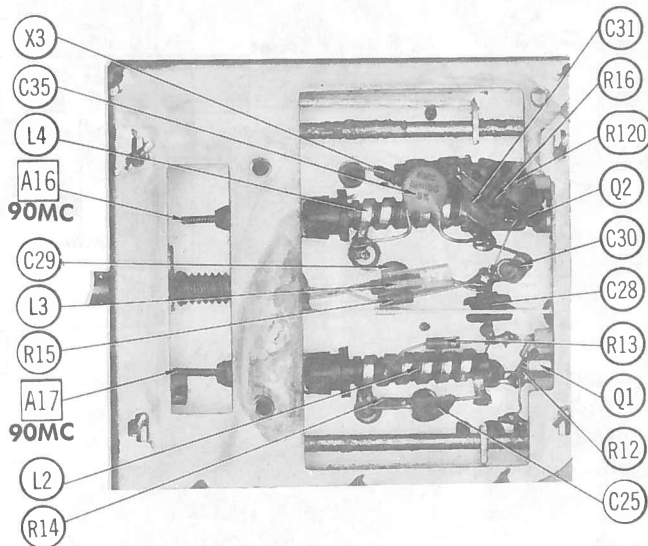
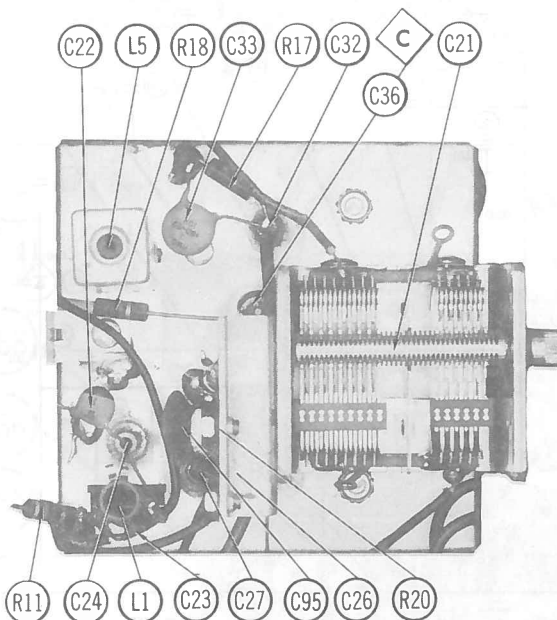


For Supplier Address See PHOTOFACT Index



MODEL	CHASSIS	MODEL	CHASSIS	MODEL	CHASSIS
A931P	20AT21,Z	A937H	20AT21,Z	A945M	20AT21,Z
A933M	20AT21,Z	A941W	20AT21,Z	A947DE	20AT21,Z
A935P	20AT21,Z			A948PN	20AT21,Z

**REMEMBER TO ASK— “What else needs fixing?”**

**HOWARD W. SAMS & CO., INC.** Indianapolis, Indiana 46206

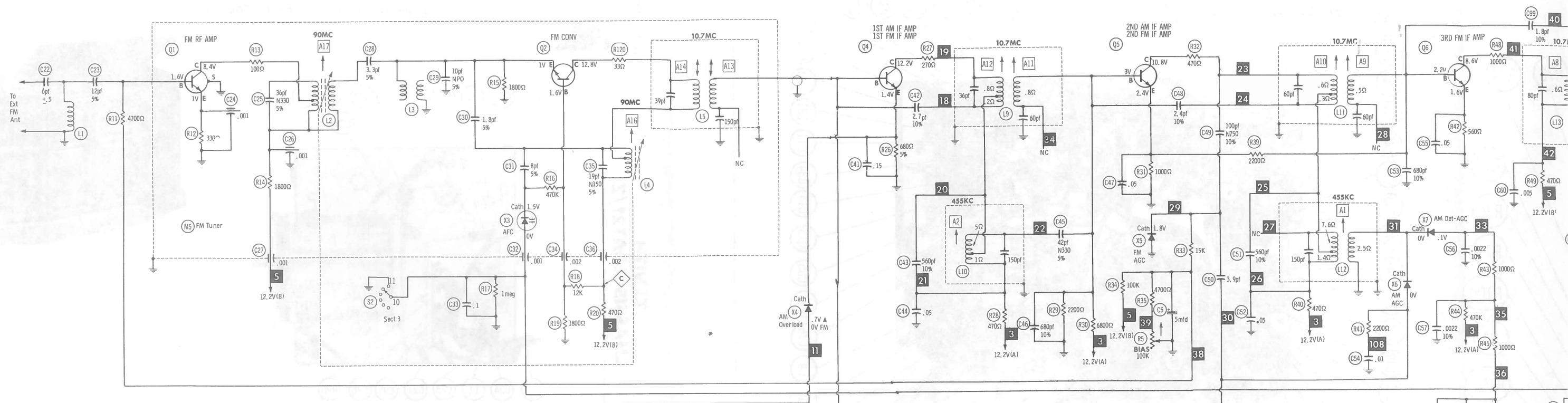
The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. UN568

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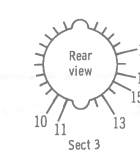
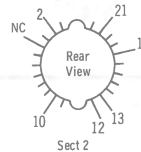
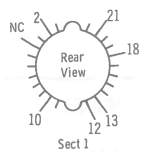
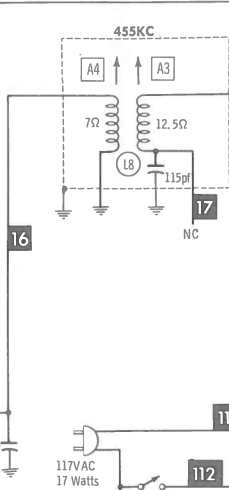
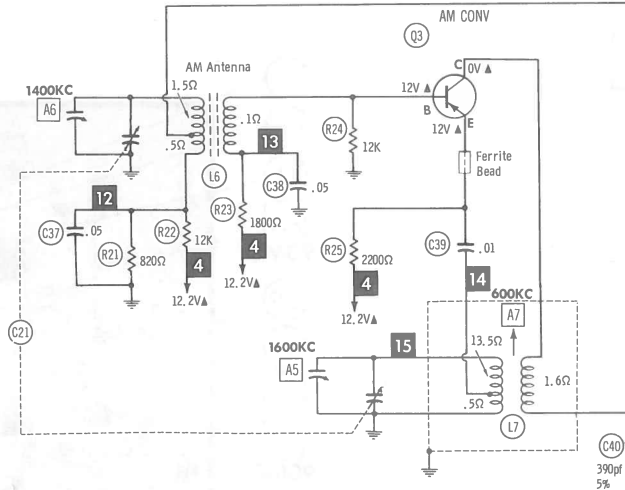
DATE 6-70

SET 1107 FOLDER 5



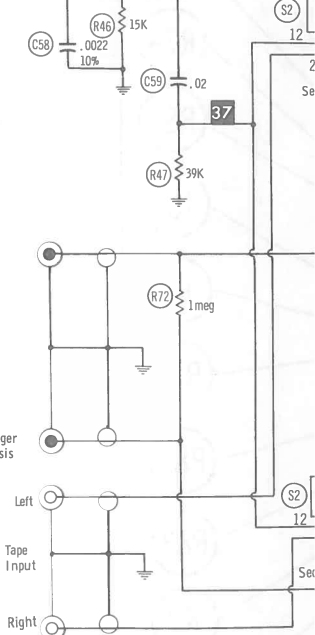
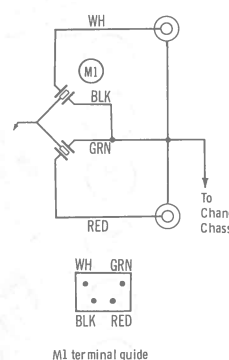
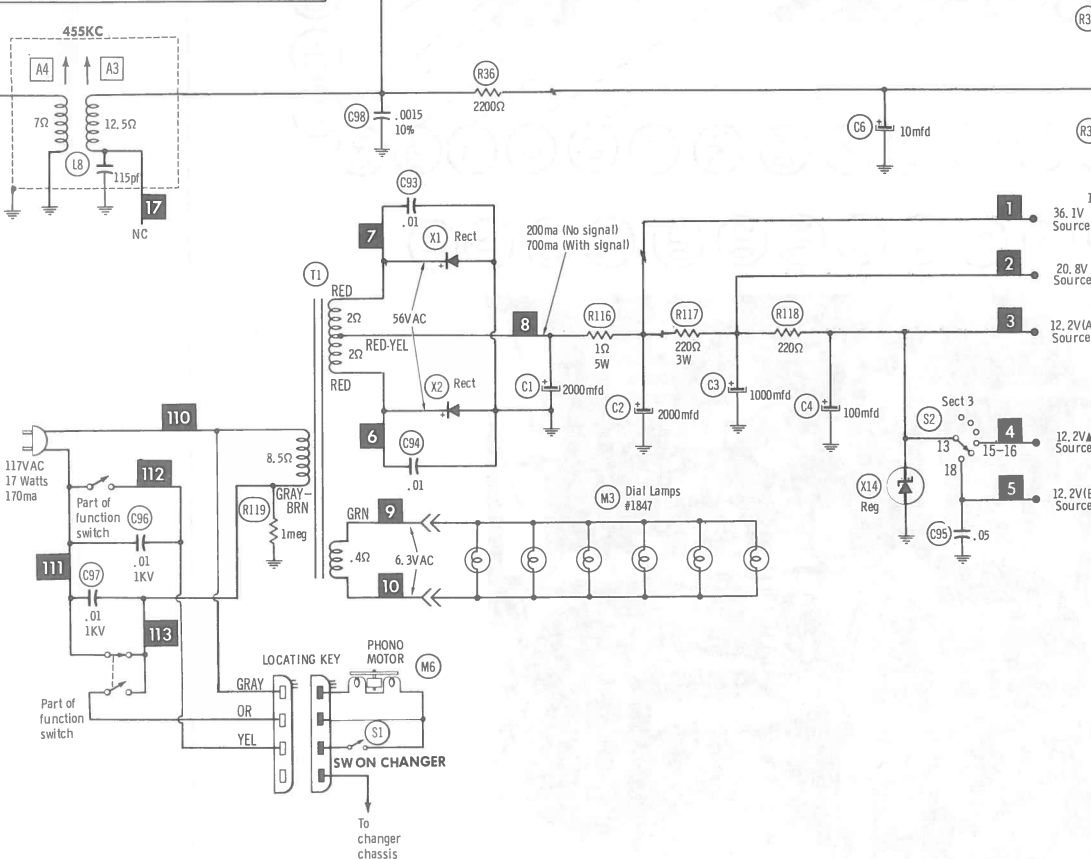


Transistor terminal guide



Function SW S2 terminal guide

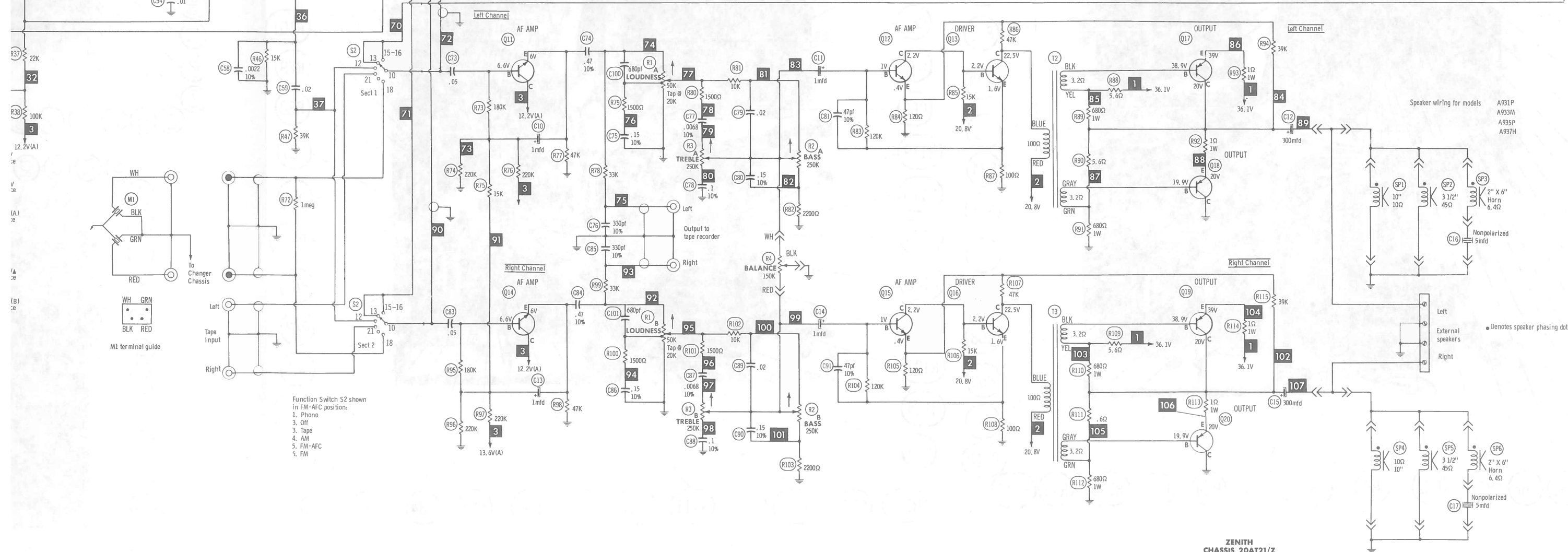
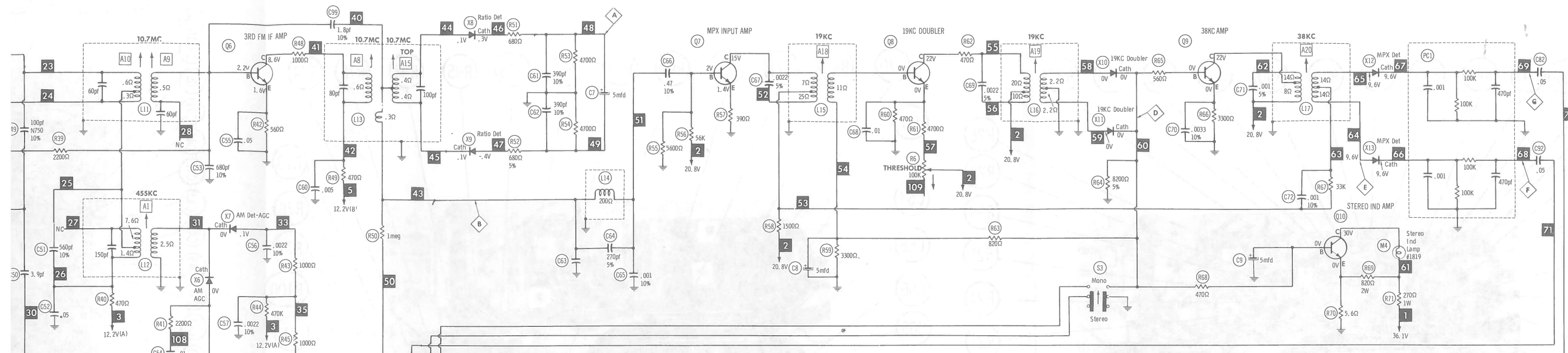
- S2 Connection variations
- Sect 1: pin 21 or pin 22
  - Sect 2: pin 21 or pin 22
  - Sect 3: pin 16 or pin 15, and pin 18 or pin 22



- Function Switch S2 shown in FM-AFC position:
- 1. Phono
  - 3. Off
  - 3. Tape
  - 4. AM
  - 5. FM-AFC
  - 5. FM

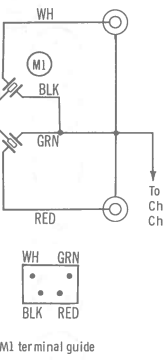
- ▲ Measured in AM position.
- ⊥ Denotes ground.
- \* Not used in some versions.
- ⊙ See parts list.
- 1. Controls viewed from actuator end.
- Arrow indicates clockwise rotation.
- 2. Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.
- 3. Voltage and resistance readings taken with a VTVM.
- 4. Supply voltage maintained at rated value for voltage measurements.
- 5. All controls set for normal operation, no signal applied.
- 6. Measured values are from socket pin or terminal to common ground.
- 7. All terminals viewed from bottom unless otherwise indicated.
- 8. Numbers assigned to terminals may not be found on the unit.
- 9. Resistance measurements not given because of the wide variation in internal resistance of the transistor.

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
with **CIRCUITRACE**  
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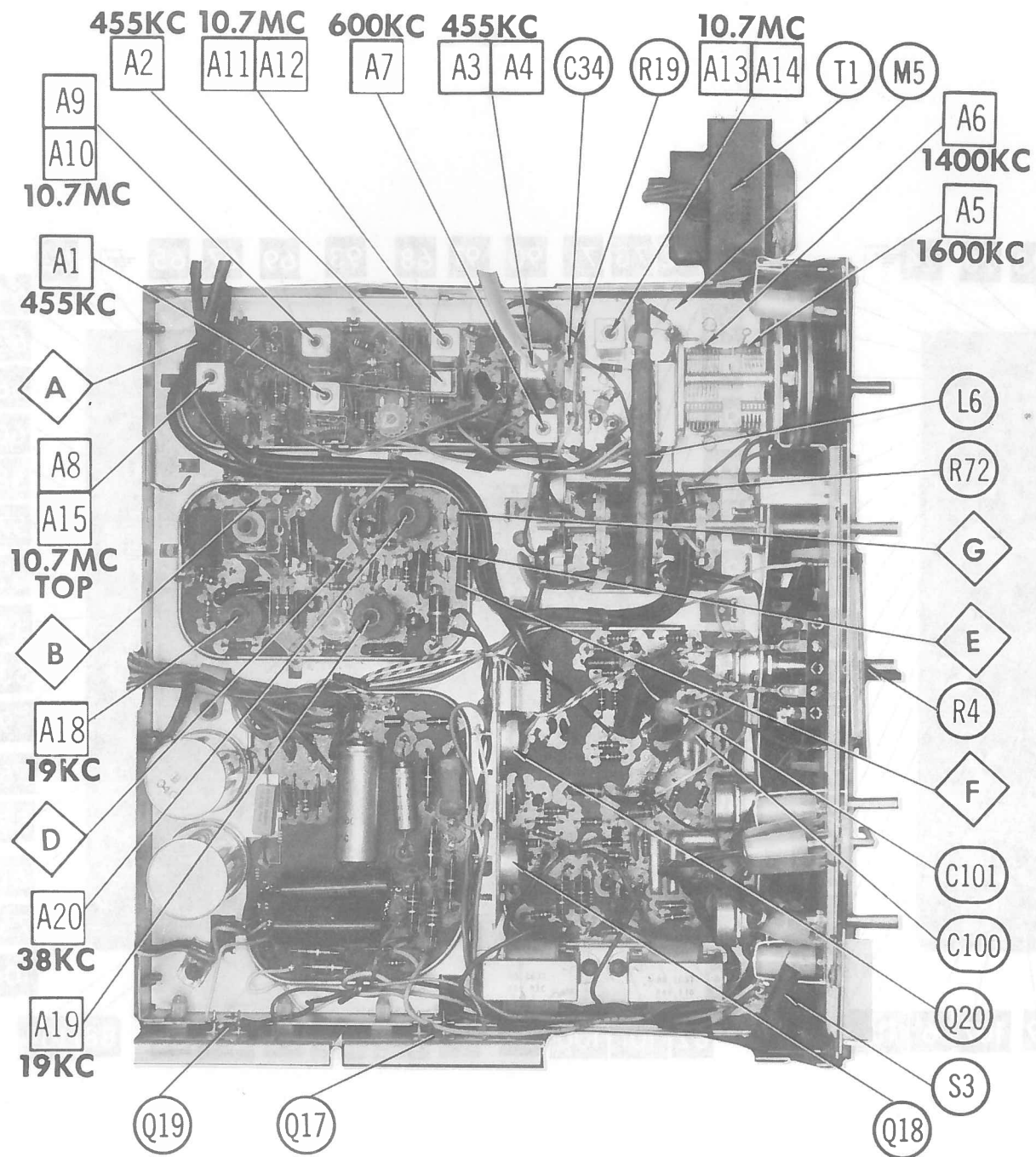


Function Switch S2 shown in FM-AFC position:

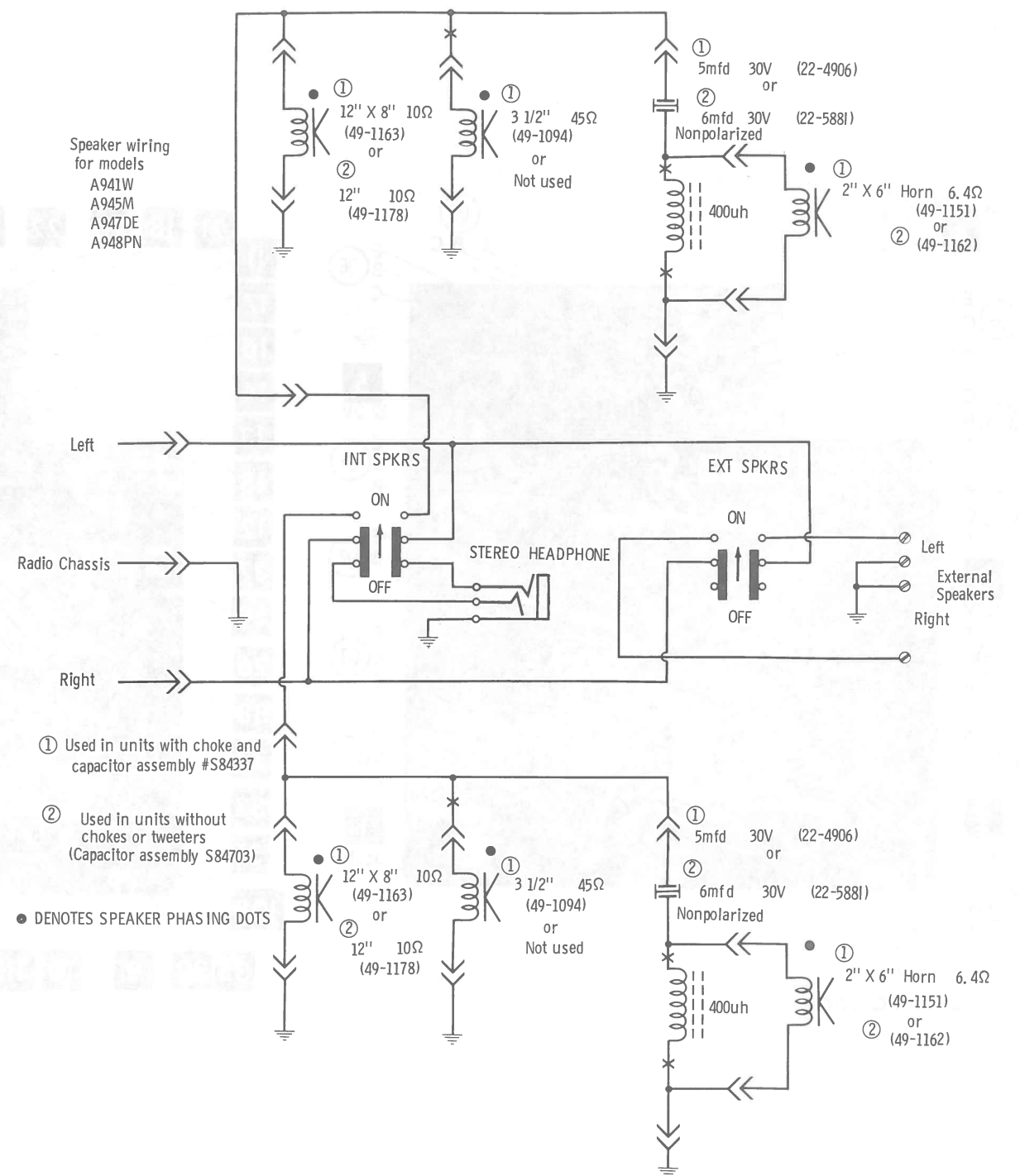
1. Phono
2. Off
3. Tape
4. AM
5. FM-AFC
6. FM



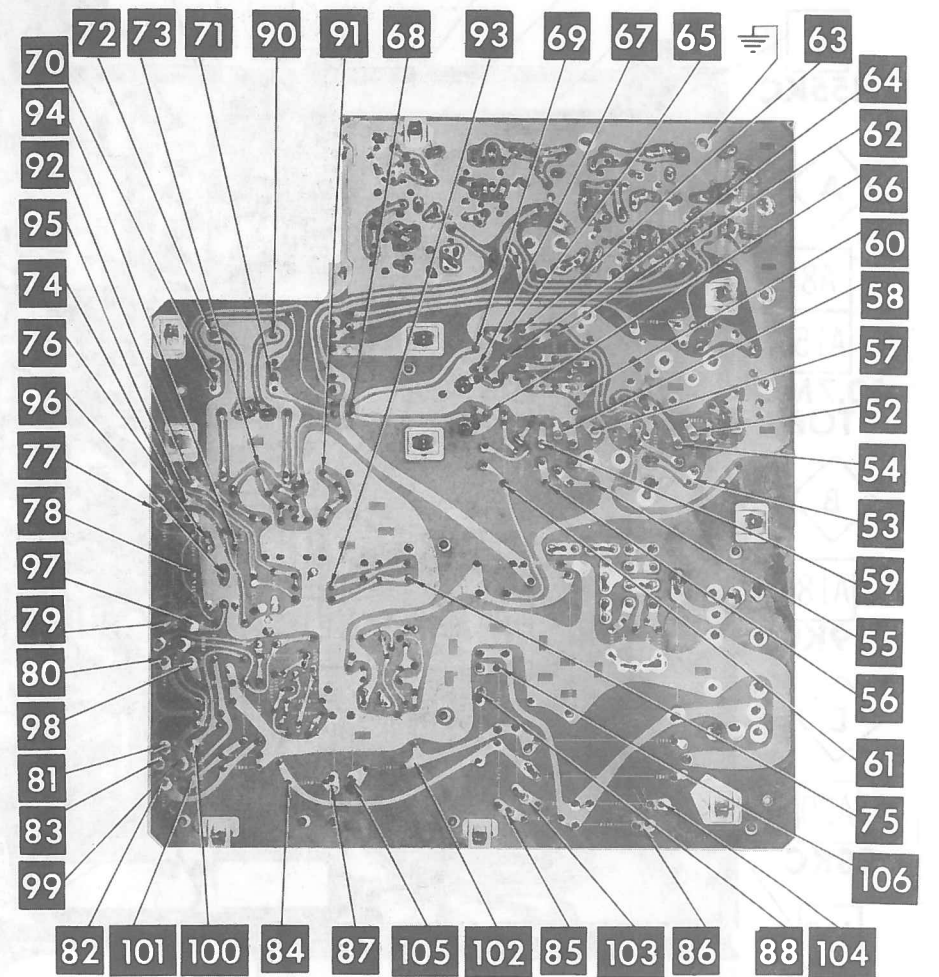
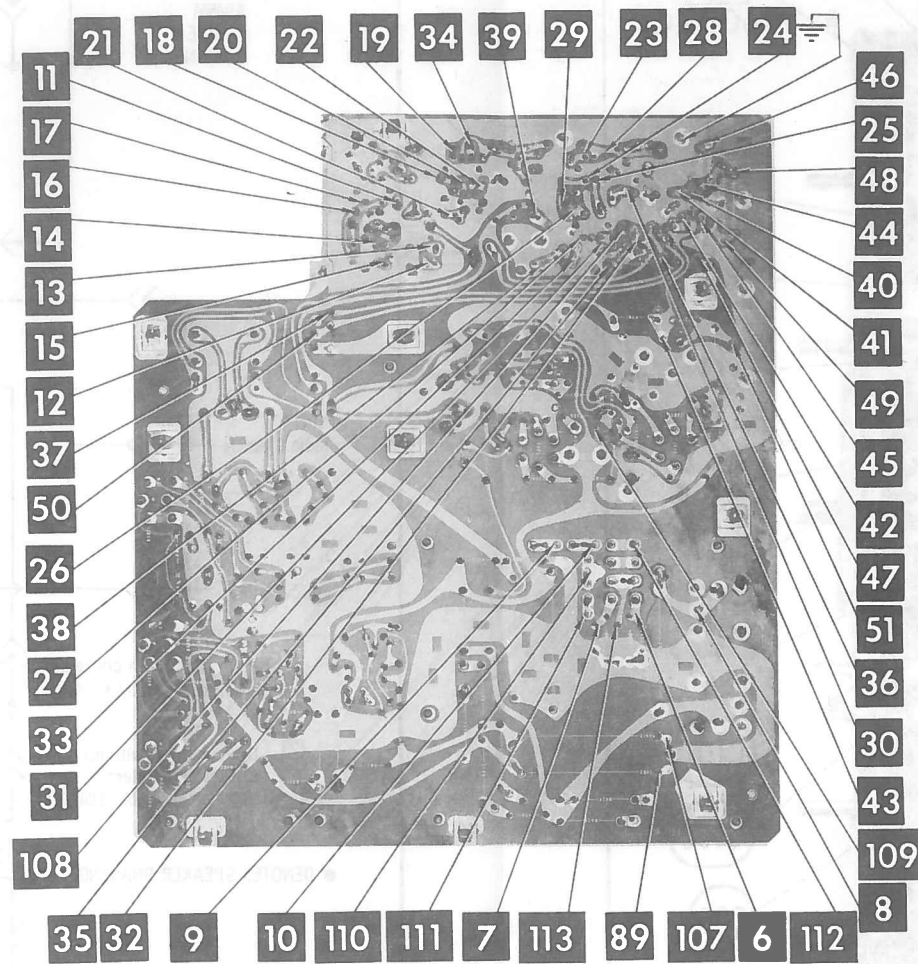
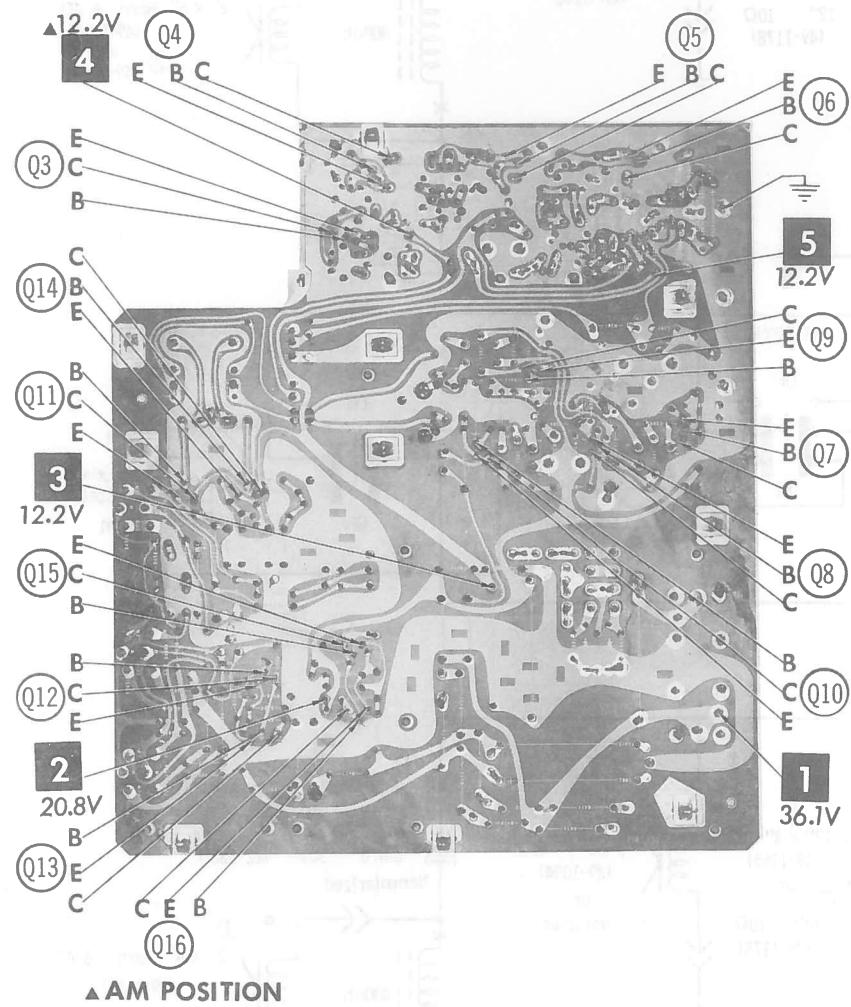
ZENITH  
CHASSIS 20AT21/Z



A Howard W. Sams CIRCUITRACE™ Photo







## PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

## WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Power Cord .....	Use BELDEN No. 17106 (Plastic) or 17126 (Rubber) - 6 Feet 17109 (Plastic) or 17129 (Rubber) - 9 Feet
Low-loss Shielded Lead (Interconnecting) .....	Use BELDEN No. 8401 or 8421
Phono Pick-up Arm Cable .....	Use BELDEN No. 8430 (Two Conductor-Unshielded) 8429 (Two Conductor-Shielded) 8419 (Three Conductor-Shielded)

## ALIGNMENT INSTRUCTIONS


Maintain line voltage at 117 volts. Use only enough generator output to obtain a suitable indication. Allow a 15 minute warmup for receiver and equipment.  
CAUTION: Use isolation transformer, if available. If not, observe polarity when connecting test equipment.  
Suggested Alignment Tools:  
A1, A3, A4, A7 thru A15. GENERAL CEMENT: 9296, 9297, 9300  
A2, A5, A6. GENERAL CEMENT: 8868, 8987, 9089  
A18 thru A20. GENERAL CEMENT: 8606, 8606L, 8869  
WALSCO: 2510, 2546, 2547  
WALSCO: 2531-X, 2541, 2587  
WALSCO: 2543, 2544, 2588



## AM ALIGNMENT - SELECTOR IN AM POSITION

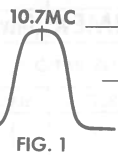
Fashion loop of several turns of wire and connect generator across loop. Set volume control at maximum.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. 455KC (400v Mod.)	Tuning gang fully open.	Output meter across voice coil.	A1, A2, A3, A4	Adjust for maximum. Repeat until no further improvement can be made.
2. 1600KC	"	"	A5	Adjust for maximum.
3. 1400KC	Tune to signal.	"	A6	"
4. 600KC	"	"	A7	Rock tuning gang and adjust for maximum. Repeat steps 2 thru 4 until no further improvement can be made.


## FM IF ALIGNMENT USING AM SIGNAL GENERATOR - SELECTOR IN FM POSITION



High side of generator thru .001mfd to point , low side to ground.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
5. 10.7MC (Unmod.)	Point of non-interference.	DC probe of VTVM to point  , common to ground.	A8, A9, A10, A11, A12, A13, A14	Adjust for maximum.
6. "	"	DC probe to point  , common to ground.	A15	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.




## FM IF ALIGNMENT USING FM SIGNAL GENERATOR - SELECTOR IN FM POSITION

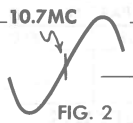
High side of generator thru .001mfd to point , low side to ground. Use only enough marker signal for indication. Use 60v frequency modulated signal with 450KC sweep. Use 60v sawtooth voltage in scope for horizontal deflection.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
5. 10.7MC (450KC Swp.)	Point of non-interference	Vert. amp. of scope to point  , low side to ground.	A8, A9, A10, A11, A12, A13, A14	Disconnect stabilizing capacitor C7. Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown. Reconnect C7.
6. "	"	Vert. amp. to point  , low side to ground.	A15	Adjust A15 (secondary) to place marker at center of "S" curve similar to Fig. 2. Adjust A8 (primary) for maximum amplitude and straightness of line.

## FM RF ALIGNMENT - SELECTOR IN FM POSITION





Connect generator across antenna terminals with 120Ω carbon resistors in series with each lead.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
7. 90MC	Tune to signal.	DC probe of VTVM to point  , common to ground.	A16, A17	Rock tuning and adjust for maximum.



## FM STEREO MULTIPLEX ALIGNMENT USING FM STEREO SIGNAL GENERATOR (±.0001% ACCURACY)

High side of generator thru 47K to point , low side to ground.

GENERATOR FREQUENCY	INDICATOR	ADJUST	REMARKS
8. 19KC	Vert. amp. thru 47K to point  , low side to ground.	A18, A19	Adjust for maximum.
9. "	Vert. amp. thru 47K to point  , low side to ground.	A20	Adjust for maximum 38KC response.
10. Modulated Left Channel	Vert. amp. to point  , low side to ground.	A18, A19, A20	Adjust for MINIMUM. This step should require only slight adjustment.
11. Modulated Right Channel	Vert. amp. to point  , low side to ground.		Check for MINIMUM. If necessary make compromise adjustments of A18, A19, & A20

## FM STEREO THRESHOLD ADJUSTMENT (R6).

Tune across dial (with AFC off) noting operation of stereo indicator lamp. Adjust R6 until lamp glows on weak stereo stations but does not glow on noise pulses.

## PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

## TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1		FM RF Amp		GE-17	TR-22	HEP53	SK3018	ECG 108
Q2		FM Converter		GE-17	TR-22	HEP53	SK3018	ECG 108
Q3		AM Converter	121-257	GE-9A	TR-11	HEP3	SK3008	ECG 100
Q4		1st AM-FM IF	121-614	GE-20	TR-21	HEP516	SK3018	ECG 108
Q5		2nd AM-FM IF	121-546	GE-20	TR-21	HEP720	SK3018	ECG 108
Q6		3rd FM IF	121-546	GE-20	TR-21	HEP720	SK3018	ECG 108
Q7		MPX Input	121-739	GE-20	TR-21	HEP756	SK3018	ECG 123
Q8		19KC	121-639	GE-20	TR-21	HEP756	SK3018	ECG 123
Q9		38KC	121-639	GE-20	TR-21	HEP756	SK3018	ECG 123
Q10		Stereo Indicator Control	121-639	GE-18	TR-25	HEP756	SK3024	ECG 128
Q11		AF Amp	121-433	GE-20	TR-21	HEP730	SK3020	ECG 123
Q12		AF Amp	121-430	GE-20	TR-21	HEP54	SK3020	ECG 123
Q13		Driver	121-706	GE-20	TR-21	HEP53	SK3020	ECG 123
Q14		AF Amp	121-433	GE-20	TR-21	HEP730	SK3020	ECG 123
Q15		AF Amp	121-430	GE-20	TR-21	HEP54	SK3020	ECG 123
Q16		Driver	121-706	GE-20	TR-21	HEP53	SK3020	ECG 123
Q17		Output	121-418 (1)	GE-13MP		HEP232		ECG 121
Q18		Output	121-418			HEP232		MP (1)
Q19		Output	121-418 (1)	GE-13MP		HEP232		ECG 121
Q20		Output	121-418			HEP232		MP (1)

(1) Matched pair.

## POWER RECTIFIERS &amp; SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X1	212-71	GE-504A	8D4 or 18DJ2A (1)	ECG 116 or ECG 117	SK3030 or SK3031	(1) Single unit replacement for both rectifiers. (2) Variable capacitor diode. (3) & (4) Matched pair. (5) Zener Diode.
X2	212-71	GE-504A	8D4 or 18DJ2A (1)	ECG 116 or ECG 117	SK3030 or SK3031	
X3	(2)					
X4	108-74	1N60	1N60	ECG 109		
X5	103-23	1N60	1N60	ECG 109		
X6	103-23	1N60	1N60	ECG 109		
X7	103-23	1N60	1N60	ECG 109		
X8	103-90	1N60	1N60	ECG 109		
X9	103-90 (3)	1N60	1N60	ECG 110 (4)		
X10	103-23	1N60	1N60	ECG 110 (4)		
X11	103-23	1N60	1N60	ECG 110 (4)		
X12	103-23	1N60	1N60	ECG 110 (4)		
X13	103-23	1N60	1N60	ECG 110 (4)		
X14	103-96 (5)	GEZD-12	1ZM12-T10 or Z-1112	ECG 142		

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		ZENITH PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	2000 50V	22-5650	AFH1-14-55 PRS1390		BB0088A		FP070A	TVL-2335.4
C2	2000 50V	22-5650	AFH1-14-55 PRS1390		BB0088A		FP070A	TVL-2335.4
C3	1000 30V	22-5167	PRS1395	EA30-1000	WBR1000-35		TC50100A	TL-1317
C4	100 25V	22-3973	CRE623A	EA30-100	WBR100-35	MT1-23.5	MTA100F35	TE-1211
C5	5 12V	22-5659	BCD25005	EP15-5	PC5-100	MT1-3	MTV5CB50	TE-1127
C6	10 6V		BCD25010	EP6-10	PC10-50	MT1-5	MTV10CB50	TE-1087
C7	5 25V	22-5486	BCD25010	EP6-10	PC10-50	MT1-5	MTV10CB50	TL-1053
C8	5 25V	22-3896	CRE604A	EA30-5	WBR5-150	MT1-3	MTA5D50	TE-1202
C9	5 25V	22-3896	CRE604A	EA30-5	WBR5-150	MT1-3	MTA5D50	TE-1202
C10	1 50V	22-3687	PTT87	EA30-5	AL1-50	MT1-1	MTA1D50	TE-1300
C11	1 50V	22-3687	PTT87		AL1-50	MT1-1	MTA1D50	TE-1300
C12	300 35V	22-5315	PRS1540		WBR300-35	QT1-31	TC499A	TL1314
C13	1 50V	22-3687	PTT87		AL1-50	MT1-1	MTA1D50	TE-1300
C14	1 50V	22-3687	PTT87		AL1-50	MT1-1	MTA1D50	TE-1300
C15	300 35V	22-5315	PRS1540		WBR300-35	QT1-31	TC499A	TL1314
C16	5 30VNP	22-4906	PRS7550		BRNP5-400	NPQT-1	TCN505	TVAN-1303.1
C17	5 30VNP	22-4906	PRS7550		BRNP5-400	NPQT-1	TCN505	TVAN-1303.1

## CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C21	6	#22-5649						
C22	12							
C23	.001							
C24	36 N330							
C25	.001							
C26	.001							
C27	.001							

## PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

## CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C28	3.3	5%	NPO-DI 3.3	DTZ-3R3			CN0533	10TCC-V33
C29	10	5%		DTZ-10	CZ601CG100J		CN0410	10TCC-Q10
C30	1.8	5%						10TCC-V18
C31	8	5%	NPO-DI 8.2					10TCC-V82
C32	.001							
C33	.1	10V	TTP-.1	CK-104	HOV101ZV104Z		TA010	TG-P10
C34	.002							
C35	19	150				*	*	
C36	.002							
C37	.05	25V	TTP-.05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C38	.05	25V	TTP-.05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C39	.01	25V	TTP-.01	CK-103	HOV101ZV103P	CCD-103	TA110	TG-S10
C40	390	100V	ADM-15-391	CPR-390J	CD15F391J500	DM-15-391	SX339	MS-339
C41	.15	12V						
C42	2.7	10%	#22-5251					10TCC-V27
C43	560	500V	#22-3310	GPD X5F561K	DD-561	JBY601YP561K	CCD-561	GP356
C44	.05	25V		TTP-.05	CK-503	HOV101ZV503Z	CCD-503	TA150
C45	42	N330				*	*	TGL-S50
C46	680	500V	#22-3791	GPD X5F681K	DD-681	JBY601YP681K	CCD-681	GP368
C47	.05	25V		TTP-.05	CK-503	HOV101ZV503Z	CCD-503	TA150
C48	2.4	10%			DTZ-2R2	CZ601CJ2R2D	CCTO-2R2	CN0522
C49	100	N750			DTN-100	CX601UJ101R	CCTN-101	CN7310
C50	3.9	10%	#22-3400	N750-DI 100				10TCC-V39
C51	560	500V		GPD X5F561K	DD-561	JBY601YP561K	CCD-561	GP356
C52	.05	25V		TTP-.05	CK-503	HOV101ZV503Z	CCD-503	TA150
C53	680	500V		GPD X5F681K	DD-681	JBY601YP681K	CCD-681	GP368
C54	.01	25V		TTP-.01	CK-103	HOV101ZV103P	CCD-103	TA110
C55	.05	25V		TTP-.05	CK-503	HOV101ZV503Z	CCD-503	TA150
C56	.002	500V		GPD X5F222K	DD-222	JBX601YP222K	CCD-222	GP222
C57	.0022	500V		GPD X5F222K	DD-222	JBX601YP222K	CCD-222	GP222
C58	.0022	500V		GPD X5F222K	DD-222	JBX601YP222K	CCD-222	GP222
C59	.02	25V		TTP-.02	CK-203	HOR101ZV203P	CCD-203	TA120
C60	.005	25V		TTP-.005	CK-502	HOY101ZV502P	CCD-502	TA250
C61	390	500V		GPD X5F391K	DD-391		CCD-391	GP339
C62	390	500V		GPD X5F391K	DD-391		CCD-391	GP339
C63	.001	25V		GPD X5F102K	DM-102	JBS601YP102K	CCD-102	SM210
C64	270	100V		ADM-15-271	CPR-270J	CD15F271J500	DM-15-271J	SX327
C65	.001	100V		ADM-20-100V	CPR-1000J	CD19F102J500	DM-19-102J	SX210
C66	.47	50V		DBE2P47		DMF1P47	1DP-4-474	PVC1047
C67	.0022	300V		ADM-20-222	CPR-2200J	CD19F222J500	DM-19-222J	SX222
C68	.01	25V		TTP-.01	CK-103	HOY101ZV103P	CCD-103	TA110
C69	.0022	300V		ADM-20-222	CPR-2200J	CD19F222J500	DM-19-222J	SX222
C70	.0033	500V		GPD X5R332K	DD-332	JBV601YP332K	CCD-332	JF233
C71	.001	100V		ADM-20-102	CPR-1000J	CD19F102J500	DM-19-102J	SX210
C72	.001	100V		ADM-20-102	CPR-1000J	CD19F102J500	DM-19-102J	SX210
C73	.05	25V		TTP-.05	CK-503	HOV101ZV503Z	CCD-503	TA150
C74	.47	50V		DBE2P47		DMF1P47	1DP-4-474	PVC1047
C75	.15	200V		V1612P15		DMF2P15	2DP-3-154	PVC2015
C76	330	500V		GPD X5F331K	DD-331	JBZ601YP331K	CCD-331	GP333
C77	.0068	200V		V1612D68	CPR-6800J	PM2D68	6DP-1-682	PVC6268
C78	.1	200V		DBE2P1		DMF2P1	2DP-3-104	PVC201
C79	.02	25V		TTP-.02	CK-203	HOR101ZV203P	CCD-203	TA120
C80	.15	200V		V1612P15		DMF2P15	2DP-3-154	PVC2015
C81	47	500V		GPD X5F470K	DD-470	JBZ601YP470K	CCD-470	GP447
C82	.05	25V		TTP-.05	CK-503	HOV101ZV503Z	CCD-503	TA150
C83	.05	25V		TTP-.05	CK-503	HOV101ZV503Z	CCD-503	TA150
C84	.47	50V		DBE2P47		DMF1P47	1DP-4-474	PVC1047
C85	330	500V		GPD X5F331K	DD-331	JBZ601YP331K	CCD-331	GP333
C86	.15	200V		V1612P15		DMF2P15	2DP-3-154	PVC2015
C87	.0068	200V		V1612D68	CPR-6800J	PM2D68	6DP-1-682	PVC6268
C88	.1	200V		DBE2P1		DMF2P1	2DP-3-104	PVC201
C89	.02	25V		TTP-.02	CK-203	HOR101ZV203P	CCD-203	TA120
C90	.15	200V		V1612P15		DMF2P15	2DP-3-154	PVC2015
C91	47	500V		GPD X5F470K	DD-470	JBZ601YP470K	CCD-470	GP447
C92	.05	25V		TTP-.05	CK-503	HOV101ZV503Z	CCD-503	TA150
C93	.01	500V		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110
C94	.01	500V		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110
C95	.05	25V		TTP-.05	CK-503	HOV101ZV503Z	CCD-503	TA150
C96	.01	1KV		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110
C97	.01	1KV		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110
C98	.0015	500V		GPD X5F152K	DD-152		CCD-152	GP215
C99	1.8	10%	#22-2428					
C100	680pf	10%		GPD X5F681K	DD-681	JBY601YP681K	CCD-681	GP368
C101	680pf	10%		GPD X5F681K	DD-681	JBY601YP681K	CCD-681	GP368

# Zenith Part Number.

\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

## CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFG. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Loudness, Left	50K Tap @ 20K	63-7563	F12-50K, R12-50K		BU1, CF105TT,(1) CR7TT,(1) SS1, SS7A, DC1*	
B	Loudness, Right	50K Tap @ 20K		SF206, CPL-2			
R2A	Bass, Left	250K	63-7564	F2-250K, R2-250K,SF206, CPL-2	NP-250K-Z, NR-250K-Z, UP-B-400, DC-2	B13-130, B13-130, SK1, QCM or [BU1,CF23, CR18, SS1, SS7]*	P254A, 3014, RU254A, CS3500
B	Bass, Right	250K					
R3A	Treble, Left	250K	63-7584	F2-250K, R2-250K, SF206, CPL-2	NP-250K-Z, NR-250K-Z, UP-B-400, DC-2	B13-130, B13-130, SK1, QCM or [BU1,CF23, CR18, SS1, SS7]*	P254A, 3014, RU254A, CS3500
B	Treble, Right	250K					
R4	Balance	150K	62-7680				
R5	Bias	100K	63-6495	T-100K (2)		U201R104B	MTC15L4
R6	Threshold	100K	63-6495	T-100K (2)		U201R104B	MTC15L4

\* "SNAPTROL"

(1) Do not use 25K Tap.

(2) For horizontal mount, bend the two outside terminals to fit "PC" board. Use jumper wire to connect center terminal to "PC" board.

## PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFG. PART No.			WORKMAN PART No.	MFG. PART No.
R116	1 5W	5W-SQ 1	63-6424	R117	220 3W	5W-SQ 225	

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	FM Antenna Coil	(1)			
L2	FM RF Coil				
L3	10.7MC Trap				
L4	FM Oscillator Coil				
L5	FM Input IF				
L6	Loopstick				
L7	AM Oscillator Coil				
L8	AM Input IF				
L9	FM Interstage IF				
L10	AM Interstage IF				
L11	FM Interstage IF				
L12	AM Output IF				
L13	Ratio Detector				
L14	67KC Trap				
L15	19KC Input Coil				
L16	19KC				
L17	38KC Output				

(1) Part of FM Tuner.

## TRANSFORMER (Power)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	MFG. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T501	117VAC @ .170A AC	54VAC CT @ .4ADC Max.	6.3VAC @ .83A AC	95-2655					

## TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	MFG. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	3.8	1	1	95-2637					
T3	3.8	1	1	95-2637					

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFG. PART No.	QUAM PART No.	
SP1	10"	15 ohms	49-1176 (1)	(1) Used in Models: A931WP, A933M, A935P, A937H.
SP2	3 1/2"	45 ohms	49-1094 (1)	
SP3	2" x 6" Horn	6.4 ohms	49-1151 (1)	
SP4	10"	15 ohms	49-1176 (1)	
SP5	3 1/2"	45 ohms	49-1094 (1)	3A15TZ40
SP6	2" x 6" Horn	6.4 ohms	49-1151 (1)	
SP1/SP4	12" x 8"	10 ohms	49-1163 (2)	
SP2/SP5	3 1/2"	45 ohms	49-1094 (2)	
SP3/SP6	2" x 6" Horn	6.4 ohms	49-1151 (2)	3A15TZ40
SP1/SP4	12"	10 ohms	49-1178 (3)	
SP3/SP6	Horn	6.4 ohms	49-1162 (3)	(2) Used in 3-speaker-per-channel versions of Models A941W, A945M, A947DE, A948PN. (3) Used in 2-speaker-per-channel versions of Models A941W, A945M, A947DE, A948PN.

## PHONO CARTRIDGE &amp; NEEDLES

ITEM No.	REPLACEMENT DATA						NOTES
	MFR. PART No.		ASTATIC PART No.		ELECTRO-VOICE PART No.		
	CARTRIDGE	NEEDLE	CARTRIDGE	NEEDLE	CARTRIDGE	NEEDLE	
M1	142-168						
M2		S-68567		N882Sd		3454ds	

## MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M5	FM Tuner	S-79987	
M6	Motor		Phono
PC1	MPX Detector	105-78	
S1	Switch		On-Off (Located on Changer)
S2	Switch	85-1029	Function (PHONO, OFF, TAPE, AM, FM, AFC and FM)
S3	Switch	85-1032	MONO, STEREO

## CABINETS &amp; CABINET PARTS (When ordering specify model, chassis &amp; color)

ITEM		PART No.	ITEM		PART No.
Knob, Balance		46-7263	Knob, Function	(20AT21)	46-7335
Knob, Tuning		46-7334	Knob, Function	(20AT21Z)	46-7337
Knob, Loudness, Bass, Treble	(20AT21)	46-7333	Dial Pointer		59-1000
Knob, Loudness, Bass, Treble	(20AT21Z)	46-7336	Dial	(20AT21)	26-1749
Knob, Stereo-Monaural		46-7264	Dial	(20AT21Z)	26-1748



