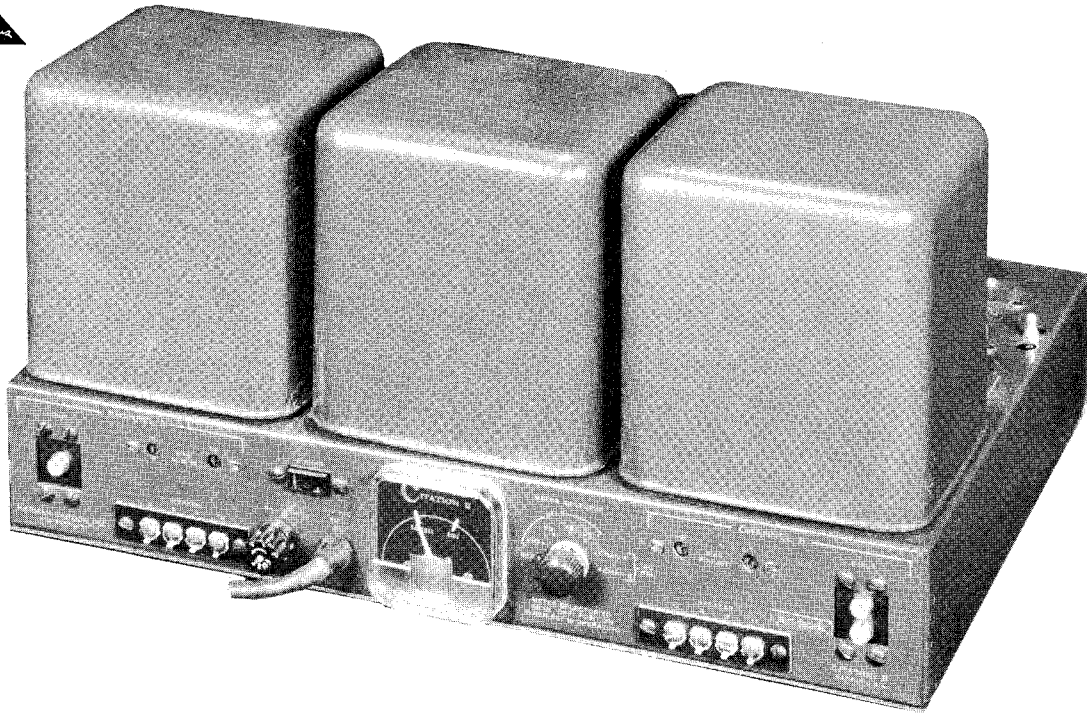


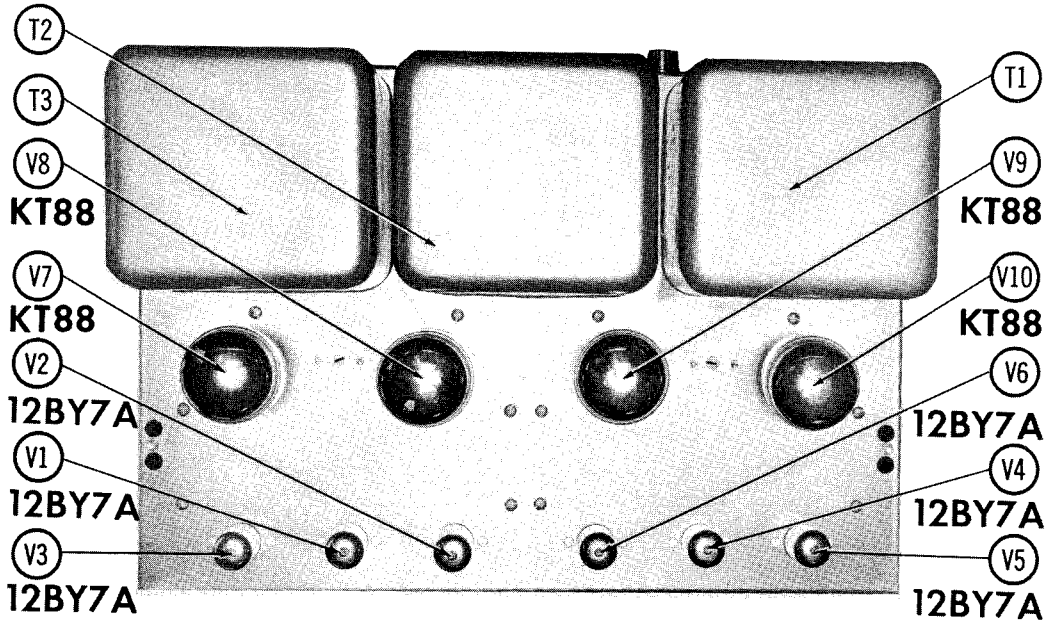


HARMAN-KARDON  
MODEL Citation II



HARMAN-KARDON  
MODEL Citation II

TRADE NAME	Harman-Kardon Model Citation II		
MANUFACTURER	Harman-Kardon, Inc., 520 Main Street, Westbury, L. I., N. Y.		
TYPE SET	AC Operated 10 Tube Stereo Amplifier		
POWER SUPPLY	110 - 125 Volts AC, 60 Cycles	RATING	300 Watts, 2.8 Amp. @117 Volts AC

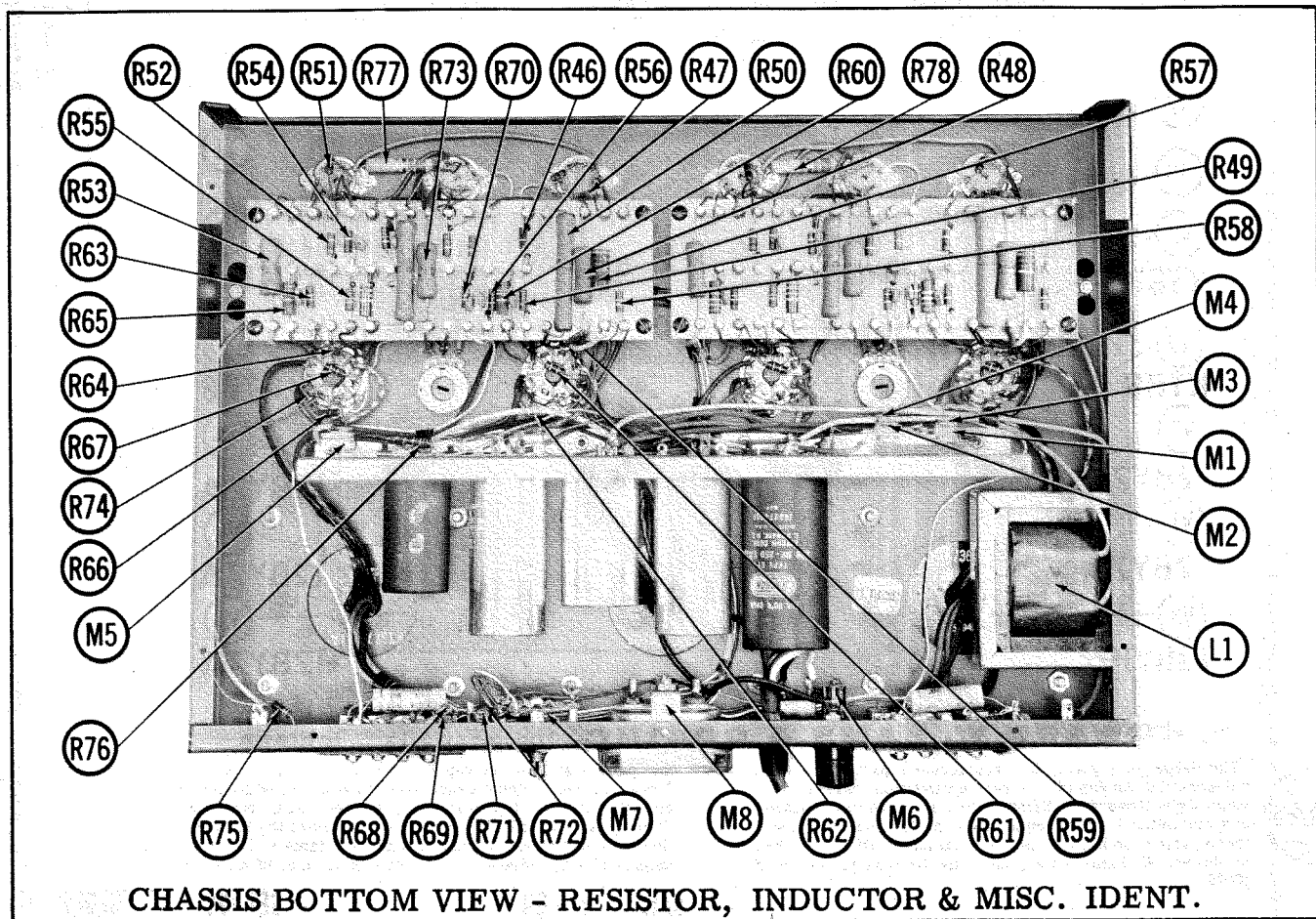
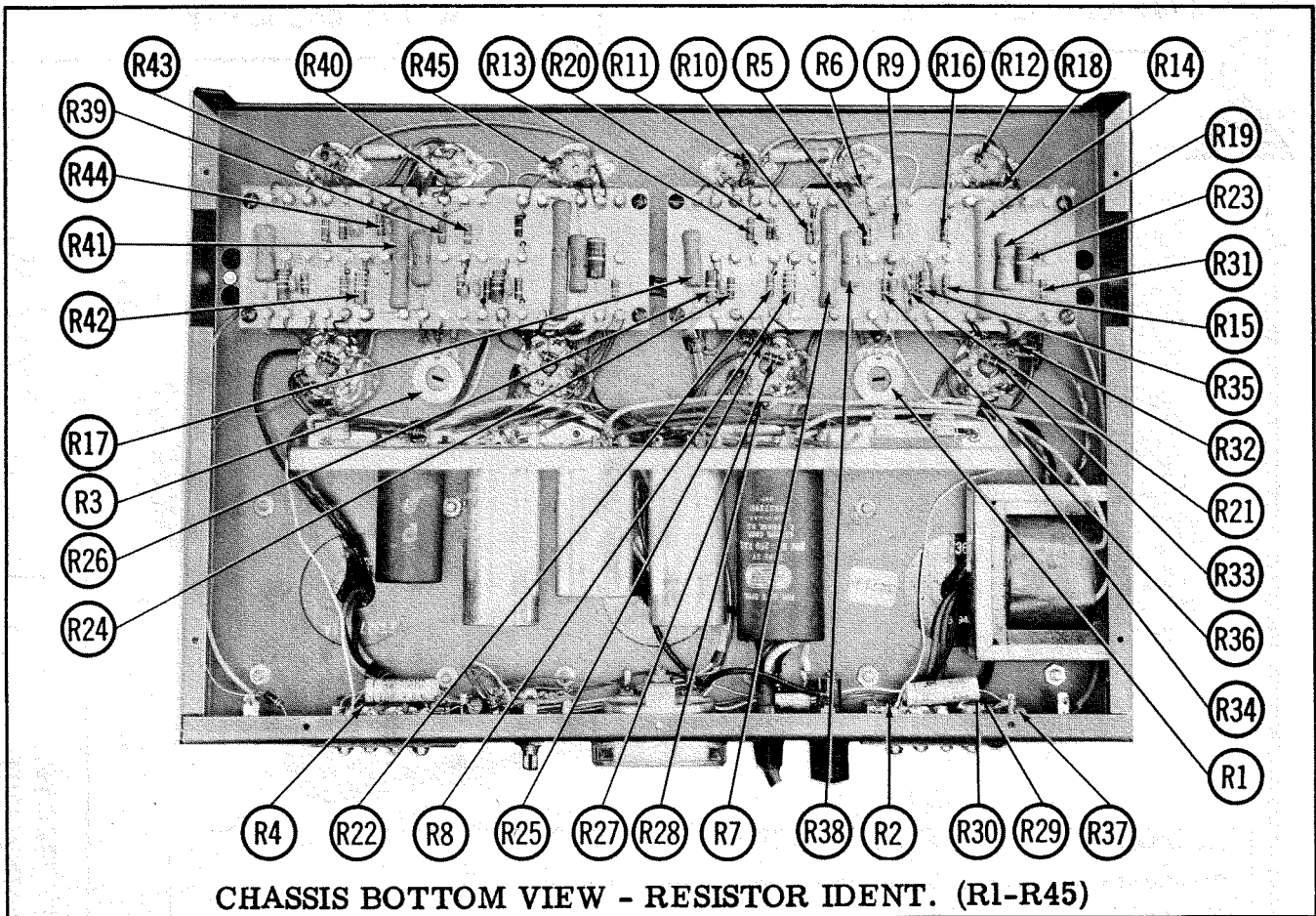


**HOWARD W. SAMS & CO., INC.** Indianapolis 6, Indiana

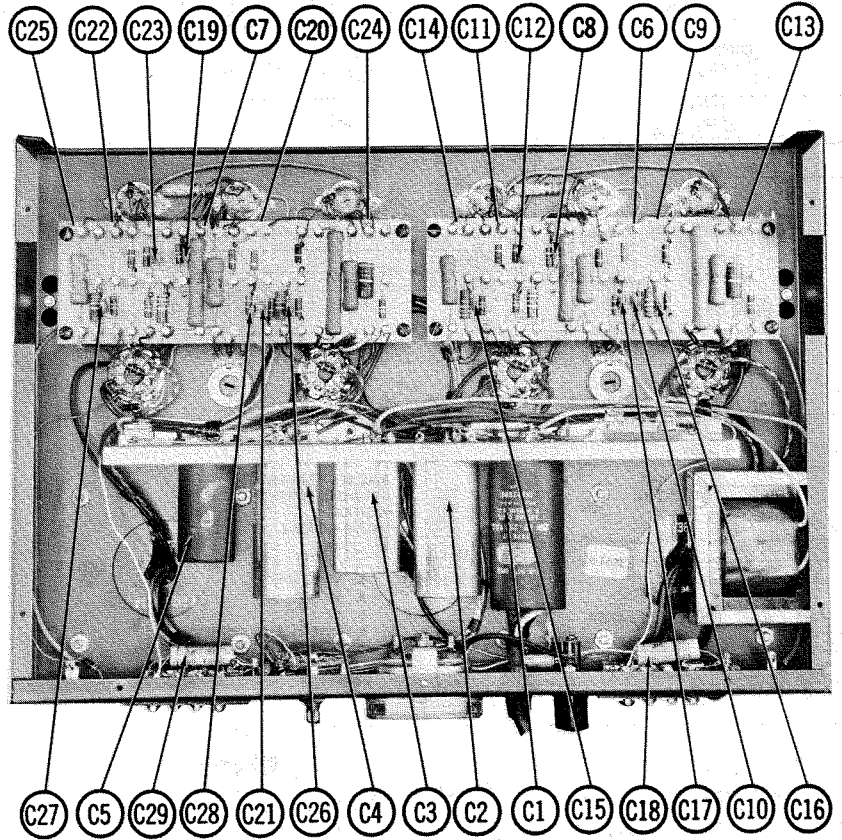
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# CHASSIS—BOTTOM VIEW



# PARTS LIST AND DESCRIPTIONS

## TUBES

ITEM No.	CBS		GENERAL ELECTRIC		RAYTHEON		SYLVANIA	
	USE	TYPE	ITEM No.	USE	ITEM No.	USE	TYPE	
V1	Channel B AF Amp.	12BY7A	V6	Channel A Phase Inv.	12BY7A			
V2	Channel B AF Amp.	12BY7A	V7	Channel B Output	KT88			
V3	Channel B Phase Inv.	12BY7A	V8	Channel B Output	KT88			
V4	Channel A AF Amp.	12BY7A	V9	Channel A Output	KT88			
V5	Channel A AF Amp.	12BY7A	V10	Channel A Output	KT88			

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				NOTES
		AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLOY PART No.	PYRAMID PART No.	
C1	200 CAP. 250 VOLT.	JE3273851	XA0318	FP128	TMS-75	TYL-1547
C2	200	JE3273682	XA0318	FP126	TMS-75	TYL-1547
C3	200	JE3273681	XA0318	FP176	TMS-75	TYL-1820
C4	40	JE3273783	XB0455	FP240	TMD-56	TYL-2767
C5A	50	JE3273783	XB0455	FP240	TMD-56	TYL-2767
C5B	430	JE3273683	B0090	FP208	TMD-6	TYL-2415
C6	420	JE3273784	BR445	TC70	TD4-450	TVA-1702
C7	4	JE3273784	BR445	TC70	TD4-450	TVA-1702

## FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA				SPRAGUE PART No.
			AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLOY PART No.	PYRAMID PART No.	
C8	1000		BFD-001	DD-102	BYA10D1	CCD-102	5HK-D10
C9	.47 600V		P688N-47	DTN-20	CU022U	CCTN-220	6TM-P5
C10	20 N750 10%		N750-DI 20	DTN-20	CU022U	CCTN-220	10TCU-Q20
C11	.47 600V		P688N-47	DTN-20	CU022U	CCTN-220	6TM-P5
C12	20 N750 10%		N750-DI 20	DTN-20	CU022U	CCTN-220	10TCU-Q20
C13	25 600V		P688N-25	DTN-20	CU022U	CCTN-220	6TM-P25
C14	.25 600V		P688N-25	DTN-20	CU022U	CCTN-220	6TM-P25
C15	4.7 NFO 10%		NFO-DI 4.7	DTN-20	CU022U	CCTN-220	10TCC-V47
C16	4.7 NFO 10%		NFO-DI 4.7	DTN-20	CU022U	CCTN-220	10TCC-V47
C17	150 10%		DI-150	DTN-20	CU022U	CCTN-220	10TCC-V47
C18	100 200V		P288N-04	DTN-20	CU022U	CCTN-220	10TCC-V47
C19	1000		BFD-001	DD-102	BYA10D1	CCD-102	5HK-D10
C20	47 600V		P688N-47	DTN-20	CU022U	CCTN-220	6TM-P5
C21	20 N750 10%		N750-DI 20	DTN-20	CU022U	CCTN-220	10TCU-Q20
C22	47 600V		P688N-47	DTN-20	CU022U	CCTN-220	6TM-P5
C23	20 N750 10%		N750-DI 20	DTN-20	CU022U	CCTN-220	10TCU-Q20
C24	.25 600V		P688N-25	DTN-20	CU022U	CCTN-220	6TM-P25
C25	4.7 NFO 10%		NFO-DI 4.7	DTN-20	CU022U	CCTN-220	10TCC-V47
C26	4.7 NFO 10%		NFO-DI 4.7	DTN-20	CU022U	CCTN-220	10TCC-V47
C27	150 10%		DI-150	DTN-20	CU022U	CCTN-220	10TCC-V47
C28	100 200V		P288N-04	DTN-20	CU022U	CCTN-220	10TCC-V47
C29	1000		BFD-001	DD-102	BYA10D1	CCD-102	5HK-D10

# PARTS LIST AND DESCRIPTIONS (Continued)

## FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA				SPRAGUE PART No.	
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL DUBILIER PART No.	ELEMCO PART No.		MALLOY PART No.
C27	4.7 NPO 10%		NFO-DI 4.7	DTZ-4R7	CI0V47C	CCTO-4R7	CNO-547	10TCC-V47
C28	150 10%		DD-150	DD-151	L10T15	CCD-151	GP315	10TS-T15
C29	.04 200V		P288N-04	DD-403	CUB684	4DP-3-403	GEM-414	4TM-54

## CONTROLS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA				INSTALLATION NOTES
			CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLOY PART No.	
R1A	5000Ω	Shaft	RV3273908		B11-114 TM4	TA53L Not Req.	AC Balance, Channel A
R2A	5000Ω	Shaft	RV3273743		B11-114 TM4		Bias (V9) Bias (V10)
R3A	5000Ω	Shaft	RV3273908		B11-114 TM4		AC Balance, Channel B
R4A	5000Ω	Shaft	RV3273743				Bias (V8) Bias (V7)

## RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS
R6	33K		R31	100K		R56	1meg	
R7	12K 5W		R32	10K		R57	8200Ω 2W	
R8	33K 1W		R33	150		R58	100K	
R9	220Ω		R34	270Ω		R59	10K	
R10	12K		R35	680K 1W		R60	680K 1W	
R11	10K		R36	680Ω		R61	270Ω	
R12	10K		R37	390 1W		R62	150	
R13	1meg		R38	4700Ω 3W		R63	100K	
R14	5000Ω 1W		R39	1meg		R64	10K	
R15	220Ω		R40	33K		R65	680K 1W	
R16	1meg		R41	12K 5W		R66	150	
R17	12K 3W		R42	33K 1W		R67	270Ω	
R18	4700Ω 1W		R43	220Ω		R68	8200Ω	
R19	22K 3W		R44	12K		R69	18K	
R20	1meg		R45	10K		R70	6800Ω	
R21	1meg		R46	1meg		R71	384	
R22	22K		R47	4700Ω 1W		R72	470Ω	
R23	8200Ω 2W		R48	22K 3W		R73	4700Ω 3W	
R24	100K		R49	220Ω		R74	120Ω	
R25	10K		R50	5000Ω 7W		R75	33Ω	
R26	680K 1W		R51	10K		R76	3800Ω	
R27	270Ω		R52	1meg		R77	2.2K 1W	
R28	15Ω		R53	12K 3W		R78	2.2K 1W	
R29	8200Ω		R54	1meg				Note 1

Note 1. Not used in some versions.

\* Alternate Value.

## FILTER CHOKE

ITEM No.	CURRENT (Measured)	DC RES.	INDUCTANCE (1000 μ)	REPLACEMENT DATA			
				Harman-Kardon PART No.	Hollidorsen PART No.	Merit PART No.	Ram PART No.
L1	.460A	11Ω	.7HY	FC3273672A			

① Alternate Part #FC3273672.

② Drill New Mounting Holes.

## TRANSFORMER (POWER)

ITEM No.	RATING	REPLACEMENT DATA			
		Harman-Kardon PART No.	Hollidorsen PART No.	Merit PART No.	Ram PART No.
T1	117V @ 160V @ 2.8A (AC) 6.3V @ 70V @ 3.8A .002A	FT3273670A			

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
		Harman-Kardon PART No.	Hollidorsen PART No.	Merit PART No.	Ram PART No.	Stencor PART No.	
T2	3200Ω 16Ω Tap CT @ 8Ω, 400Ω	FT3273671A					
T3	3200Ω 16Ω Tap CT @ 8Ω, 400Ω	FT3273671A					

① Alternate Part #FT3273671.

## RECTIFIERS

ITEM No.	RATING (Measured)	REPLACEMENT DATA					NOTES
		Harman-Kardon PART No.	INTERNATIONAL PART No.	ITT PART No.	SARKES TARZIAN PART No.	SYLVANIA PART No.	
M1	.460A	ZCOM3679 *	SD-94A *	RE504 *	40K *	SR-500 *	* Silicon Type
M2	.460A	ZCOM3679 *	SD-94A *	RE504 *	40K *	SR-500 *	* Selenium Type
M3	.460A	ZCOM3679 *	SD-94A *	RE504 *	40K *	SR-500 *	
M4	.460A	ZCOM3679 *	SD-94A *	RE504 *	40K *	SR500 *	
M5	.002A	Z3273690 *	D-5410 *	1159 *	10 *		

## FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA			
			Harman-Kardon PART No.	LITTELFUSE PART No.	BUSS PART No.	HOLDER
M6	3AG	8A 125V	ZCOM3715	312008 (3AG 8A 125V)	GLH 8	HKP

## MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES	
			Harman-Kardon PART No.	Meter
M7	Switch	ER3273909		
M8	Meter	M3273850		

Includes Mounting Bracket and Nuts.

## WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors 8524 (Stranded) Available in Ten Colors
Power Cord	Use BELDEN No. 1725-K (7 1/2 Ft. Length)

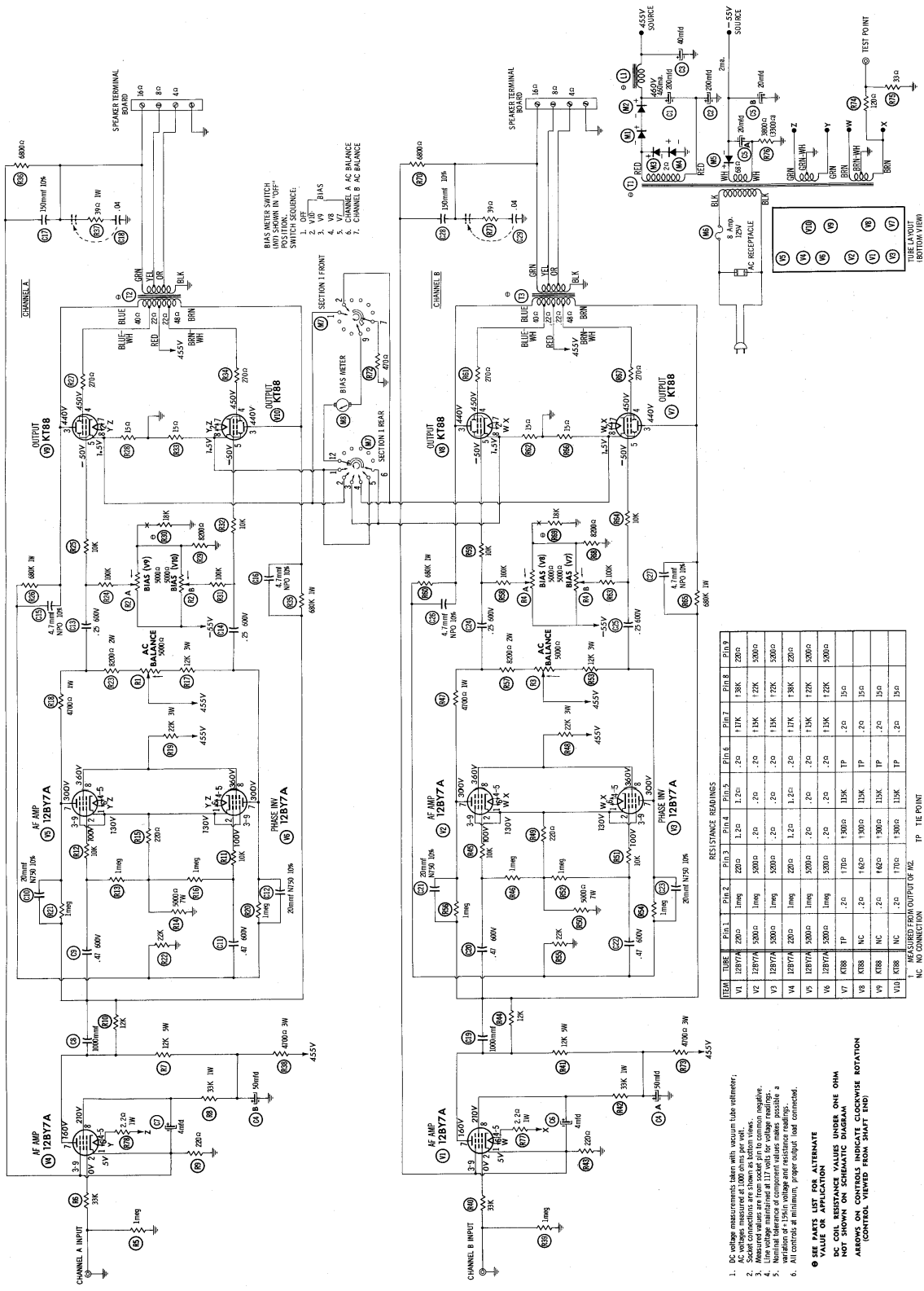
## ADJUSTMENTS

### BIAS ADJUSTMENT

1. Set Meter switch to V10 position. Make sure no signal is applied.
2. Adjust V10 Bias control until meter pointer coincides with Bias marker on meter. Repeat adjustments for V9, V8 and V7.
3. Repeat this procedure until no meter movement is noted as the switch is rotated from one position to another.

### A. C. BALANCE ADJUSTMENT

1. Connect a 16 ohm 20 watt resistor across the 16 ohm terminals of Channel A speaker terminal strip. Connect a phono patch cord from the Test Signal Jack to the Channel A input jack.
2. Rotate the Meter switch to the Channel A A. C. Balance position.
3. Adjust the Channel A Balance control until the meter pointer coincides with the Balance marker on the meter.
4. Move the patch cord from Channel A input to Channel B input and repeat above adjustments for Channel B.



**HARMAN-KARDON  
 MODEL Citation II**

1. DC voltage measurements taken with vacuum tube voltmeter.
2. Screen connections on 12B7YA are common to cathode.
3. Measured values are from socket pin to common negative.
4. Measured values are at 117 volt AC line voltage readings.
5. Minimum theoretical error in all voltage and resistance readings is a variation of ± 1% (in voltage and resistance readings).
6. All controls at minimum, proper output load connected.

SEE PARTS LIST FOR ALTERNATE  
 VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM  
 NOT SHOWN ON SCHEMATIC DIAGRAMS  
 AMPLIFIER CONTROL WINDING FROM SHFT. END