm, ⅓ W	R33DC122J
R35, 36	Deposited Carbon, 220-ohm, ⅓ W	R33DC221J
R41, 42	Deposited Carbon, 100K-ohm, ⅓ W	R33DC104J
	Comp., 62K-ohm, 5 %, ½ W (KX90 only)	RC20BF623J
R43, 44	Deposited Carbon, 68K-ohm, ⅓ W	R33DC683J
R45, 46	Deposited Carbon, 330K-ohm, ⅓ W	R33DC334J
R47, 48, 49, 50	Deposited Carbon, 330K-ohm, ⅛ W	R12DC334J
R51, 52, 53, 54	Deposited Carbon, 1K-ohm, ⅛ W	R12DC102J
R55, 56	Deposited Carbon, 4.7K-ohm, ⅓ W	R33DC472J
R57, 58	Wirewound, 60-ohm, 5W	R716-109
R59, 60	Composition, 220-ohm, ½ W	RC20BF221K
R61	Glass, 2.2K-ohm, 5W	RPG5W222K
R62	Composition, 2.2K-ohm, ½ W	RC20BF222K
R63	Composition, 4.7K-ohm, ½ W	RC20BF472K
R64	Composition, 47K-ohm, 1W	RC30BF473K
R65	Composition, 22-ohm, 1W	RC30BF220K
R66	Glass, 2.2K-ohm, 3W	RPG3W222K
R71	Composition, 100K-ohm, 1W	RC30BF104K

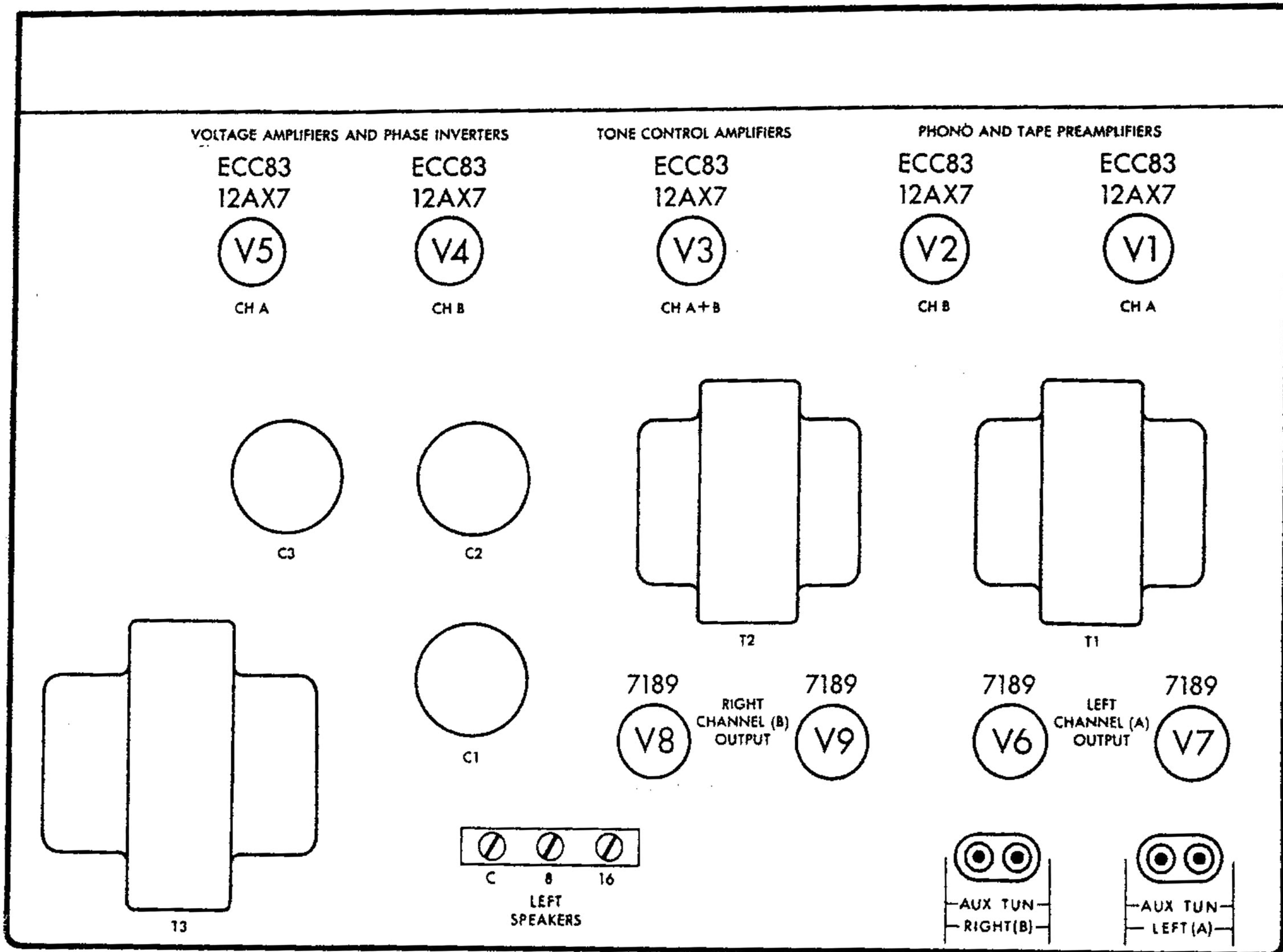
CONTROLS AND SWITCHES

Symbol	Description	Part No.
R67	Bass Control, Dual 500K-ohm	R50160-153
R68	Treble Control, Dual 500K-ohm	R50160-153
R69	Volume Control, Dual 500K-ohm	R50160-143
R70	Balance Control, 500K-ohm	R50160-149
R72, 73	Phase Inverter Control, 500K-ohm (Not used in KX-90.)	R50150-6
S1	Selector Switch	S1109-124
S2	Mode Switch	S1109-118
S3, 4, 5, 6	Rocker Switches	S50200-15-1

MISC. — MECHANICAL

Symbol	Description	Part No.
——	Knob, Single, Small	E50562-1
——	Knob, Dual (Tone Controls) Top	E50563
——	Knob, Dual (Tone Controls) Bottom	E50564
——	Knob, Large (Volume Control)	E50566-1
——	Fusepost	X563-151
——	AC Receptacle	J546-129
——	Tube Socket, 9-Pin (Shielded)	X50321-15
——	Tube Socket, 9-Pin (Unshielded)	X50321-8
J1, 3	Input Jack, 3-Pin	J50081-3
J2, 4	Input Jack, 2-Pin	J50081-1B
J5	Input Jack, 4-Pin	J50190-1A
SS1, 2	Speaker Output Strip, 3-Screw	E50161-3

TUBE LAYOUT



INS264

SCHEMATIC DIAGRAM

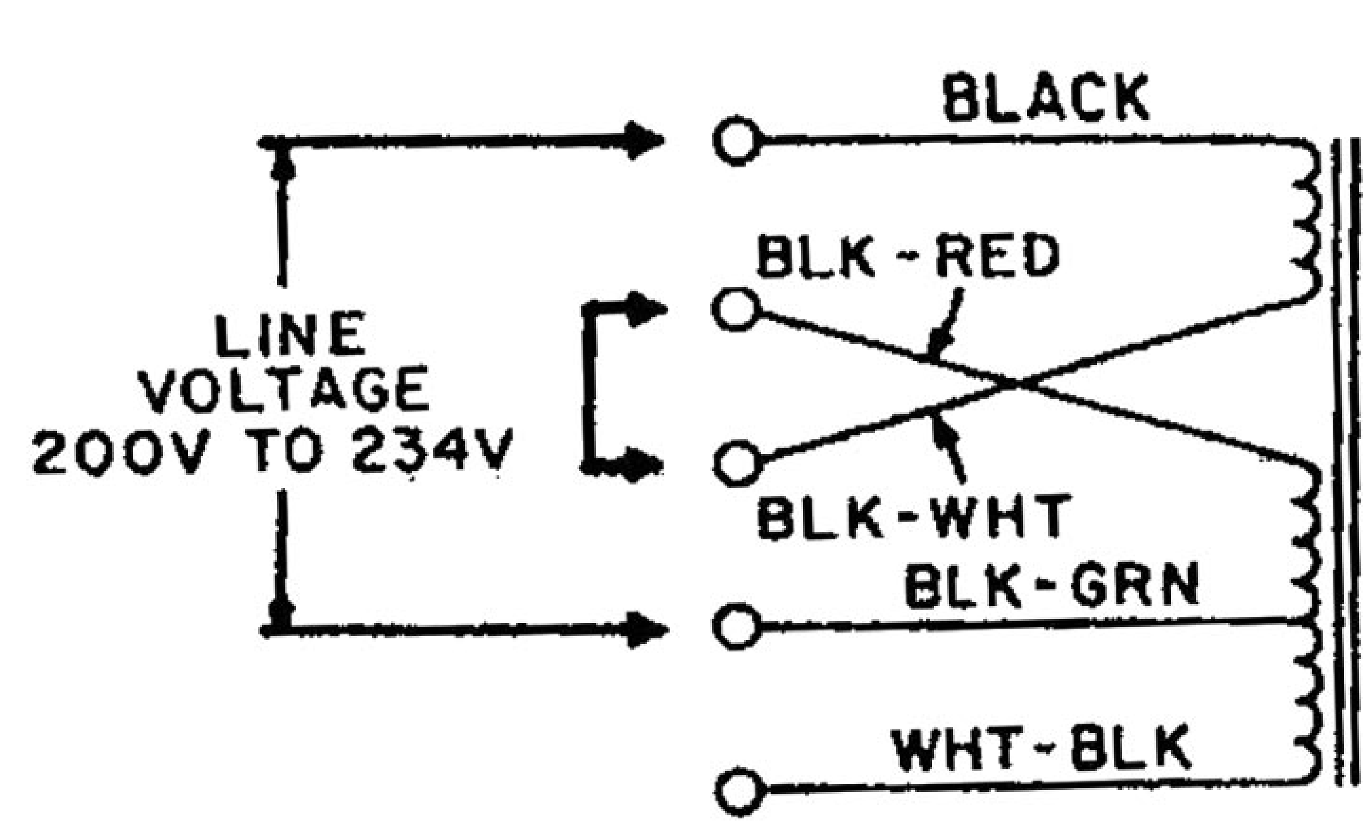
NOTES:
1. ALL VOLTAGES MEASURED WITH VTVM AT 117V LINE, NO SIGNAL INPUT.
2. * SEE PARTS LIST FOR RESISTOR VALUES.

SWITCH POSITIONS			
POS. NO.	S1 INPUT SEL.	S2 MODE SEL.	
1	TAPE HEAD	STEREO	← SHOWN
2	PHONO	MONO	
3	TUNER		
4	AUX.		

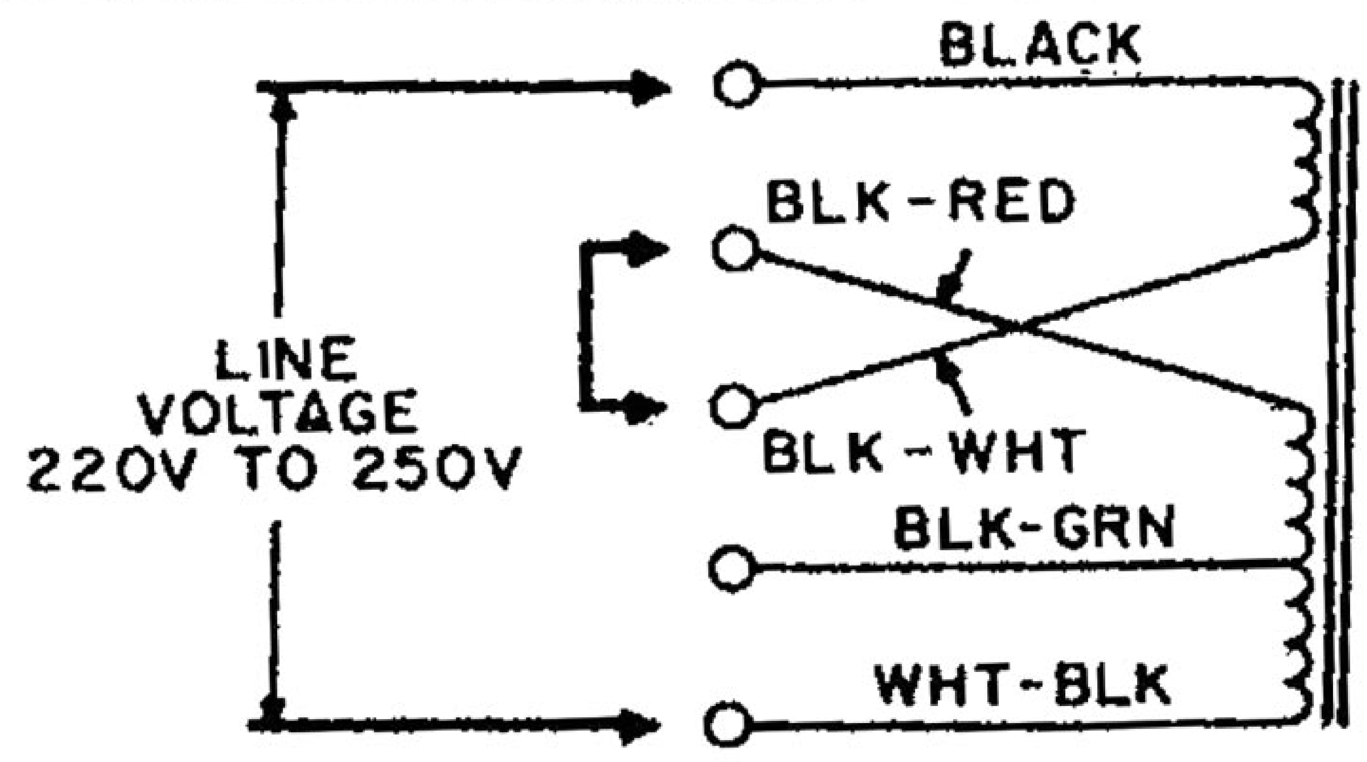
P1109 AW2358

(Part number TY 1255-115)

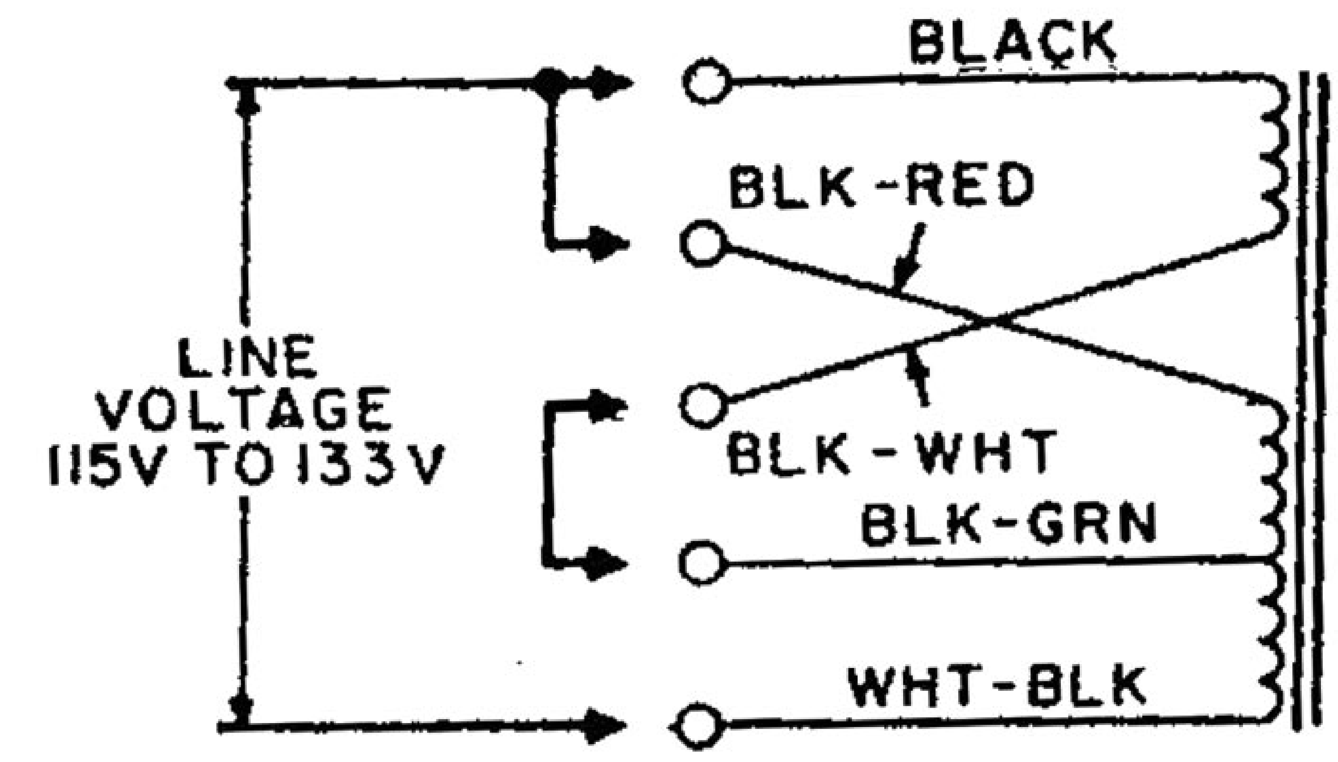
220 VAC (200 to 234 VAC) power-transformer primary connections are factory wired for this unit. The fuse has also been changed to one of half the value stamped on the chassis (for 100 to 135 volt operation). A higher-current rating fuse will not protect the chassis properly.



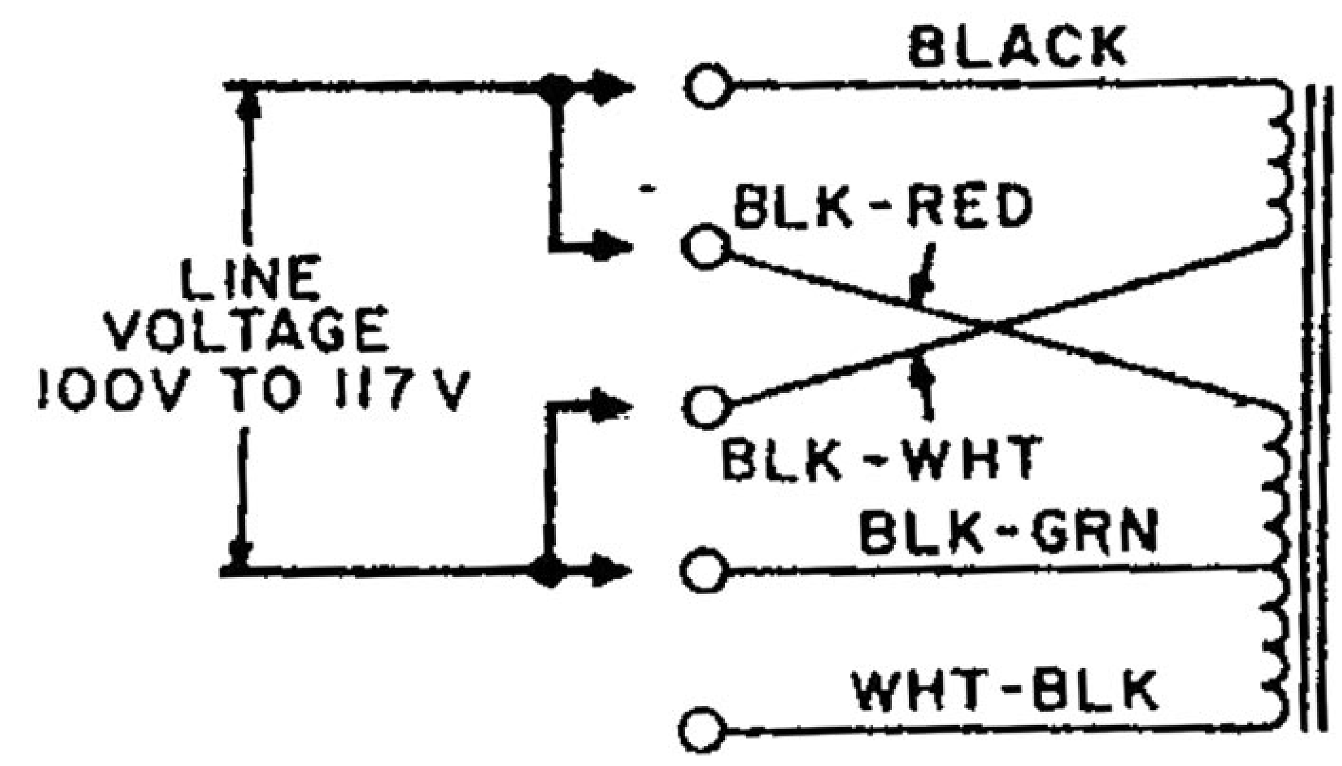
240 VAC connections are used where the line voltage is between 220 and 250 VAC. The black/green lead is not used—the power lead connected to it is transferred to the white/black lead to make use of the complete primary winding. A half-rating fuse is used.



127 VAC operation (115 to 133 VAC) uses the wiring indicated here. The power lead is connected to the white/black lead. When using these transformer connections use a fuse that has the rating stamped on the chassis.



110 VAC wiring is used when the line voltage is between 100 and 117 VAC. The two halves of the primary winding are connected in parallel. The white/black lead is not used. Use fuse value stamped on chassis.



WARNING: Check your connections carefully *before* plugging in the unit.

- If you can not measure the line voltage or you are uncertain of the voltage variation use the higher line-voltage transformer-primary wiring.
- **DO NOT use any connections that are not indicated above. Remove all unused jumpers when making new connections.**

REPLACEMENT FUSES have been packed with this unit for your convenience. They are contained in the two small envelopes, each of which is clearly marked. Do not get these fuses mixed up.

100 to 133 VAC operation—use fuse of rating stamped on chassis.

200 to 250 VAC operation—use fuse with half the rating stamped on chassis.

For example: chassis is stamped 4 amperes for 110 volt operation—use 2 ampere fuse for 200 to 250 VAC operation.

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