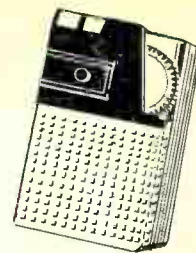




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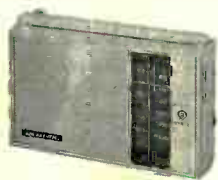
TRANSISTOR RADIO SERIES



TSM-108

108

JANUARY 1970



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\$3.25

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TRANSISTOR RADIO

SERIES



by the *Howard W. Sams* ENGINEERING STAFF



HOWARD W. SAMS & CO., INC.

INDIANAPOLIS, INDIANA

FIRST EDITION
FIRST PRINTING—JANUARY, 1970

PHOTOFACT®
TRANSISTOR RADIO SERIES
VOLUME 108

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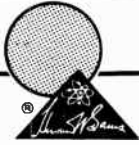


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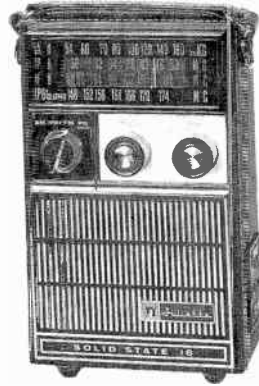
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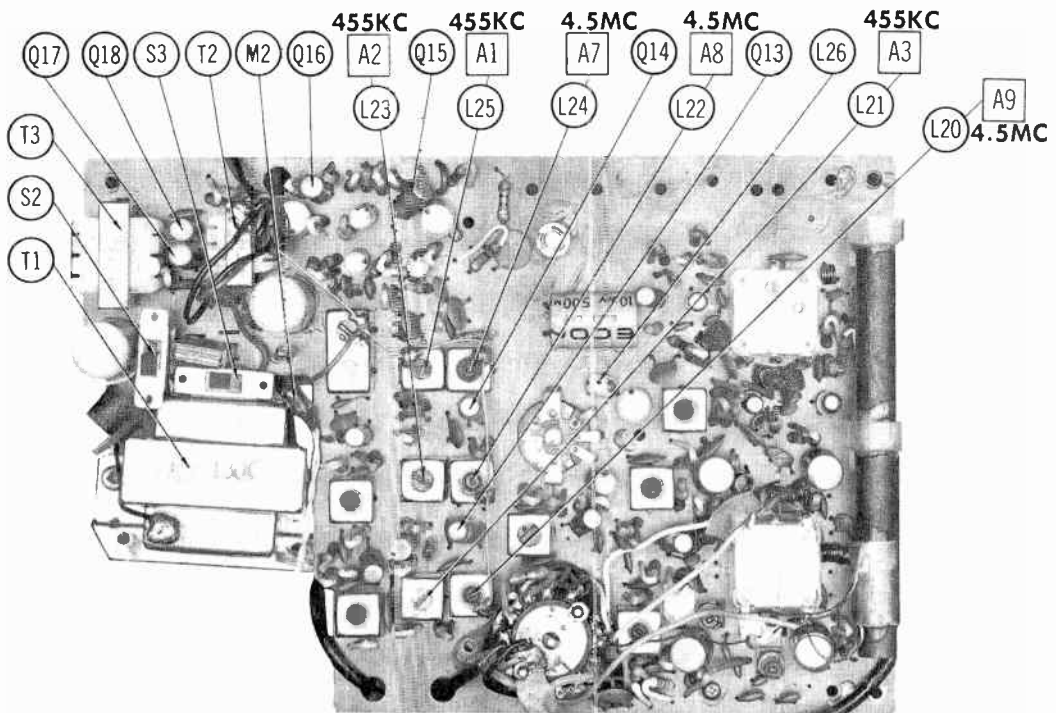
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For Supplier Address See PHOTOFACT Index



JULIETTE MODEL NA-1840

JULIETTE MODEL NA-1840

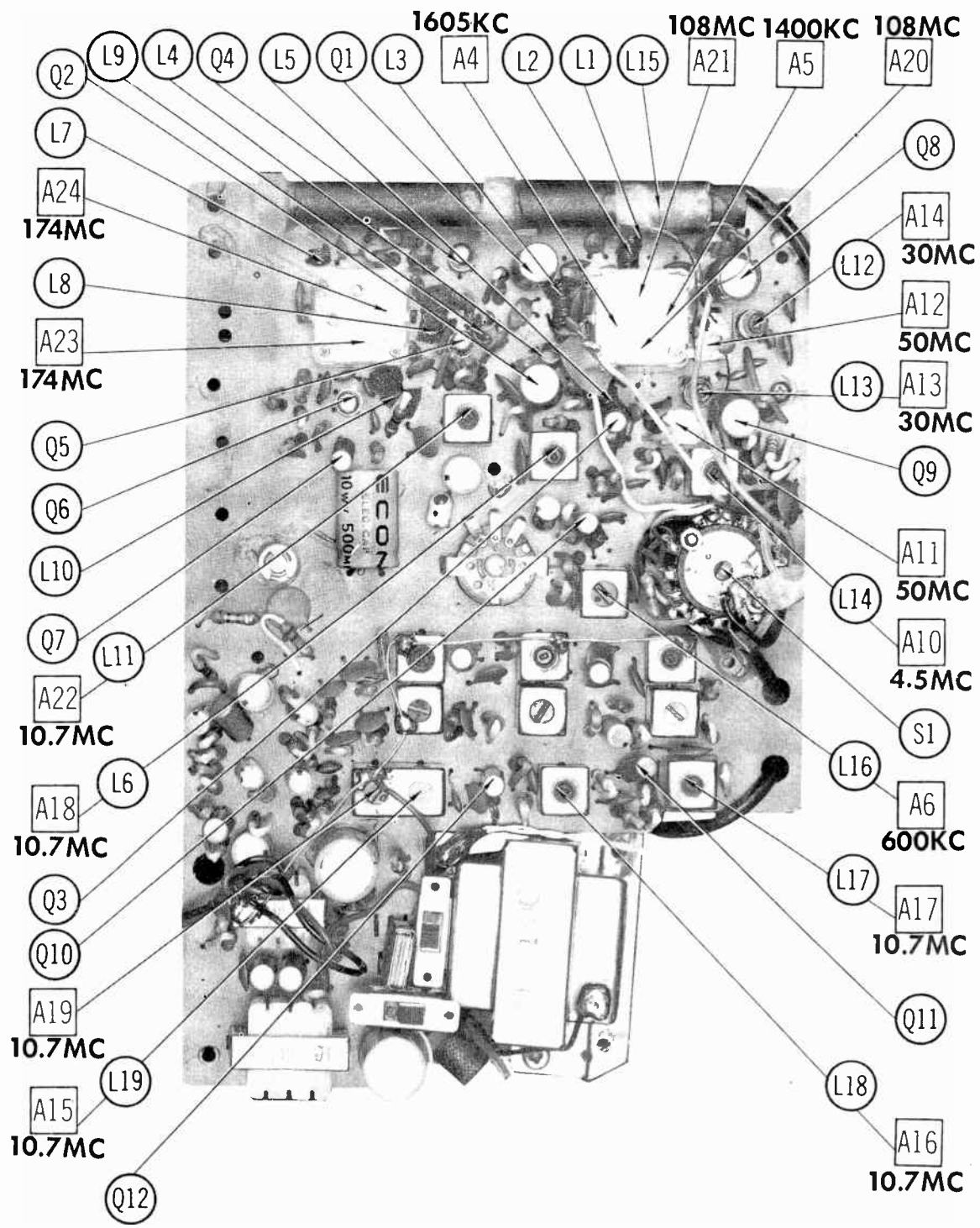


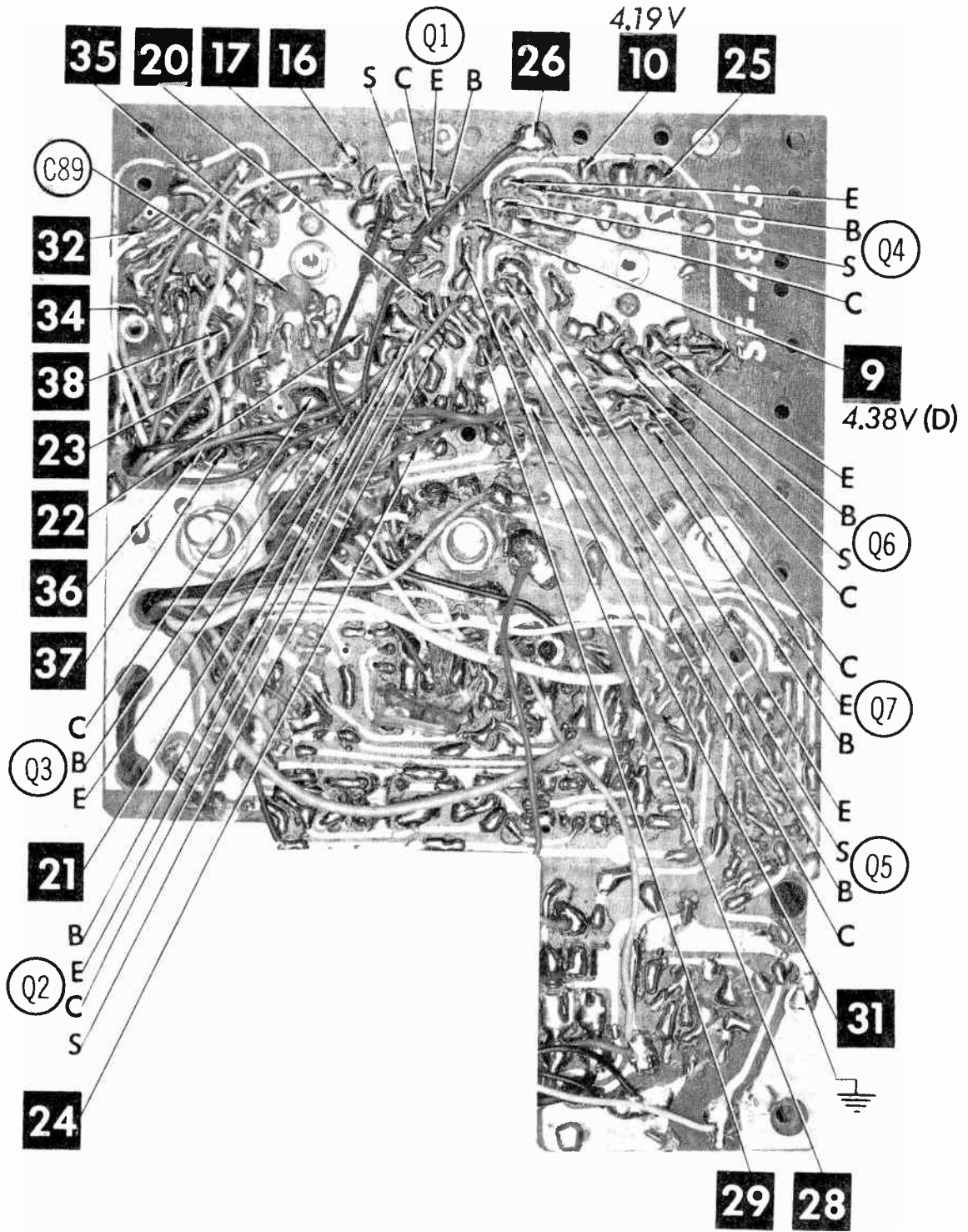
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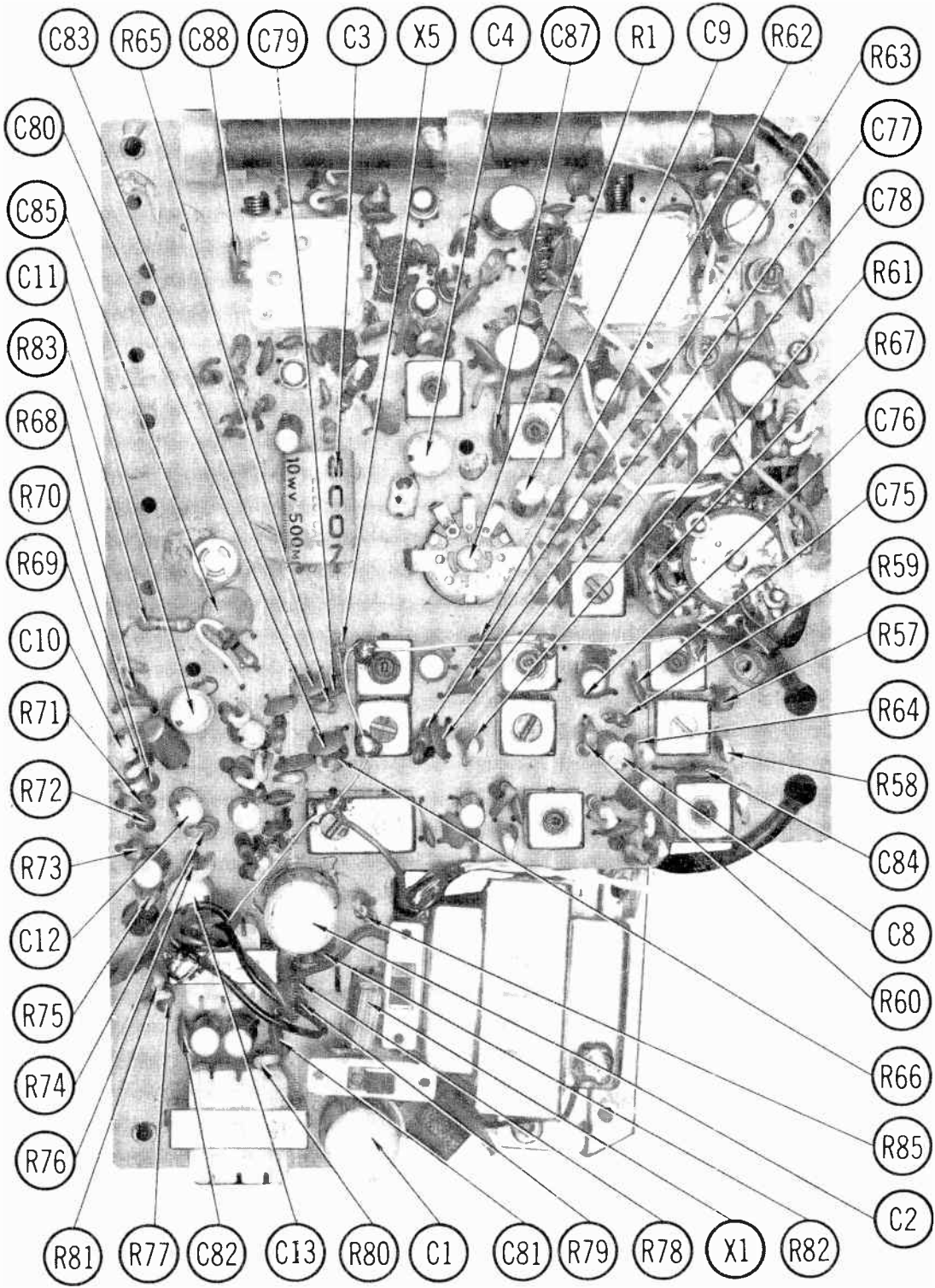
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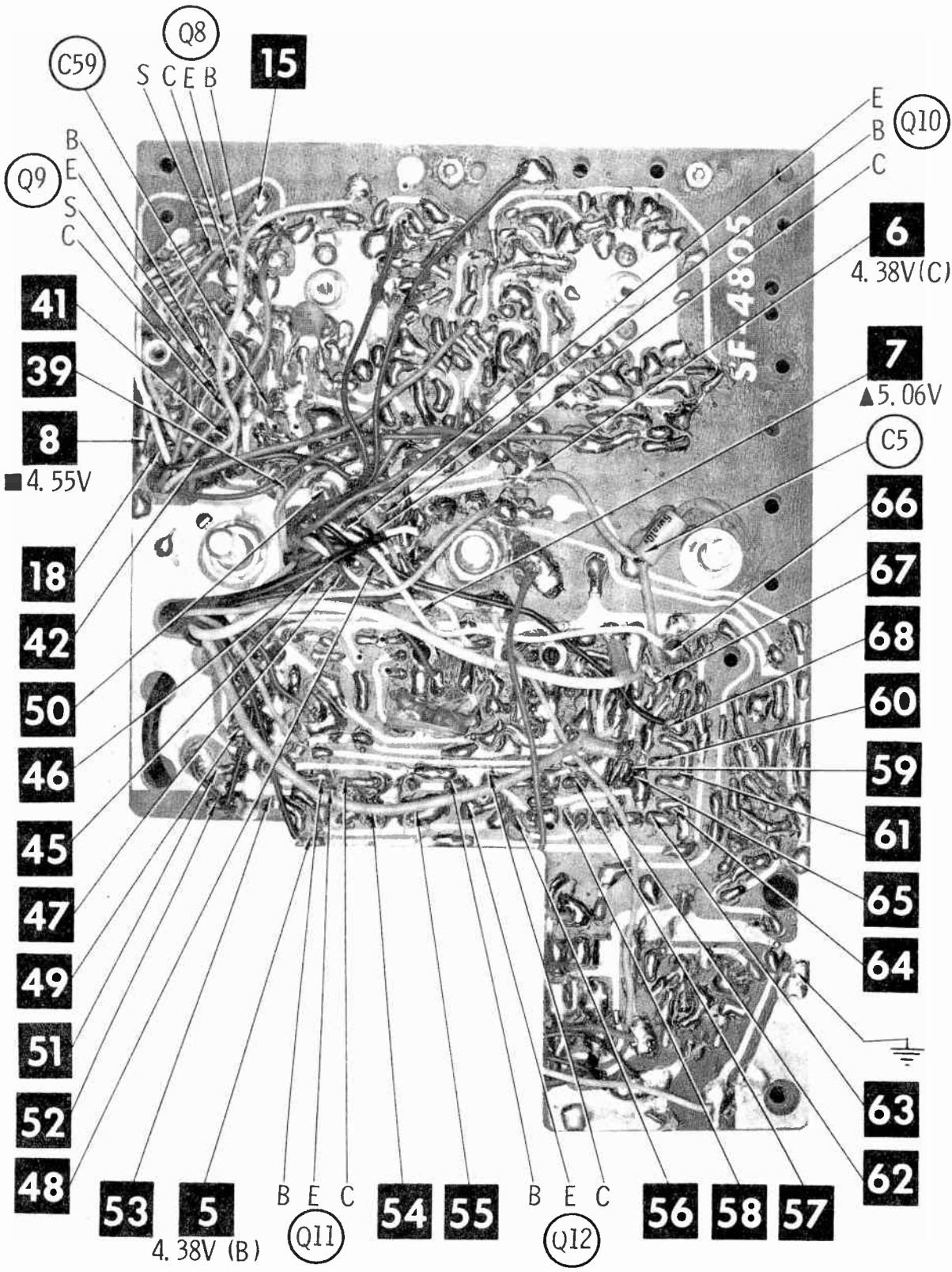
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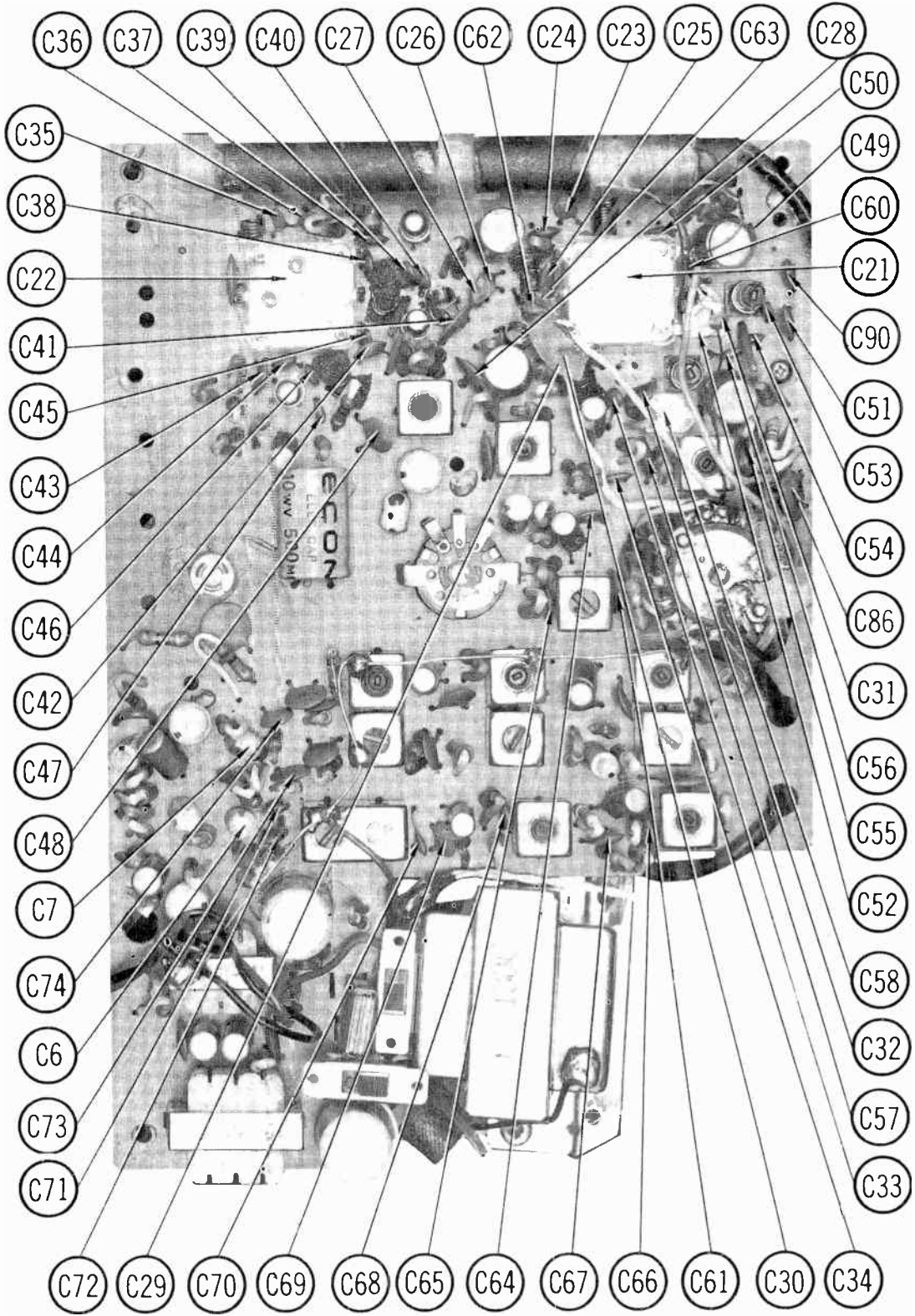


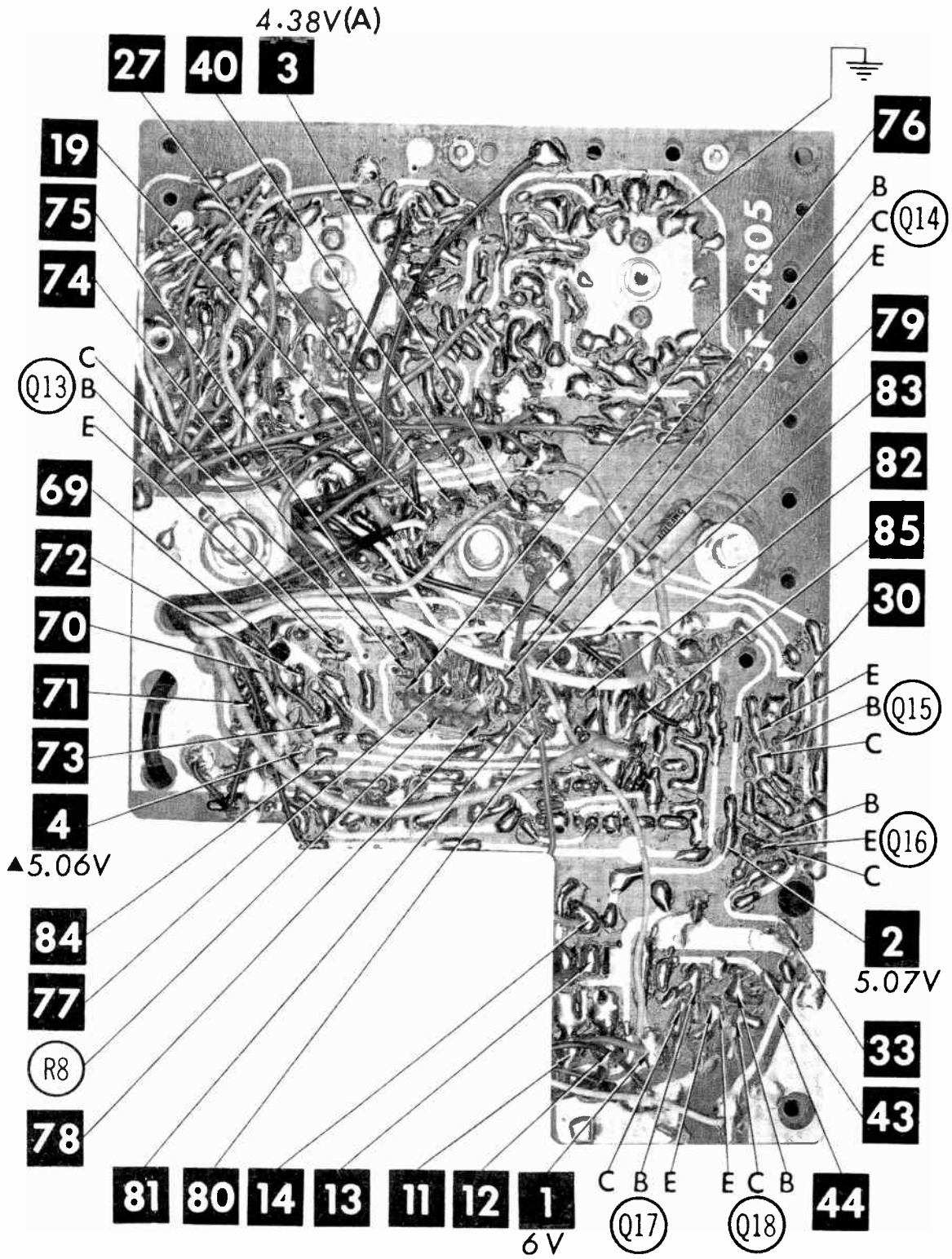
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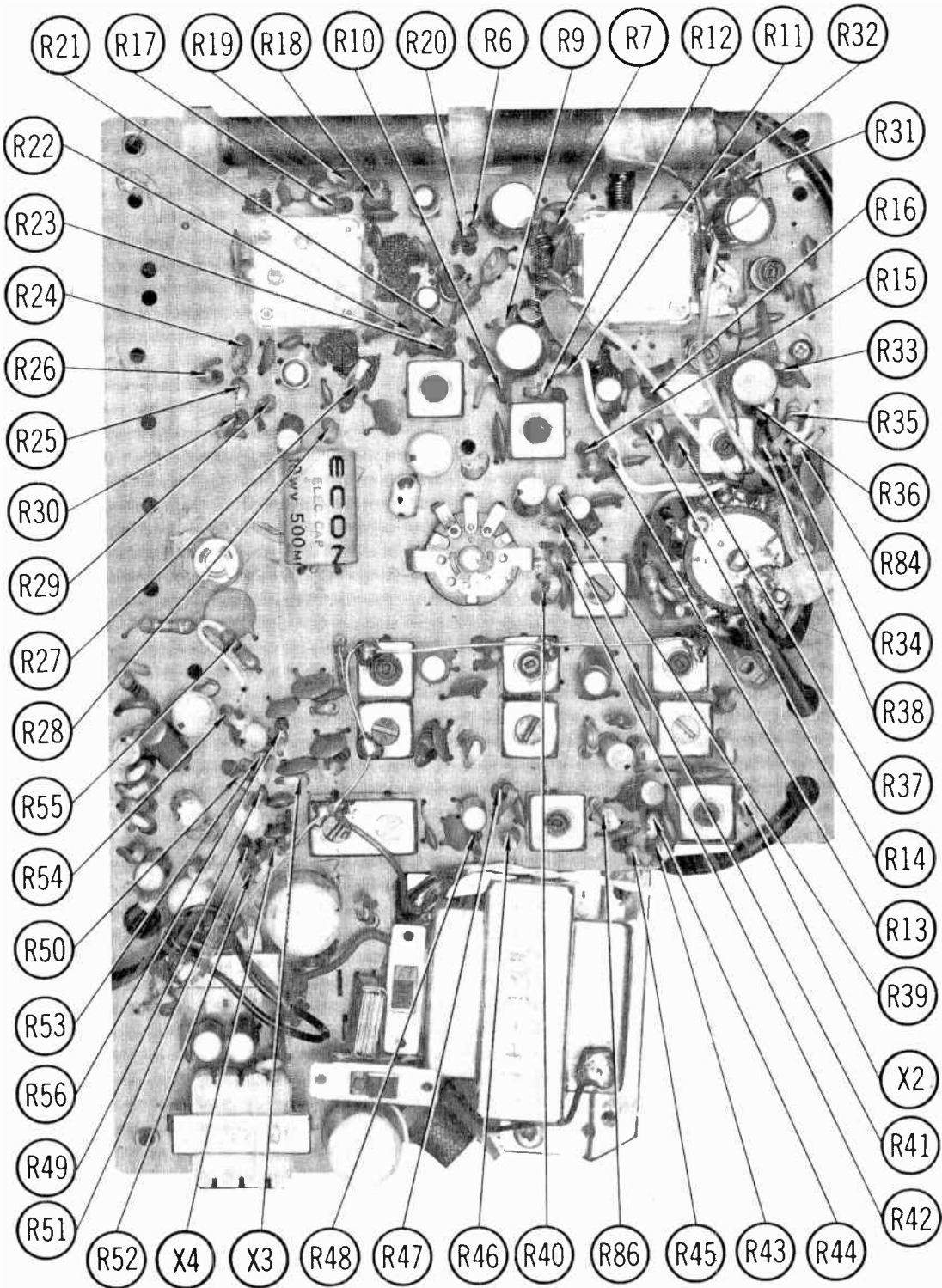


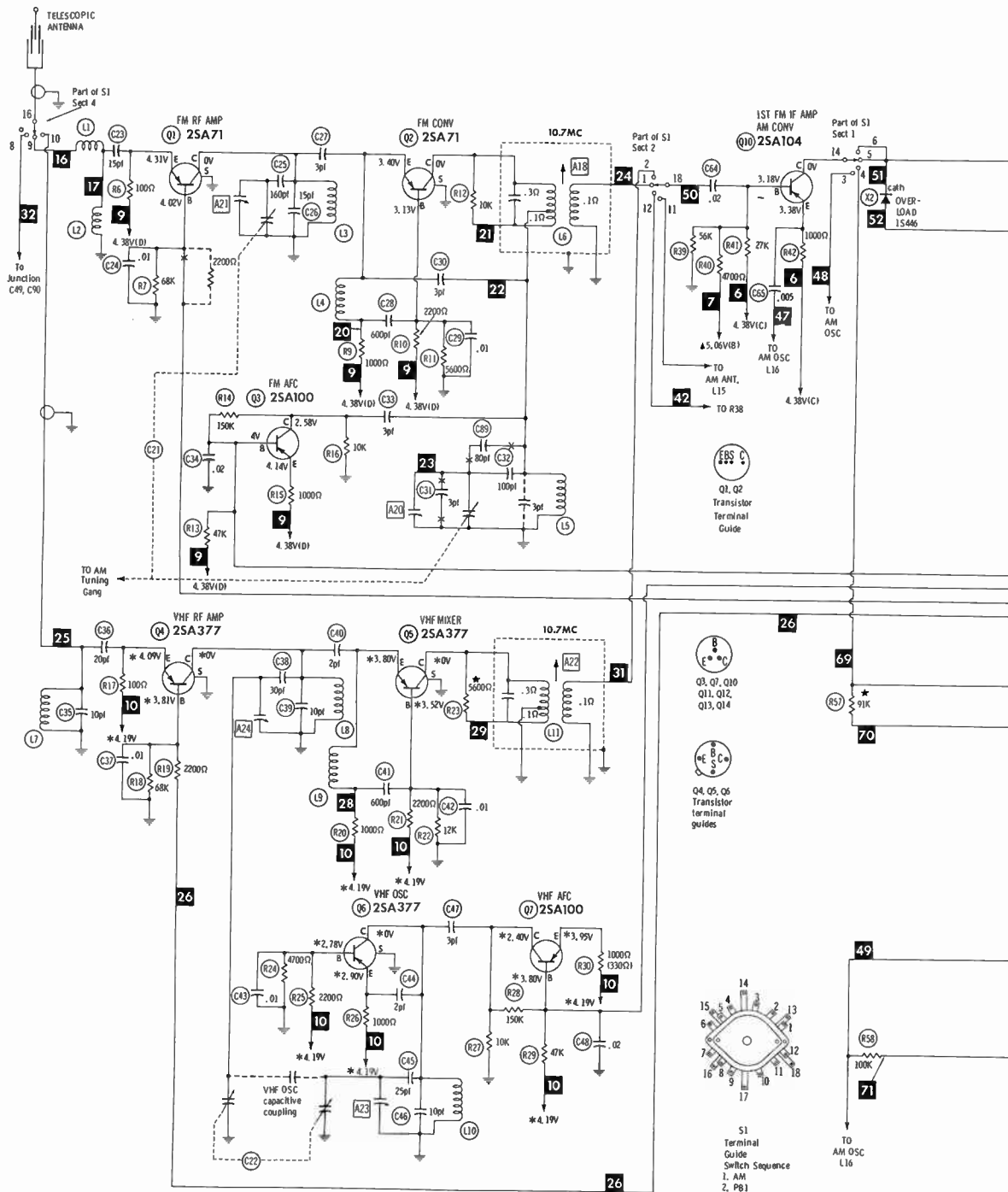
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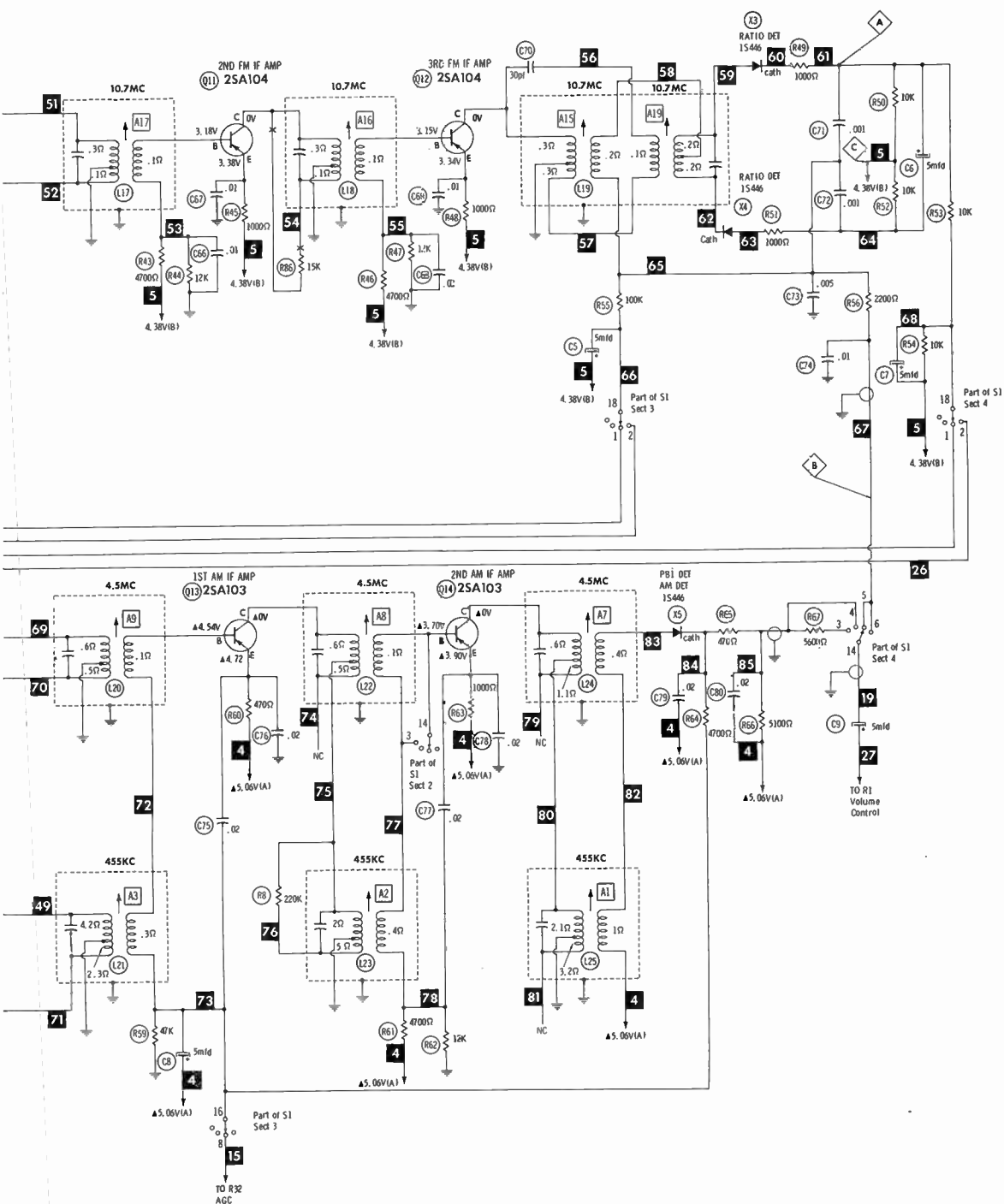
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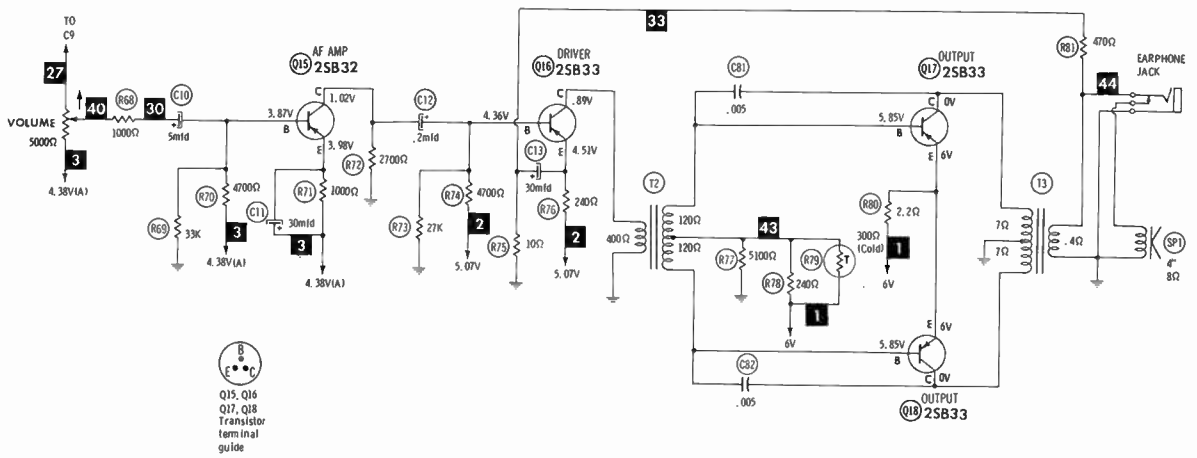


1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.
 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.
- NC No Connection
 ⚡ Denotes ground
 - - - Indicates connection used in some versions.
 ✖ Indicates connection not used in some versions.
 * Value varies; replace with original value.
 & Measured in AM Position
 ■ Measured in PB1 Position
 * Measured in PB Weather Position

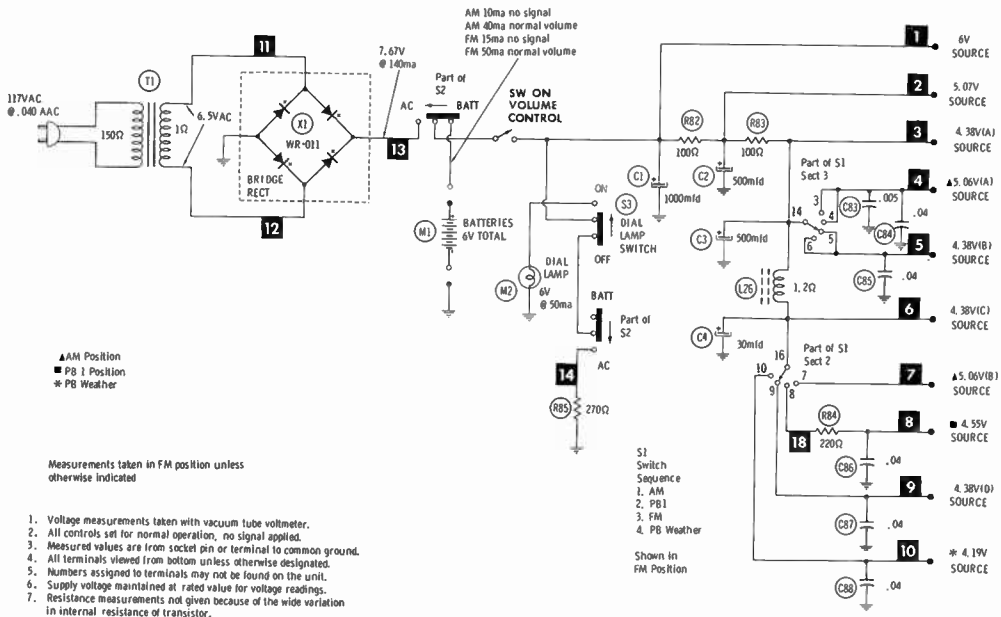
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JULIETTE MODEL NA-1840



Q15, Q16
Q17, Q18
Transistor
terminal
guide



- ▲ AM Position
- PB 1 Position
- * PB Weather

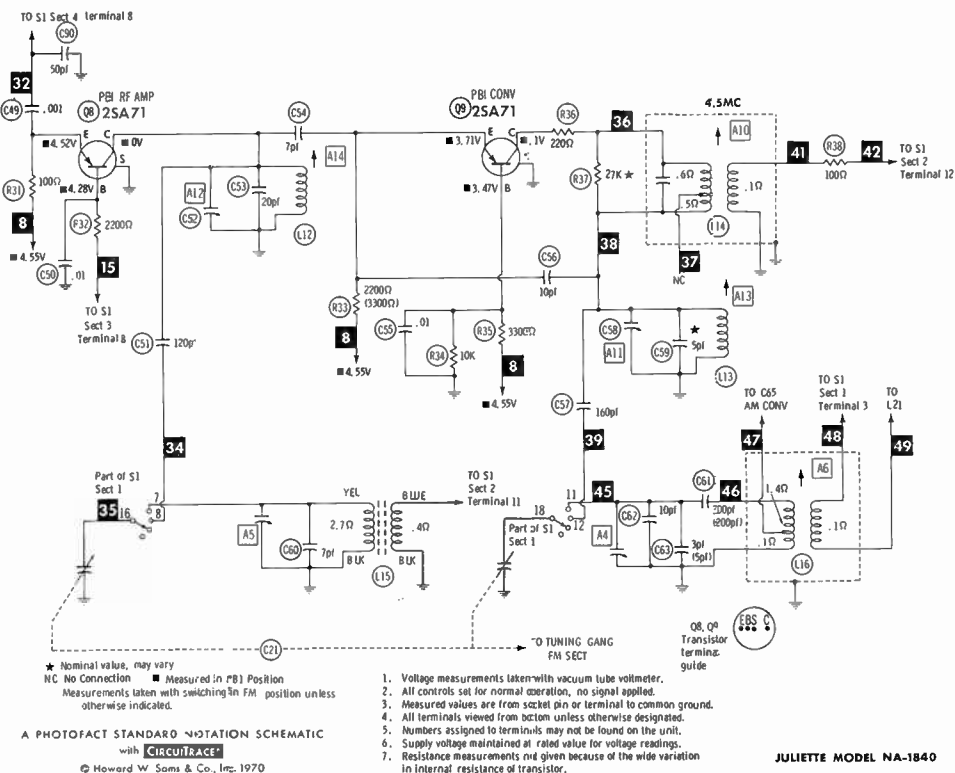
Measurements taken in FM position unless otherwise indicated

1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found on the unit.
6. Supply voltage maintained at rated value for voltage readings.
7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

S1
Switch
Sequence
1. AM
2. PB 1
3. FM
4. PB Weather
Shown in
FM Position

A PHOTOFAC STANDARD NOTATION SCHEMATIC
with **CIRCUITRACE**
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JULIETTE MODEL NA-1840



JULIETTE MODEL NA-1840

PARTS LIST AND DESCRIPTION

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

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFG. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	2SA71	FM RF Amp		GE-9	TR-17	HEP640	SK3006	ECG 126
Q2	2SA71	FM Converter		GE-9	TR-17	HEP640	SK3006	ECG 126
Q3	2SA100 (2SA241)	FM AFC		GE-2	TR-14	HEP639	SK3004	ECG 102
Q4	2SA377 (2SA241)	VHF RF Amp		GE-9	TR-17	HEP640	SK3006	ECG 126
Q5	2SA377 (2SA241)	VHF Mixer		GE-9	TR-17	HEP640	SK3006	ECG 126
Q6	2SA377	VHF Osc.		GE-9	TR-17	HEP640	SK3006	ECG 126
Q7	2SA100	VHF AFC		GE-2	TR-14	HEP639	SK3004	ECG 102
Q8	2SA71	PB1 RF Amp		GE-9	TR-17	HEP640	SK3006	ECG 126
Q9	2SA71	PB1 Conv.		GE-9	TR-17	HEP640	SK3006	ECG 126
Q10	2SA104	1st FM -PB1 IF Amp		GE-9	TR-17	HEP638	SK3006	ECG 126
Q11	2SA104	2nd FM IF Amp		GE-9	TR-17	HEP638	SK3006	ECG 126
Q12	2SA104	3rd FM IF Amp		GE-9	TR-17	HEP638	SK3006	ECG 126
Q13	2SA103	1st AM-2nd PB1 IF Amp		GE-9	TR-17	HEP638	SK3006	ECG 126
Q14	2SA103	2nd AM-3rd PB1 IF Amp		GE-9	TR-17	HEP638	SK3006	ECG 126
Q15	2S832	AF Amp		GE-2	TR-14	HEP250	SK3004	ECG 102
Q16	2S833	Driver		GE-2	TR-14	HEP250	SK3004	ECG 102

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFG. 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	WR-011	GE-504A(1)	18D82A or BD4 (1)	ECG 116(1) or ECG 117 (1)	SK3030(1) or SK3031 (1)	(1) Four required. (4) Matched pair.
X2	1S446	1N60	1N60	ECG 109		
X3	1S446	1N60	1N60	ECG 110 (4)		
X4	1S446	1N60	1N60			
X5	1S446	1N60	1N60	ECG 109		

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	1000 10V	NA-1840-1204	PRS-1130					
C2	500 10V	NA-1840-1205	BCD15500	EA15-500	PC500-16	QT1-30A	WP039A	TVA-1128
C3	500 10V	NA-1840-1206	BCD15500	EA15-500	PC500-16	QT1-30A	MTV500DN15	TL-1141
C4	30 10V	NA-1840-1207	BCD15025	EP15-25	PC30-35	MT1-13.5	MTV30CB25	TL-1141
C5	5 10V	NA-1840-1210	8CD25005	EP15-5	PC5-100	MT1-3	MTV5CB50	TE-1127
C6	5 10V	NA-1840-1210	8CD25005	EP15-5	PC5-100	MT1-3	MTV5CB50	TE-1127
C7	5 10V	NA-1840-1212	BCD25005	EP15-5	PC5-100	MT1-3	MTV5CB50	TE-1127
C8	5 10V	NA-1840-1213	BCD25005	EP15-5	PC5-100	MT1-3	MTV5CB50	TE-1127
C9	5 10V	NA-1840-1214	8CD25005	EP15-5	PC5-100	MT1-3	MTV5CB50	TE-1127
C10	5 10V	NA-1840-1211	BCD25005	EP15-5	PC5-100	MT1-3	MTV5CB50	TE-1127
C11	30 10V	NA-1840-1208	BCD15025	EP15-25	PC30-35	MT1-13.5	MTV30CB25	TE-1132.1
C12	.2 15V	NA-1840-1215			TYR13BF224K		TAS224K035POA	196D224X0035DE
C13	30 10V	NA-1840-1209	BCD15025	EP15-25	PC30-35	MT1-13.5	MTV30CB25	TE-1132.1

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		#NA-1840-1136						
C22		#NA-1840-1135						
C23	15		NPO-DI 15	DTZ-15	NP015	CCT0-150	CN0415	10TCC-Q15
C24	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C25	160		GPD X5F151K	DD-151	GP150	CCD-151	GP315	10TS-T15
C26	15		NPO-DI 15	DTZ-15	NP015	CCT0-150	CN0415	10TCC-Q15
C27	3		NPO-DI 3.0					10TCC-V30
C28	600			DD-601			GP360	
C29	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C30	3		NPO-DI 3.0					10TCC-V30
C31	3		NPO-DI 3.0					10TCC-V30
C32	100		GPD X5F101K	DD-101	GP100	CCD-101	GP310	10TS-T10
C33	3		NPO-DI 3.0					10TCC-V30
C34	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C35	10		NPO-DI 10	DTZ-10	NP010	CCT0-100	CN0410	10TCC-Q10
C36	20		NPO-DI 20	DTZ-20	NP020	CCT0-200	CN0420	10TCC-Q20
C37	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C38	30			TCZ-30		CCT0-300		10TCC-Q30
C39	10		NPO-DI 10	DTZ-10	NP010	CCT0-100	CN0410	10TCC-Q10
C40	2		NPO-DI 2.2	DTZ-2R2	NP02P2		CN0522	10TCC-V22
C41	600			DD-601			GP360	
C42	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C43	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C44	2		NPO-DI 2.2	DTZ-2R2	NP02P2		CN0522	10TCC-V22
C45	25		NPO-DI 25	DTZ-25			CN0425	10TCC-Q25
C46	10		NPO-DI 10	DTZ-10	NP010	CCT0-100	CN0410	10TCC-Q10
C47	3		NPO-DI 3.0					10TCC-V30
C48	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C49	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C50	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C51	120		GPD X5F121K	DD-121	J8Z601YP121K	CCD-121	GP312	10TS-T12
C52		#NA-1840-1138						
C53	20		NPO-DI 20	DTZ-20	NP020	CCT0-200	CN0420	10TCC-Q20
C54	7		NPO-DI 6.8	DTZ-6R8	NP06P8		CN0568	10TCC-V68
C55	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C56	10		NPO-DI 10	DTZ-10	NP010	CCT0-100	CN0410	10TCC-Q10
C57	160		GPD X5F151K	DD-151	GP150	CCD-151	GP315	10TS-T15
C58		#NA-1840-1137						
C59	5		NPO-DI 5.0		NP05			10TCC-V50
C60	7		NPO-DI 6.8	DTZ-6R8	NP06P8		CN0568	10TCC-V68
C61	300		GPD X5F301K	DM-301	GP300	CCD-301	GP330	10TS-T30
C62	10		NPO-DI 10	DTZ-10	NP010	CCT0-100	CN0410	10TCC-Q10
C63	3		NPO-DI 3.0					10TCC-V30
C64	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C65	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50
C66	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C67	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C68	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C69	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C70	30			TCZ-30		CCT0-300		10TCC-Q30
C71	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C72	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C73	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50
C74	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C75	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C76	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C77	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C78	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C79	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C80	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C81	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50
C82	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50
C83	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50
C84	.04			DD-403			GP140	
C85	.04			DD-403			GP140	
C86	.04			DD-403			GP140	
C87	.04			DD-403			GP140	
C88	.04			DD-403			GP140	
C89	80			DTZ-82	NP082	CCT0-820	CN0482	10TCC-Q82
C90	50		NPO-DI 50	DTZ-50	NP050	CCT0-510	CN0450	10TCC-Q50

Juliette Part Number

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume/Switch	5000	NA-1840-1055 (RW-002)				

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFR. PART No.			WORKMAN PART No.	MFR. PART No.
R79	300 (Co1d)		NA-1840-1024 (D5-300)				

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	FM Antenna	NA-1840-1035			
L2	FM Antenna	NA-1840-1036			
L3	FM RF	NA-1840-1038			
L4	FM IF Trap	NA-1840-1044			
L5	FM Osc.	NA-1840-1037			
L6	FM Input IF	NA-1840-1039	16-9031	2071	
L7	VHF Antenna	NA-1840-1026			
L8	VHF RF	NA-1840-1027			
L9	VHF IF Trap	NA-1840-1045			
L10	VHF Osc.	NA-1840-1028			
L11	VHF Input IF	NA-1840-1040	16-9031	2071	
L12	PB1 RF	NA-1840-1029			
L13	PB1 Osc.	NA-1840-1030			
L14	PB1 Input IF	NA-1840-1031			
L15	Loopstick	NA-1840-1046			
L16	AM Osc.	NA-1840-1047			
L17	FM Interstage IF	NA-1840-1041	16-9031	2071	
L18	FM Interstage IF	NA-1840-1042	16-9032	2072	
L19	Ratio Detector	NA-1840-1043			
L20	PB1 Interstage IF	NA-1840-1032			
L21	AM Input IF	NA-1840-1048			
L22	PB1 Interstage IF	NA-1840-1033			
L23	AM Interstage IF	NA-1840-1049	16-9027	8517	
L24	PB1 Output IF	NA-1840-1034			
L25	AM Output IF	NA-1840-1050	16-9028	8518	
L26	RF Choke	NA-1840-1051			

JULIETTE MODEL NA-1840

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	MFR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC @.040A AC	6.5VAC @.140A DC						

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	MFR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	1	1 CT		NA-1840-1052					

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MFR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T3	141 CT	8	NA-1840-1053					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFR. PART No.	QUAM PART No.	
SP1	4" PM 8 ohms	NA-1840-1025	4A1Z8	

PARTS LIST AND DESCRIPTION (CONTINUED)

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

BATTERIES

ITEM No.	VOLTAGE	MFR. PART No.	REPLACEMENT DATA		NOTES
			EVEREADY	MALLORY	
M1	6V		1035 or E93	M14R or MN1400	4 Required

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M2	Lamp, Dial	NA-1840-1221(WL-002)	
S1	Switch, Selector	NA-1840-1217	
S2	Switch, AC-Battery	NA-1840-1218	
S3	Switch, Dial Lamp	NA-1840-1219	

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

ITEM	PART No.	ITEM	PART No.
Cabinet, Leather	NA-1840-3261	Knob, Control	NA-1840-3269
Knob, Tuning	NA-1840-3267	Antenna, Telescopic	NA-1840-3263
Knob, Volume	NA-1840-3268		

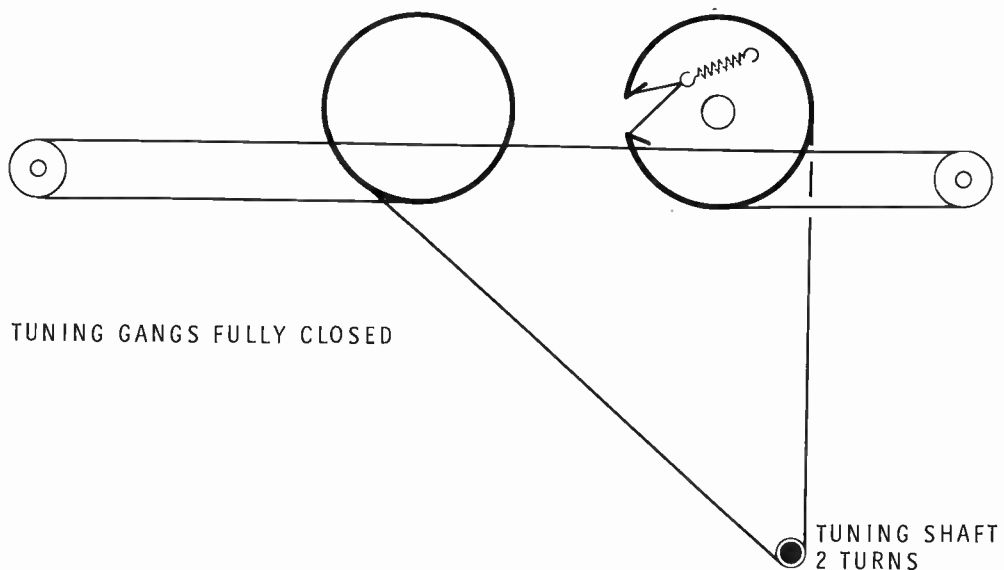
ACCESSORIES

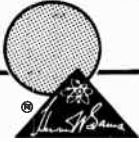
ITEM	MFR. PART No.	REMARKS
Earphone	NA-1840-4288	

WIRING DATA

General-use Unshielded Hook-up Wire Use BELOEN No. 8530 (Solid) Available in 12 Colors
 8524 (Stranded) Available in 12 Colors
 Power Cord Use BELOEN No. 17106 (Plastic) or 17126 (Rubber) - 6 Ft.
 17109 (Plastic) or 17129 (Rubber) - 9 Ft.

DIAL CORD STRINGING—FRONT VIEW

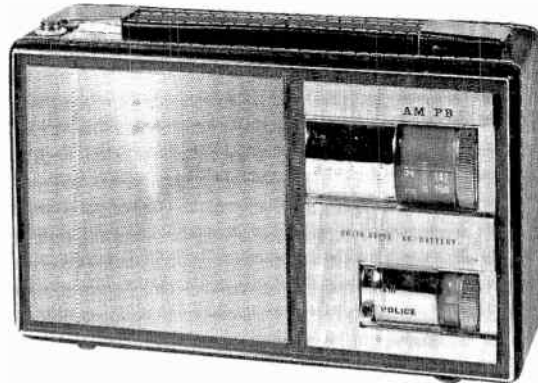




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For Supplier Address See PHOTOFACT Index



LLOYD'S MODEL 8N56-94A

ALIGNMENT INSTRUCTIONS

Check for specified source voltage. Set volume control at maximum. Fashion loop of several turns of wire and connect generator across loop. Use only enough generator output to obtain a suitable indication. Suggested Alignment Tools:

A1 thru A11, A13...GENERAL CEMENT #9087.....WALSCO #2528
 A12GENERAL CEMENT #8605.....WALSCO #2505

SELECTOR IN AM

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	455KC 400 cycle modulation	Tuning gang fully open.	Output Meter across voice coil.	A1, A2, A3	Adjust for maximum. Repeat until no further improvement can be made.
2.	1650KC	"	"	A4	Adjust for maximum.
3.	1400KC	Tune to signal	"	A5	"
4.	600KC	"	"	A6	Rock tuning gang and adjust for maximum. Repeat steps 2 thru 4 until no further improvement can be made.

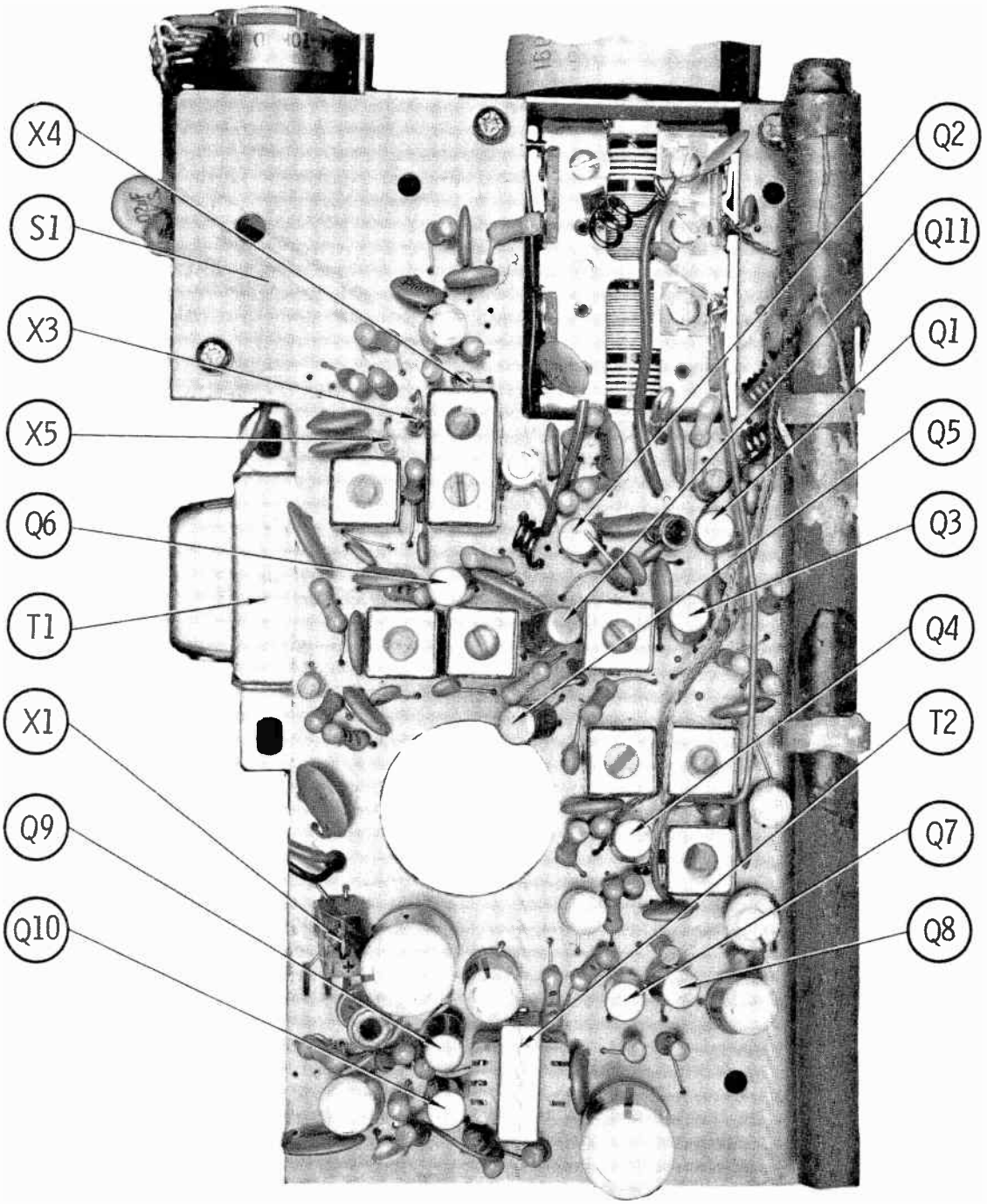
SELECTOR IN PB

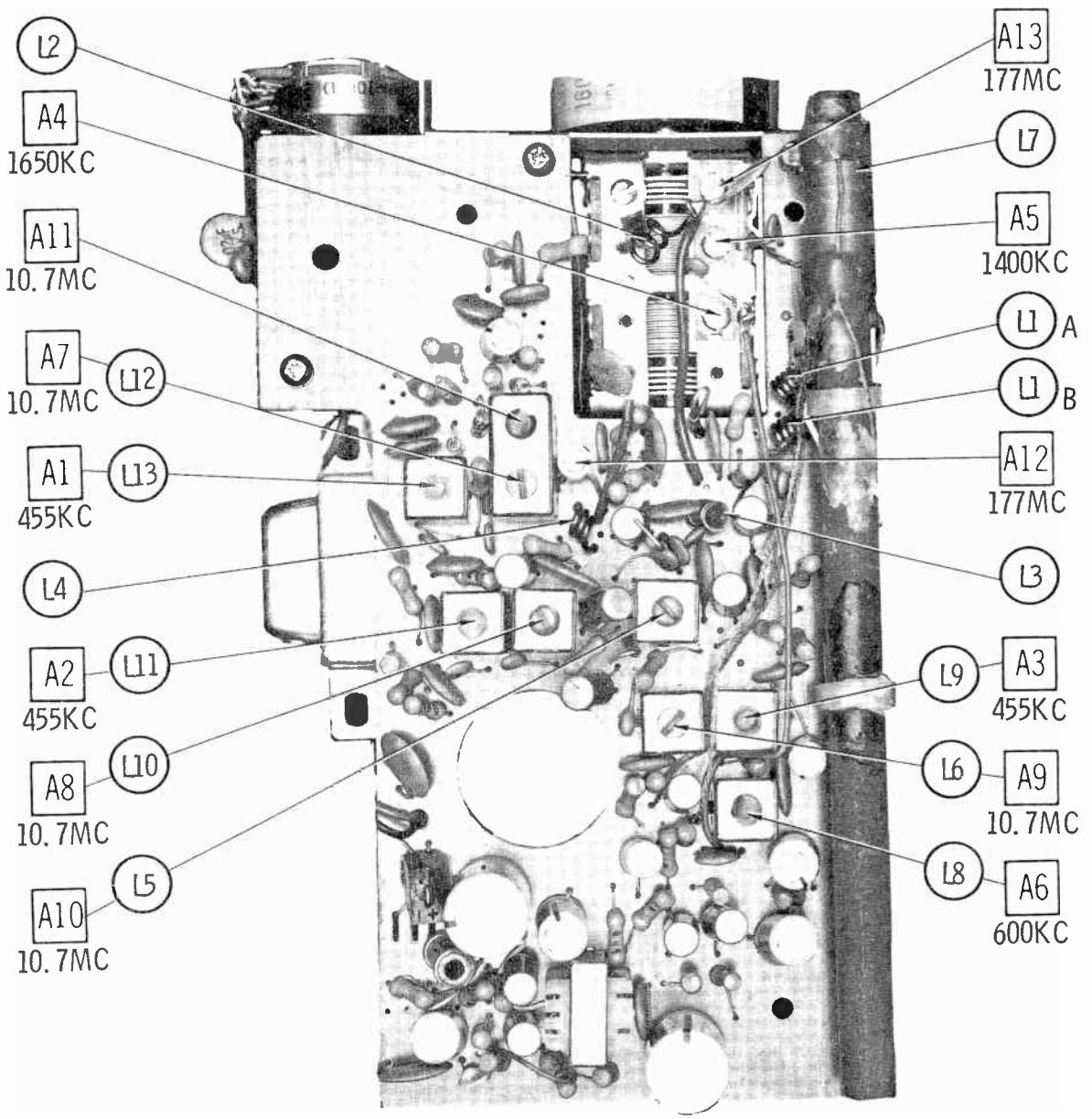
	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
5.	10.7MC Unmodulated	Point of non-interference	DC probe of VTVM to point $\diamond A$, common to ground.	A7,A8, A9,A10	Adjust for maximum
6.	"	"	DC probe of VTVM to point $\diamond B$, common to ground.	A11	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.
7.	177MC	High freq. end.	DC probe of VTVM to point $\diamond A$, common to ground.	A12,A13	Adjust for maximum

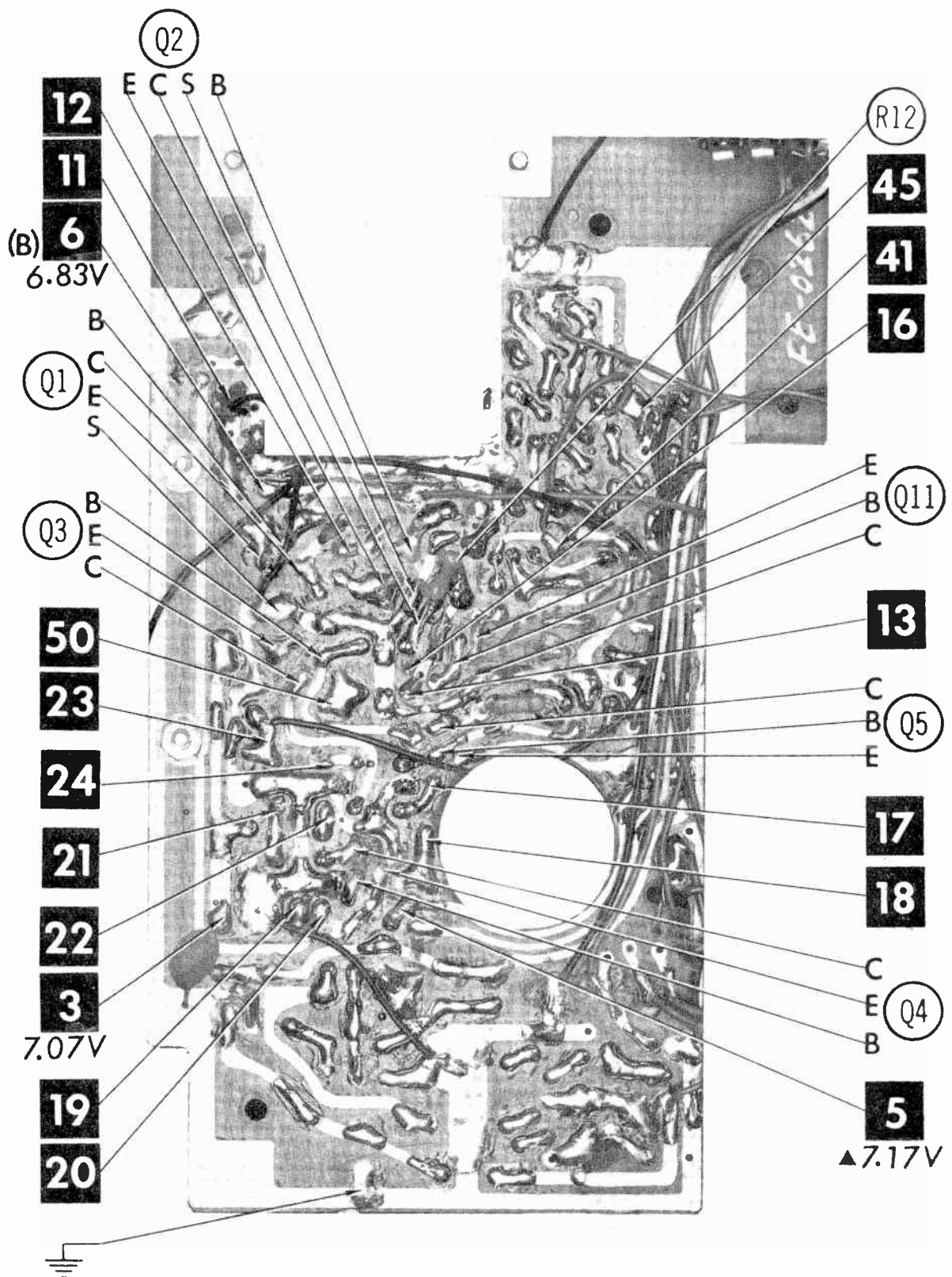
HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

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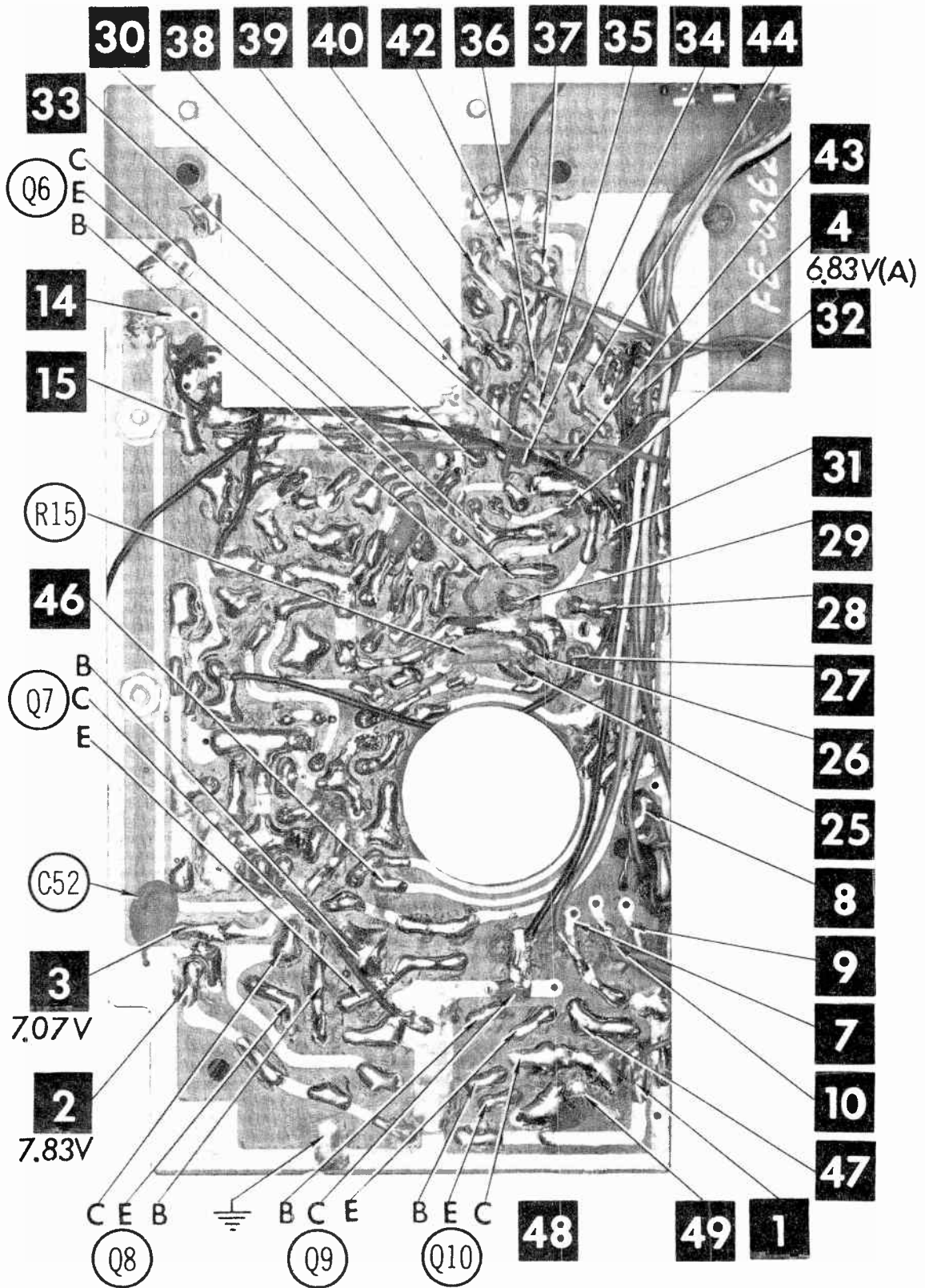
LLOYD'S MODEL 8N56-94A





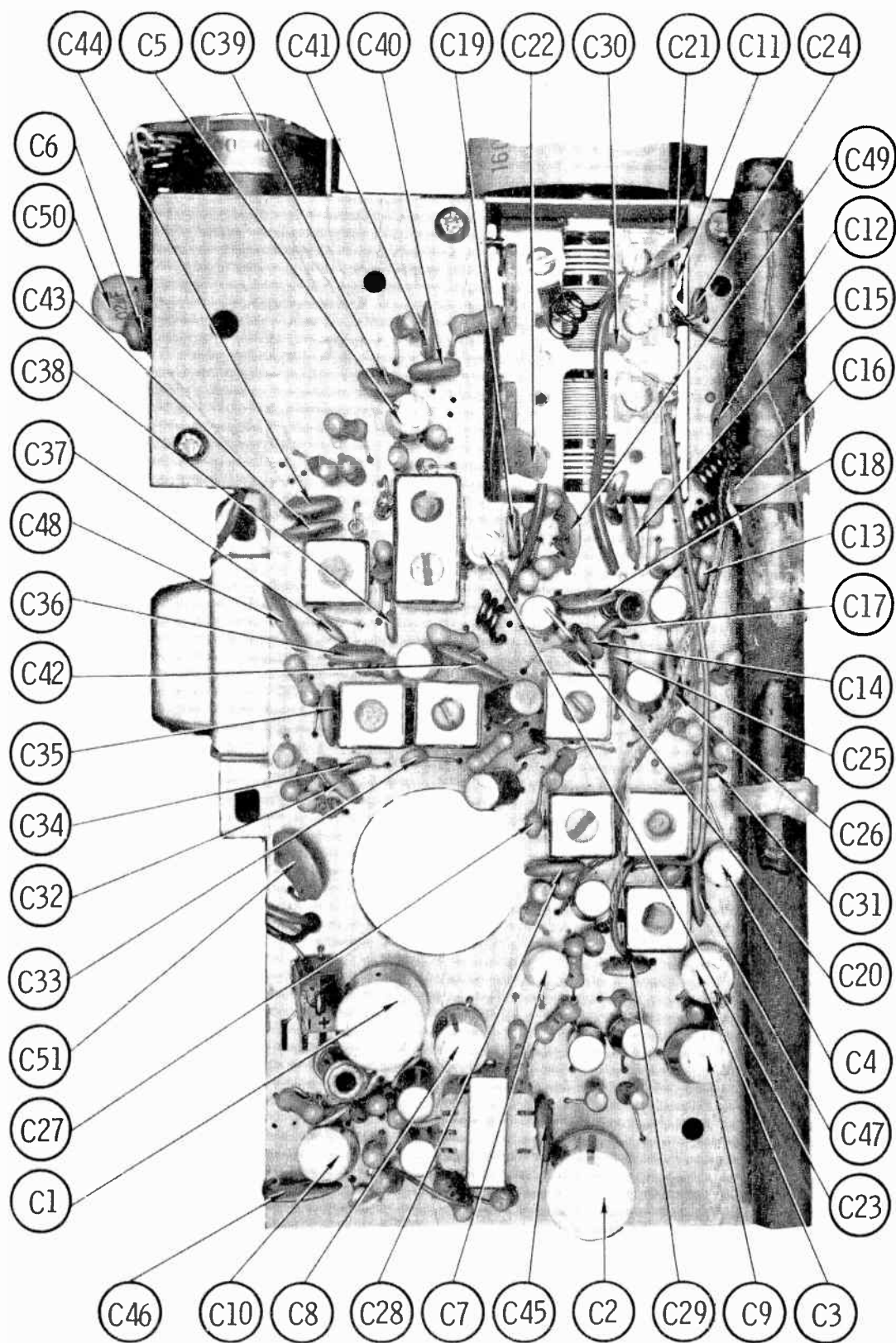


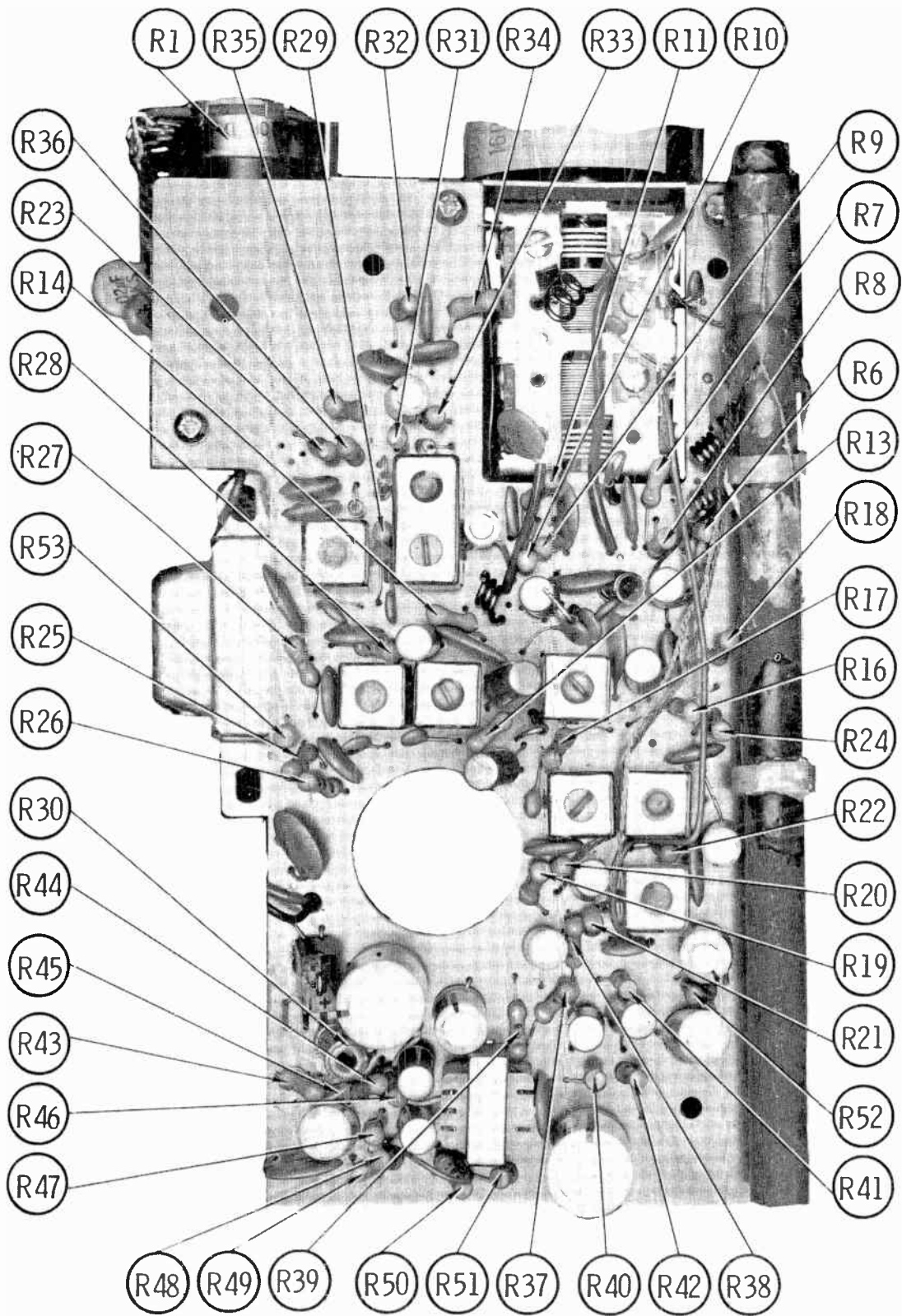
A Howard W. Soms **CIRCUITRACE** Photo

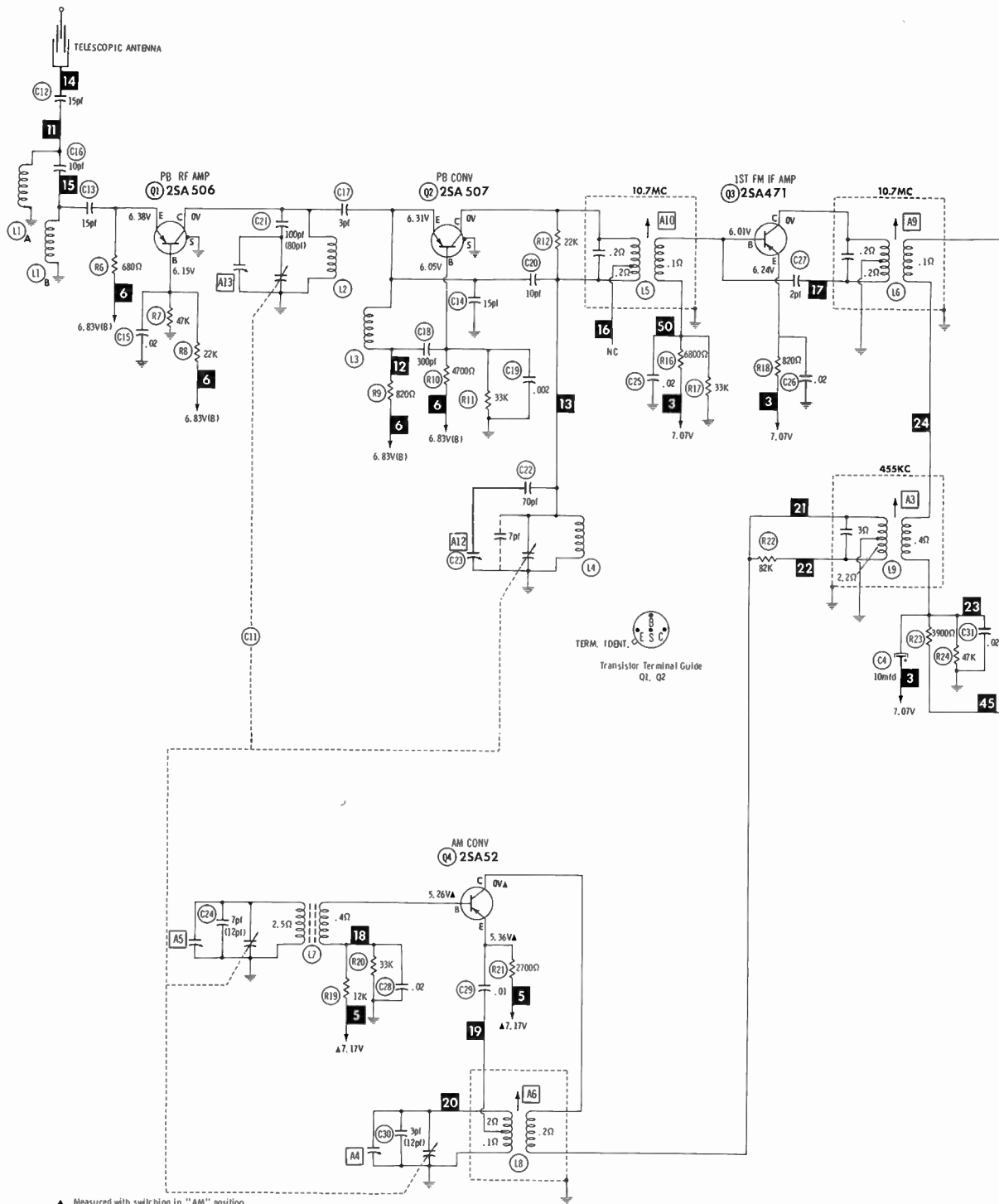


LLOYD'S MODEL 8N56-94A

A Howard W. Sams CIRCUITRACE® Photo



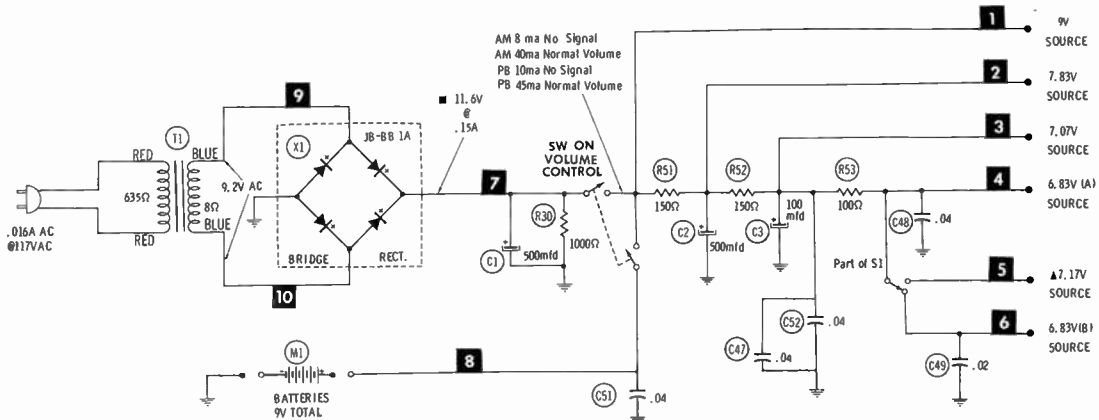




▲ Measured with switching in "AM" position.
 Values shown in () are used in some applications.
 Resistors are 1/2W or less, 10% or 20%, unless otherwise indicated.
 Supply voltage maintained at rated value for measurements.
 Voltage and resistance measured with VTVM or equivalent meter.
 No signal applied and controls adjusted for normal operation.
 Controls viewed from actuator end. Arrow indicates clockwise rotation.
 Numbers assigned to terminals may not be found on the unit.
 Transistor resistances vary widely. No resistance measurements taken.

⊕ Denotes ground
 - - - Indicates connection used in some versions.
 * - * Indicates connection not used in some versions.
 NC NO CONNECTION

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 with **CIRCUITRACE**
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⊕ Denotes ground
 - - - Indicates connection used in some versions.
 Measurements taken with switching in position shown unless otherwise indicated.
 ▲ Measured with switching in "AM" position.
 ■ Measured in "AC" position.
 Values shown in () are used in some applications.
 Resistors are 1/2W or less, 10% or 20%, unless otherwise indicated.
 Supply voltage maintained at rated value for measurements.
 Voltage and resistance measured with VTVM or equivalent meter, no signal applied and controls adjusted for normal operation.
 Controls viewed from actuator end. Arrow indicates clockwise rotation.
 Numbers assigned to terminals may not be found on the unit.
 Transistor resistances vary widely. No resistance measurements taken.

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 with **CIRCUITRACE**
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LLOYD'S MODEL 8N56-94A

PARTS LIST AND DESCRIPTION

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

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFRG. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	2SA506 (2SA525)	PB RF	(HA-525)	GE-9	TR-17	HEP52	SK3006	ECG 126
Q2	2SA507 (2SA240)	PB Conv.	(HA-240)	GE-9	TR-17	HEP52	SK3006	ECG 126
Q3	2SA471	1st FM IF Amp	HA-471	GE-9	TR-17	HEP639	SK3006	ECG 126
Q4	2SA52	AM Conv.	HA-52	GE-1	TR-11	HEP639	SK3005	ECG 100
Q5	2SA471	1st AM-2nd FM IF Amp	HA-471	GE-9	TR-17	HEP639	SK3006	ECG 126
Q6	2SA471	2nd AM-3rd FM IF Amp	HA-471	GE-9	TR-17	HEP639	SK3006	ECG 126
Q7	2SB54	AF Amp	HB-54	GE-2	TR-14	HEP633	SK3004	ECG 102
Q8	2SB54	Driver	HB-54	GE-2	TR-14	HEP633	SK3004	ECG 102
Q9	2SB56	Output	HB-56	GE-2	TR-14	HEP632	SK3004	ECG 102
Q10	2SB56	Output	HB-56	GE-2	TR-14	HEP632	SK3004	ECG 102
Q11	2SB54	FM AF Amp	HB-54	GE-2	TR-14	HEP632	SK3004	ECG 102

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFRG. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.		
X1	JB-7B36L	GE-504A(1)	1B0B2A or 8D4 (1)	ECG 116(1) or ECG 117 (1) or ECG 110 (4)	SK3030(1) or SK3031 (1)	(1) Four required. (4) Matched pair.
X3	1N60P	1N60	1N60			
X4	1N60P	1N60	1N60			
X5	1N60P	1N60	1N60	ECG 109		

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	500 10V	BJ-2350B	BC015500	EA15-500	PC500-16	QT1-30A	MTV5000N15	TL-1141
C2	500 10V	BJ-2350B	BC015500	EA15-500	PC500-16	QT1-30A	MTV5000N15	TL-1141
C3	100 10V	BJ-2310B	BC01D100	EP15-10D	PC100-16	MT1-19	MTV100CD1D	TE-1135
C4	10 6.3V	BJ-22107	BCD25010	EP6-10	PC10-50	MT1-5	MTV100CB50	TE-1087
C5	10 6.3V	BJ-22107	BCD25010	EP6-10	PC10-50	MT1-5	MTV100CB50	TE-1087
C6	.3 10V	BV-23305		UK16-304	TYR138F334K		TAS334K035PDA	196D334X00 350B
C7	5 6V	BJ-22506	BCD25005	EP6-5	PC5-100	MT1-3	MTV50CB5C	TL-1084
C8	50 10V	BJ-22507	BCD15050	EP15-50	PC50-16	MT1-16	MTV50CB15	TE-1133
C9	50 10V	BJ-22507	BCD15050	EP15-50	PC50-16	MT1-16	MTV50CB15	TE-1133
C10	50 10V	BJ-22507	BCD15050	EP15-50	PC50-16	MT1-16	MTV50CB15	TE-1133

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.
C11		#BT-00D91						
C12	15		NPO-DI 15	DTZ-15	NPO15	CCT0-150	CN0415	10TCC-Q15
C13	15		NPO-DI 15	DTZ-15	NPO15	CCT0-150	CN0415	10TCC-Q15
C14	15		NPO-DI 15	DTZ-15	NPO15	CCT0-150	CN0415	10TCC-Q15
C15	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C16	10		NPO-DI 10	DTZ-10	NPO10	CCT0-100	CN041D	10TCC-Q1D
C17	3		NPO-DI 3.0					10TCC-V30
C18	300		GPD X5F301K	DM-301	GP300	CCD-301	GP33D	10TS-T30
C19	.002		GPD X5F202K	DM-202	GP2000	CCD-202	GP220	2SS-D20
C20	10		NPO-DI 10	DTZ-10	NPO10	CCT0-10D	CN0410	10TCC-Q10
C21	100		NPO-DI 100	DTZ-100	NPO10D	CCT0-101	CN0310	10TCC-T10
C22	70		NPO-DI 68	DTZ-68	NPO-68	CCT0-680	CN0468	10TCC-Q68
C23		#EM-00094						
C24	7		NPO-DI 6.8	DTZ-68B	NPO68B		CN0568	10TCC-V68
C25	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C26	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C27	2		NPO-DI 2.2	DTZ-2R2	NPO2P2		CN0522	10TCC-V22
C28	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C29	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C30	3		NPO-DI 3.0					10TCC-V3D
C31	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C32	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C33	2		NPO-DI 2.2	DTZ-2R2	NPO2P2		CN0522	10TCC-V22
C34	3		NPO-DI 3.0					10TCC-V30
C35	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C36	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C37	3		NPO-DI 3.0					10TCC-V30
C38	30			TCZ-30		CCT0-300		10TCC-Q30
C39	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C40	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C41	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C42	.05		TTP-05	CK-503	MGP05	CCD-503	TA150	TG-S50
C43	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C44	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C45	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C46	.04			DD-403			GP140	
C47	.04			DD-403			GP140	
C48	.04			DD-403			GP140	
C49	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C50	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C51	.04			DD-403			GP140	

Lloyd's Part Number.

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

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA					
			MFR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1	Volume/Switch	10K		F2-10K (1), SSK012, KR-2			Q13-116 (1), 76-2, or [BUT (1), CF61, SS1, WF]*	RU14A, SL36, SL3250, US42

* "SNAPTROL"

(1) Enlarge Mounting Hole.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFR. PART No.
R45	27D (CoId)			AS-D22A

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFR. PART No.
R49	270 (CoId)			AS-D22A

LLOYD'S MODEL 8N56-94A

PARTS LIST AND DESCRIPTION (CONTINUED)

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

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1A	P8 Antenna	DK-00271			
8	P8 Antenna	DK-00271			
L2	P8 RF	DK-00272			
L3	FM IF Trap	DX-00245			
L4	PB Osc.	DO-00273			
L5	FM Input IF	EN-93089	16-9031	2071	
L6	FM Interstage IF	EN-93089	16-9031	2071	
L7	Loopstick	DI-00313 (1)			
L8	AM Osc.	DM-00200			
L9	AM Input IF	EM-93086	16-9026	8517	
L10	FM Interstage IF	EN-93089	16-9032	2072	
L11	AM Interstage IF	EM-93087	16-9027	2067	
L12	Ratio Detector	EN-95090			
L13	AM Output IF	EM-93088	16-9028	2068	

(1) Ferrite Core Part No. I8-06110.

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC @ .016A	9.2VAC @ .150A DC	EJ-48239					

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	2.2	1	1	EF-82091					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	4" PM 16 ohms	GA-11600	4A05Z16	

BATTERIES

ITEM No.	VOLTAGE	MFGR. PART No.	REPLACEMENT DATA		NOTES
			EVEREADY	MALLORY	
M1	9V		1015 or E91 or E9	M15R or MN1500 or ZM9	6 Required

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
S1	Switch, Selector	FA-71109	

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

ITEM	PART No.	ITEM	PART No.
Cabinet, Black	LF-01134	Knob, Selector	FN-02621
Knob, Tuning	FN-02620	Antenna, Telescopic	LA-05160
Knob, Volume	FN-02494		

ACCESSORIES

ITEM	MFGR. PART No.	REMARKS
Earphone	68-14000	

WIRING DATA

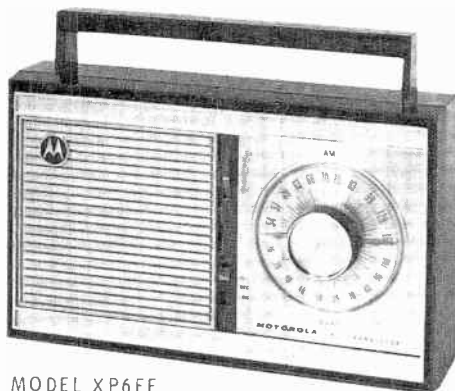
General-use Unshielded Hook-up Wire	Use BELOEN No.	8530 (Solid 22AWG)	Available
		8524 (Stranded 22AWG)	in
		8570 (Stranded 26AWG)	12 Colors



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MODEL XP6EE

MOTOROLA MODELS XP6EE
XP6EH
XP6EL
(Ch. HS-66249)

MOTOROLA MODELS XP6EE/EH/EL

ALIGNMENT INSTRUCTIONS

Check for specified source voltage. Set volume control at maximum. Fashion loop of several turns of wire and connect generator across loop. Use only enough generator output to obtain a suitable indication.

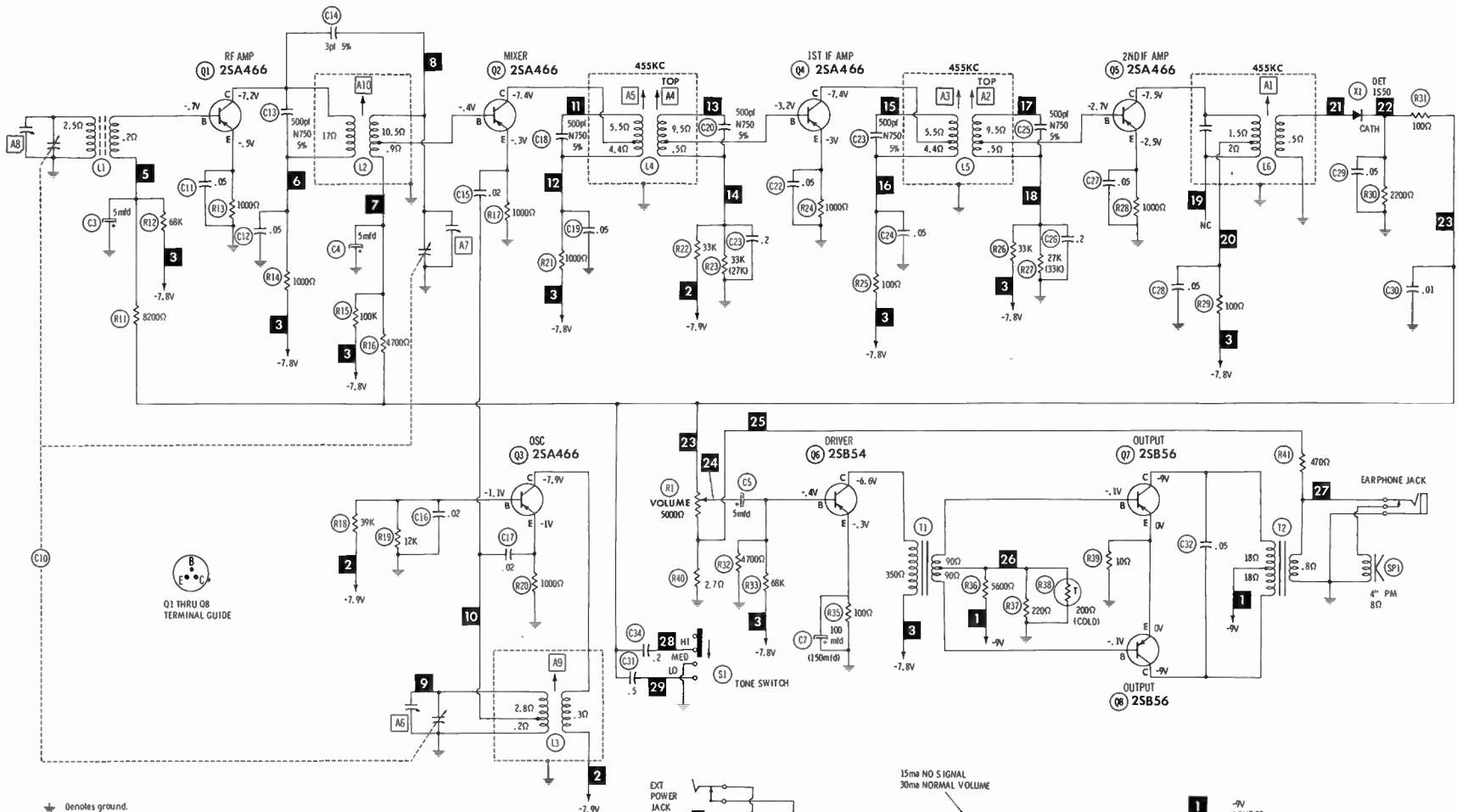
Suggested Alignment Tools:

- A1.....GENERAL CEMENT #9087.....WALSCO #2528
- A2,A3,A4,A5,A10..GENERAL CEMENT #9296,9297,9300.WALSCO #2510,2546,2547
- A6,A7,A8,A9.....GENERAL CEMENT #8605.....WALSCO #2505

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	455KC 400 cycle modulation	Tuning gang fully open.	Output Meter across voice coil.	A1,A2, A3,A4, A5	Adjust for maximum. Repeat until no further improvement can be made.
2.	1620KC	"	"	A6,A7	Adjust for maximum.
3.	1400KC	Tune to signal	"	A8	"
4.	600KC	"	"	A9,A10	Rock tuning gang and adjust for maximum. Repeat steps 2 thru 4 until no further improvement can be made.

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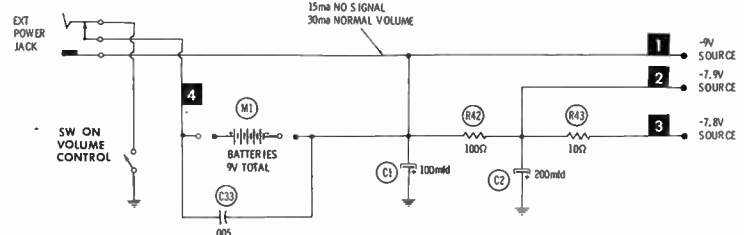


- ⊕ Denotes ground.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise designated.
- 5. Numbers assigned to terminals may not be found on the unit.
- 6. Supply voltage maintained at rated value for voltage readings.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

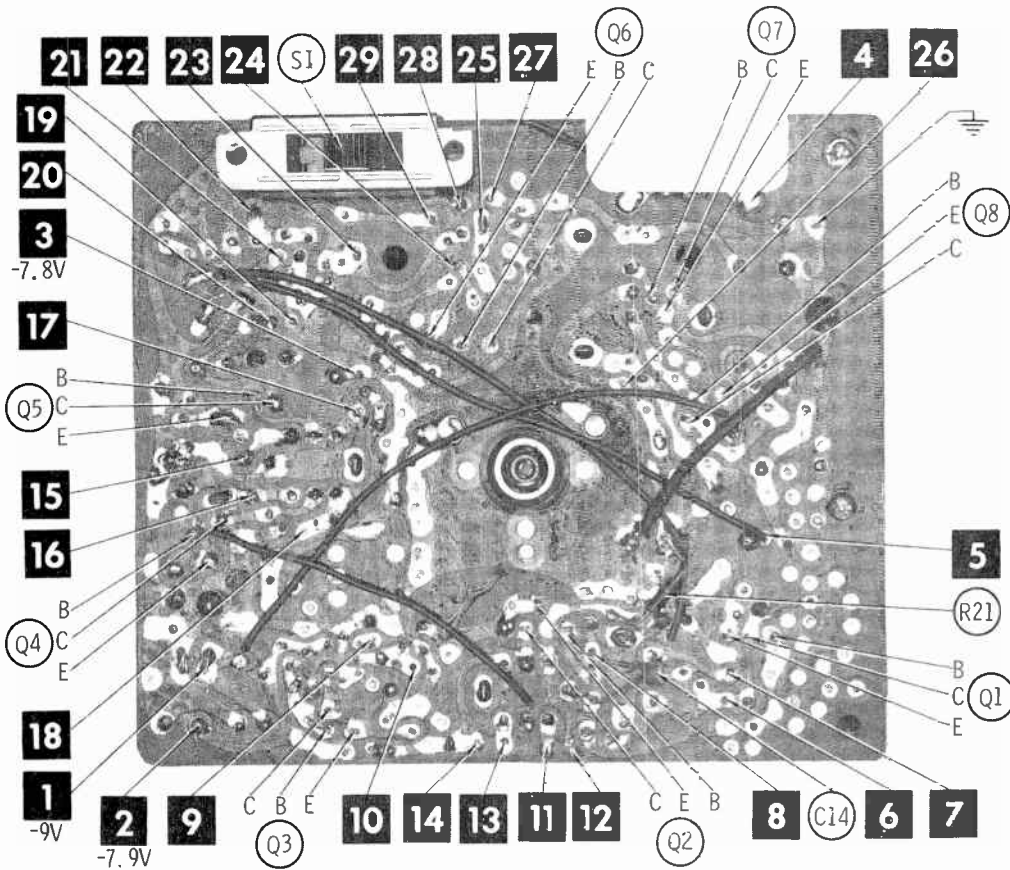
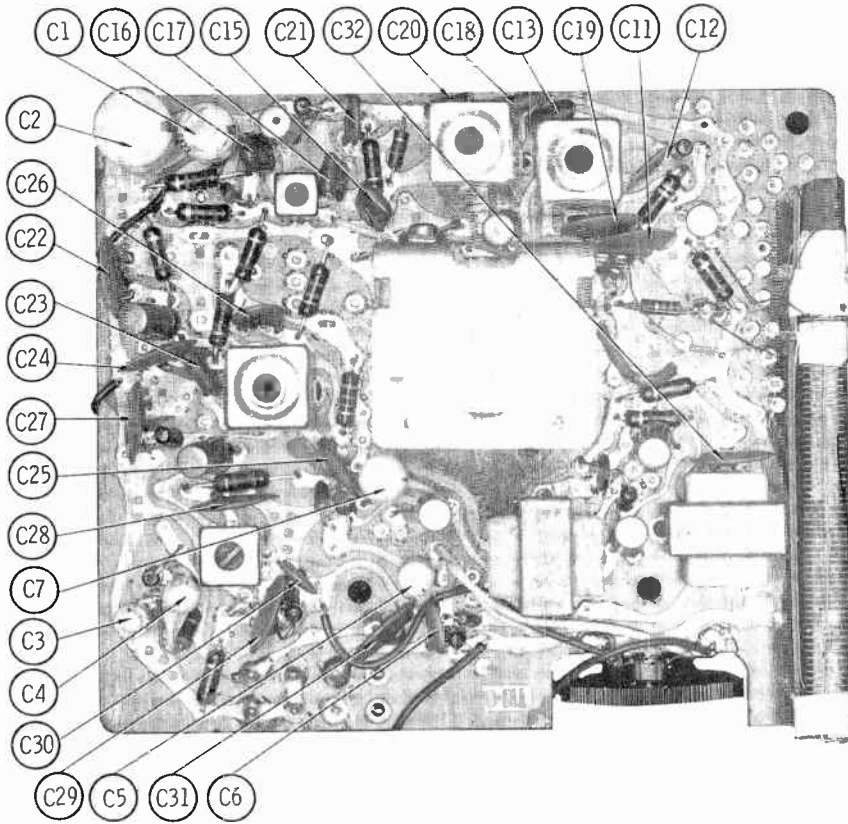
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

NC NO CONNECTION

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MOTOROLA MODELS XP6EE/EH/EL



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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	2SA466	RF Amp	48S134860	GE-1	TR-11	HEP639	SK3008	ECG 100
Q2	2SA466	Mixer	48S134860	GE-1	TR-11	HEP639	SK3008	ECG 100
Q3	2SA466	Osc.	48S134861	GE-1	TR-11	HEP639	SK3008	ECG 100
Q4	2SA466	1st IF Amp	48S134862	GE-1	TR-11	HEP239	SK3008	ECG 100
Q5	2SA466	2nd IF Amp	48S134862	GE-1	TR-11	HEP639	SK3008	ECG 100
Q6	2SB54	Driver	48A134407	GE-2	TR-14	HEP633	SK3004	ECG 102
Q7	2SB56	Output	48A134408	GE-2	TR-14	HEP632	SK3004	ECG 102
Q8	2SB56	Output	48A134408	GE-2	TR-14	HEP632	SK3004	ECG 102

POWER RECTIFIERS & 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	1S50	1N34AS	1N34A	ECG 109		

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	100 10V	23C60496A09	BC010100	EP15-100	PC100-16	MT1-19	MTV100CD10	TE-1135
C2	200 15V	23C61031A03	BCD20200	EA15-250	PC200-16	MT1-23	MTV200CK15	TE-1164
C3	5 6V	23C60496A08	BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C4	5 6V	23C60496A08	BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C5	5 6V	23C60496A08	BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C7	100 6V	(1)	BCD10100	EP6-100	PC100-16	MT1-21	MTV100CB6	TE-1102

(1) Some versions may use 150mfd @ 30V Part No. 23C60496A12.

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.
C10		#19C63135A01						
C11	.05		TTP-05	CK-503	MGP05	CCD-503	TA150	TGL-S50
C12	.05		TTP-05	CK-503	MGP05	CCD-503	TA150	TGL-S50
C13	500 5% N750	#21D60500A22						
C14	3 5%		NPO-DI 3.0					10TCC-V30
C15	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C16	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C17	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C18	500 5% N750	#21D60500A22						
C19	.05		TTP-05	CK-503	MGP05	CCD-503	TA150	TGL-S50
C20	500 5% N750	#21D60500A22						
C21	.2			UK10-204			MAG12022	HY-325
C22	.05		TTP-05	CK-503	MGP05	CCD-503	TA150	TGL-S50
C23	500 5% N750	#21D60500A22						
C24	.05		TTP-05	CK-503	MGP05	CCD-503	TA150	TGL-S50
C25	500 5% N750	#21D60500A22						
C26	.2			UK10-209			MAG12022	HY-325
C27	.05		TTP-05	CK-503	MGP05	CCD-503	TA150	TGL-S50
C28	.05		TTP-05	CK-503	MGP05	CCD-503	TA150	TGL-S50
C29	.05		TTP-05	CK-503	MGP05	CCD-503	TA150	TGL-S50
C30	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C31	.5			UK10-474			MAG12047	HY-330
C32	.05		TTP-05	CK-503	MGP05	CCD-503	TA150	TGL-S50
C33	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50
C34	.2			UK10-204			MAG12022	HY-325

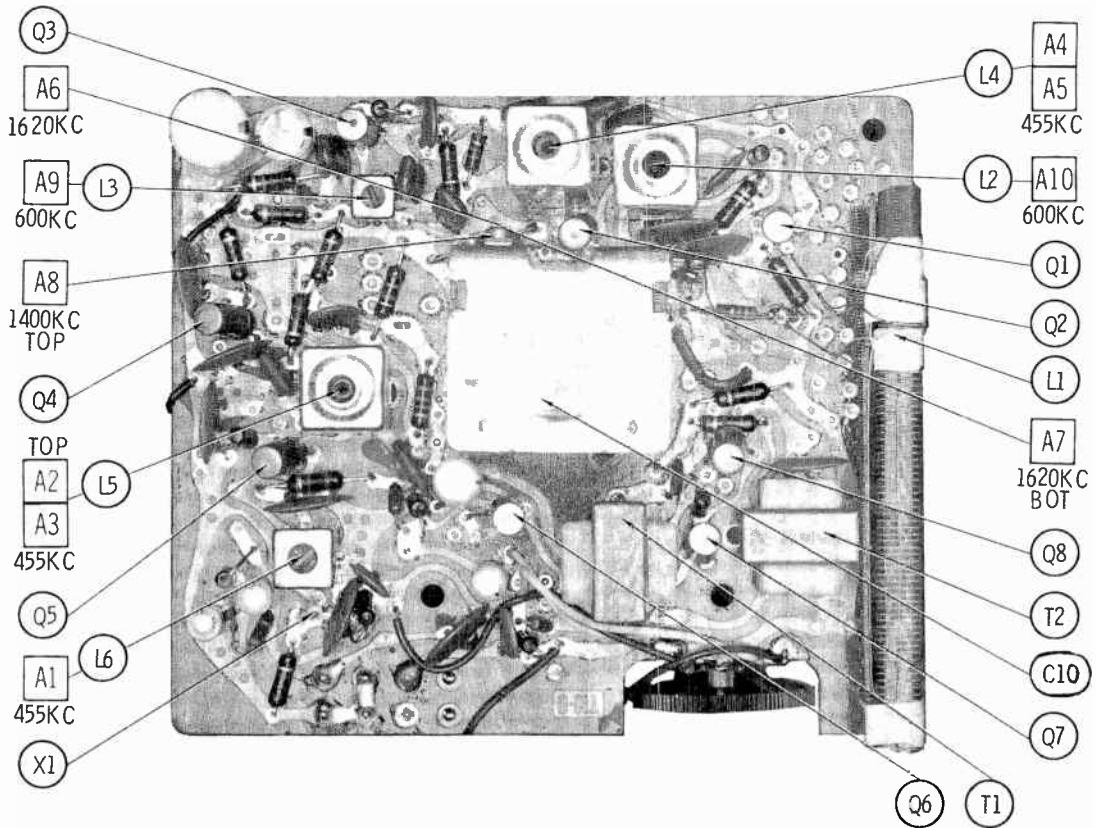
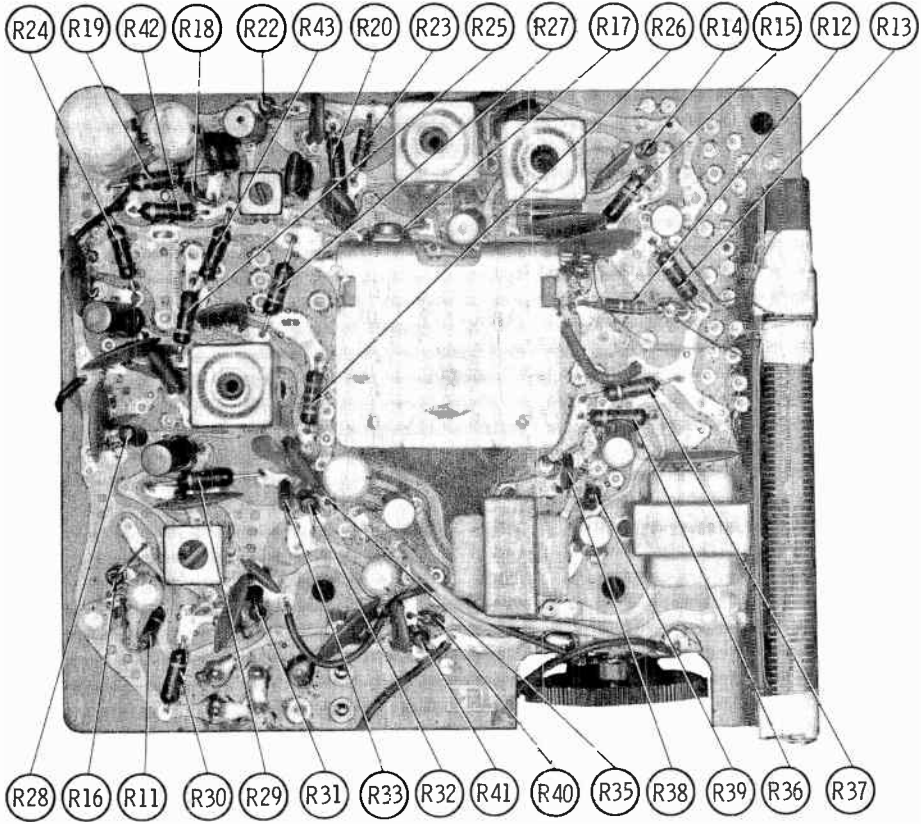
Motorola Part Number.

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume/Switch	5000	18B60812AD1	B16-214 (1)			

(1) Use Original Knob.

(CONTINUED ON PAGE 38)



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		
		IRC PART No.	WORKMAN PART No.	MFR. PART No.			IRC PART No.	WORKMAN PART No.	MFR. PART No.
R38	200 (Cold)			6B60519A01					

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	Loopstick	24B60402B02			
L2	RF	24C60291B01			
L3	Osc.	24C61565A01	14-9021	8813	
L4	Input IF	24C63145A01			
L5	Interstage IF	24C63145A01			
L6	Output IF	24C646138	16-9028	2068	

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	MFR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	1.4	1 CT		25B62346A01					

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MFR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	130	8	25S10150A06					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFR. PART No.	QUAM PART No.	
SP1	4" PM 8 ohm	50C63134A02	4A128	

BATTERIES

ITEM No.	VOLTAGE	MFR. PART No.	REPLACEMENT DATA		NOTES
			EVEREADY	MALLORY	
M1	9V		1035 or E93	M14R or MN1400	6 Required

MISCELLANEOUS

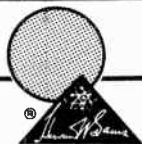
ITEM No.	PART NAME	PART No.	NOTES
S1	Switch, Tone	40B61592A04	

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

ITEM	PART No.	ITEM	PART No.
Cabinet, Front (Model XP6EE)	1V63070A12	Cabinet, Back, Blue (Model XP6EL)	16E63185A17
Cabinet, Front (Model XP6EH)	1V63070A16	Knob, Tuning, Brown (Model XP6EE)	36C63188A06
Cabinet, Front (Model XP6EL)	1V63070A14	Knob, Tuning, Beige (Model XP6EH)	36C63188A03
Cabinet, Back, Brown (Model XP6EE)	16E63185A19	Knob, Tuning, Blue (Model XP6EL)	36C63188A01
Cabinet, Back, white (Model XP6EH)	16E63185A21	Knob, Volume	36C63189A02

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid 22AWG)	Available
	8524 (Stranded 22AWG)	in
	8570 (Stranded 26AWG)	12 Colors



PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index



MODEL XP42EE

MOTOROLA MODELS XP42EE
XP42EH

MOTOROLA MODELS XP42EE/EH

ALIGNMENT INSTRUCTIONS

Check for specified source voltage. Set volume control at maximum.
Fashion loop of several turns of wire and connect generator across loop.
Use only enough generator output to obtain a suitable indication.
Suggested Alignment Tools:

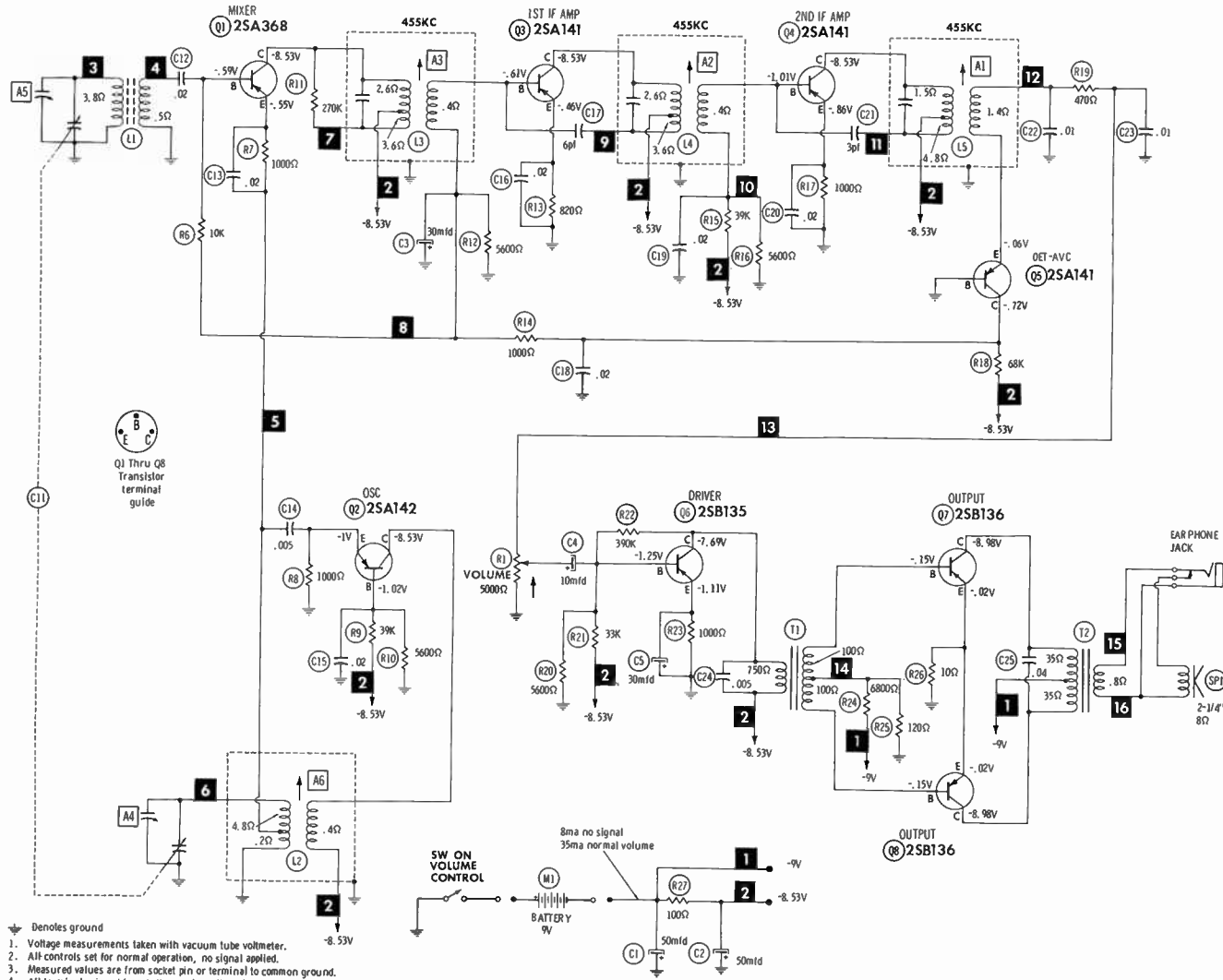
A1, A2, A3, A6.....GENERAL CEMENT #9087.....WALSCO #2528
A4, A5.....GENERAL CEMENT #8605.....WALSCO #2505

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	455KC 400 cycle modulation	Tuning gang fully open.	Output Meter across voice coil.	A1,A2, A3	Adjust for maximum. Repeat until no further improvement can be made.
2.	1620KC	"	"	A4	Adjust for maximum.
3.	1400KC	Tune to signal	"	A5	"
4.	600KC	"	"	A6	Rock tuning gang and adjust for maximum. Repeat steps 2 thru 4 until no further improvement can be made.

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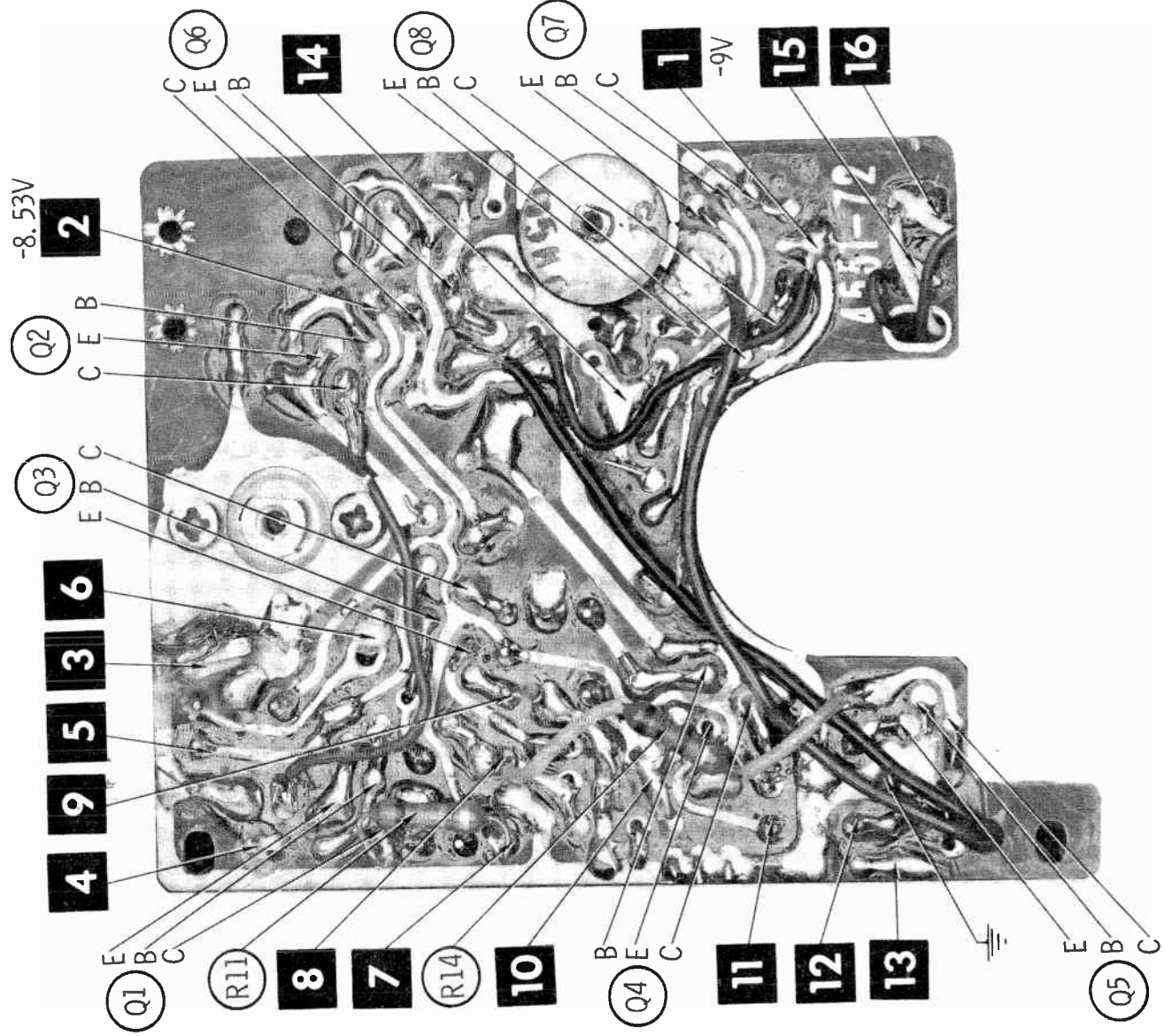
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TF663



MOTOROLA MODELS XP42EE/EH

MOTOROLA MODELS XP42EE/EH



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	2SA368	Mixer	48P63029A16	GE-1	TR-11	HEP639	SK3005	ECG 100
Q2	2SA142	Osc	48P63029A60	GE-1	TR-11	HEP254	SK3005	ECG 100
Q3	2SA141	1st IF Amp	48P63029A17	GE-1	TR-11	HEP254	SK3005	ECG 100
Q4	2SA141	2nd IF Amp	48P63029A17	GE-1	TR-11	HEP254	SK3005	ECG 100
Q5	2SA141	Detector - AVC	48P63029A17	GE-1	TR-11	HEP254	SK3005	ECG 100
Q6	2SB135	Driver	48P63029A18	GE-1	TR-11	HEP250	SK3008	ECG 100
Q7	2SB136	Output	48P63029A19	GE-1	TR-11	HEP250	SK3008	ECG 100
Q8	2SB136	Output	48P63029A19	GE-1	TR-11	HEP250	SK3008	ECG 100

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	50 10V	23P60022A94	BCD15050	EP15-50	PC50-16	MT1-16	MTV50CB15	TE-1133
C2	50 10V	23P60022A94	BCD15050	EP15-50	PC50-16	MT1-16	MTV50CB15	TE-1133
C3	30 6V	23P63076A57	BCD15025	EP6-25	PC30-35	MT1-13	MTV30CB25	TE-1132.1
C4	10 6V	23P60022A92	BCD25010	EP6-10	PC10-50	MT1-5	MTV10CB50	TE-1087
C5	30 6V	23P63076A57	BCD15025	EP6-25	PC30-35	MT1-13	MTV30CB25	TE-1132.1

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.
C11		#19P63006A57	TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C12	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C13	.02		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50
C14	.005		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C15	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C16	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C17	6							10TCC-V56
C18	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C19	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C20	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C21	3		NPO-DI 3.0					10TCC-V30
C22	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C23	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C24	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50
C25	.04			DD-403			GP140	

Motorola Part Number.

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

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume/Switch	5000	18P63029A61				

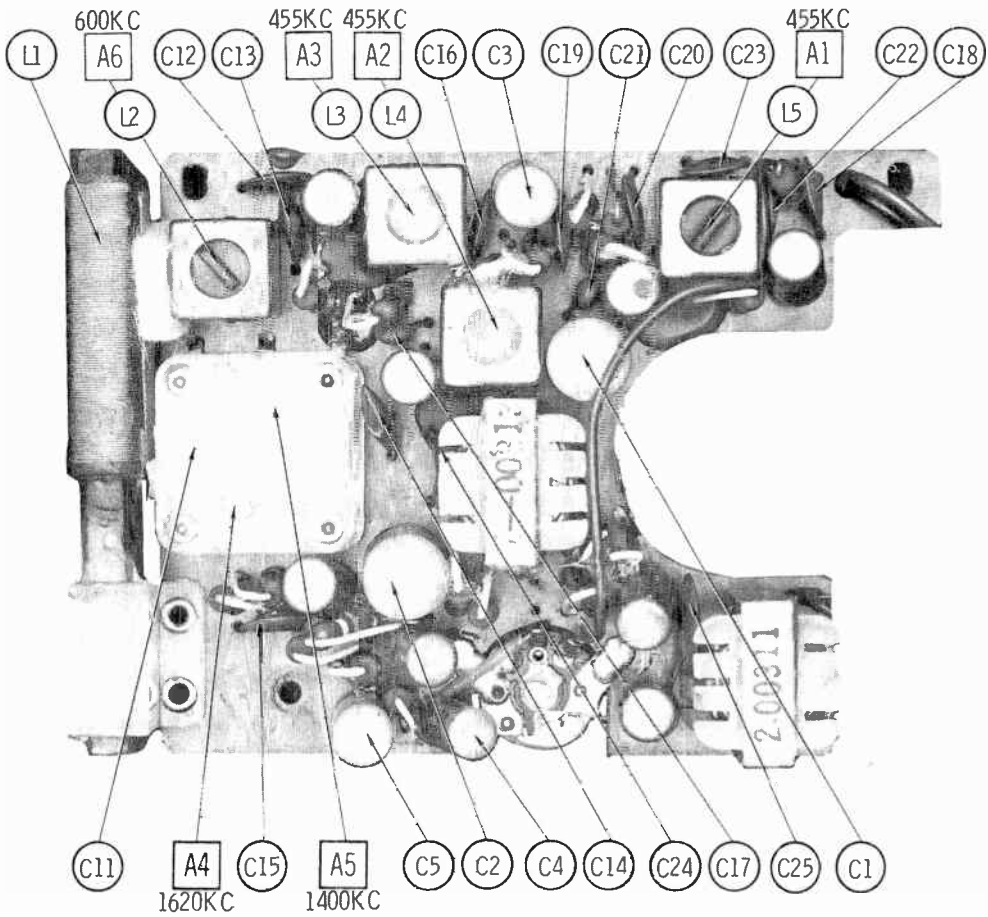
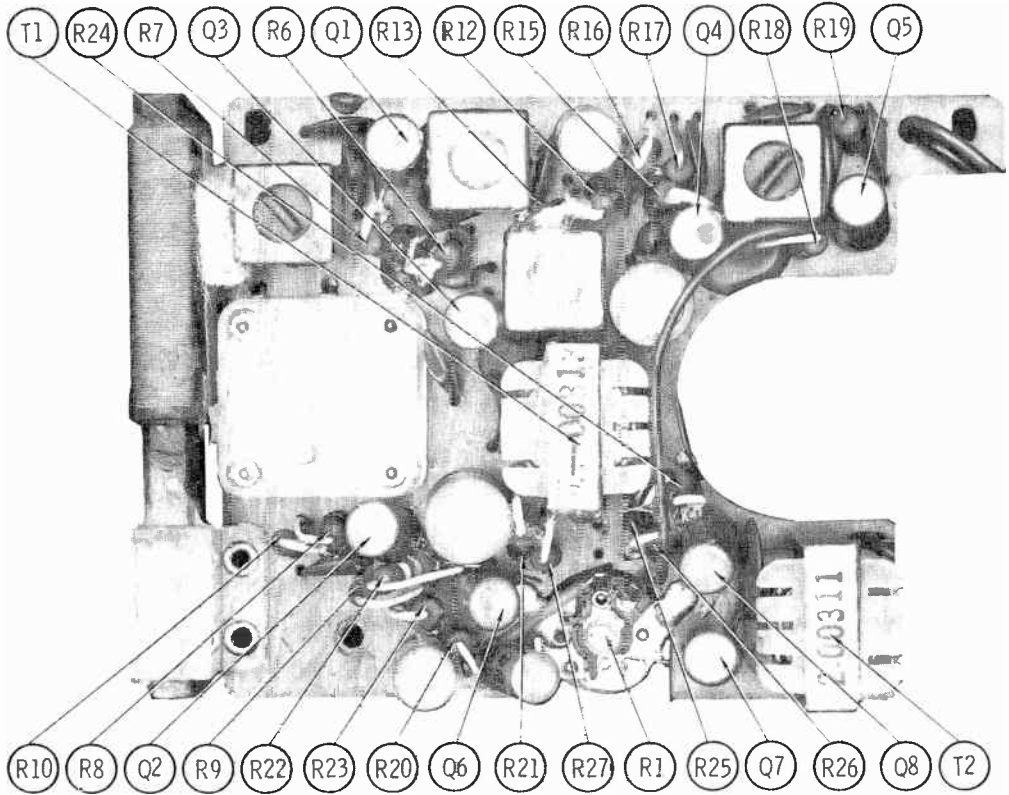
COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	Loopstick	24P63020A94		2009	
L2	Osc.	24P63020A93		2069	
L3	Input IF	24P63006A61	16-9026	2066	
L4	Interstage IF	24P63006A61	16-9027	2067	
L5	Output IF	24P63006A94	16-9028	2068	

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	MFGR.	MERIT	STANCOR	THORDARSON	TRIAD	
				PART No.	PART No.	PART No.	PART No.	PART No.	
T1	2.1	1 CT		25P63029A24					

(CONTINUED ON PAGE 44)



PARTS LIST AND DESCRIPTION (CONTINUED)

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

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	35 CT	8	25P63029A25					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	2 1/4" PM 8 ohms	50P63029A21		

BATTERIES

ITEM No.	VOLTAGE	MFGR. PART No.	REPLACEMENT DATA		NOTES
			EVEREADY	MALLORY	
M1	9V		216 or 222 or E146X	M1604 or TR146X	

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

ITEM	PART No.	ITEM	PART No.
Cabinet, Front (Model XP42EE)	16P63028A61	Knob, Tuning (Model XP42EE)	36P63029A49
Cabinet, Front (Model XP42EH)	16P63028A62	Knob, Tuning (Model XP42EH)	36P63020A90
Cabinet, Back (Model XP42EE)	16P63020A81	Knob, Volume (Model XP42EE)	36P63029A50
Cabinet, Back (Model XP42EH)	16X63020A82	Knob, Volume (Model XP42EH)	36P63020A91

ACCESSORIES

ITEM	MFGR. PART No.	REMARKS
Earphone	50C60570B01	

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid 22AWG)	Available
	8524 (Stranded 22AWG)	in
	8570 (Stranded 26AWG)	12 Colors

DIAL CORD STRINGING – FRONT VIEW





For Supplier Address See PHOTOFACT Index



PENNCREST MODEL 1199

ALIGNMENT INSTRUCTIONS

Check for specified source voltage. Set volume control at maximum. Fashion loop of several turns of wire and connect generator across loop. Use only enough generator output to obtain a suitable indication. Suggested Alignment Tools:

A1,A2,A3,A16 thru A11.....GENERAL CEMENT #8868, 9089....WALSCO #2541, 2587
 A4,A5,A12, A13.....GENERAL CEMENT #8605.....WALSCO #2505

SELECTOR IN AM

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	455KC 400 cycle modulation	Tuning gang fully open.	Output Meter across voice coil.	A1,A2, A3	Adjust for maximum. Repeat until no further improvement can be made.
2.	1620KC	"	"	A4	Adjust for maximum.
3.	1400KC	Tune to signal	"	A5	"
4.	600KC	"	"	A6	Rock tuning gang and adjust for maximum. Repeat steps 2 thru 4 until no further improvement can be made.

SELECTOR IN PB

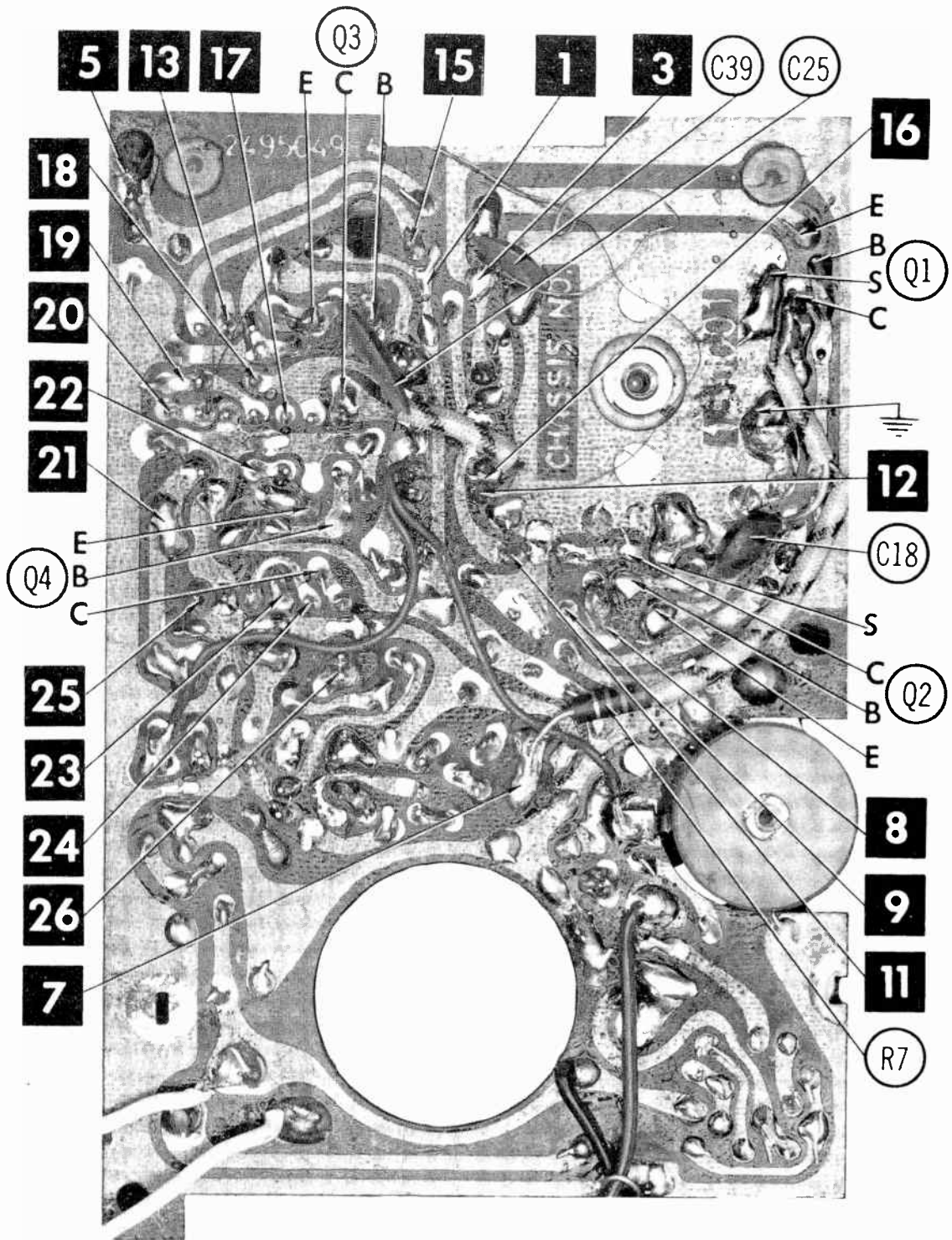
Connect two matched 100K(+1%) resistors in series from point $\diamond A$ to 7.32V(A). The junction of these two resistors is alignment point $\diamond C$ as shown on the schematic.

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
5.	10.7MC Unmodulated	Point of non-interference	DC probe of VTVM to point $\diamond A$, common to point $\diamond C$.	A7,A8, A9,A10	Adjust for maximum
6.	"	"	DC probe of VTVM to point $\diamond B$, common to point $\diamond C$.	A11	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.
7.	175MC	High freq. end.	DC probe of VTVM to point $\diamond A$, common to point $\diamond C$.	A12,A13	Adjust for maximum

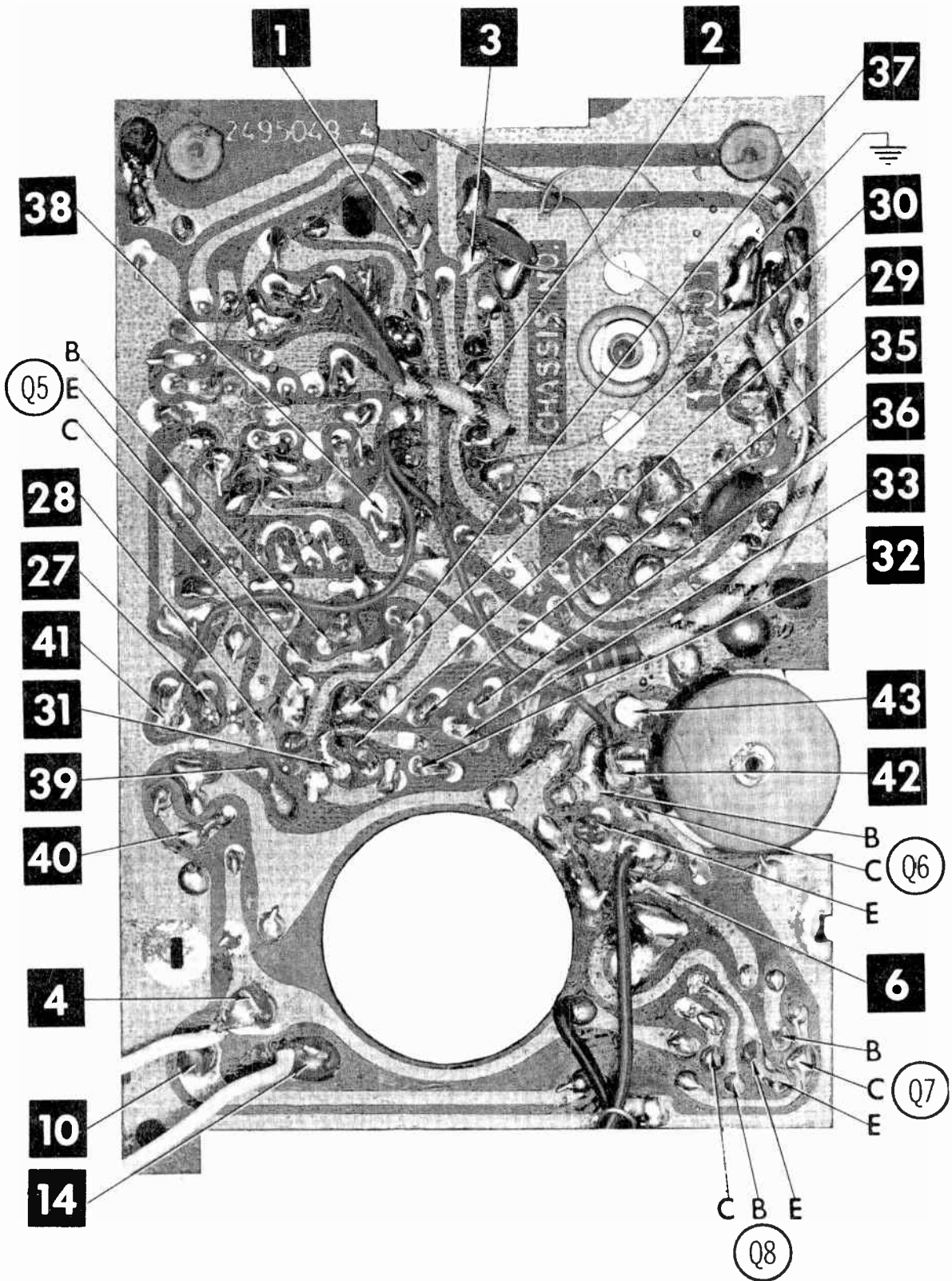
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PENNCREST MODEL 1199

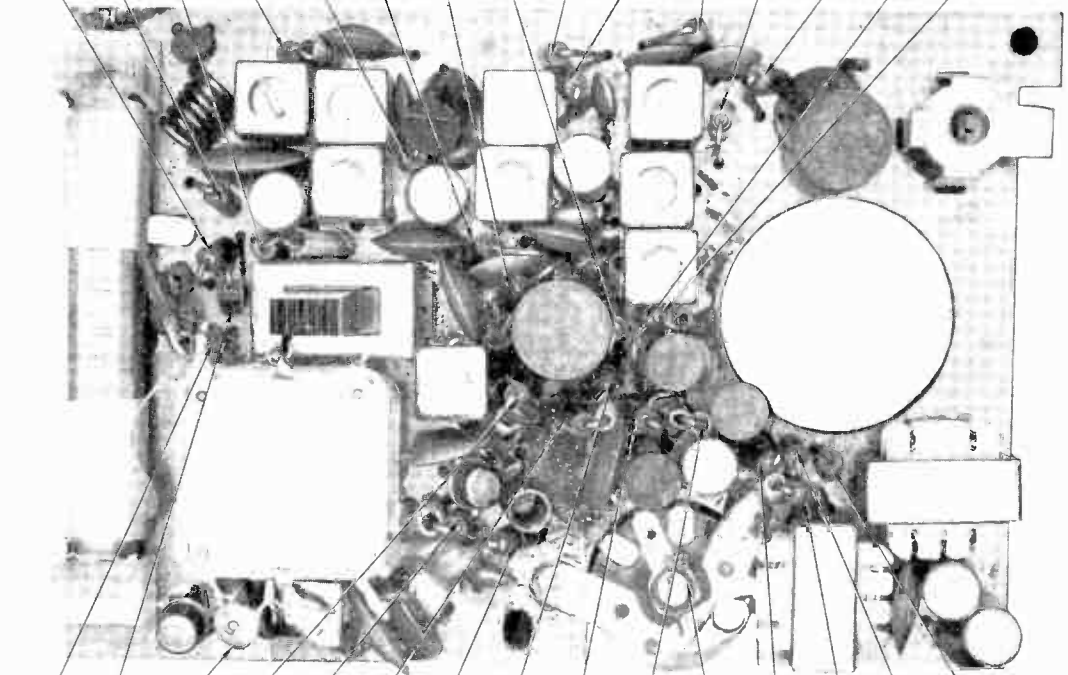


A Howard W. Sams **CIRCUITRACE** Photo



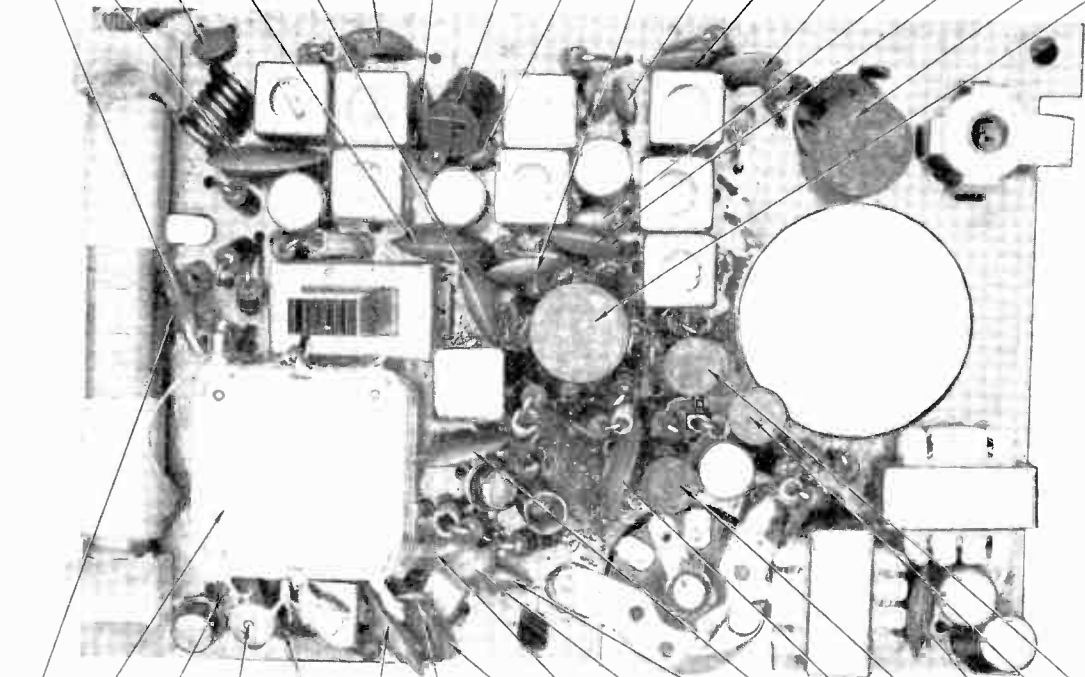
A Howard W. Sams CIRCUITRACE® Photo

R13 R15 R14 R16 R18 R23 R19 X2 R25 R17 R24 X3 R32 R20 X1

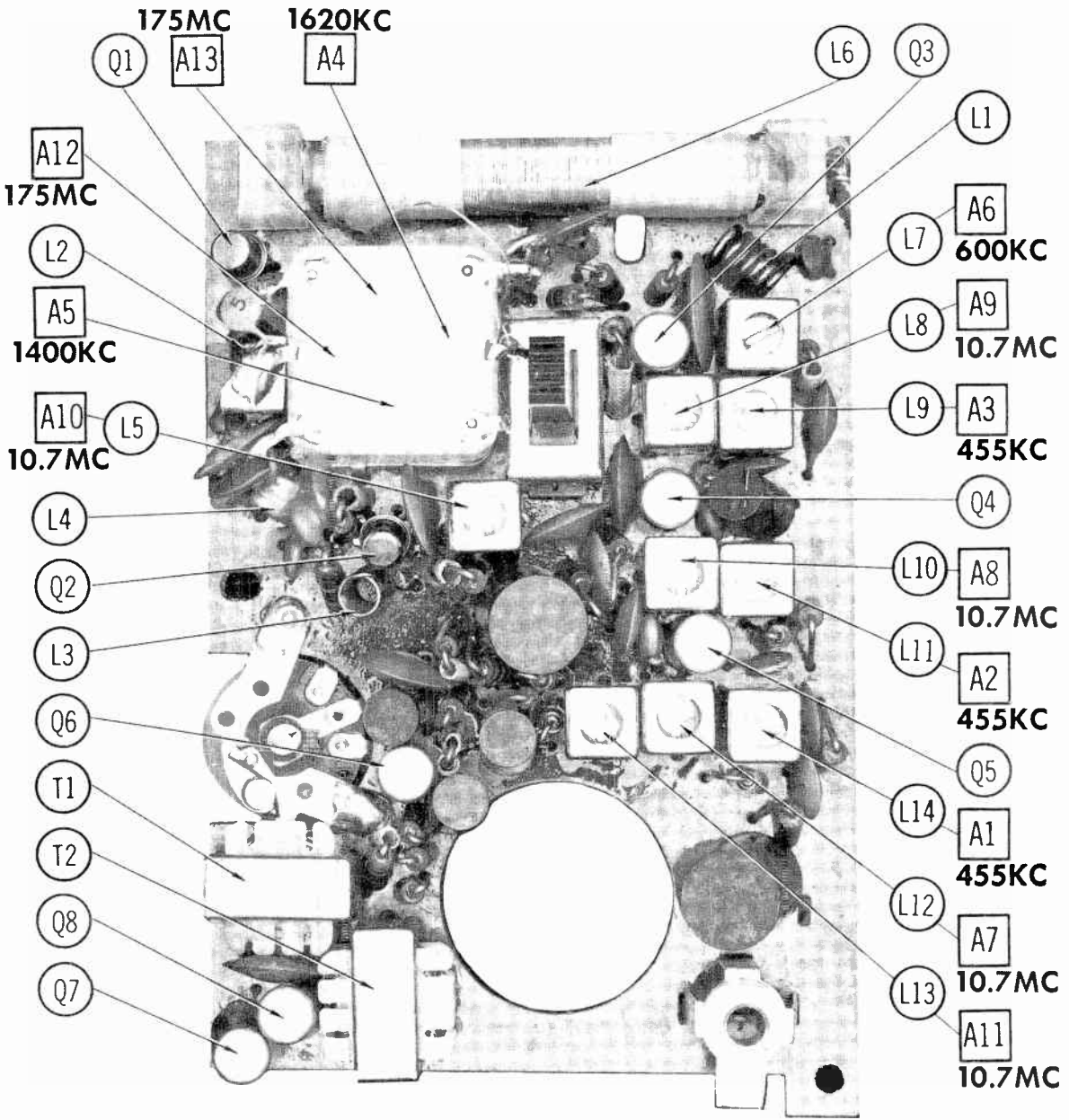


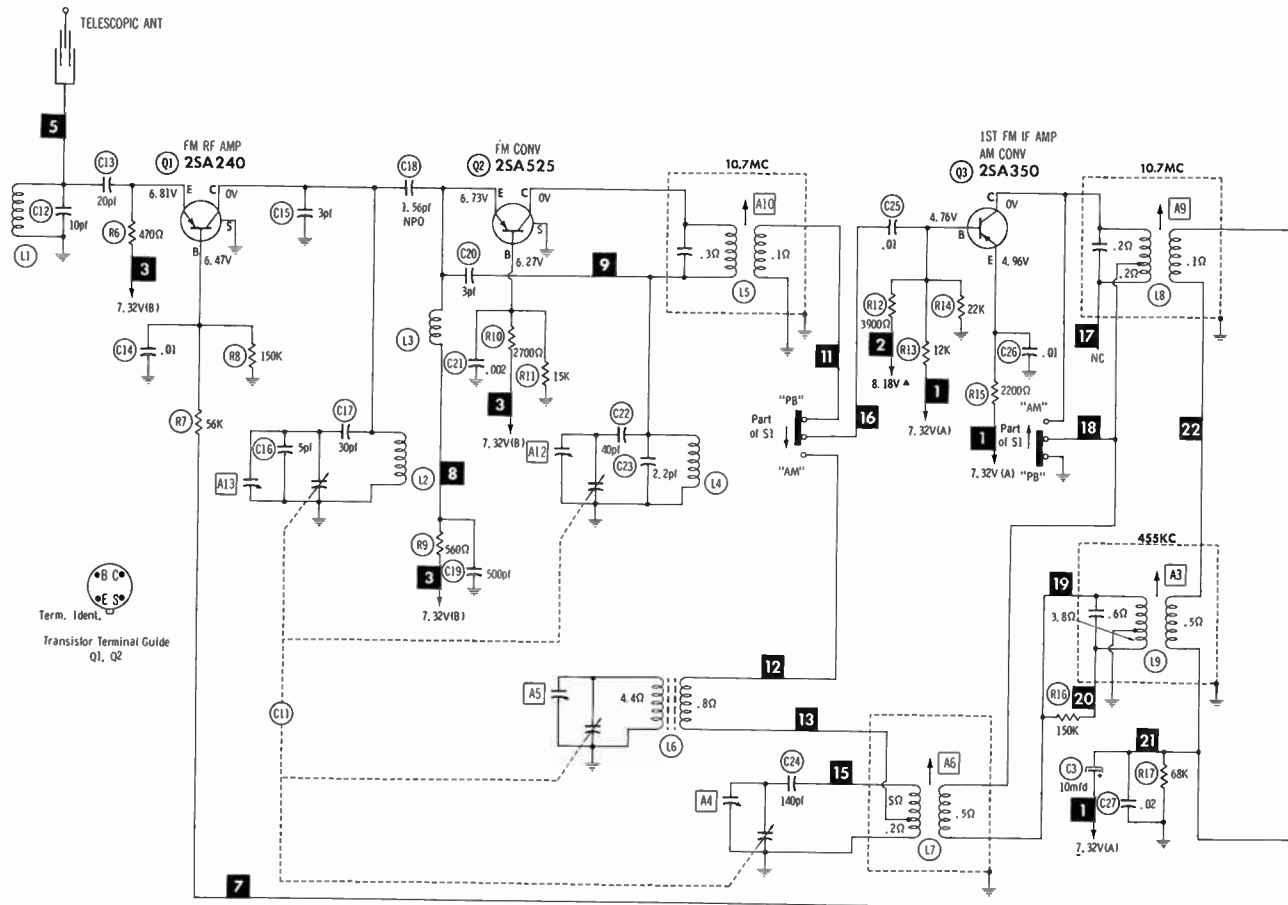
R6 R12 R8 R9 R11 R21 R10 R22 R27 R26 R1 R28 R29 R30 R31

C24 C26 C12 C34 C38 C27 C28 C3 C41 C33 C30 C36 C35 C31 C29 C1 C2

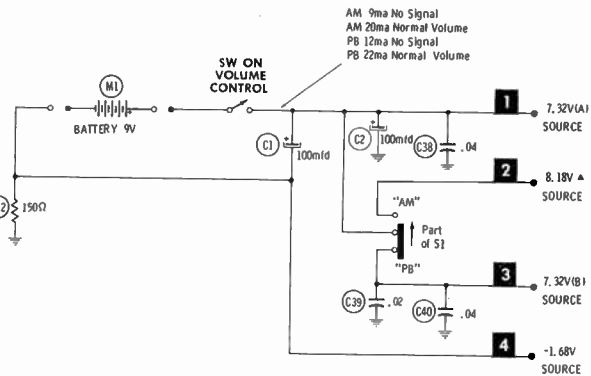


C13 C11 C17 C16 C15 C14 C40 C22 C21 C23 C20 C19 C32 C5 C37 C6 C4



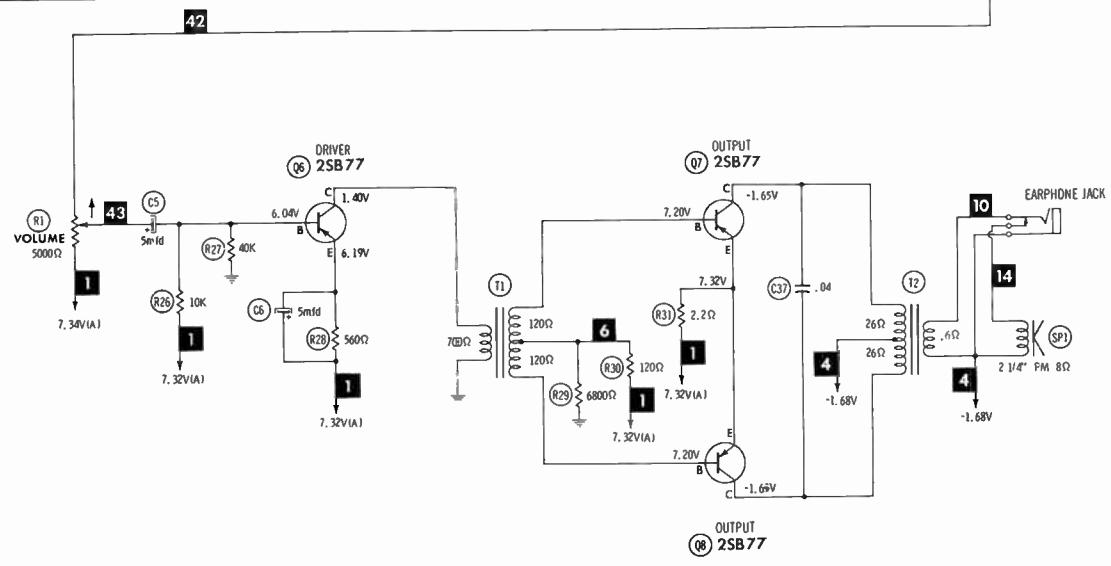
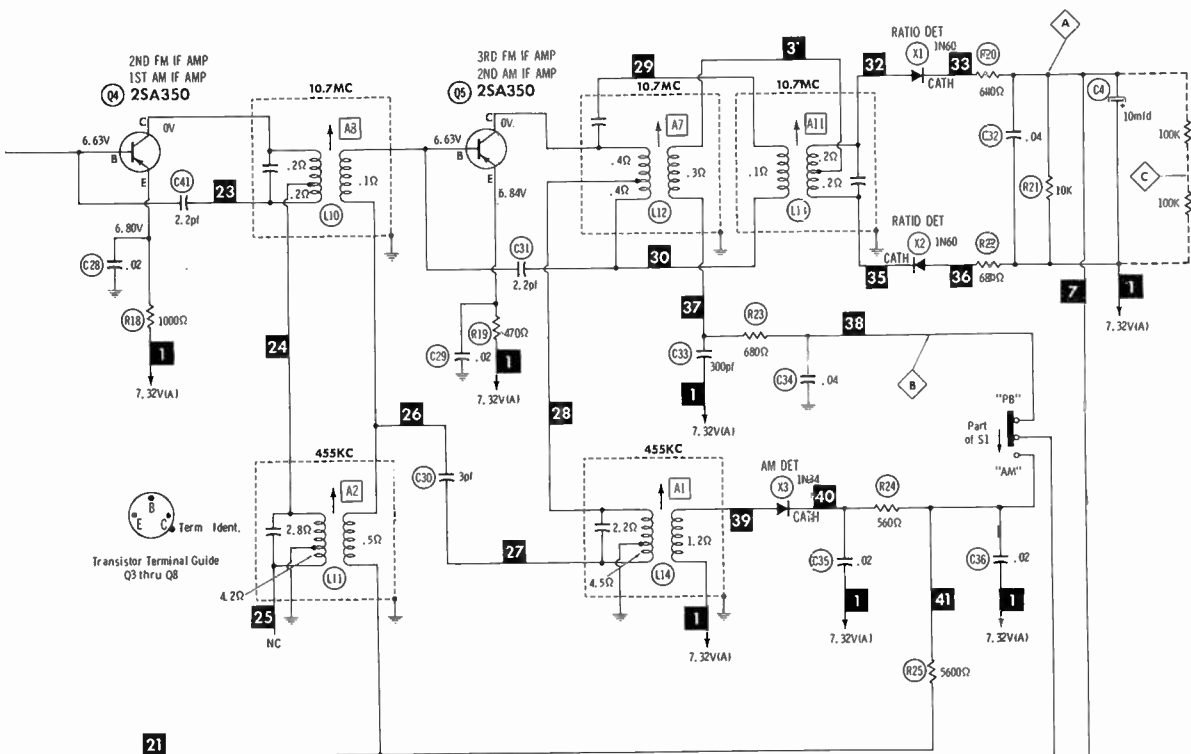


Term. Ident.
 Transistor Terminal Guide
 Q1, Q2



NC No Connection
 ⚡ Demotes ground
 Measurements taken with switching in position shown unless otherwise indicated.
 ▲ Measured with switching in "AM" position.
 Values shown in (1) are used in some applications.
 Resistors are 1/2W or less, 10% or 20%, unless otherwise indicated.
 Supply voltage maintained at rated value for measurements.
 Voltage and resistance measured with VTVM or equivalent meter.
 No signal applied and controls adjusted for normal operation.
 Controls viewed from actuator end. Arrow indicates clockwise rotation.
 Numbers assigned to terminals may not be found on the unit.
 Transistor resistances vary widely. No resistance measurements taken.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
 with CIRCUITRACE
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PENNCREST MODEL 1199

PARTS LIST AND DESCRIPTION

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

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFRG. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	2SA240 (2SA525)	FM RF Amp		GE-9	TR-17	HEP3	SK3006	ECG 126
Q2	2SA525	FM Converter AM Conv.-1st FM IF Amp		GE-22	TR-19	HEP52		ECG 106
Q3	2SA350			GE-9	TR-17	HEP639	SK3006	ECG 126
Q4	2SA350	1st AM-2nd FM IF Amp		GE-9	TR-17	HEP639	SK3006	ECG 126
Q5	2SA350	2nd AM-3rd FM IF Amp		GE-9	TR-17	HEP639	SK3006	ECG 126
Q6	2S877	Driver		GE-2	TR-14	HEP250	SK3004	ECG 102
Q7	2S877	Output		GE-2	TR-14	HEP250	SK3004	ECG 102
Q8	2S877	Output		GE-2	TR-14	HEP250	SK3004	ECG 102

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFRG. 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	1N60	1N60 1N60 1N34AS	1N60 1N60 1N34A	ECG 110 (4)		(4) Matched pair.
X2	1N60					
X3	1N34					

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	100 10V	2495416-100	8CD10100	EP15-100	PC100-16	MT1-19	MTV100CD10	TE-1135
C2	100 10V	2495416-100	8CD10100	EP15-100	PC100-16	MT1-19	MTV100CD10	TE-1135
C3	10 10V		8CD25010	EP15-10	PC10-50	MT1-5	MTV10C850	TE-1128
C4	10 10V	2495416-6	8CD25010	EP15-10	PC10-50	MT1-5	MTV10C850	TE-1128
C5	5 6V		8CD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C6	10 10V		8CD25010	EP15-10	PC10-50	MT1-5	MTV10C850	TE-1128

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.
C11		#2495065						
C12	10		NPO-DI 10	DTZ-10	CZ601CG100J	CCT0-100	CN0410	10TCC-Q10
C13	20		NPO-DI 20	DTZ-20		CCT0-200	CN0420	10TCC-Q20
C14	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C15	3		NPO-DI 3.0					10TCC-V30
C16	5		NPO-DI 5.0		CZ601CH5R0D			10TCC-V50
C17	30			TCZ-30				10TCC-Q30
C18	1.56 NPO		NPO-DI 1.5	DTZ-1R5		CCT0-300		10TCC-V15
C19	500		GPD X5F501K	DM-501	J8Z601YP501K	CCD-501	CN0515 GP350	10TS-T50
C20	3		NPO-DI 3.0					10TCC-V30
C21	.002		GPD X5F202K	DM-202	J8X601YP202K	CCD-202	GP220	2SS-D20
C22	40		NPO-DI 39	TCZ-39		CCT0-390	CN0439	10TCC-Q39
C23	2.2		NPO-DI 2.2	DTZ-2R2	CZ601CJ2R2D		CN0522	10TCC-V22
C24	140		GPD X5F151K	DD-151		CCD-151	GP315	10TS-T15
C25	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C26	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C27	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C28	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C29	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C30	3		NPO-DI 3.0					10TCC-V30
C31	2.2		NPO-DI 2.2	DTZ-2R2	CZ601CJ2R2D		CN0522	10TCC-V22
C32	.04			DD-403			GP140	
C33	300		GPD X5F301K	DM-301	J8Z601YP331K	CCD-301	GP330	10TS-T30
C34	.04			DD-403			GP140	
C35	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C36	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C37	.04			DD-403			GP140	
C38	.04			DD-403			GP140	
C39	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C40	.04			DD-403			GP140	
C41	2.2		NPO-DI 2.2	DTZ-2R2	CZ601CJ2R2D		CN0522	10TCC-V22

Penncrest Part Number

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume/Switch	5000	2495016	816-214 (1)			

(1) Use Original Knob.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	FM Antenna	2495054			
L2	FM RF	2495054-3			
L3	FM IF Trap	2495053			
L4	FM Oscillator	2495054-3			
L5	FM Input IF	2497643-1		8856	
L6	Loopstick	2495051-4			
L7	AM Oscillator	2495052			
L8	FM Interstage IF	2495056		8856	
L9	AM Input IF	2495058	16-9033	8810	
L10	FM Interstage IF	2495057		8856	
L11	AM Interstage IF	2495059	16-9034	8811	
L12	Ratio Detector (Pri)	2495061			
L13	Ratio Detector (Sec)	2495062			
L14	AM Output IF	2495060	16-9035	8812	

PENNCREST MODEL 1199

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	1.5	1 CT		2495063					

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	200 CT	8	2495996					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	2 1/4" PM 8 ohms	2496629		

PARTS LIST AND DESCRIPTION (CONTINUED)

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

BATTERIES

ITEM No.	VOLTAGE	MFGR. PART No.	REPLACEMENT DATA		NOTES
			EVEREADY	MALLORY	
M1	9V		216 or 222 or E146X	M1604 or TR146X	

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
S1	Switch, Selector	2495037	

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

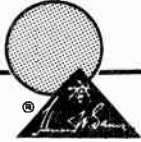
ITEM	PART No.	ITEM	PART No.
Cabinet, Front	2495596-3	Knob, Volume	2495560
Cabinet, Back	2495597-1	Antenna, Telescopic	2495050
Knob, Tuning	2495599		

ACCESSORIES

ITEM	MFGR. PART No.	REMARKS
Earphone	2495142-2	

WIRING DATA

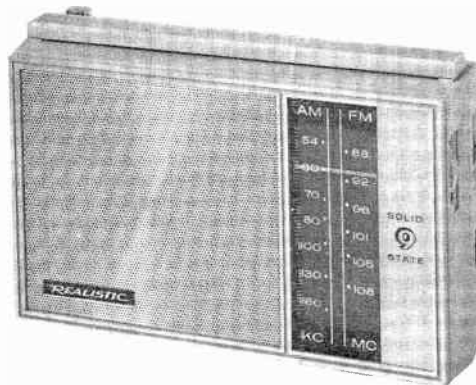
General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid 22AWG)	Available
	8524 (Stranded 22AWG)	in
	8570 (Stranded 26AWG)	12 Colors



PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index



REALISTIC MODEL 12-674

ALIGNMENT INSTRUCTIONS

Check for specified source voltage. Set volume control at maximum.
 Fashion loop of several turns of wire and connect generator across loop.
 Use only enough generator output to obtain a suitable indication.
 Suggested Alignment Tools:

A1,A2,A3,A6 thru A11.....GENERAL CEMENT #9087.....WALSCO #2528
 A4,A5,A12,A13.....GENERAL CEMENT #8605.....WALSCO #2505

SELECTOR IN AM

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	455KC 400 cycle modulation	Tuning gang fully open.	Output Meter across voice coil.	A1,A2, A3	Adjust for maximum. Repeat until no further improvement can be made.
2.	1640KC	"	"	A4	Adjust for maximum.
3.	1400KC	Tune to signal	"	A5	"
4.	600KC	"	"	A6	Rock tuning gang and adjust for maximum. Repeat steps 2 thru 4 until no further improvement can be made.

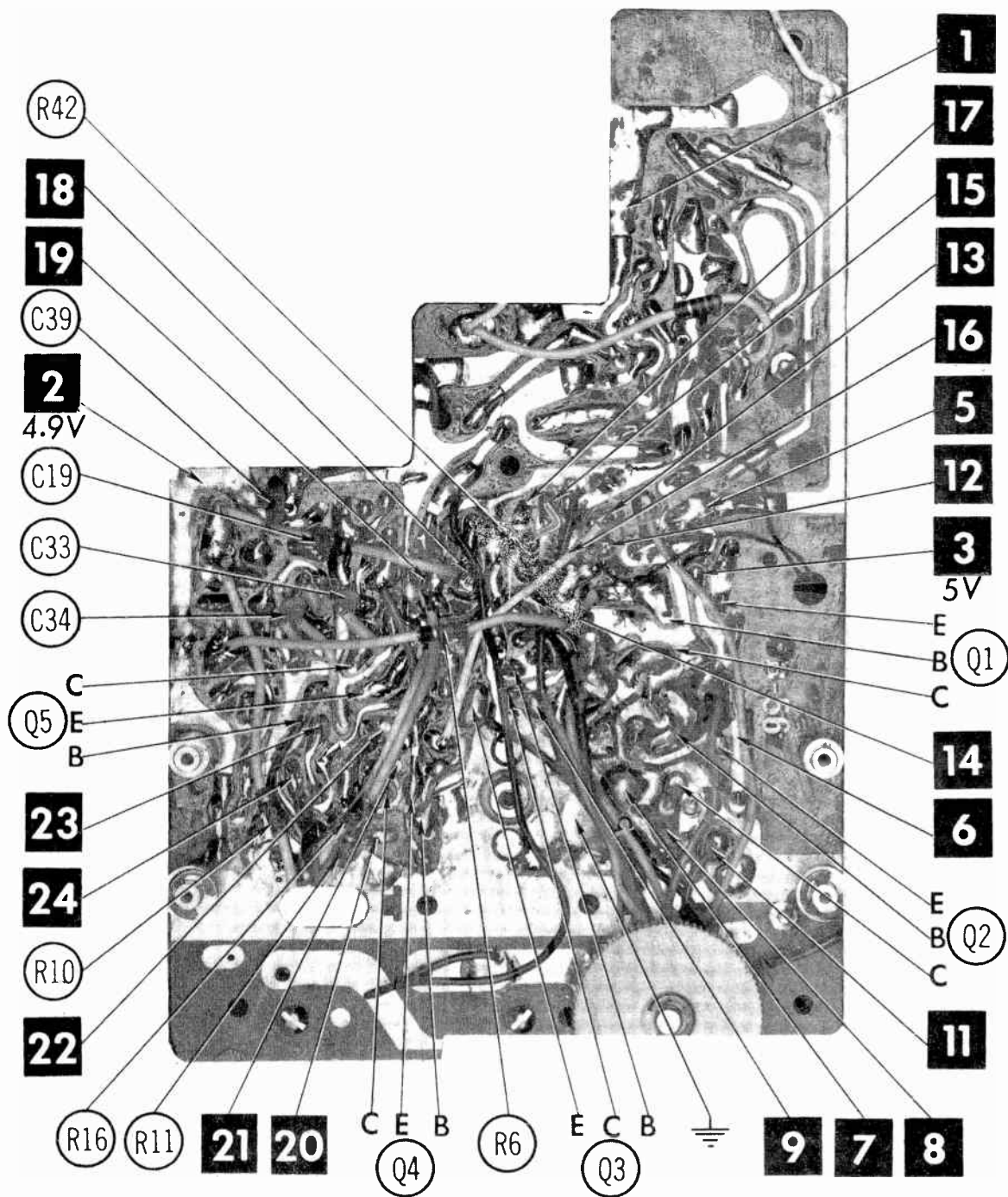
SELECTOR IN FM

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
5.	10.7MC Unmodulated	Point of non-interference	DC probe of VTVM to point \diamond A, common to ground.	A7,A8, A9,A10	Adjust for maximum
6.	"	"	DC probe of VTVM to point \diamond B, common to 4.9V source.	A11	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.
7.	108MC	High freq. end.	DC probe of VTVM to point \diamond A, common to ground.	A12,A13	Adjust for maximum

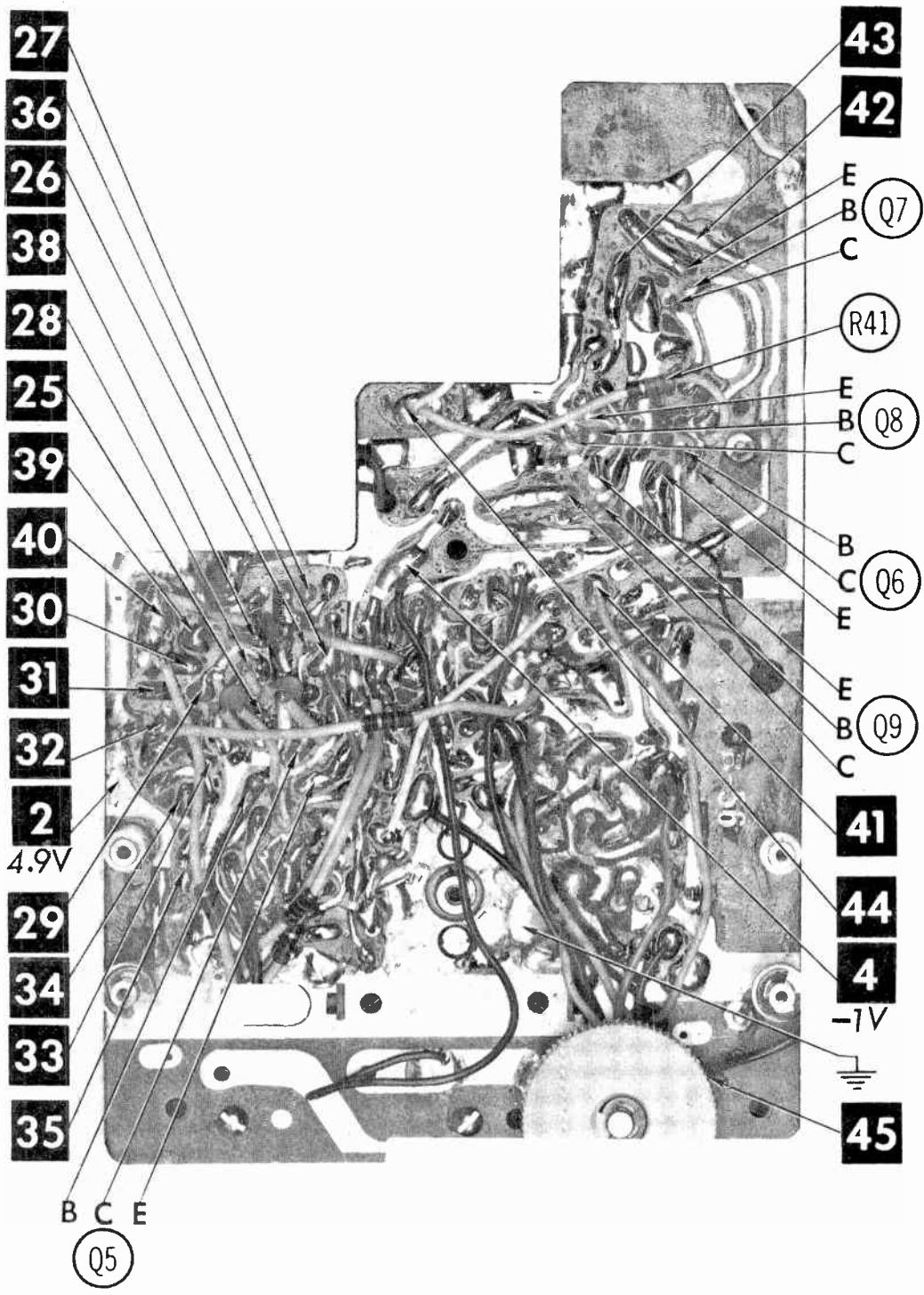
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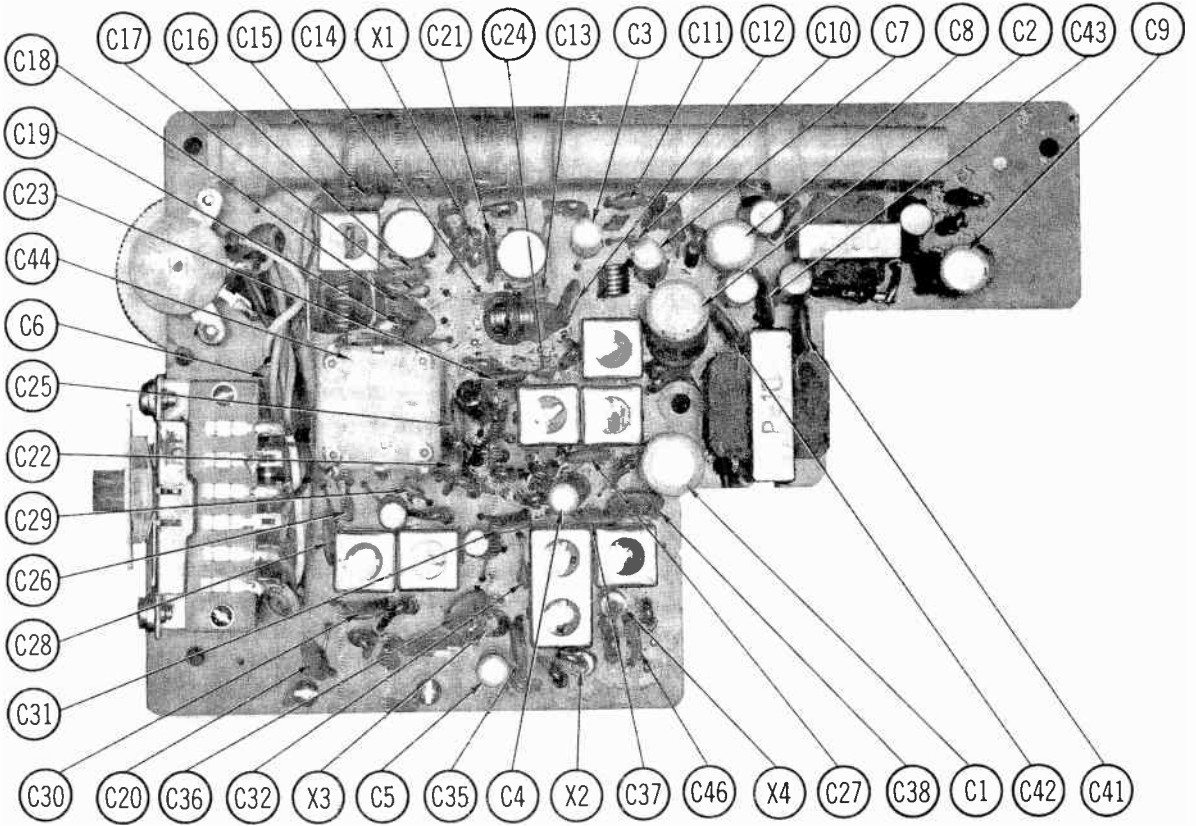
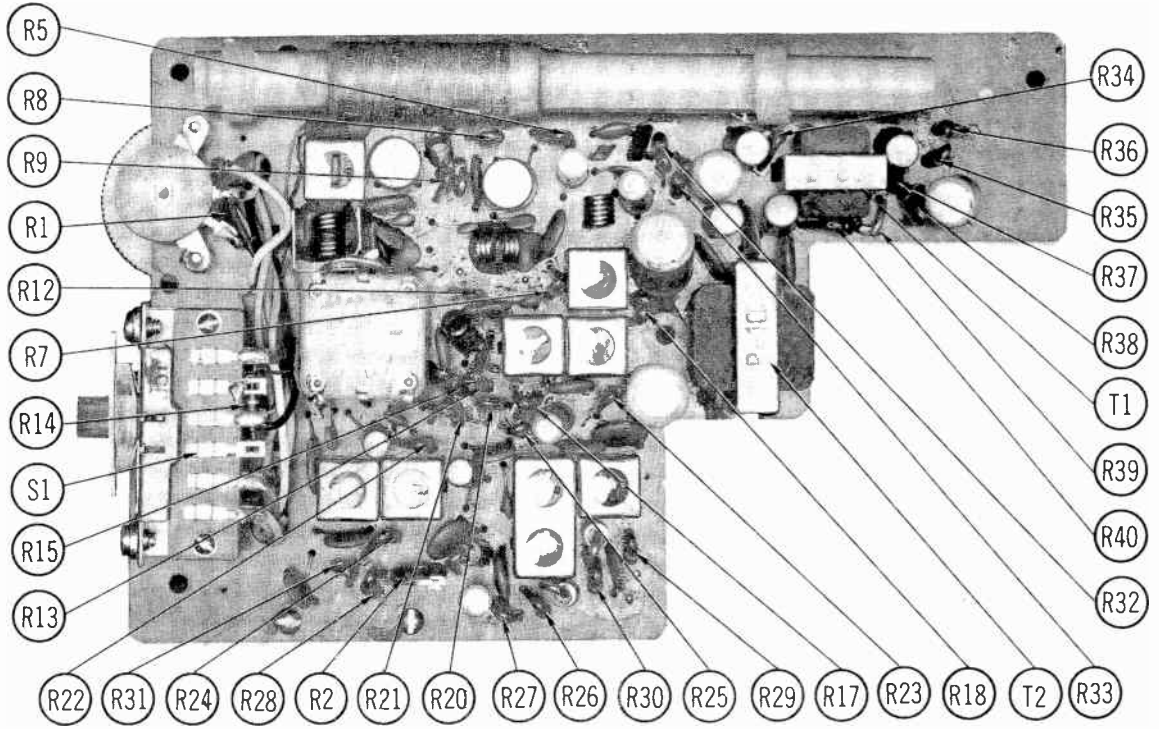
REALISTIC MODEL 12-674

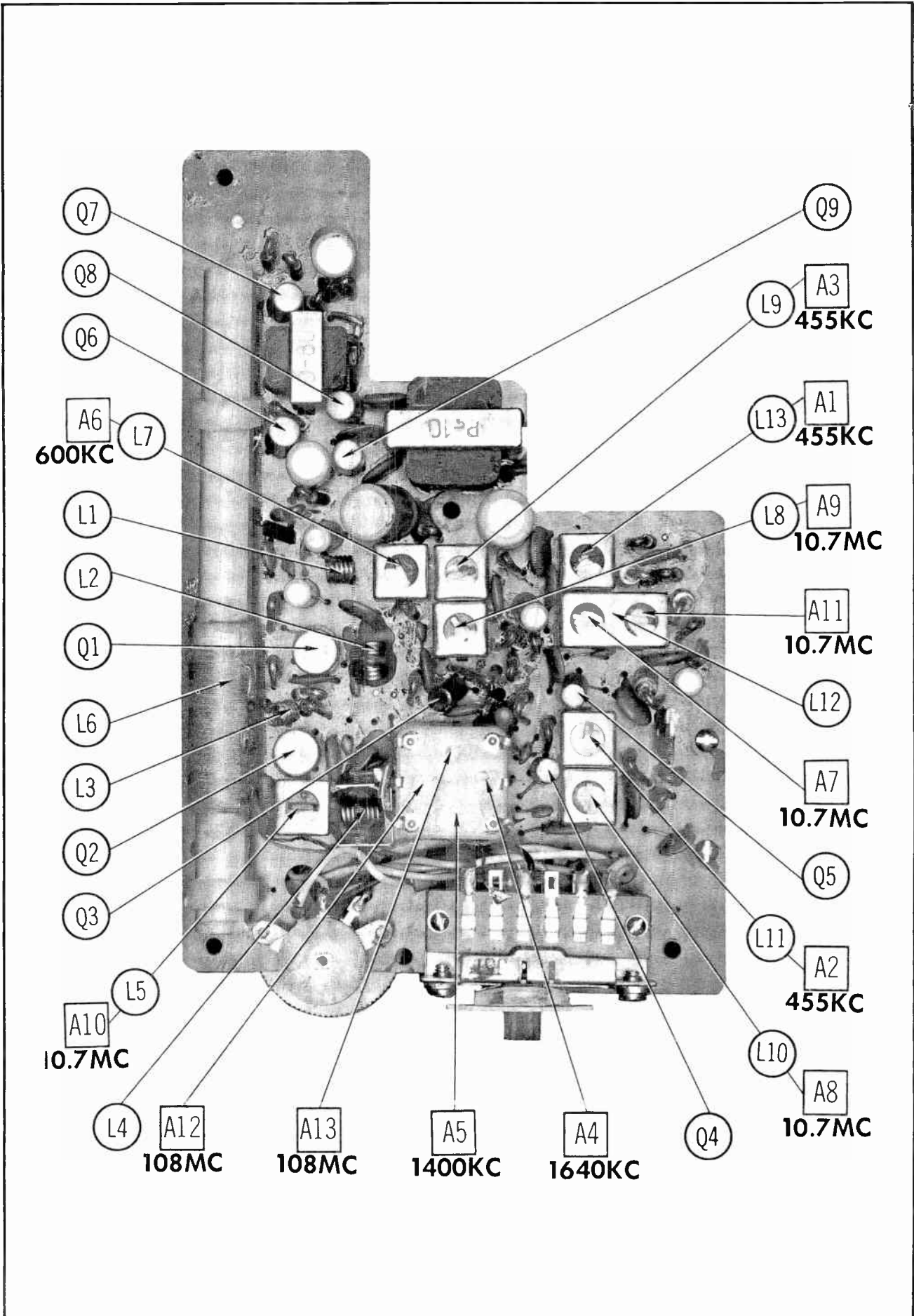


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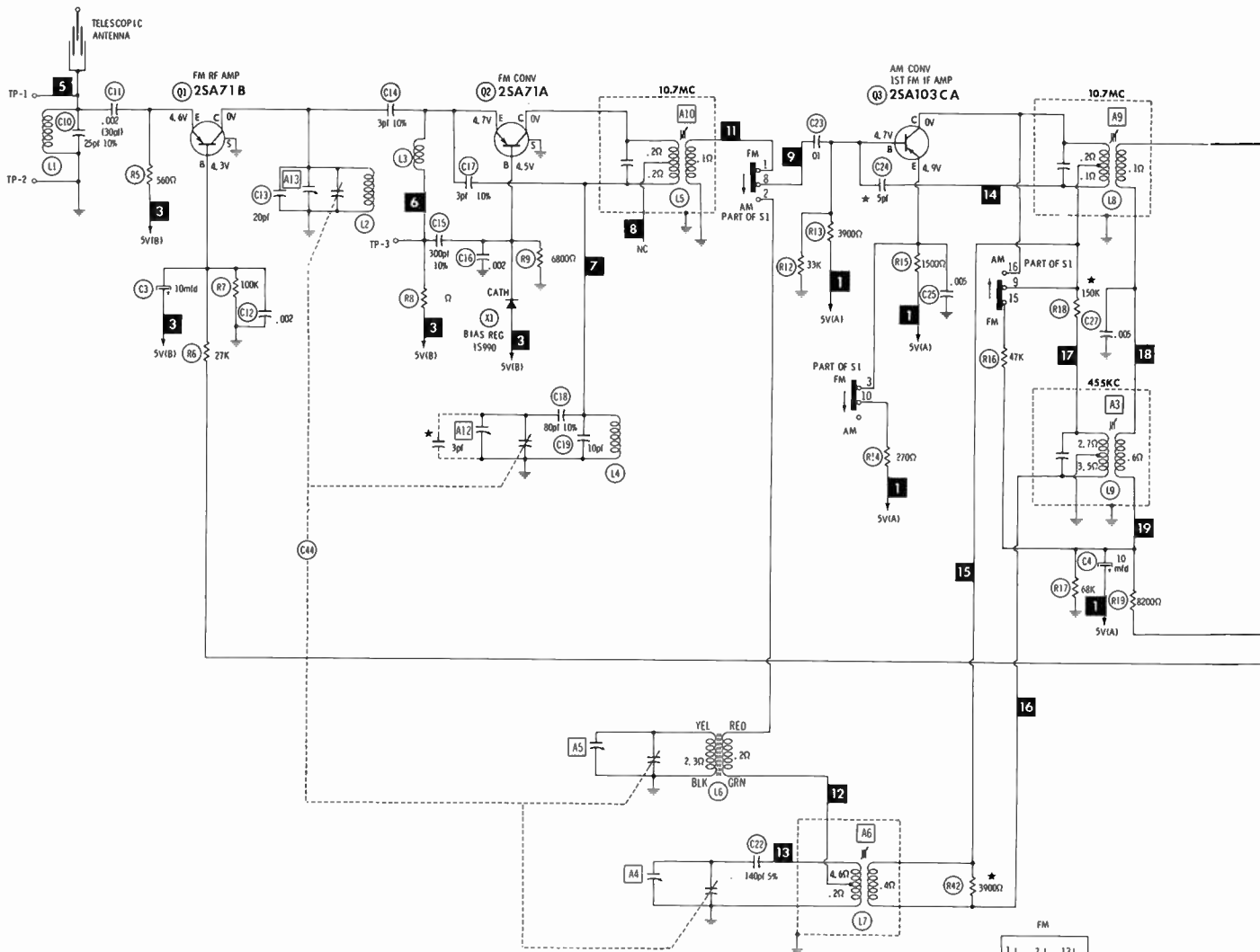


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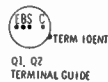
REALISTIC MODEL 12-674



NC NO CONNECTION * NOMINAL VALUE, MAY VARY

Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

- ⊙ See parts list
1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.
 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.



FM		
1 ¹	7 ¹	13 ¹
2 ¹	8 ¹	14 ¹
3 ¹	9 ¹	15 ¹
4 ¹	10 ¹	16 ¹
5 ¹	11 ¹	17 ¹
6 ¹	12 ¹	18 ¹
AM		

A PHOTOFAC STANDARD NOTATION SCHEMATIC
WITH **C.E.C. 18.4.1**

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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	2SA71B	FM RF Amp.		GE-9	TR-17	HEP640	SK3006	ECG 126
Q2	2SA71A	FM Converter		GE-9	TR-17	HEP640	SK3006	ECG 126
Q3	2SA103CA	AM Conv.-1st FM IF Amp		GE-9	TR-17	HEP63B	SK3006	ECG 126
Q4	2SA103CA	1st AM-2nd FM IF Amp		GE-9	TR-17	HEP63B	SK3006	ECG 126
Q5	2SA103CA	2nd AM-3rd FM IF Amp		GE-9	TR-17	HEP63B	SK3006	ECG 126
Q6	2SB170	AF Amp		GE-2	TR-14	HEP253	SK3004	ECG 102
Q7	2SB170	Driver		GE-2	TR-14	HEP253	SK3004	ECG 102
Q8	2SB172 (1)	Output				HEP254		ECG 102
Q9	2SB172 (1)	Output				HEP254		ECG 102

(1) Matched Pair.

POWER RECTIFIERS & 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	1S990	1N60	1N60	ECG 109		(4) Matched pair.
X2	0A70	1N60	1N60	ECG 110 (4)		
X3	0A70	1N60	1N60			
X4	0A70	1N60	1N60	ECG 109		

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	200 6V		8CD6200	EA6-250	PC200-16	MT1-23	MTV200CK10	TE-1104
C2	200 6V		BCD6200	EA6-250	PC200-16	MT1-23	MTV200CK10	TE-1104
C3	10 6V		BCD25010	EP6-10	PC10-50	MT1-5	MTV10CB50	TE-1087
C4	10 6V		BCD25010	EP6-10	PC10-50	MT1-5	MTV10CB50	TE-1087
C5	10 6V		BCD25010	EP6-10	PC10-50	MT1-5	MTV10CB50	TE-1087
C6	5 6V		BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C7	.5 6V			UK10-474		MT1-1	TT6X1	TE-1080
C8	50 6V		BCD6050	EP6-50	PC50-16	MT1-15	MTV50CB15	TE-1133
C9	50 6V		BCD6050	EP6-50	PC50-16	MT1-15	MTV50CB15	TE-1133

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.	
C10	25 10%		NPO-DI 25	DTZ-25				CN0425	10TCC-Q25
C11	.002		GPD X5F202K	DM-202	GP2000		CCD-202	GP220	2SS-D20
C12	.002		GPD X5F202K	DM-202	GP2000		CCD-202	GP220	2SS-D20
C13	20		NPO-DI 20	DTZ-20	NPO20		CCT0-200	CN0420	10TCC-Q20
C14	3 10%		NPO-DI 3.0						10TCC-V30
C15	300 10%		GPD X5F301K	DM-301	GP300		CCD-301	GP330	10TS-T30
C16	.002		GPD X5F202K	DM-202	GP2000		CCD-202	GP220	2SS-D20
C17	3 10%		NPO-DI 3.0						10TCC-V30
C18	80 10%			DTZ-82	NPO82		CCT0-820	CN0482	10TCC-Q82
C19	10 10%		NPO-DI 10	DTZ-10	NPO10		CCT0-100	CN0410	10TCC-Q10
C20	.02		TTP-02	CK-203	MGP02		CCD-203	TA120	TG-S20
C21	.01		TTP-01	CK-103	MGP01		CCD-103	TA110	TG-S10
C22	140 5%		GPD X5F151K	DD-151	GP150		CCD-151	GP315	10TS-T15
C23	.01		TTP-01	CK-103	MGP01		CCD-103	TA110	TG-S10
C24	5		NPO-DI 5.0		NPO5				10TCC-V50
C25	.005		TTP-005	CK-502	MGP005		CCD-502	TA250	TG-D50
C26	2		NPO-DI 2.2	DTZ-2R2	NPO2P2			CN0522	10TCC-V22
C27	.005		TTP-005	CK-502	MGP005		CCD-502	TA250	TG-D50
C28	.04			DD-403				GP140	
C29	2		NPO-DI 2.2	DTZ-2R2	NPO2P2			CN0522	10TCC-V22
C30	.02		TTP-02	CK-203	MGP02		CCD-203	TA120	TG-S20
C31	.04			DD-403				GP140	
C32	30 5%			TCZ-30			CCT0-300		10TCC-Q30
C33	2		NPO-DI 2.2	DTZ-2R2	NPO2P2			CN0522	10TCC-V22

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.	
C34	5		NPO-DI 5.0		NP05				10TCC-V50
C35	.002		GPD X5F202K	DM-202	GP2000		CCD-202	GP220	2SS-D20
C36	.002		GPD X5F202K	DM-202	GP2000		CCD-202	GP220	2SS-D20
C37	.005		TTP-D05	CK-502	MGP0C5		CCD-502	TA250	TG-D50
C38	.01		TTP-01	CK-103	MGP01		CCD-103	TA110	TG-S10
C39	.02		TTP-D2	CK-203	MGP02		CCD-203	TA120	TG-S20
C40	.01		TTP-01	CK-103	MGP01		CCD-103	TA110	TG-S10
C41	.01		TTP-01	CK-103	MGP01		CCD-103	TA110	TG-S10
C42	.01		TTP-01	CK-103	MGP01		CCD-103	TA110	TG-S10
C43	.01		TTP-01	CK-103	MGP01		CCD-103	TA110	TG-S10
C44	.01		TTP-01	CK-103	MGP01		CCD-103	TA110	TG-S10

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

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume/Switch	10K		B16-216 (1)			

(1) Use original knob.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.
R39	160 (Cold)			

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	FM Antenna				
L2	FM RF				
L3	FM IF Trap				
L4	FM Oscillator				
L5	FM Input IF		16-9030	2071	
L6	AM Loopstick			7790	
L7	AM Oscillator				
L8	FM Interstage IF		16-9031	2071	
L9	AM Input IF		16-9026	2066	
L10	FM Interstage IF		16-9032	2072	
L11	AM Interstage IF		16-9027	2067	
L12	Ratio Detector				
L13	AM Output IF		16-9028	2068	

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
				MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC. 1	SEC. 2						
T1	2	1 CT							

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T2	200	8						

REALISTIC MODEL 12-674

PARTS LIST AND DESCRIPTION (CONTINUED)

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

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	3" PM 8 ohms			

BATTERIES

ITEM No.	VOLTAGE	MFGR. PART No.	REPLACEMENT DATA		NOTES
			EVEREADY	MALLORY	
M1	6V		1015 or E91 or E9	M15R or MN1500 or ZM9	4 Required

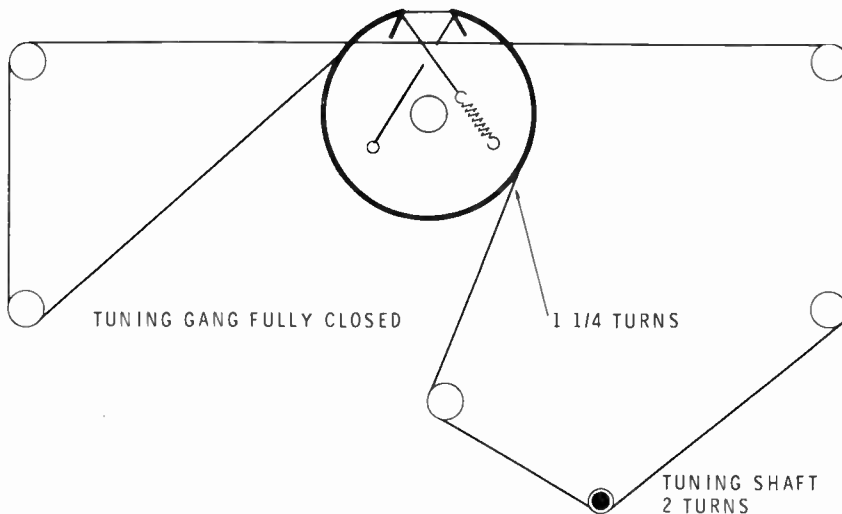
MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
S1	Switch, Selector		

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid 22AWG) 8524 (Stranded 22AWG) 8570 (Stranded 26AWG)	Available in 12 Colors
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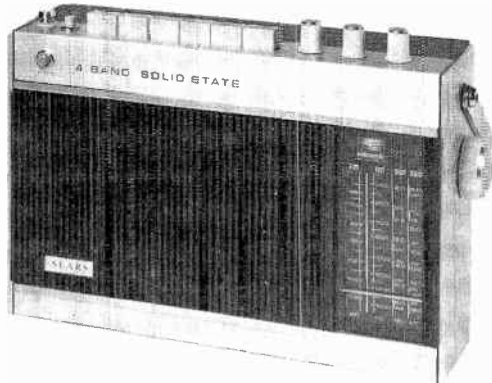
DIAL CORD STRINGING—FRONT VIEW





PHOTOFACT[®] with CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index



SEARS MODEL 2278
(Ch. 564.40060)

ALIGNMENT INSTRUCTIONS

Check for specified source voltage. Set volume control at maximum.
Fashion loop of several turns of wire and connect generator across loop.
Use only enough generator output to obtain a suitable indication.
Suggested Alignment Tools:

A1 thru A4, A14 thru A19...GENERAL CEMENT #8276,8277,8290...WALSCO #2512,2515,2525
A5,A6,A8,A9,A11,A12,A20,A21 GENERAL CEMENT #8605WALSCO #2505
A7,A10,A13.....GENERAL CEMENT #8606L,9440WALSCO #2501, 2544

SELECTOR IN AM

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	455KC 400 cycle modulation	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.	1650KC	"	"	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.

SELECTOR IN SW1

5.	6.5MC	6.5MC	"	A8,A9	Adjust for maximum.
6.	1.9MC	1.9MC	"	A10	Adjust for maximum. Repeat steps 5 & 6.

SELECTOR IN SW2

7.	18.75MC	18.75MC	"	A11,A12	Adjust for maximum.
8.	5.7MC	5.7MC	"	A13	Adjust for maximum. Repeat steps 7 & 8.

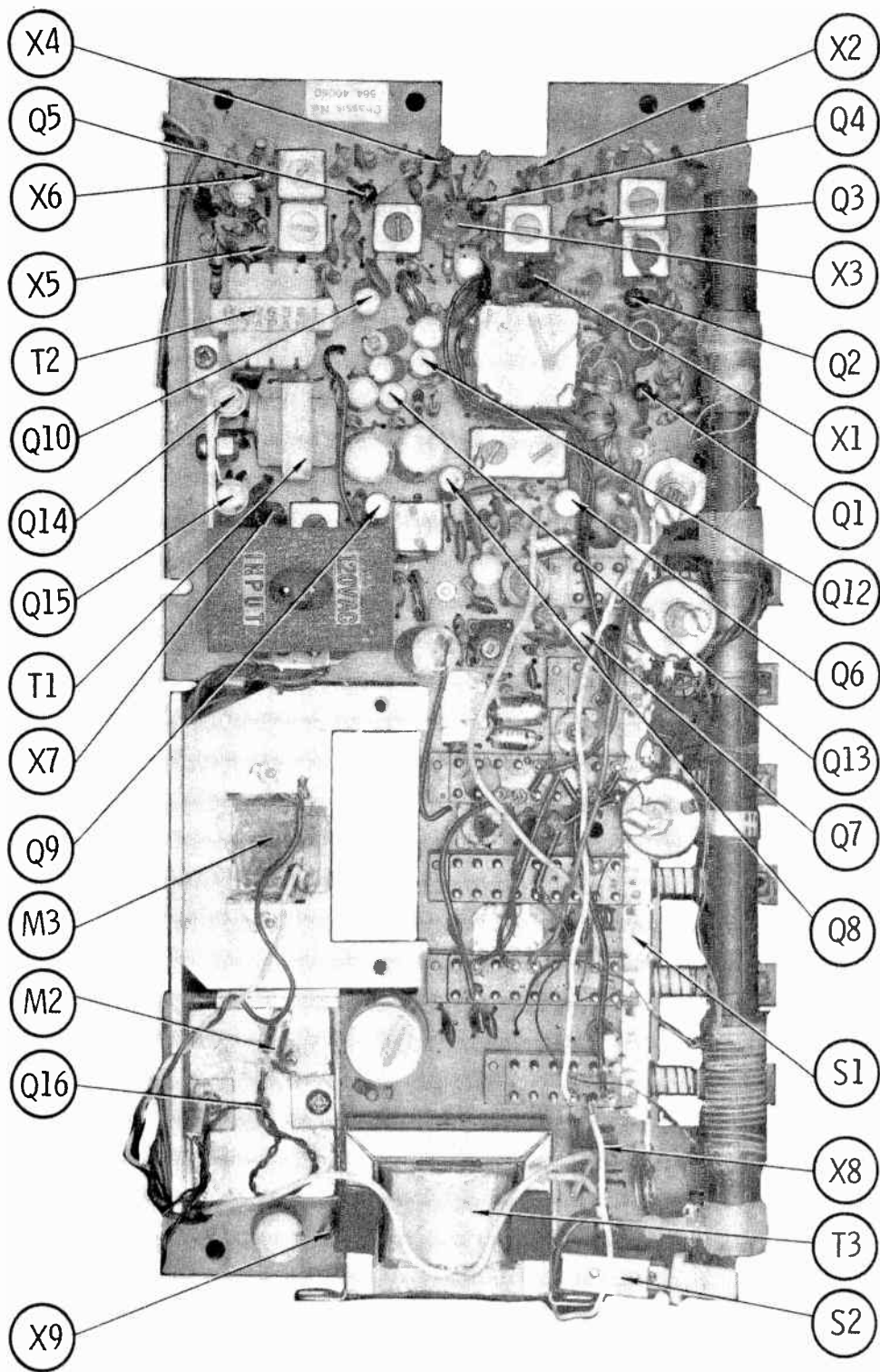
SELECTOR IN FM

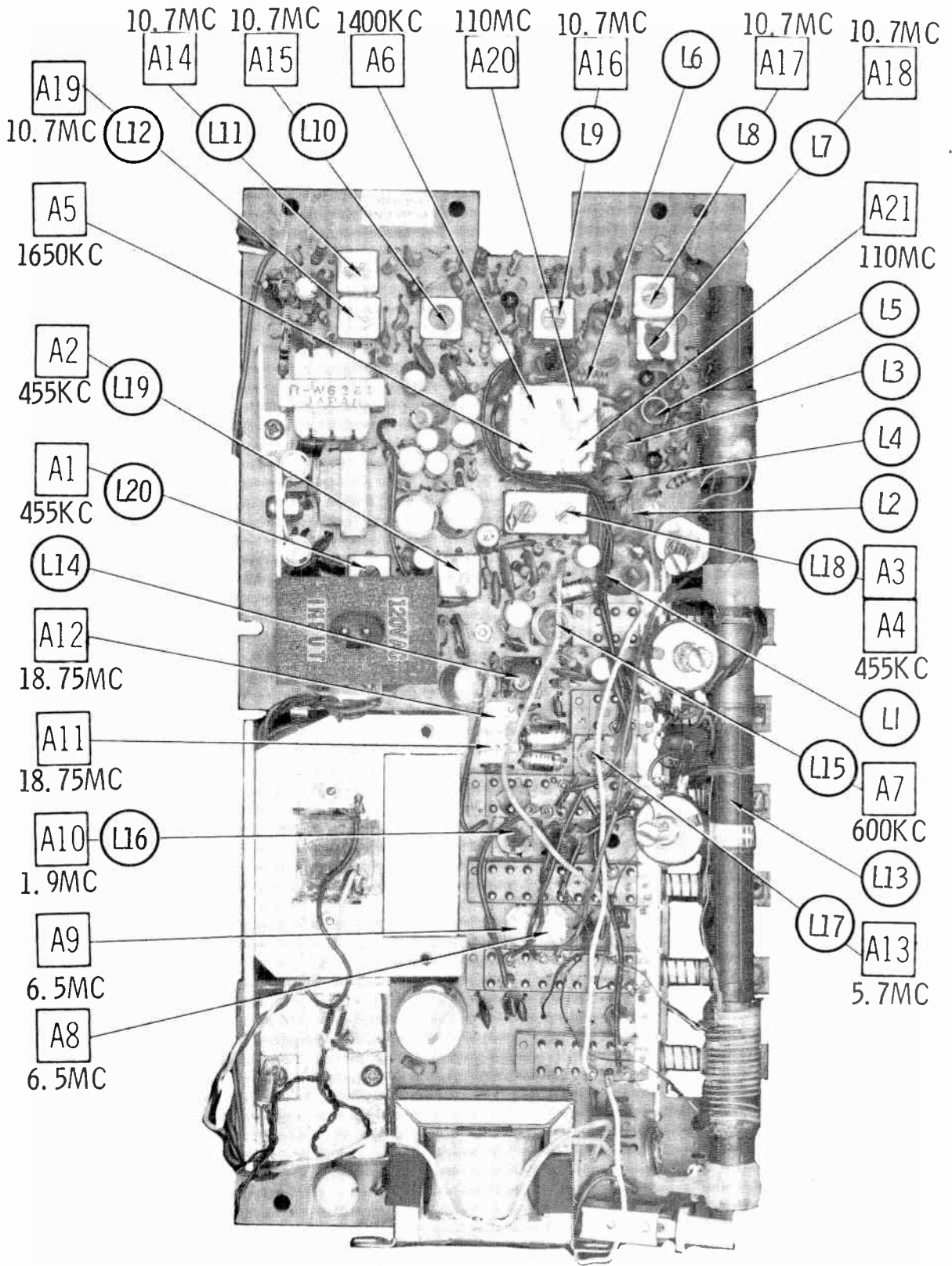
9.	10.7MC Unmodulated	Point of non-interference	DC probe of VTVM to point \diamond , common to ground.	A14 thru A18	Adjust for maximum
10.	"	"	DC probe of VTVM to point \diamond , common to point \diamond .	A19	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.
11.	110MC	High freq. end.	DC probe of VTVM to point \diamond , common to ground.	A20,A21	Adjust for maximum

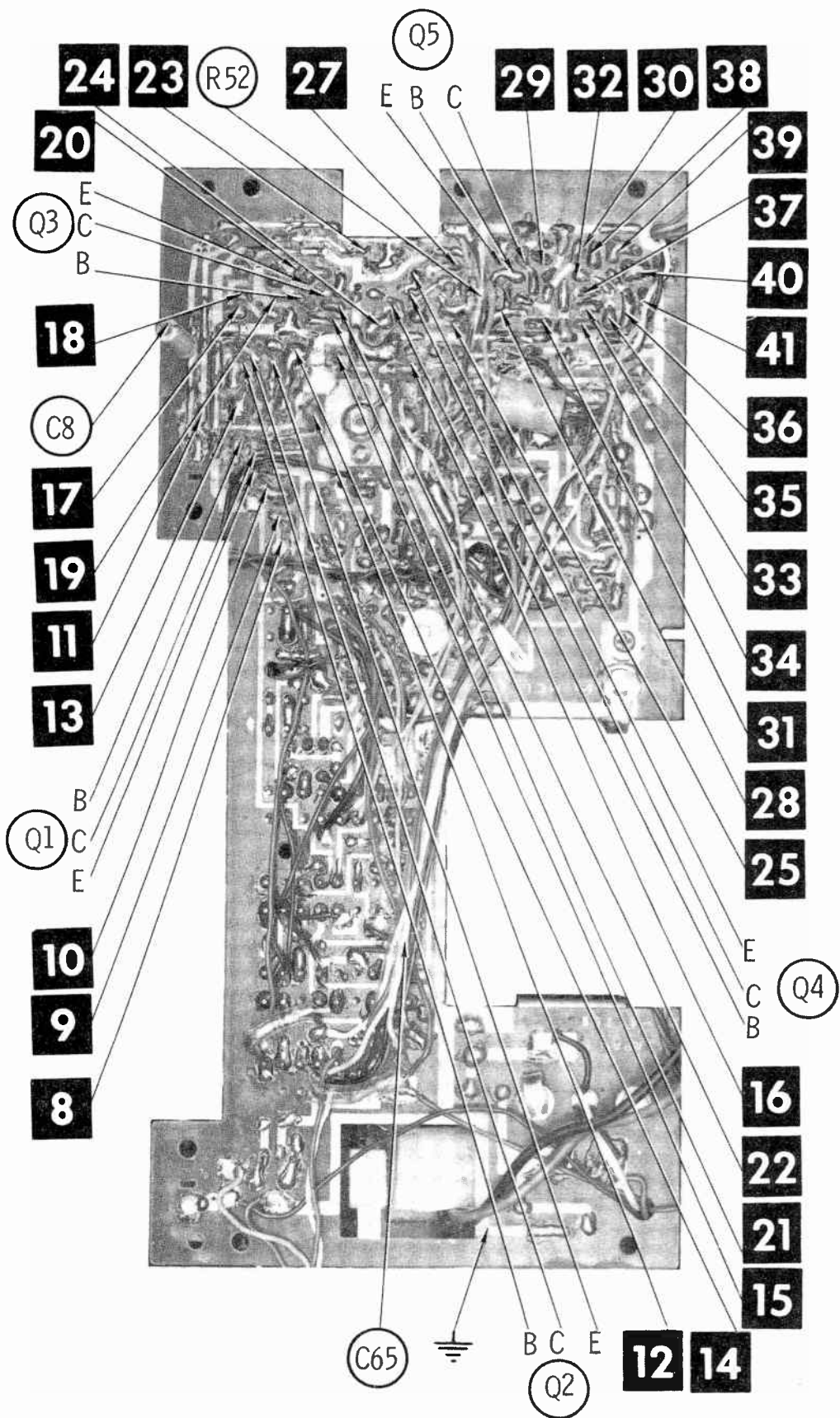
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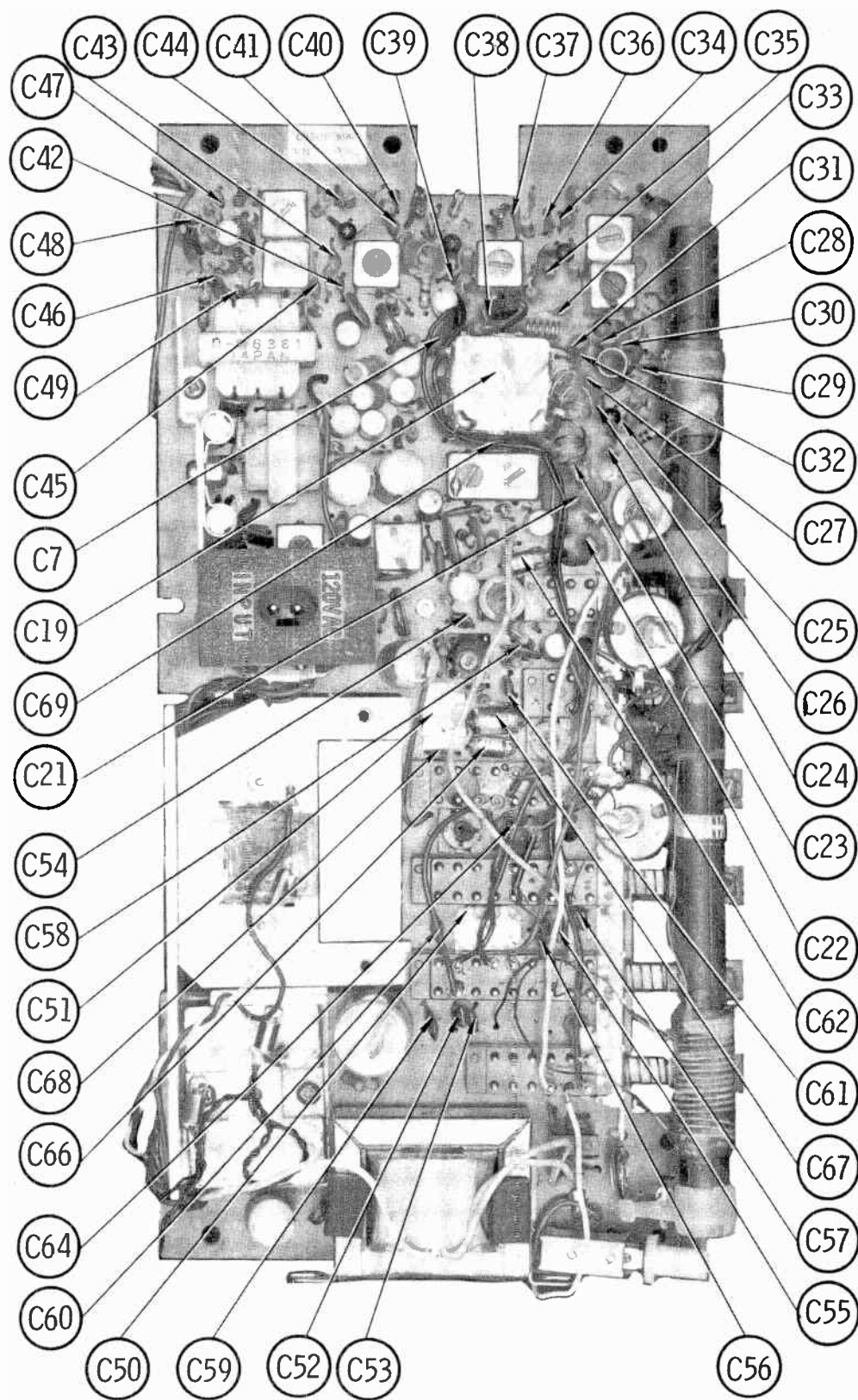
SEARS MODEL 2278

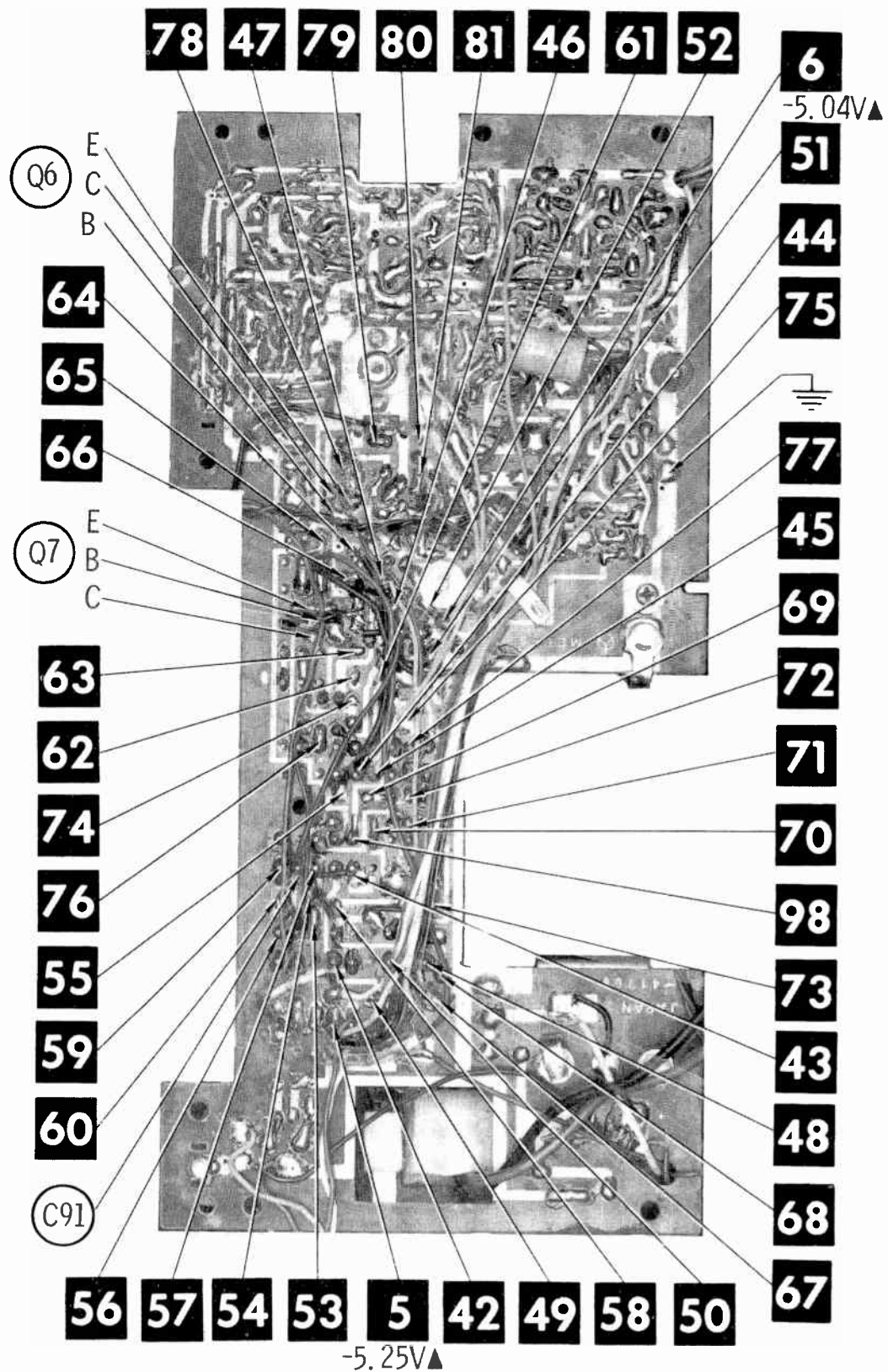




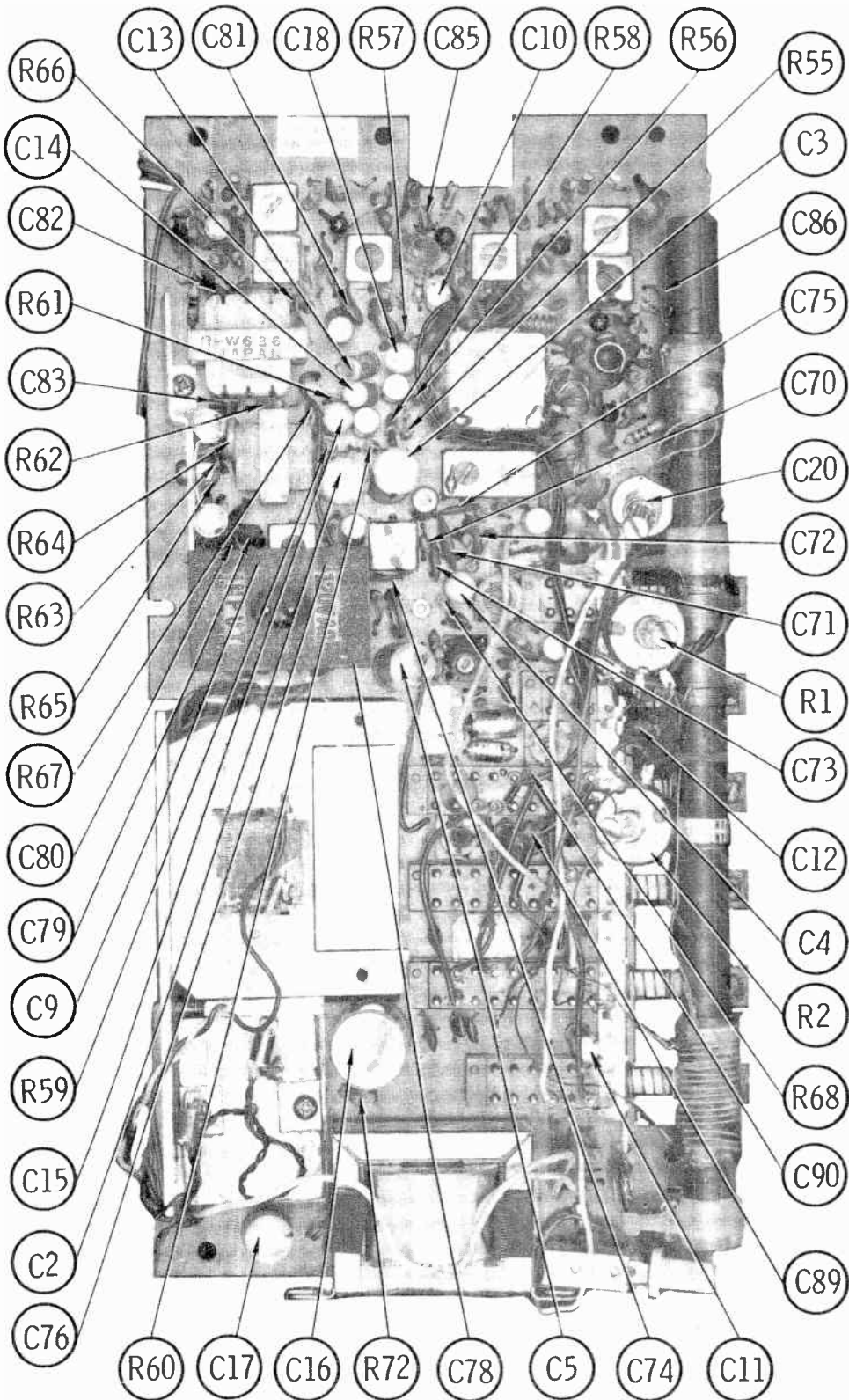


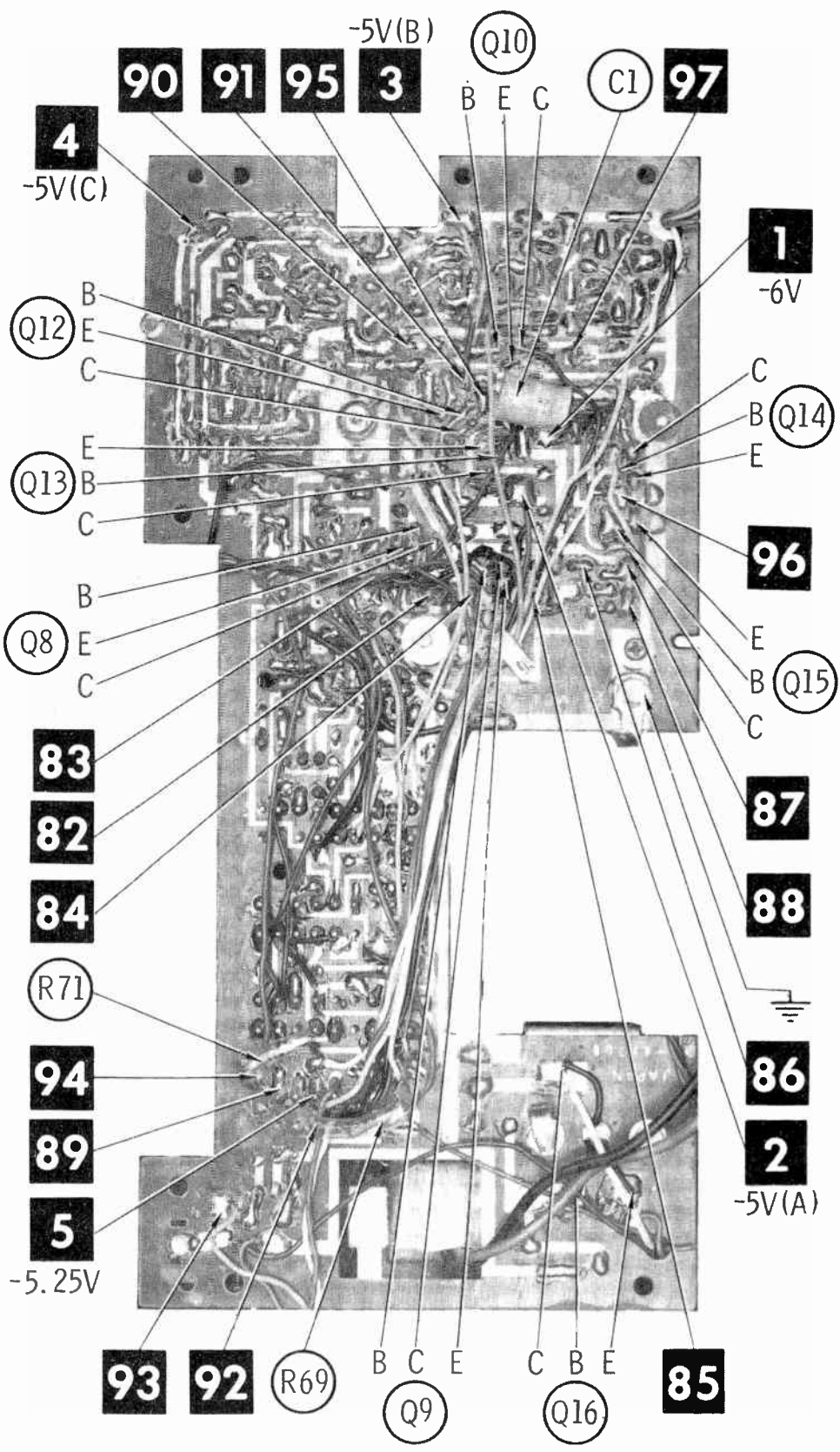
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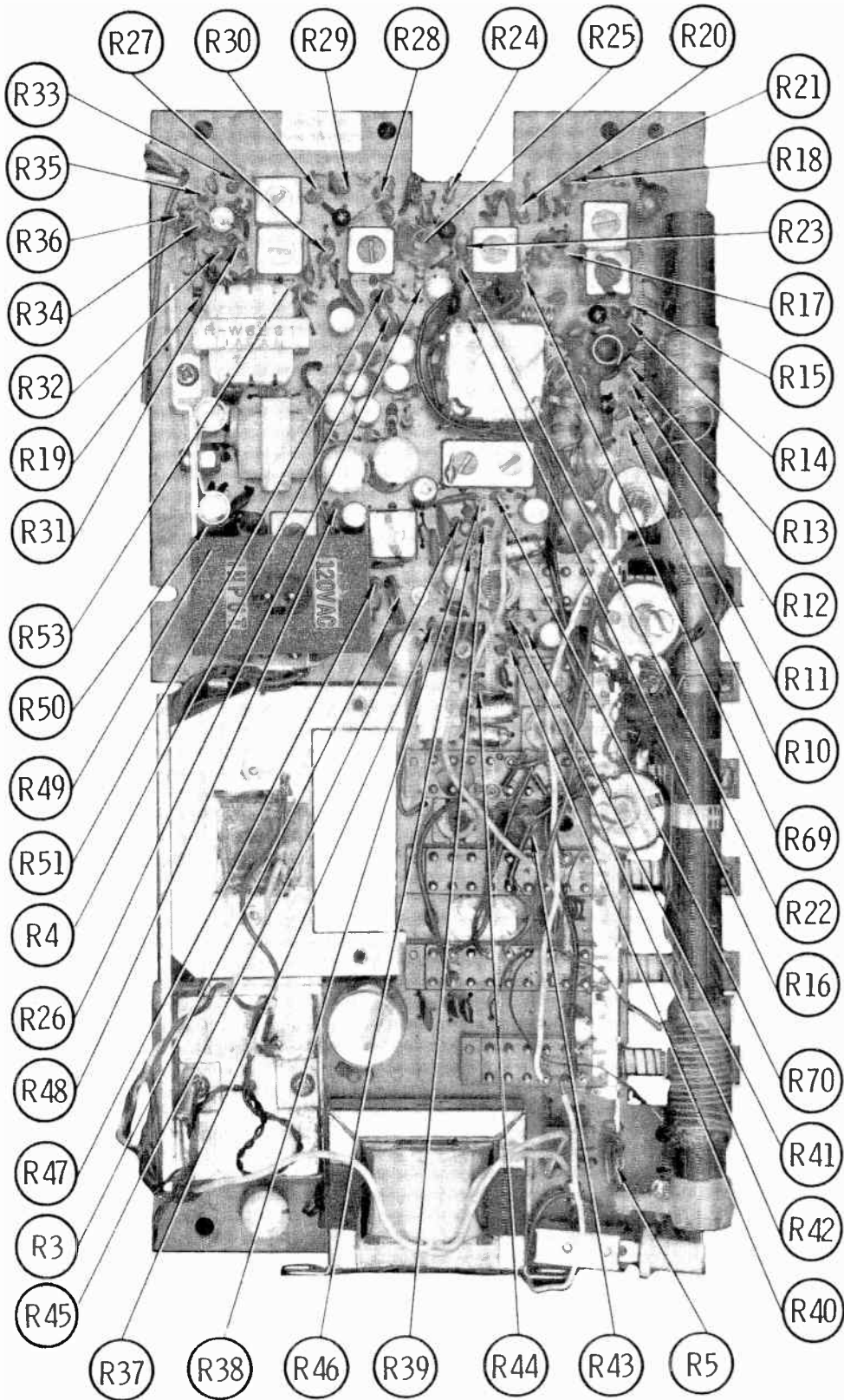


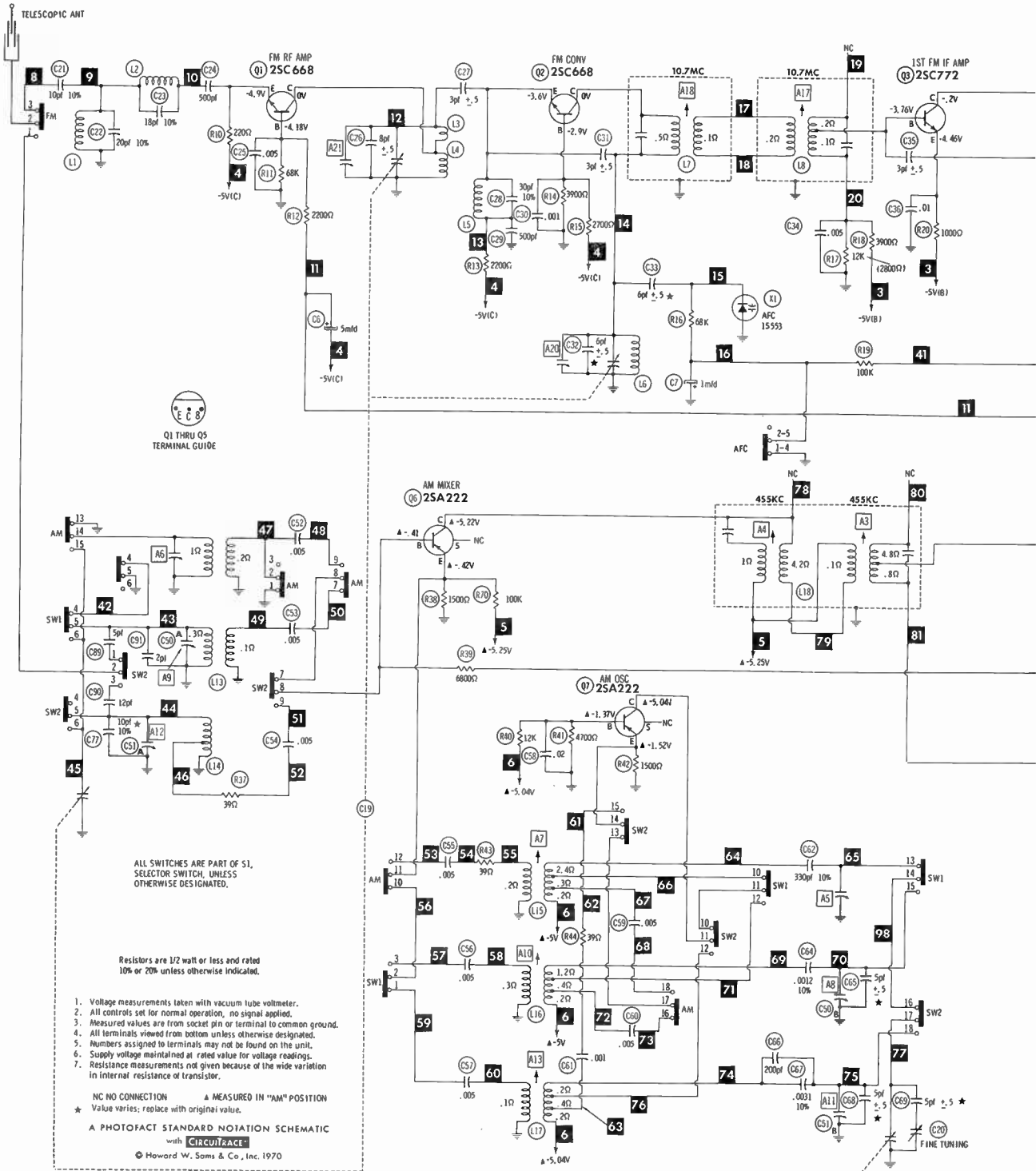
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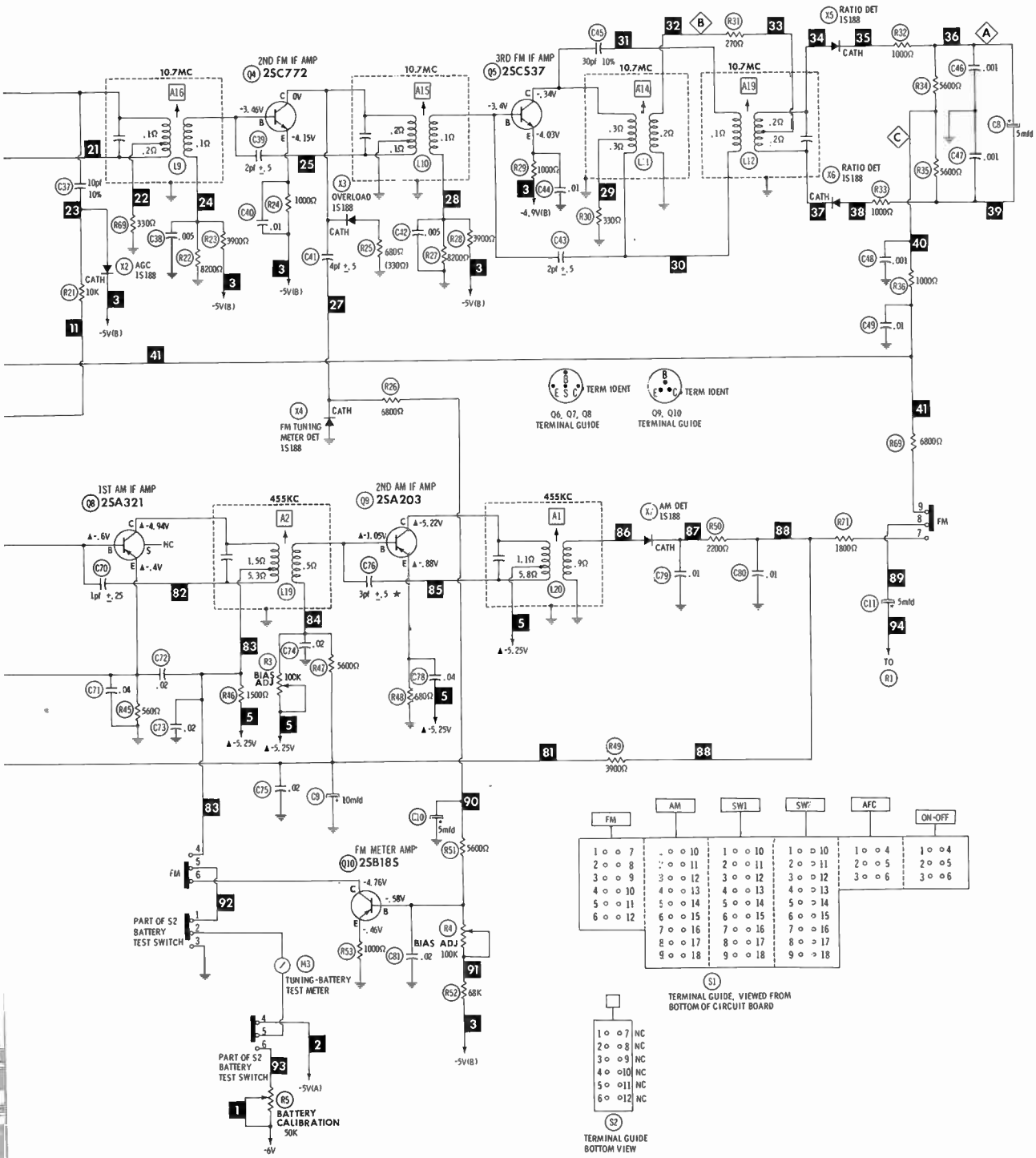




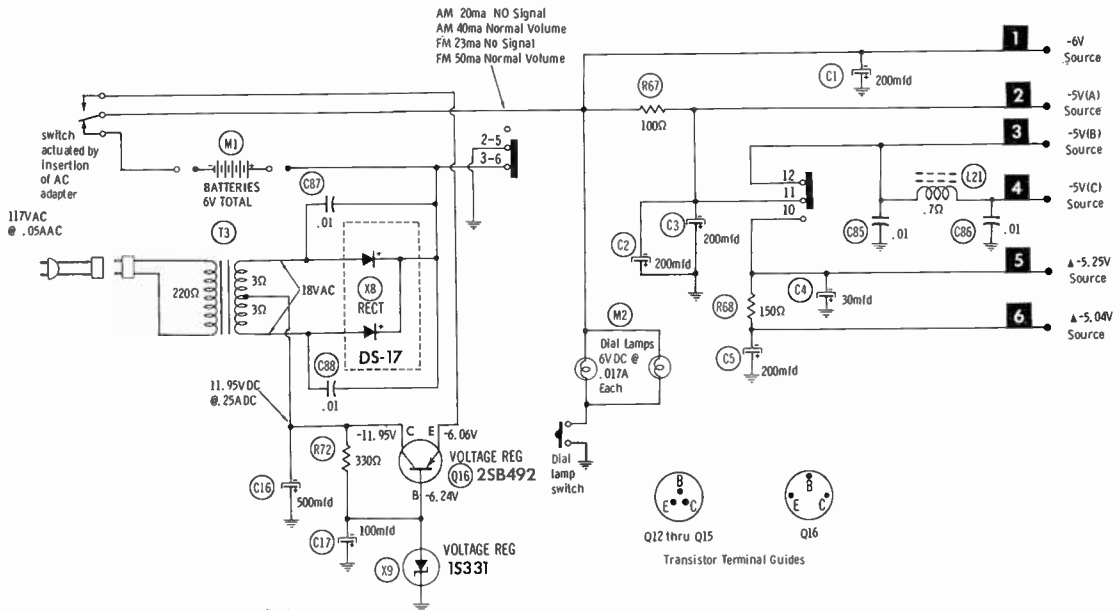
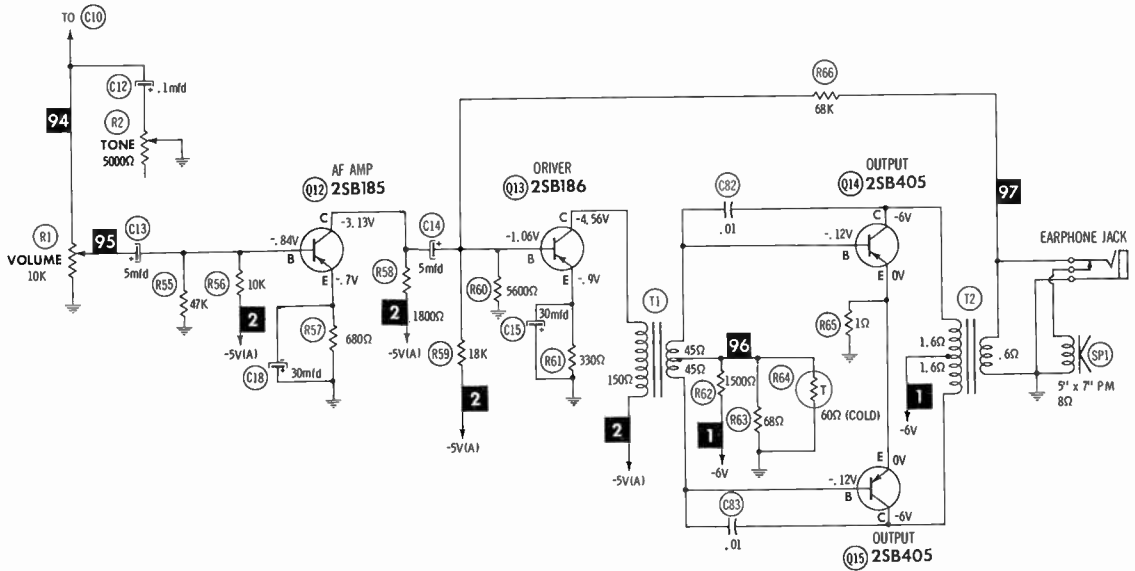
A Howard W. Sams CIRCUITRACE® Photo







SEARS MODEL 2278



1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.
 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.
- ▲ Measured with switching in "AM" position.
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
with **CIRCUITRACE**
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SEARS MODEL 2278

PARTS LIST AND DESCRIPTION

(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 Ft. 17109 (Plastic) or 17129 (Rubber) - 9 Ft.

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFRG. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	2SC668	FM RF Amp		GE-17	TR-21	HEP55	SK3018	ECG 108
Q2	2SC668	FM Conv.		GE-17	TR-21	HEP55	SK3018	ECG 108
Q3	2SC772	1st FM IF Amp		GE-20	TR-21	HEP50	SK3018	ECG 108
Q4	2SC772	2nd FM IF Amp		GE-20	TR-21	HEP50	SK3018	ECG 108
Q5	2SC537	3rd FM IF Amp		GE-20	TR-21	HEP50	SK3018	ECG 108
Q6	2SA222	AM Mixer		GE-1	TR-11	HEP637	SK3008	ECG 100
Q7	2SA222	AM Osc.		GE-1	TR-11	HEP637	SK3008	ECG 100
Q8	2SA321	1st AM-IF Amp		GE-1	TR-11	HEP639	SK3008	ECG 100
Q9	2SA203	2nd AM-IF Amp		GE-1	TR-11	HEP253	SK3008	ECG 100
Q10	2SB185	FM Meter Amp		GE-2	TR-14	HEP631	SK3004	ECG 102
Q12	2SB185	AF Amp		GE-2	TR-14	HEP631	SK3004	ECG 102
Q13	2SB186	Driver		GE-2	TR-14	HEP633	SK3004	ECG 102
Q14	2SB405	Output		GE-2	TR-14	HEP254	SK3004	ECG 102
Q15	2SB405	Output		GE-2	TR-14	HEP254	SK3004	ECG 102
Q16	2SB492	Voltage Regulator		GE-2	TR-14	HEP254	SK3004	ECG 102

SEARS MODEL 2278

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFRG. 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	1S533					(1) Two required. (4) Matched pair.
X2	1S188	1N60	1N60	ECG 109		
X3	1S188	1N60	1N60	ECG 109		
X4	1S188	1N60	1N60	ECG 109		
X5	1S188	1N60	1N60	ECG 110 (4)		
X6	1S188	1N60	1N60	ECG 109		
X7	1S188	1N60	1N60	ECG 109		
X8	DS-17	DS-17	18DC2A or 8D4 (1)	ECG 116 (1) or ECG 117 (1)	SK3030 (1) or SK3031 (1)	
X9	1S331	1S331	1ZM6.2-T10	ECG 137		

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	200 6V	R-C9143	BCD6200	EA6-250	PC200-16	MT1-23	MTV200CK10	TE-1104
C2	200 6V	R-C9143	BCD6200	EA6-250	PC200-16	MT1-23	MTV200CK10	TE-1104
C3	200 6V	R-C9143	BCD6200	EA6-250	PC200-16	MT1-23	MTV200CK10	TE-1104
C4	30 6V	R-C9163	BCD15025	EP6-25	PC30-35	MT1-13	MTV30CB25	TE-1132.1
C5	200 6V	R-C9143	BCD6200	EA6-250	PC200-16	MT1-23	MTV200CK10	TE-1104
C6	5 6V	R-C9154	BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C7	1 10V	R-C9115	BCD50001		PC1-100	MT1-1	MTV1CB50	TE-1120
C8	5 6V	R-C9154	BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C9	10 3V	R-C9153	BCD25010	EP6-10	PC10-50	MT1-5	MTV10CB50	TL-1053
C10	5 6V	R-C9154	BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C11	5 6V	R-C9154	BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C12	.1 10V	R-C9126		UK10-104	TYR13BER10K		TAS104KD10POA	196D104X00 350B
C13	5 6V	R-C9154	BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C14	5 6V	R-C9154	BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C15	30 3V	R-C9142	BCD3025	EP6-25	PC30-35	MT1-13	MTV30CB25	TE-1055.5
C16	500 15V	R-C9165	BCD15500	EA15-500	PC500-16	QT1-30A	MTV500DN15	TL-1166
C17	100 10V	R-C9172	BCD10100	EP15-100	PC100-16	MT1-19	MTV100CD10	TE-1135
C18	30 3V	R-C9142	BCD3025	EP6-25	PC30-35	MT1-13	MTV30CB25	TE-1055.5

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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.	
C19		#R-C1130							
C20		#R-C1132							
C21	10 10%		NPO-DI 10	DTZ-10	NP010	CCTO-100	CN0410	10TCC-Q10	
C22	20 10%		NPO-DI 20	DTZ-20	NP020	CCTO-200	CN0420	10TCC-Q20	
C23	18 10%			TCZ-18	NP018	CCTO-180	CN0418	10TCC-Q18	
C24	500		GPD X5F501K	DM-501	GP500	CCD-501	GP350	10TS-T50	
C25	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50	
C26	8 ±.5		NPO-DI 8.2		NP08P2			10TCC-V82	
C27	3 ±.5		NPO-DI 3.0					10TCC-V30	
C28	30 10%			TCZ-30		CCTO-300		10TCC-Q30	
C29	500		GPD X5F501K	DM-501	GP500	CCD-501	GP350	10TS-T50	
C30	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10	
C31	3 ±.5		NPO-DI 3.0					10TCC-V30	
C32	6 ±.5							10TCC-V56	
C33	6 ±.5							10TCC-V56	
C34	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50	
C35	3 ±.5		NPO-DI 3.0					10TCC-V30	
C36	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10	
C37	10 10%		NPO-DI 10	DTZ-10	NP010	CCTO-100	CN0410	10TCC-Q10	
C38	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50	
C39	2 ±.5		NPO-DI 2.2	DTZ-2R2	NP02P2		CN0522	10TCC-V22	
C40	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10	
C41	4 ±.5				NP03P9			10TCC-V39	
C42	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50	
C43	2 ±.5		NPO-DI 2.2	DTZ-2R2	NP02P2		CN0522	10TCC-V22	
C44	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10	
C45	30 10%			TCZ-30		CCTO-300		10TCC-Q30	
C46	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10	
C47	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10	
C48	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10	
C49	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10	
C50A		#R-C0056							
B									
C51A		#R-C0056							
B									
C52	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50	
C53	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50	
C54	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50	
C55	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50	
C56	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50	
C57	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50	
C58	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20	
C59	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50	
C60	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50	
C61	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10	
C62	330 10%			CPR-330J	CD15F331K500	CM-15-E-331J	SX333	MS-333	
C64	.0012 10%			CPR-1200J	CD19F122K500	CM-20-E-122K	SX212	MS-312	
C65	5 ±.5		NPO-DI 5.0		NP05			10TCC-V50	
C66	200		GPD X5F201K	DM-201	GP200	CCD-201	GP320	10TS-T20	
C67	.0031 10%			CPR-3000J	CD19F302K500	CM-20-E-302K	SX230	MS-23	
C68	5 ±.5		NPO-DI 5.0		NP05			10TCC-V50	
C69	5 ±.5		NPO-DI 5.0		NP05			10TCC-V50	
C70	1 ±.25		NPO-DI 1.0		NP05			10TCC-V10	
C71	.04			TCZ-1			CN0510		
C72	.02		TTP-02	DD-403			GP140		
C73	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20	
C74	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20	
C75	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20	
C76	3 ±.5		NPO-DI 3.0					10TCC-V30	
C77	10 10%		NPO-DI 10	DTZ-10	NP010	CCTO-100	CN0410	10TCC-Q10	
C78	.04			DD-403			GP140		
C79	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10	
C80	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10	
C81	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20	
C82	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10	
C83	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10	
C85	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10	
C86	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10	
C87	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10	
C88	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10	
C89	5		NPO-DI 5.0		NP05			10TCC-V50	
C90	12			TCZ-12	NP0-12	CCTO-120	CN0412	10TCC-Q12	
C91	2		NPO-DI 2.2	DTZ-2R2	NP02P2		CN0522	10TCC-V22	

Sears Part Number.

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFRG. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume	10K	R-R11685				
R2	Tone	5000	R-R11672				
R3	Meter Adjust	100K	R-R11011				
R4	Bias Adjust	100K	R-R11011				
R5	Battery Meter Adjust	50K	R-R11010				

PARTS LIST AND DESCRIPTION (CONTINUED)

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

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.
R64	60 (Cold)			R-S0T-06 (SDT-06)

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	FM Antenna	R-W9018			
L2	FM Filter	R-W9001			
L3	FM RF	R-W9001			
L4	FM RF	R-W9007			
L5	FM IF Trap	R-W9009			
L6	FM Oscillator	R-W9053			
L7	FM Input IF	R-W5T276	16-9030	2070	
L8	FM Interstage IF	R-W5T235	16-9031	2071	
L9	FM Interstage IF	R-W5T235	16-9031	2071	
L10	FM Interstage IF	R-W5T275	16-9032	2072	
L11	Ratio Detector (Pri)	R-W5T292			
L12	Ratio Detector (Sec)	R-W5T347			
L13	AM-SW1 Loopstick	R-SB1680			
L14	SW2 Antenna	R-W2363			
L15	AM Oscillator	R-W8118b			
L16	SW1 Oscillator	R-W8244			
L17	SW2 Oscillator	R-W8245			
L18	AM Input IF	R-W5W033			
L19	AM Interstage IF	R-W5T072	16-9034	2067	
L20	AM Output IF	R-W5T073	16-9035	2068	
L21	RF Choke	R-W1051	16-2020	4628	T864

SEARS MODEL 2278

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	3	1		R-W6226p					

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	50 CT	8	R-W6361					

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T3	117VAC @ .05A AC	18VAC CT @ .25A DC	R-W7124					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	5" x 7" PM 8 ohms	R-S6423	57A1ZB	

PARTS LIST AND DESCRIPTION

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

BATTERIES

ITEM No.	VOLTAGE	MFR. PART No.	REPLACEMENT DATA		NOTES
			EVEREADY	MALLORY	
M1	6V		1050 or E95	M13R or MN1300	4 Required.

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M2	Lamp - Dial	R-S1254a	2 Used Tuning - Battery
M3	Meter	R-S5542	
S1	Switch - Selector	R-S4438	
S2	Switch - Battery	R-AR135	
S3	Switch-Dial Lamp		
	Printed Circuit Board	R-41708	Less Components Complete
	Printed Circuit Board	R-AR134	

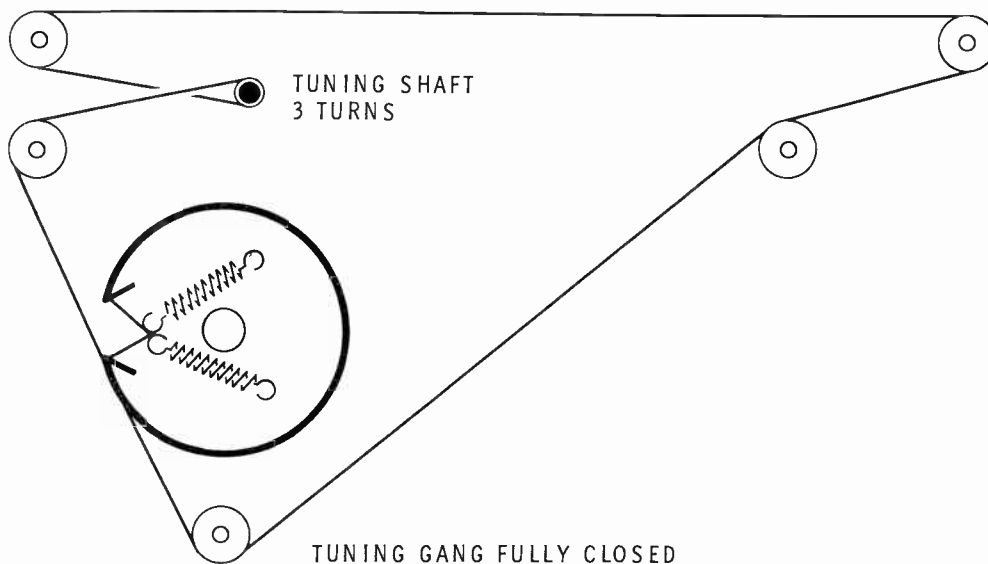
CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

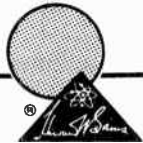
ITEM	PART No.	ITEM	PART No.
Cabinet - Front	R-AR132	Push Button, AM	R-AR070
Cabinet - Back	R-AR133	Push Button, SW1	R-AR069
Knob - Control	R-SB1420a	Push Button, SW2	R-AR068
Knob - Tuning	R-SB1419a	Push Button, FM	R-AR072
Push Button, On-Off	R-AR066	Telescopic Antenna	R-S1297a
Push Button, AFC	R-AR067		

ACCESSORIES

ITEM	MFR. PART No.	REMARKS
Earphone	R-S6365	

DIAL CORD STRINGING—FRONT VIEW

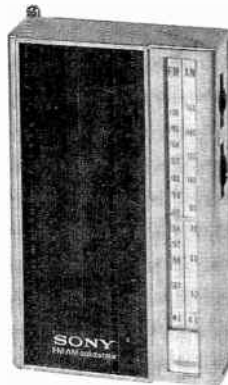




PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index



SONY MODEL 3F-77W

ALIGNMENT INSTRUCTIONS

Check for specified source voltage. Set volume control at maximum. Fashion loop of several turns of wire and connect generator across loop. Use only enough generator output to obtain a suitable indication. Suggested Alignment Tools:
A1 thru A13.....GENERAL CEMENT #8868,9089.....WALSCO #2541, 2587

SELECTOR IN AM

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	455KC 400 cycle modulation	Tuning gang fully open.	Output Meter across voice coil.	A1,A2	Adjust for maximum. Repeat until no further improvement can be made.
2.	1680KC	"	"	A3	Adjust for maximum.
3.	1400KC	Tune to signal	"	A4	"
4.	600KC	"	"	A5	Rock tuning gang and adjust for maximum. Repeat steps 2 thru 4 until no further improvement can be made.

SELECTOR IN FM

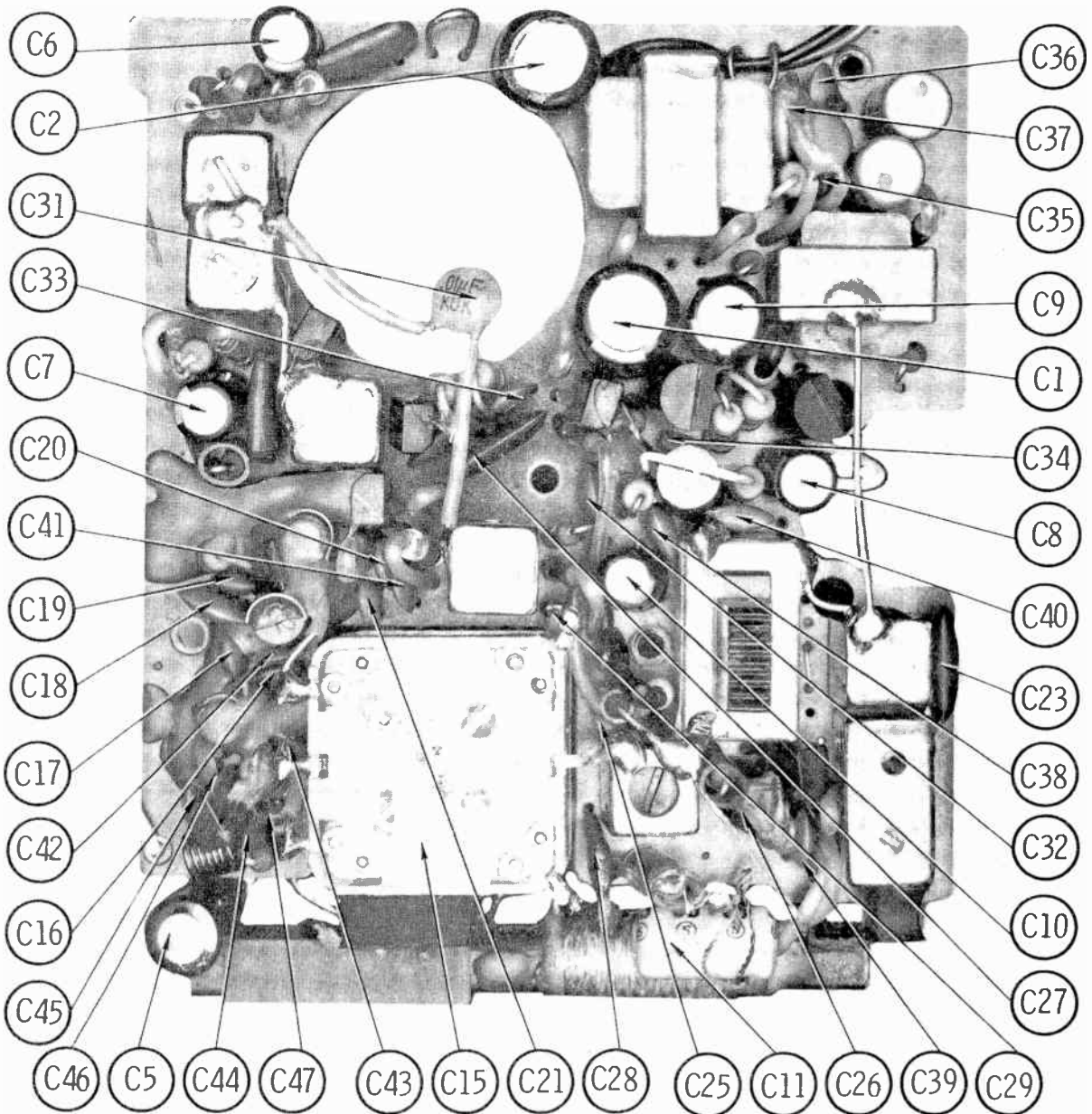
Connect two matched 100K (+1%) resistors in series from point $\diamond A$ to ground. The junction of these two resistors is alignment point $\diamond C$ as shown on the schematic.

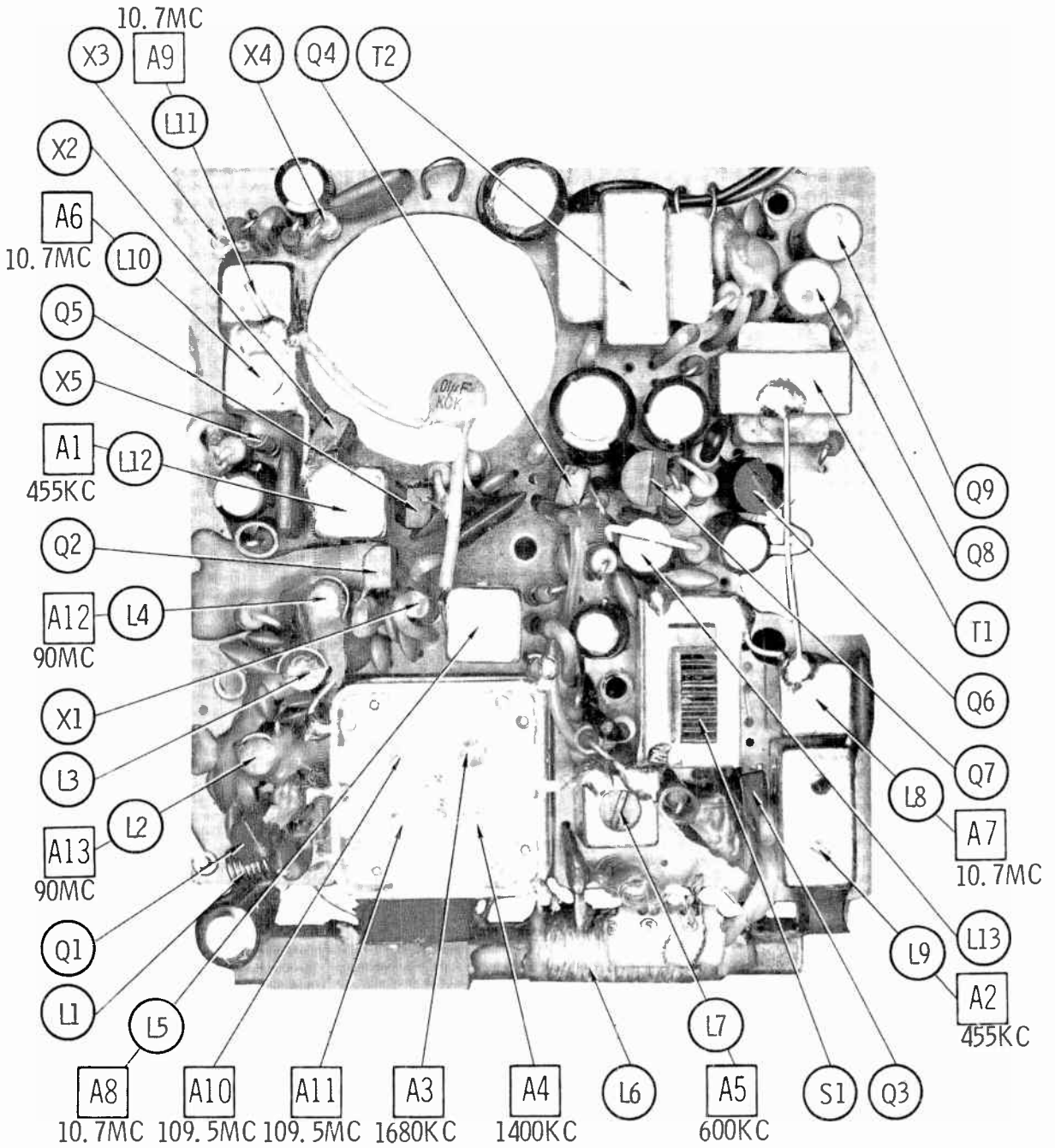
5.	10.7MC Unmodulated	Point of non-interference	DC probe of VTVM to point $\diamond A$, common to point $\diamond C$.	A6,A7, A8	Adjust for maximum
6.	"	"	DC probe of VTVM to point $\diamond B$, common to point $\diamond C$.	A9	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.
7.	109.5MC	109.5MC	DC probe of VTVM to point $\diamond A$, common to point $\diamond C$.	A10, A11	Adjust for maximum
8.	90MC Unmodulated	Tune to signal.	"	A12, A13	Rock tuning and adjust for maximum. Repeat steps 7 and 8 until no further improvement can be made.

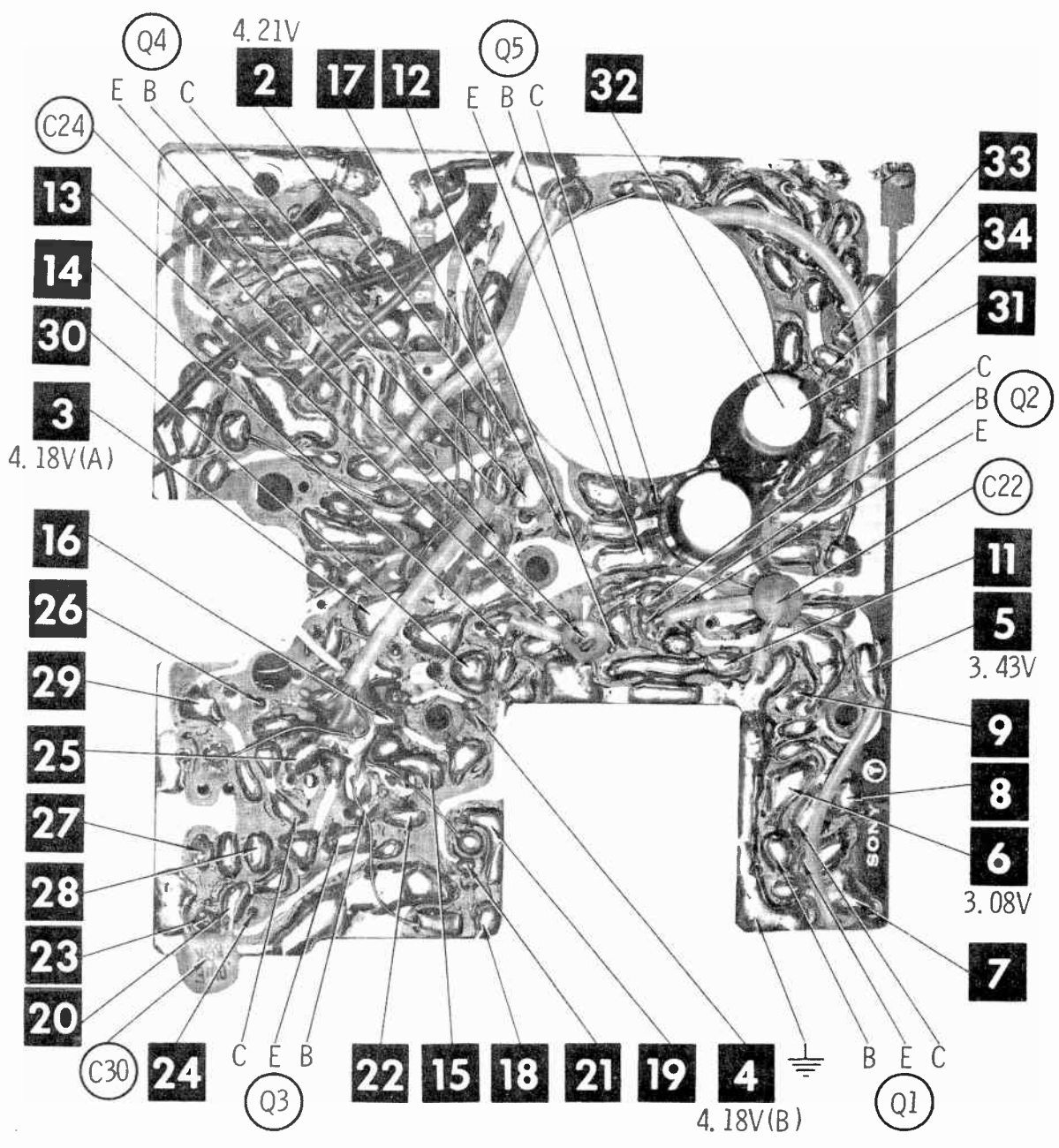
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SONY MODEL 3F-77W

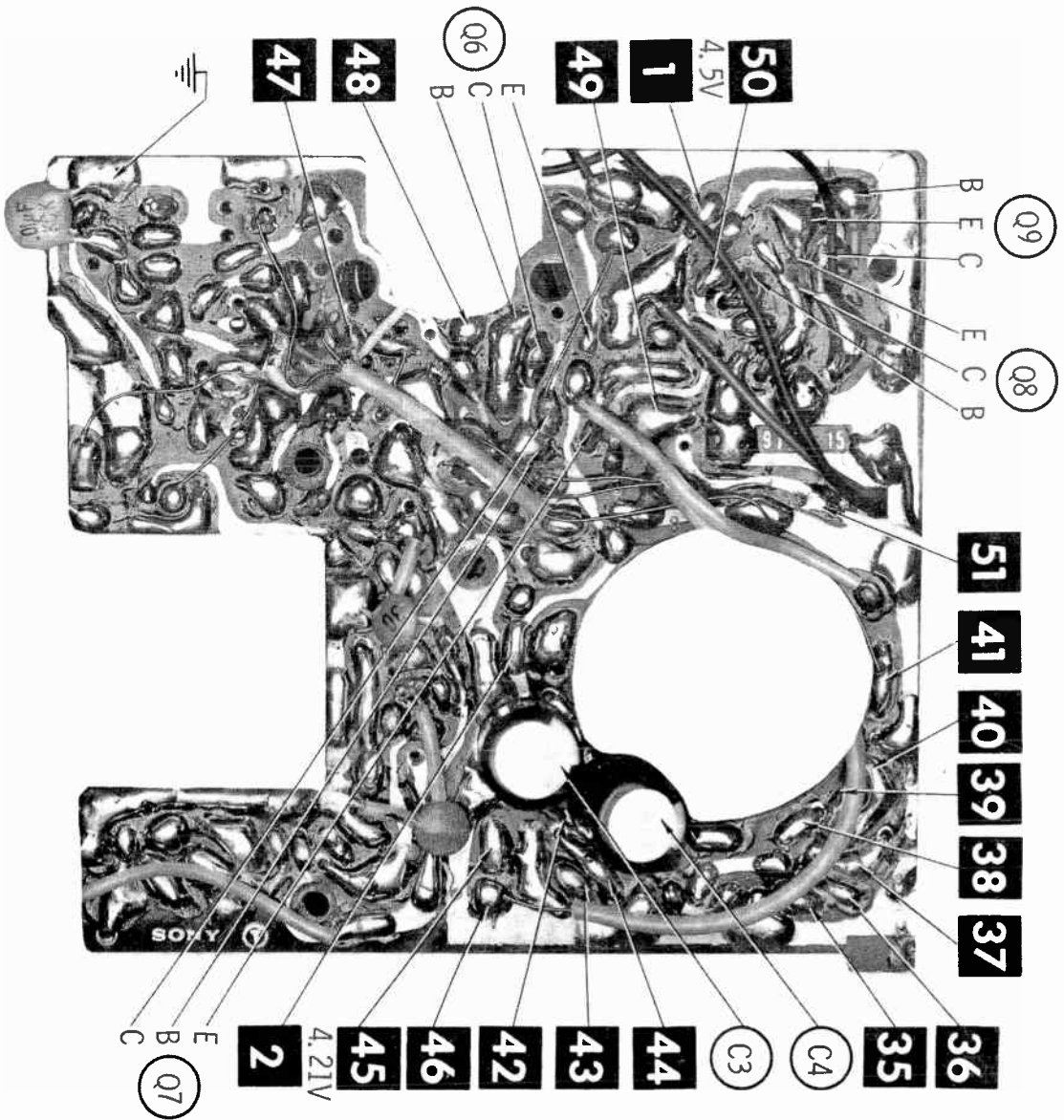




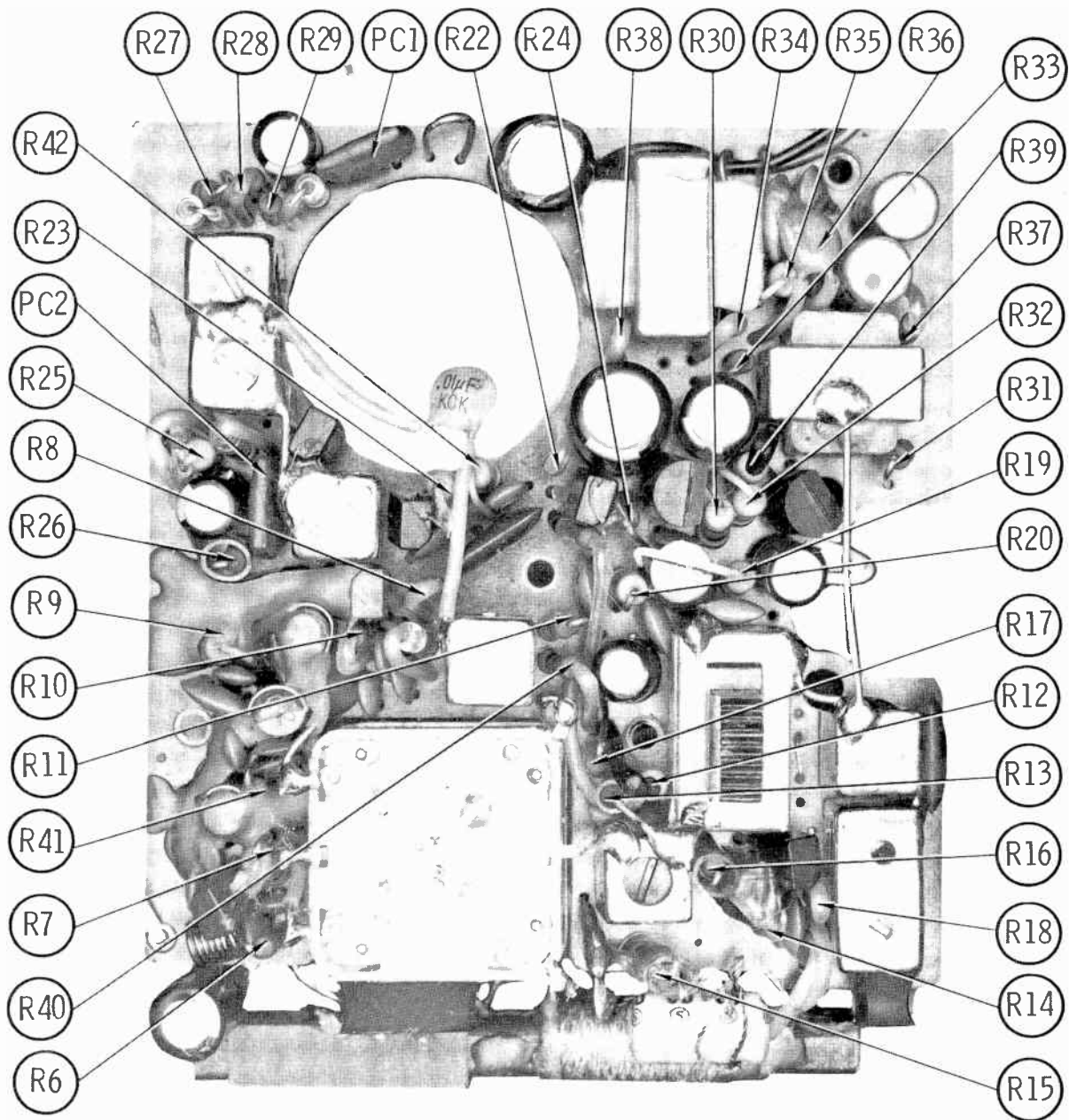


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SONY MODEL 3F-77W



A Howard W. Sams **CIRCUITRACE** Photo



PARTS LIST AND DESCRIPTION

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

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELOEN No. B530 (Solid 22AWG) B524 (Stranded 22AWG) B570 (Stranded 26AWG)	Available in 12 Colors
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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	2SC629	FM RF Amp		GE-17	TR-22	HEP56	SK3018	ECG 108
Q2	2SC629	FM Conv		GE-17	TR-22	HEP56	SK3018	ECG 108
Q3	2SC403A	AM Conv.-1st FM IF Amp		GE-20	TR-21	HEP723	SK3018	ECG 108
Q4	2SC403A	1st AM-2nd FM IF Amp		GE-20	TR-21	HEP723	SK3018	ECG 108
Q5	2SC403A	2nd AM-3rd FM IF Amp		GE-20	TR-21	HEP723	SK3018	ECG 108
Q6	2SC633	AF Amp		GE-20	TR-21	HEP56	SK3018	ECG 108
Q7	2SC633	Driver		GE-20	TR-21	HEP56	SK3018	ECG 108
Q8	2SB136	Output		GE-2	TR-14	HEP250	SK3004	ECG 102
Q9	2SB136	Output		GE-2	TR-14	HEP250	SK3004	ECG 102

SONY MODEL 3F-77W

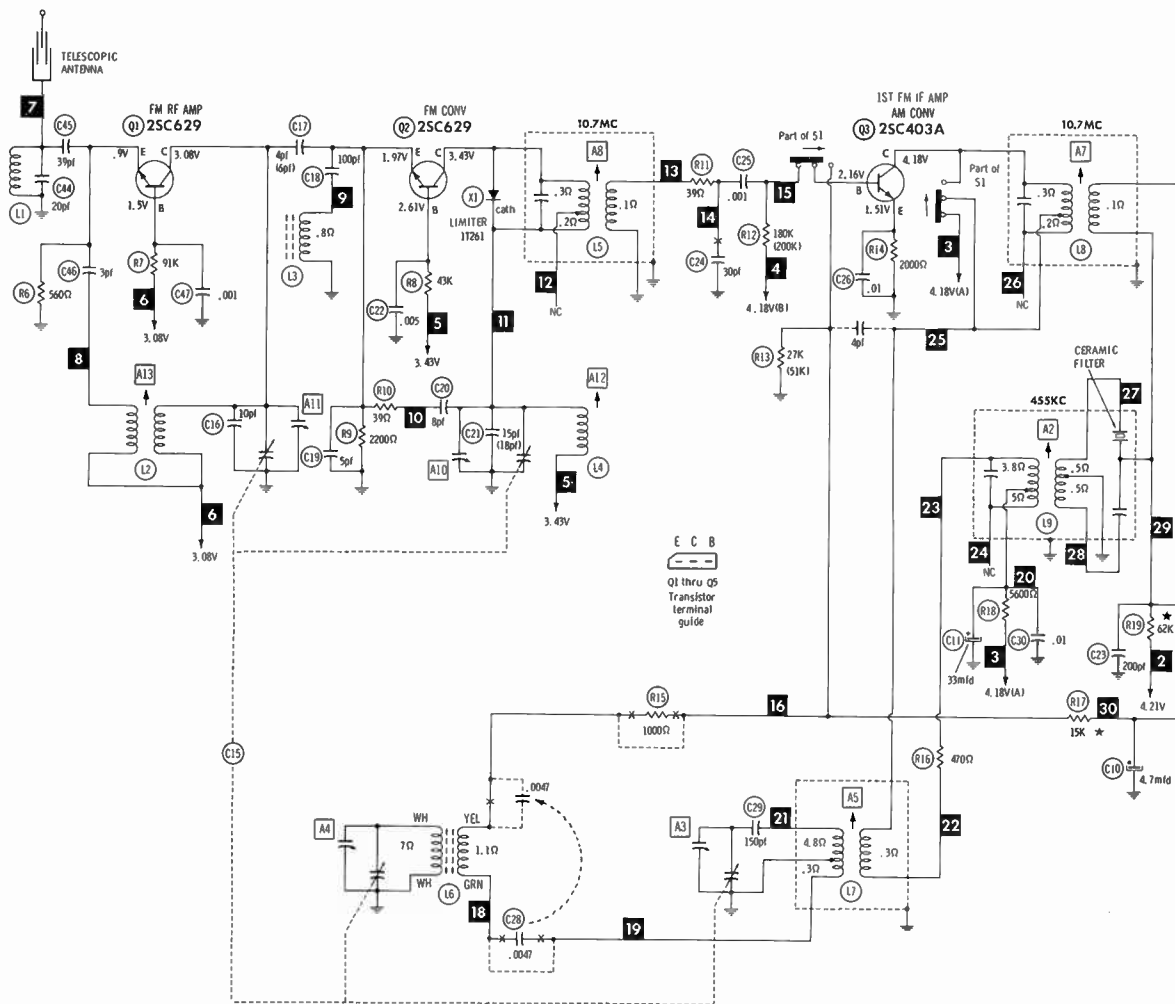
POWER RECTIFIERS & SIGNAL DIODES

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	1T261	1N60	1N60	ECG 109		(4) Matched pair.
X2	1T240 (1T402)	1N60	1N60	ECG 109		
X3	1T261	1N60	1N60	ECG 110 (4)		
X4	1T261	1N60	1N60			
X5	1T23G	1N60	1N60	ECG 109		

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	100 6.3V	1-121-491	BCD10100	EP6-100	PC100-16	MT1-21	MTV100CB6	TE-1102
C2	47 6.3V	1-121-487	BCD6050	EP6-50	PC50-16	MT1-15	MTV50CB15	TE-1133
C3	100 6.3V	1-121-491	BCD10100	EP6-100	PC100-16	MT1-21	MTV100CB6	TE-1102
C4	100 6.3V	1-121-491	BCD10100	EP6-100	PC100-16	MT1-21	MTV100CB6	TE-1102
C5	33 6.3V		8CD15025	EP6-25	PC30-35	MT1-13	MTV30CB25	TE-1132.1
C6	10 6.3V	1-121-468	BCD25010	EP6-10	PC10-50	MT1-5	MTV10CB50	TE-1087
C7	10 6.3V	1-121-468	BCD25010	EP6-10	PC10-50	MT1-5	MTV10CB50	TE-1087
C8	.47 16V	1-121-434			TYR13BF474K		TAS474K035POA	196D474X00 35DB
C9	47 3V	1-121-486	BCD6050	EP6-50	PC50-16	MT1-15	MTV50CB15	TE-1058
C10	4.7 6.3V		BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C11	33 6.3V		BCD15025	EP6-25	PC30-35	MT1-13	MTV30CB25	TE-1132.1

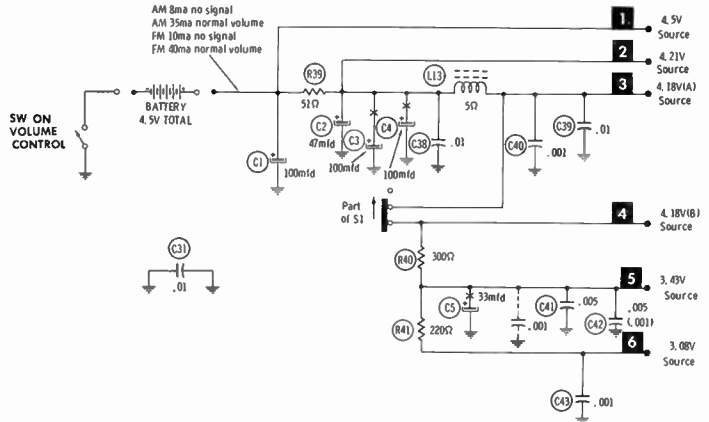
(CONTINUED ON PAGE 90)

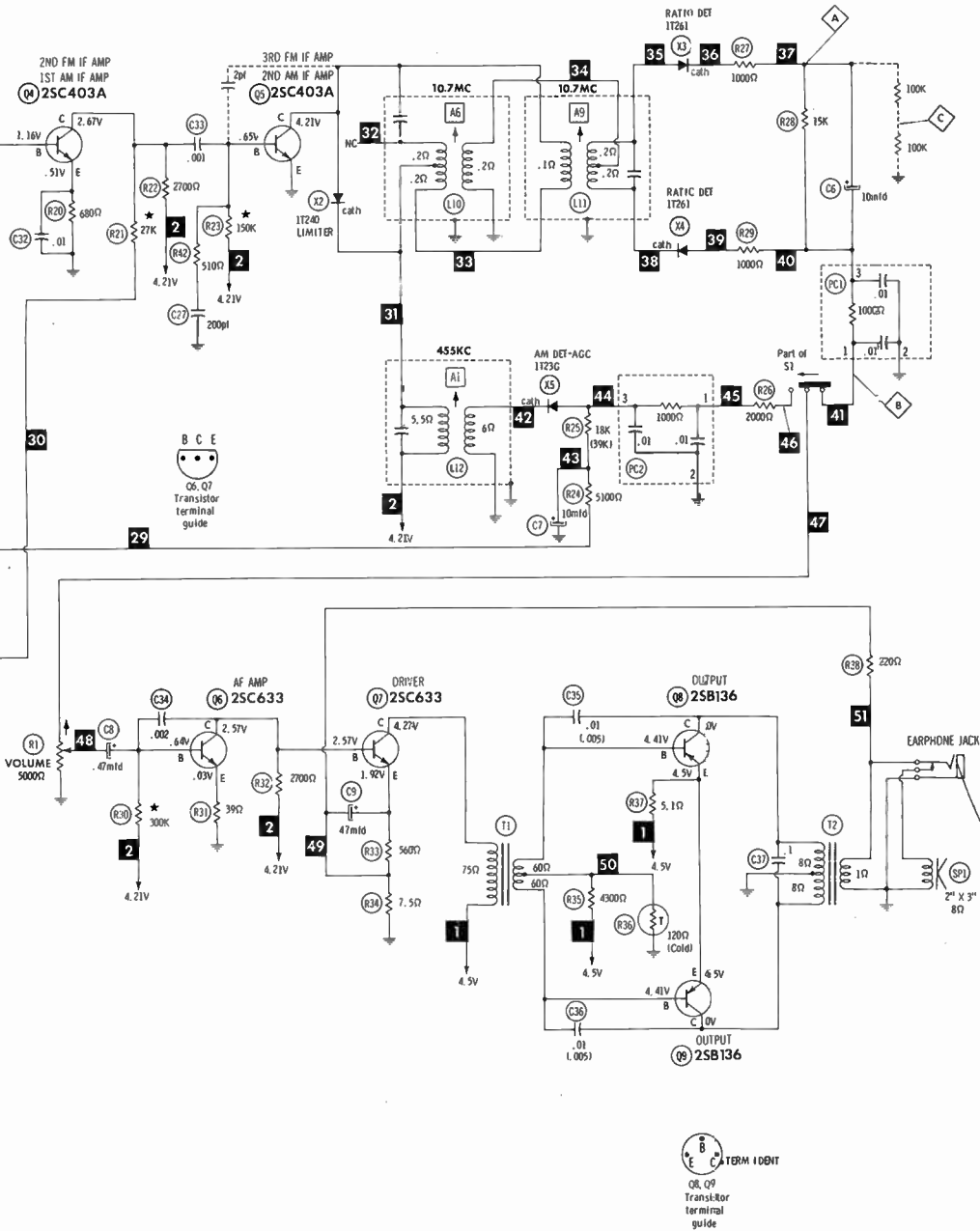


- NC No Connection
- * Nominal value, may vary
- ⊕ Denotes ground
- Indicates connection used in some versions.
- - - Indicates connection not used in some versions.
- * Omitted in some versions.
- ⊙ See parts list.

- Measurements taken with switching in position shown unless otherwise indicated.
1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.
 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

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SONY MODEL 3F-77W

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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.	
C15		#1-151-140							
C16	10		NPO-01 10	DTZ-10	NP010		CCT0-100	CN0410	10TCC-Q10
C17	4				NP03P9				10TCC-V39
C18	100		NPO-DI 100	DTZ-100	NP0100		CCT0-101	CN0310	10TCC-T10
C19	5		NPO-01 5.0		NP05				10TCC-V50
C20	8		NPO-01 8.2		NP08P2				10TCC-V82
C21	15		NPO-DI 15	DTZ-15	NP015		CCT0-150	CN0415	10TCC-Q15
C22	.005		TTP-005	CK-502	MGP005		CCD-502	TA250	TG-D50
C23	200		GPO X5F201K	DM-201	GP200		CCD-201	GP320	10TS-T20
C24	30			TCZ-30			CCT0-300		10TCC-Q30
C25	.001		GPO X5F102K	DM-102	GP1000		CCD-102	SM210	2SS-D10
C26	.01		V1612S1	CPR-10000J	DPMS651		10P-1-103	PVC211	225P10391W03
C27	200		GPO X5F201K	DM-201	GP 200		CCD-201	GP320	10TS-T20
C28	.0047		08E6D5	CPR-5000J	DPMS605		10P-1-502	PVC625	6PS-D50
C29	150 5%			CPR-150J	CO15F151J500		OM-15-151J	SX315	424MC1500J501
C30	.01		TTP-01	CK-103	MGP01		CCD-103	TA110	TG-S10
C31	.01		TTP-01	CK-103	MGP01		CCD-103	TA110	TG-S10
C32	.01		TTP-01	CK-103	MGP01		CCD-103	TA110	TG-S10
C33	.001		GPO X5F102K	DM-102	GP1000		CCD-102	SM210	2SS-010
C34	.002		GPO X5F202K	DM-202	GP2000		CCD-202	GP220	2SS-020
C35	.01		TTP-01	CK-103	MGP01		CCD-103	TA110	TG-S10
C36	.01		TTP-01	CK-103	MGP01		CCD-103	TA110	TG-S10
C37	.1		TTP-1	CK-104				TA010	TG-P10
C38	.01		TTP-01	CK-103	MGP01		CCD-103	TA110	TG-S10
C39	.01		TTP-01	CK-103	MGP01		CCD-103	TA110	TG-S10
C40	.001		GPO X5F102K	DM-102	GP1000		CCD-102	SM210	2SS-D10
C41	.005		TTP-005	CK-502	MGP005		CCD-502	TA250	TG-050
C42	.005		TTP-005	CK-502	MGP005		CCD-502	TA250	TG-D50
C43	.001		GPO X5F102K	DM-102	GP1000		CCD-102	SM210	2SS-D10
C44	20		NPO-DI 20	DTZ-20	NP020		CCT0-200	CN0420	10TCC-Q20
C45	39		NPO-DI 39	TCZ-39			CCT0-390	CN0439	10TCC-Q39
C46	3		NPO-DI 3.0						10TCC-V30
C47	.001		GPO X5F102K	DM-102	GP1000		CCD-102	SM210	2SS-D10

Sony Part Number.

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

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume/Switch	5000	1-222-168				

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.
R36	120 (Co1d)		8-691-001-00 (CS-120)

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	FM Antenna	1-401-228			
L2	FM RF	1-425-373			
L3	RF Choke (2.2uh)	1-407-182			
L4	FM Osc.	1-405-315			
L5	FM Input IF	1-403-244		8856	
L6	Loopstick	1-401-361			
L7	AM Osc.	1-405-306			
L8	FM Interstage IF	1-403-244		8856	
L9	AM Input IF	1-403-163 (1)			
L10	Ratio Detector (Pri)	1-403-272			
L11	Ratio Detector (Sec)	1-403-273			
L12	AM Output IF	1-403-137			
L13	Choke (330uh)	1-407-175			

(1) Includes Ceramic Filter

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	MFR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	.6	1 CT		1-423-136					

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MFR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	128 CT	8	1-427-241					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFR. PART No.	QUAM PART No.	
SP1	2" x 3" PM 8 ohms	1-502-206		

BATTERIES

ITEM No.	VOLTAGE	MFR. PART No.	REPLACEMENT DATA		NOTES
			EVEREADY	MALLORY	
M1	4.5V		1015 or E91 or E9	M15R or MN1500 or ZM9	3 Required

SONY MODEL 3F-77W

PARTS LIST AND DESCRIPTION (CONTINUED)

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

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
PC1	Ratio Detector	1-231-074	
PC2	AM Detector	1-231-074	
S1	Switch, Selector	1-514-105	

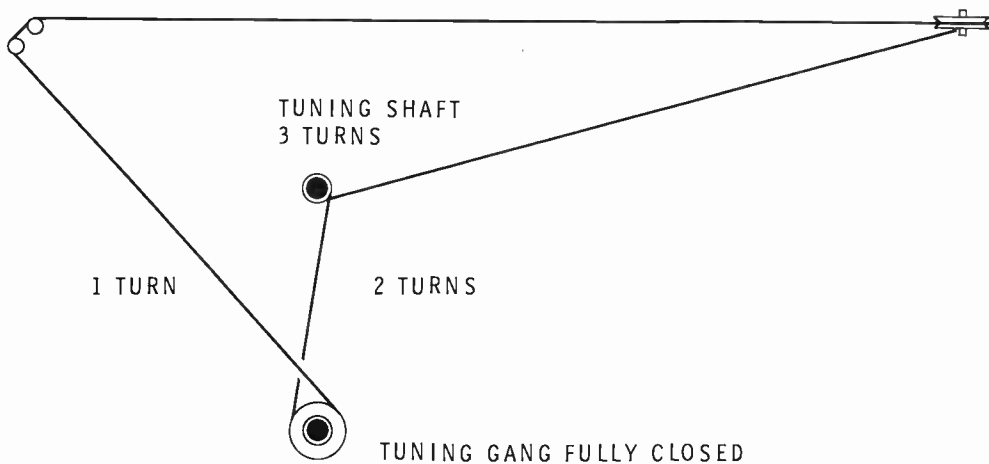
CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	ITEM	PART No.
Cabinet, Complete	Y-38291-81-1	Knob, Tuning	3-828-517
Cabinet, Main	3-828-504	Knob, Volume	3-828-518
Cabinet, Rear	3-828-505	Antenna, Telescopic	1-501-098

ACCESSORIES

ITEM	MFGR. PART No.	REMARKS
Earphone	1-504-034 (ME-20)	

DIAL CORD STRINGING—FRONT VIEW





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CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index



TRUETONE MODEL MLC3955A-96
(DC3955)

ALIGNMENT INSTRUCTIONS

Check for specified source voltage. Set volume control at maximum. Fashion loop of several turns of wire and connect generator across loop. Use only enough generator output to obtain a suitable indication. Suggested Alignment Tools:

- A4, A5, A12, A13.....GENERAL CEMENT #8605.....WALSCO #2505
- A1, A3, A6, A11.....GENERAL CEMENT #9087.....WALSCO #2528

SELECTOR IN AM

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	455KC 400 cycle modulation	Tuning gang fully open.	Output Meter across voice coil.	A1,A2, A3	Adjust for maximum. Repeat until no further improvement can be made.
2.	1605KC	"	"	A4	Adjust for maximum.
3.	1400KC	Tune to signal	"	A5	"
4.	600KC	"	"	A6	Rock tuning gang and adjust for maximum. Repeat steps 2 thru 4 until no further improvement can be made.

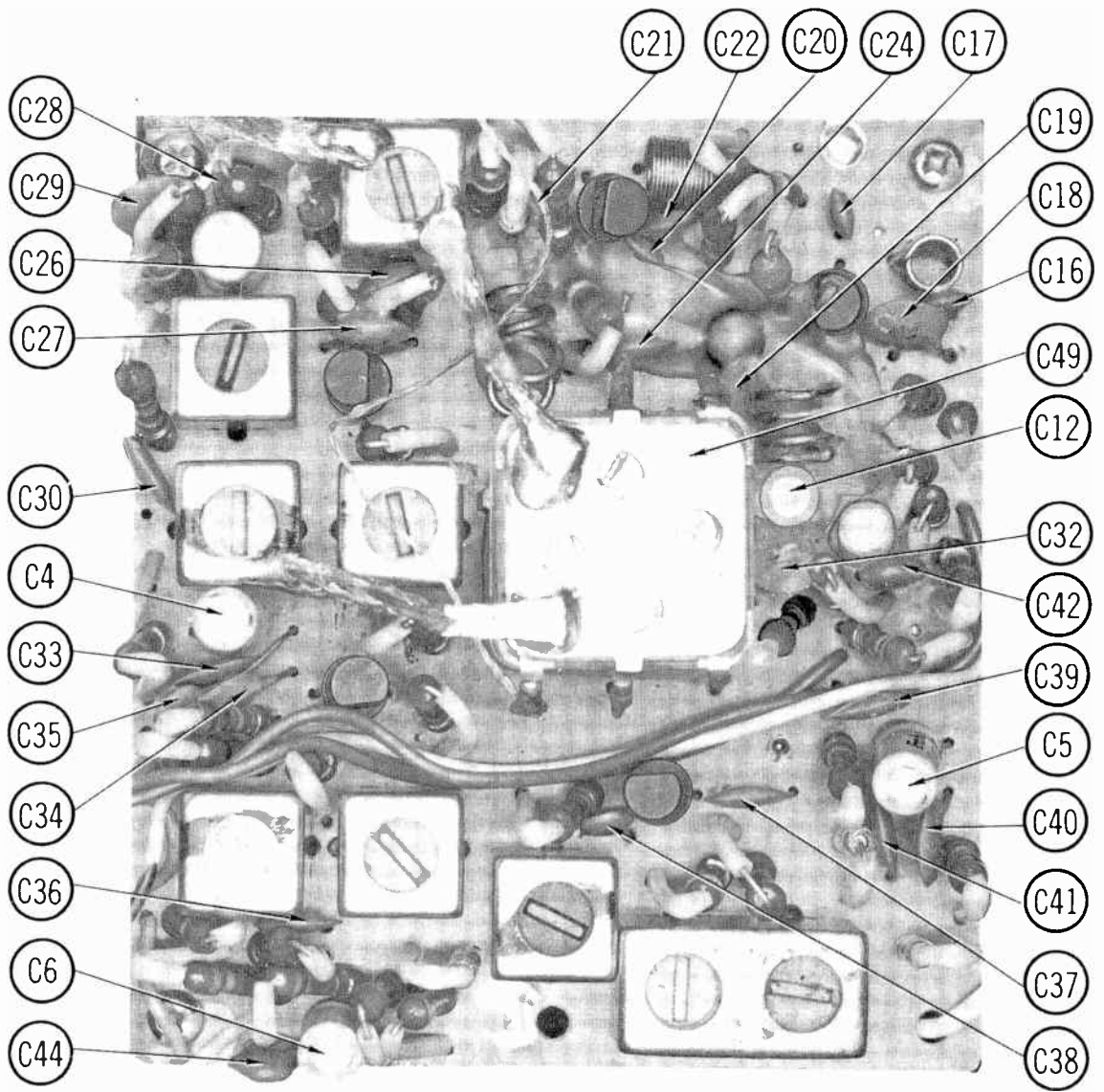
SELECTOR IN FM

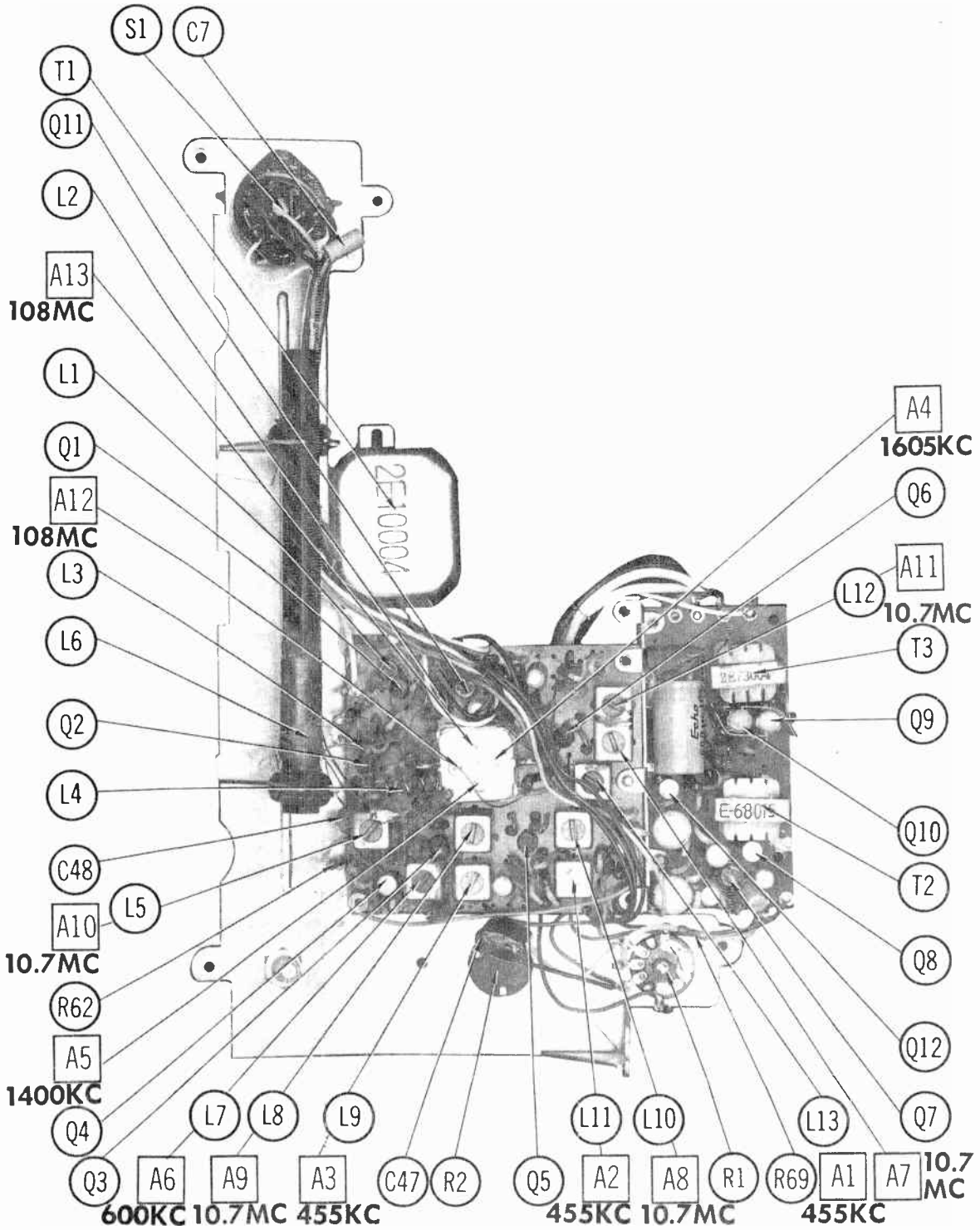
	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
5.	10.7MC Unmodulated	Point of non-interference	DC probe of VTVM to point \diamond , common to ground.	A7,A8, A9,A10	Adjust for maximum
6.	"	"	DC probe of VTVM to point \diamond , common to ground.	A11	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.
7.	108MC	High freq. end.	DC probe of VTVM to point \diamond , common to ground.	A12, A13	Adjust for maximum

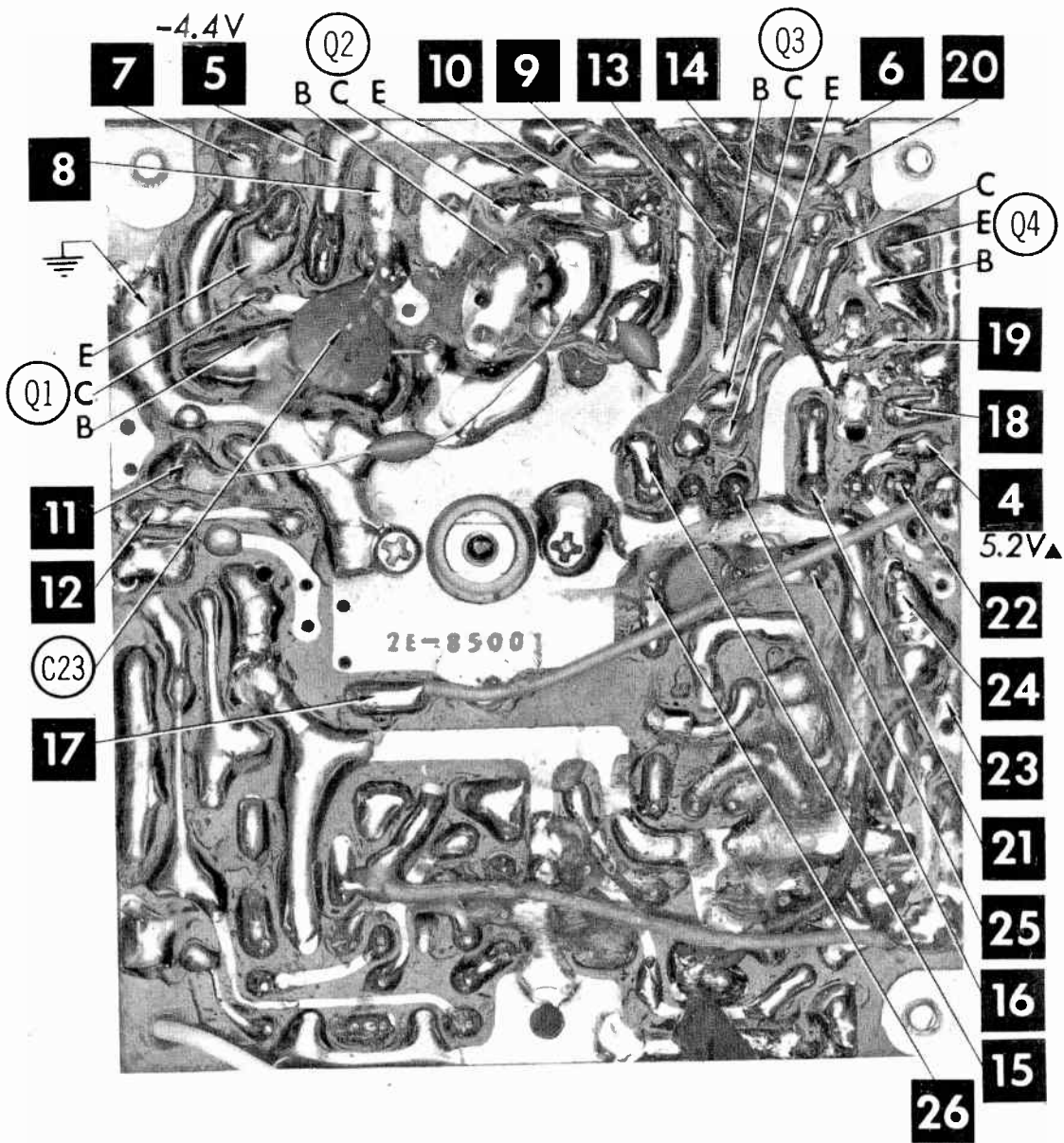
HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

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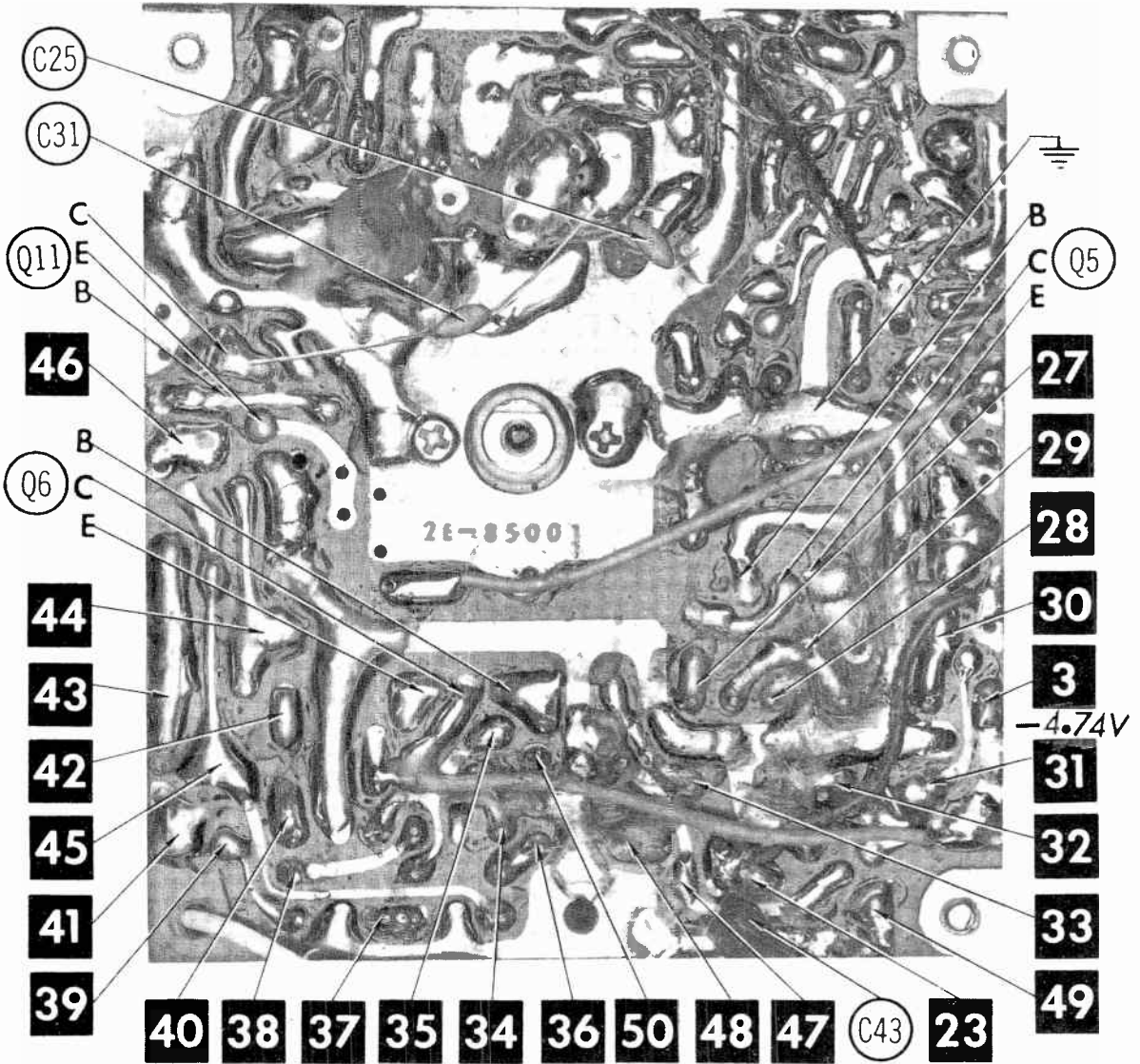
TRUETONE MODEL MLC3955A-96



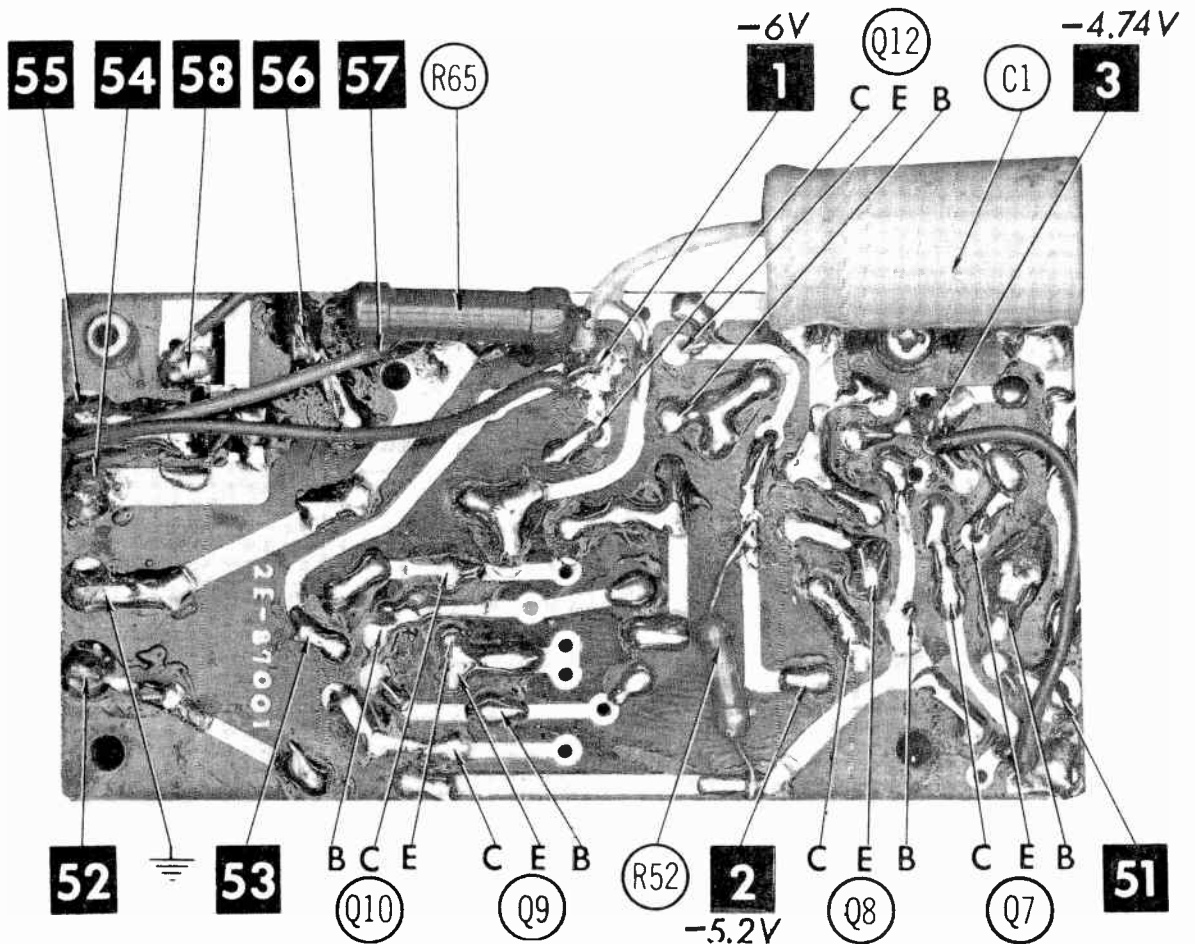
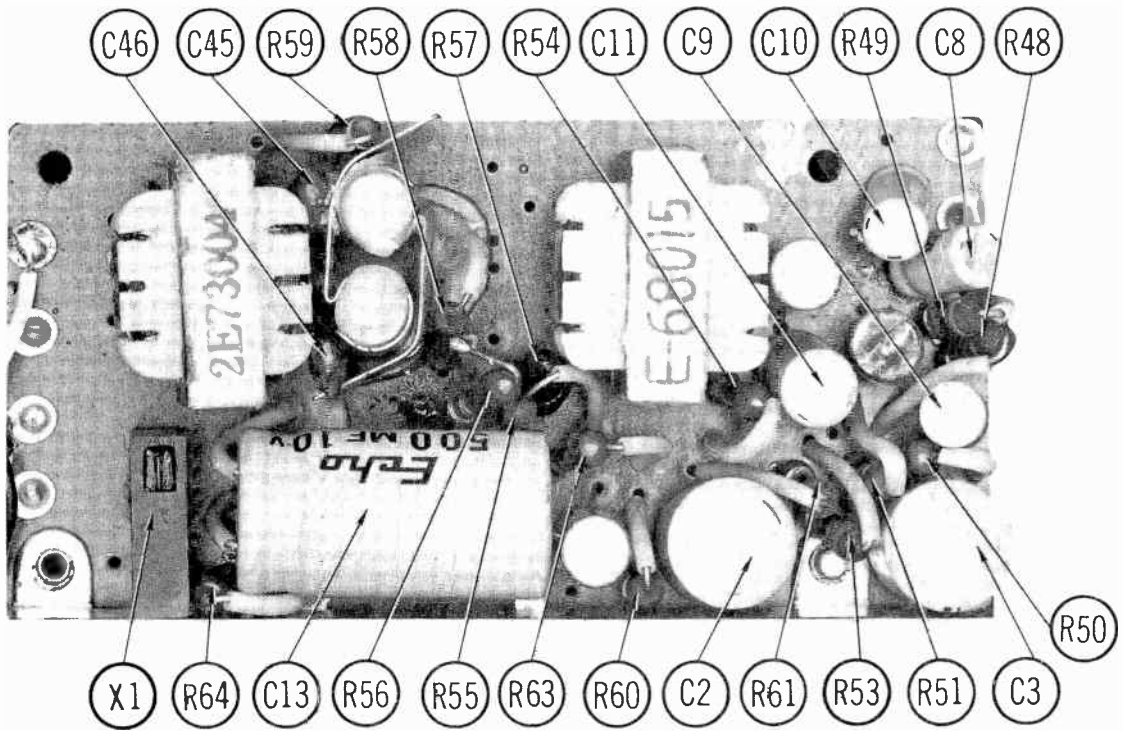




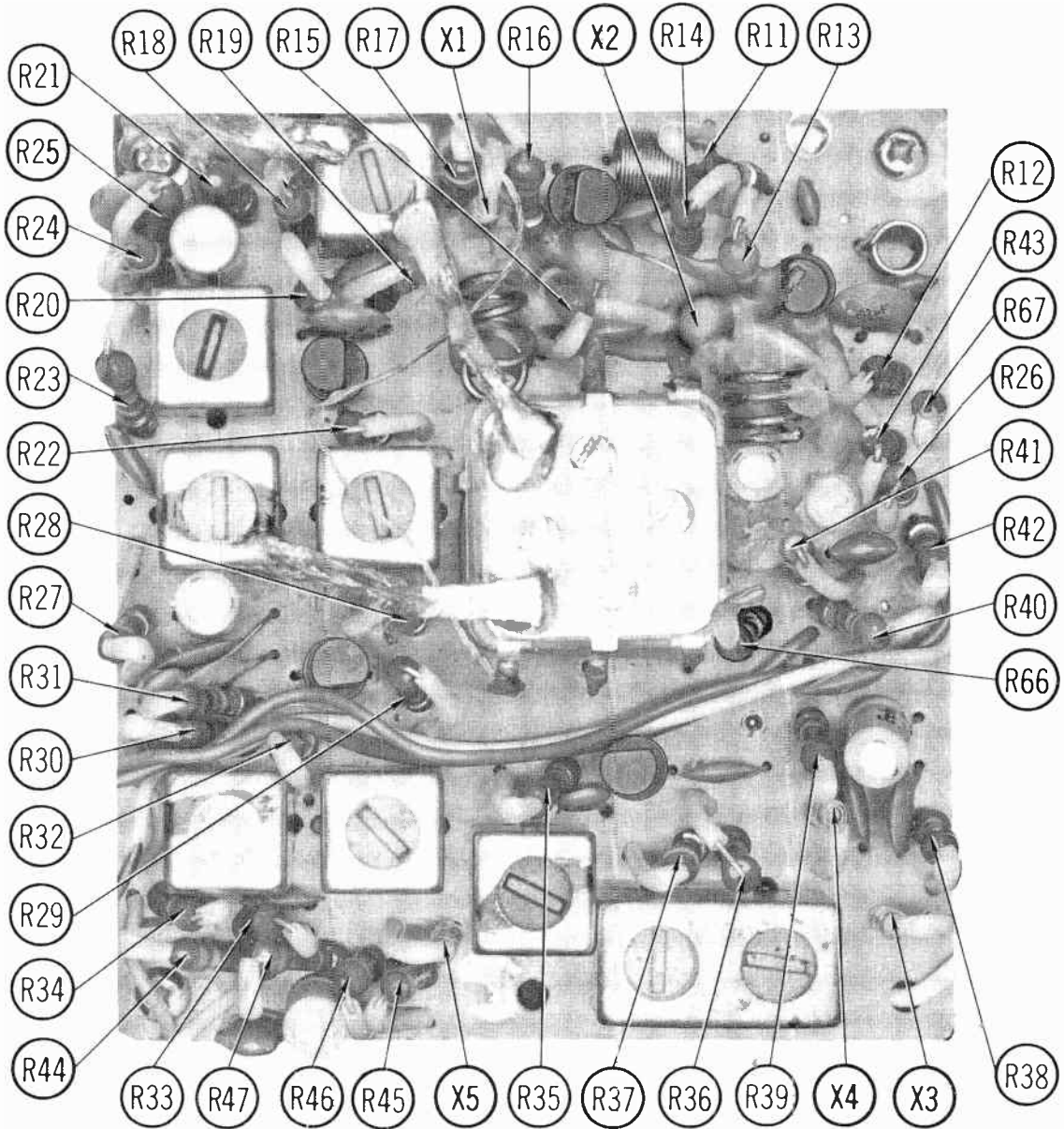
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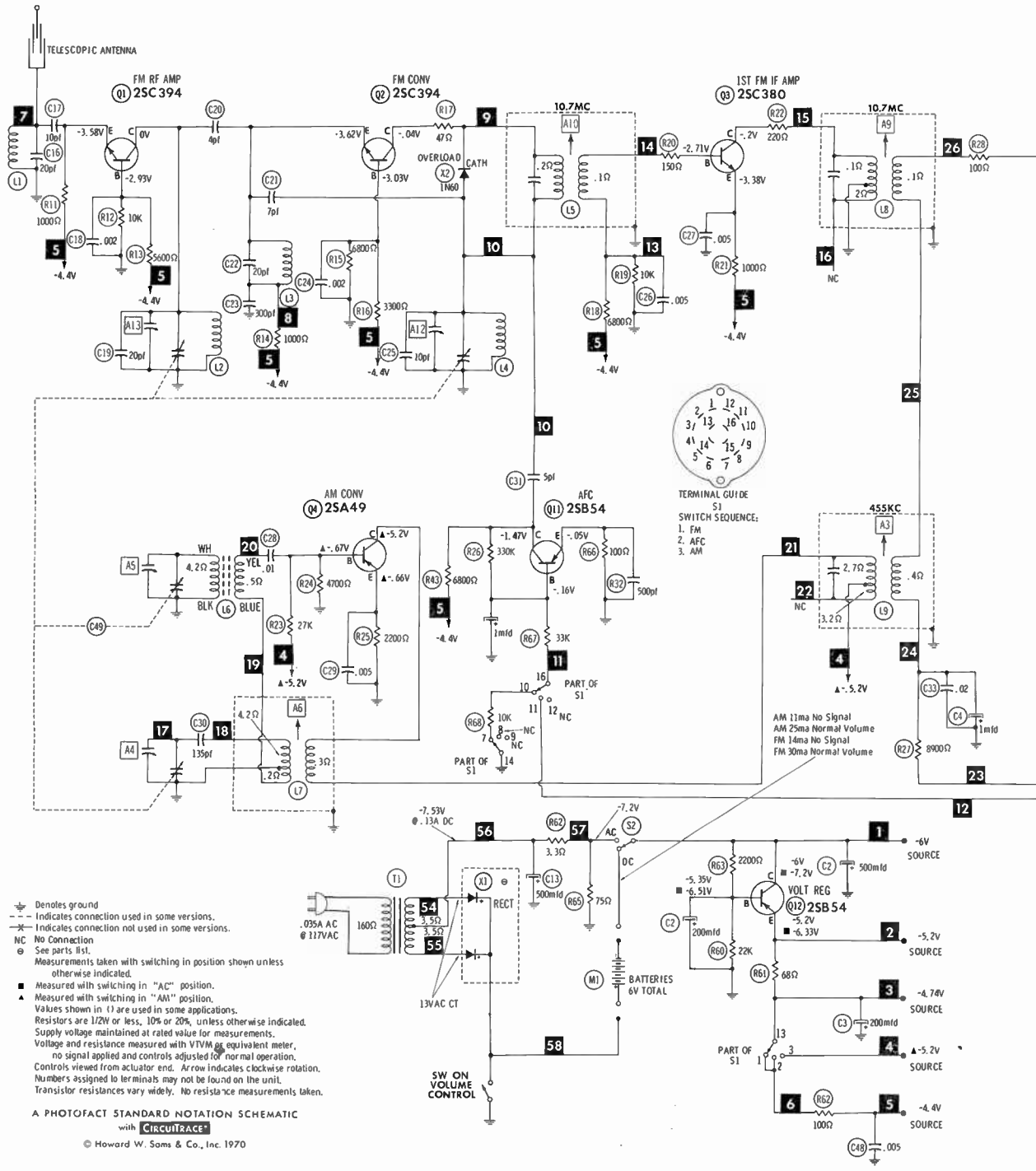


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A Howard W. Sams **CIRCUITRACE** Photo





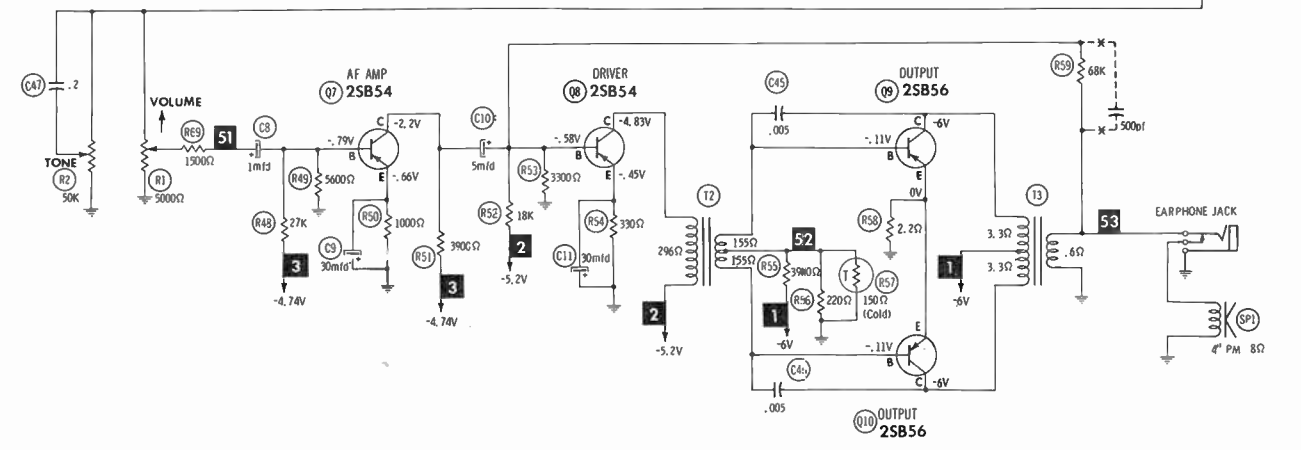
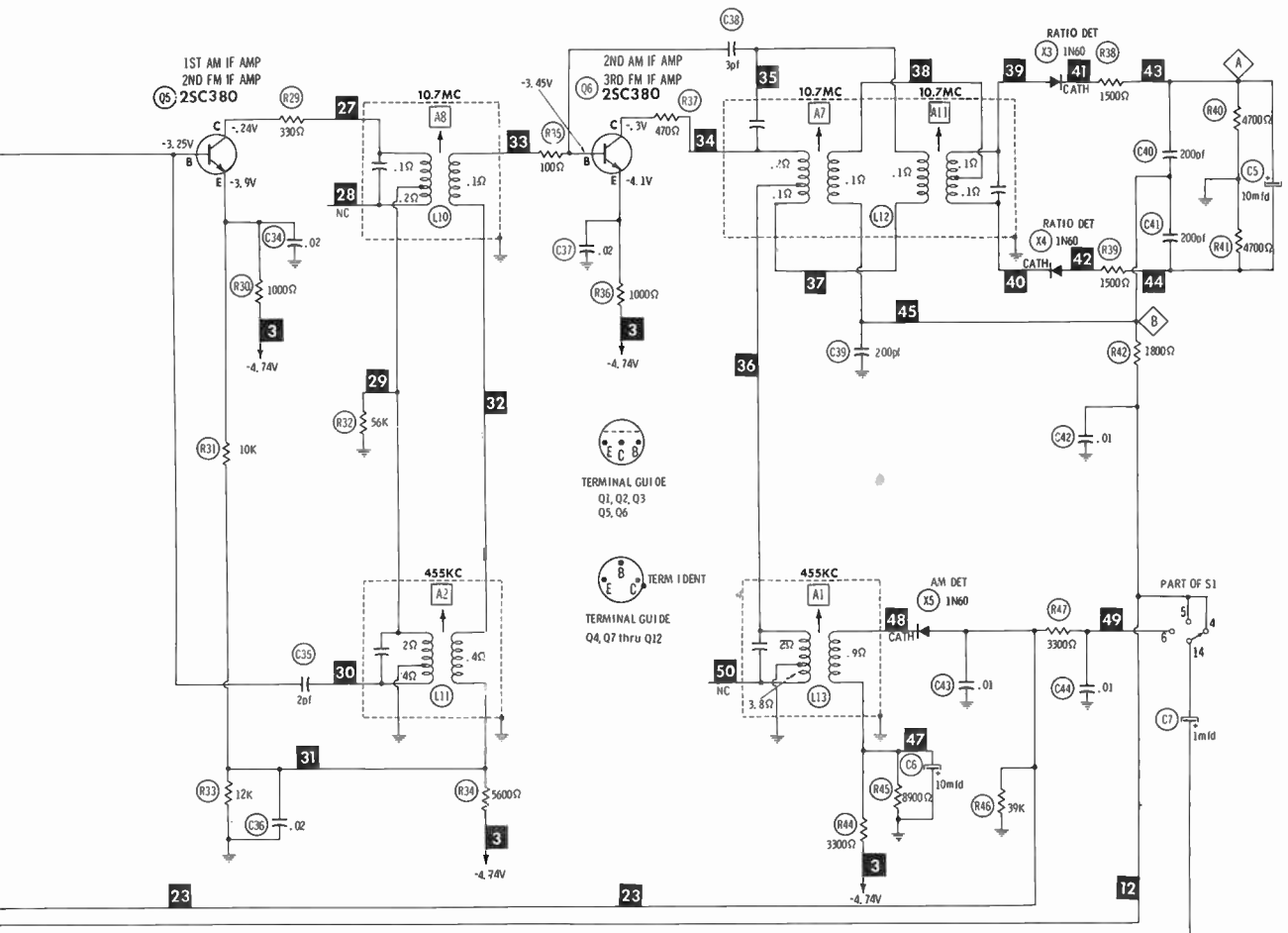
⊕ Denotes ground
 - - - Indicates connection used in some versions.
 - x - Indicates connection not used in some versions.
 NC No Connection
 ⊙ See parts list.

Measurements taken with switching in position shown unless otherwise indicated.

- Measured with switching in "AC" position.
- ▲ Measured with switching in "AM" position.

Values shown in () are used in some applications.
 Resistors are 1/2W or less, 10% or 20%, unless otherwise indicated.
 Supply voltage maintained at rated value for measurements.
 Voltage and resistance measured with VIVM or equivalent meter, no signal applied and controls adjusted for normal operation.
 Controls viewed from actuator end. Arrow indicates clockwise rotation.
 Numbers assigned to terminals may not be found on the unit.
 Transistor resistances vary widely. No resistance measurements taken.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
 with **CIRCUITRACE**
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TRUETONE MODEL MIC3955A-96

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	2SC394	FM RF Amp		GE-17	TR-22	HEP53	SK3018	ECG 108
Q2	2SC394	FM Converter		GE-17	TR-22	HEP53	SK3018	ECG 108
Q3	2SC380	1st FM IF Amp		GE-20	TR-21	HEP56	SK3018	ECG 108
Q4	2SA49	AM Converter		GE-1	TR-11	HEP639	SK3008	ECG 100
Q5	2SC380	1st AM-2nd FM IF Amp		GE-20	TR-21	HEP56	SK3018	ECG 108
Q6	2SC380	2nd AM-3rd FM IF Amp		GE-20	TR-21	HEP56	SK3018	ECG 108
Q7	2SB54	AF Amp		GE-2	TR-14	HEP633	SK3004	ECG 102
Q8	2SB54	Driver		GE-2	TR-14	HEP633	SK3004	ECG 102
Q9	2SB56	Output		GE-2	TR-14	HEP632	SK3004	ECG 102
Q10	2SB56	Output		GE-2	TR-14	HEP632	SK3004	ECG 102
Q11	2SB54	FM AFC		GE-2	TR-14	HEP633	SK3004	ECG 102
Q12	2SB54	Voltage Regulator		GE-2	TR-14	HEP633	SK3004	ECG 102

POWER RECTIFIERS & 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		GE-504A(7)	18DC2A or 8D4 (7)	ECG 116(7) or ECG 117 (7)	SK3030 (7) or SK3031(7)	(7) Two required.
X2	1N60	1N60	1N60	ECG 109		(1) Matched Pair
X3	1N60	1N60	1N60	ECG 110 (1)		
X4	1N60	1N60	1N60			
X5	1N60	1N60	1N60	ECG 109		

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	500 10V	77-336507	BCD15500	EA5-500	TX65CE541KP3			
C2	200 6V	77-335207	BCD6200	EA6-250	PC200-16	MT1-23	MTV200CK10	TE-1104
C3	200 6V	77-335207	BCD6200	EA6-250	PC200-16	MT1-23	MTV200CK10	TE-1104
C4	1 6V	77-335105	BCD50001		PC1-100	MT1-1	MTV1CB50	TE-1080
C5	10 6V	77-335106	BCD25010	EP6-10	PC10-50	MT1-5	MTV10CB50	TE-1087
C6	10 6V	77-335106	BCD25010	EP6-10	PC10-50	MT1-5	MTV10CB50	TE-1087
C7	1 6V	77-335105	BCD50001		PC1-100	MT1-1	MTV1CB50	TE-1080
C8	1 6V	77-335105	BCD50001		PC1-100	MT1-1	MTV1CB50	TE-1080
C9	30 6V	77-335306	BCD15025	EP6-25	PC30-35	MT1-13	MTV30CB25	TE-1132.1
C10	5 6V	77-335505	BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C11	30 6V	77-335306	BCD15025	EP6-25	PC30-35	MT1-13	MTV30CB25	TE-1132.1
C12	1 6V	77-335105	BCD50001		PC1-100	MT1-1	MTV1CB50	TE-1080
C13	500 10V	77-336507	BCD15500	EA6-5000	TX65CE541KP3			

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.
C16	20		NPO-DI 20	DTZ-20		CCT0-200	CN0420	10TCC-Q20
C17	10		NPO-DI 10	DTZ-10	CZ601CG100J	CCT0-100	CN0410	10TCC-Q10
C18	.002		GPD X5F202K	DM-202	JBX601YP202K	CCD-202	GP220	2SS-D20
C19	20		NPO-DI 20	DTZ-20		CCT0-200	CN0420	10TCC-Q20
C20	4							10TCC-V39
C21	7		NPO-DI 6.8	DTZ-6R8	CZ601CH6R8D		CN0568	10TCC-V68
C22	20		NPO-DI 20	DTZ-20		CCT0-200	CN0420	10TCC-Q20
C23	300		GPD X5F301K	DM-301	JBZ601YP331K	CCD-301	GP330	10TS-T30
C24	.002		GPD X5F202K	DM-202	JBX601YP202K	CCD-202	GP220	2SS-D20
C25	10		NPO-DI 10	DTZ-10	CZ601CG100J	CCT0-100	CN0410	10TCC-Q10
C26	.005		TTP-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C27	.005		TTP-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C28	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C29	.005		TTP-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C30	135			DD-131			GP313	10TS-T13

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.
C31	5	#10-120025	NPO-DI 5.0		CZ601CH5R0D			10TCC-V50
C32	500		GPD X5F501K	DM-501	JBZ601YP501K	CCD-501	GP350	10TS-T50
C33	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C34	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C35	2		NPO-DI 2.2	DTZ-2R2	CZ601CJ2R2D		CN0522	10TCC-V22
C36	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C37	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C38	3		NPO-DI 3.0					10TCC-V30
C39	200		GPD X5F201K	DM-201	JBZ601YP221K	CCD-201	GP320	10TS-T20
C40	200		GPD X5F201K	DM-201	JBZ601YP221K	CCD-201	GP320	10TS-T20
C41	200		GPD X5F201K	DM-201	JBZ601YP221K	CCD-201	GP320	10TS-T20
C42	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C43	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C44	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C45	.005		TTP-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C46	.005		TTP-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C47	.2		DBE6P22		DMF4P22	4DP-5-224	PVC4022	4PS-P22
C48	.005		TTP-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C49								

Truetone Part Number

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.
R1	Volume/Switch	5000	10-160033	F2-5000(1), SSK014, KR-1		Q13-114(1), 76-1 or [8U1(1), CF60, SS1, GC]*	RU53A, SL36, SL3250, US41
R2	Tone	50K	10-163001	F2-50K(1), SSK014		Q13-123(1) or [8U1(1), CF63, SS1, DC1] *	RU54A, SL36, SL3250 or [P54A, 3014(1), SF3000]

* "SNAPTROL"

(1) Enlarge Mounting Hole.

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.
R57	150 (Cold)	FS926	10-086001 (022A)				

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	FM Antenna	10-173016			
L2	FM RF	10-173017			
L3	FM IF Trap	10-178001			
L4	FM Oscillator	10-173018			
L5	FM Input IF	10-093100	16-9030	2070	
L6	Loopstick	10-050032		7790	
L7	AM Oscillator	10-170073			
L8	FM Interstage IF	10-093101	16-9031	2071	
L9	AM Input IF	10-093097	16-9026	8517	
L10	FM Interstage IF	10-093101	16-9032	2072	
L11	AM Interstage IF	10-093098	16-9027	8517	
L12	Ratio Detector	10-173020			
L13	AM Output IF	10-093099	16-9028	8518	

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	PRI.	SEC. 1	MFG. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
T1	117VAC @ .035A AC	13VAC CT @ .13A DC	10-098002				

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.	
T2	1	1 CT		10-090077				

TRUETONE MODEL MIC3955A-96

PARTS LIST AND DESCRIPTION (CONTINUED)

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

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA				NOTES
	PRI.	SEC.	MFR. PART No.	MÉRIT PART No.	STANCOR PART No.	THORDARSON PART No.	
T3	120 CT	8	10-090076				

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFR. PART No.	QUAM PART No.	
SP1	4" PM 8 ohms	10-060025	4A1Z8	

BATTERIES

ITEM No.	VOLTAGE	MFR. PART No.	REPLACEMENT DATA		NOTES
			EVEREADY	MALLORY	
M1	6V		1050 or E95	M13R or MN1300	4 Required

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
S1	Switch Selector	10-180008	
S2	Switch - AC/DC		

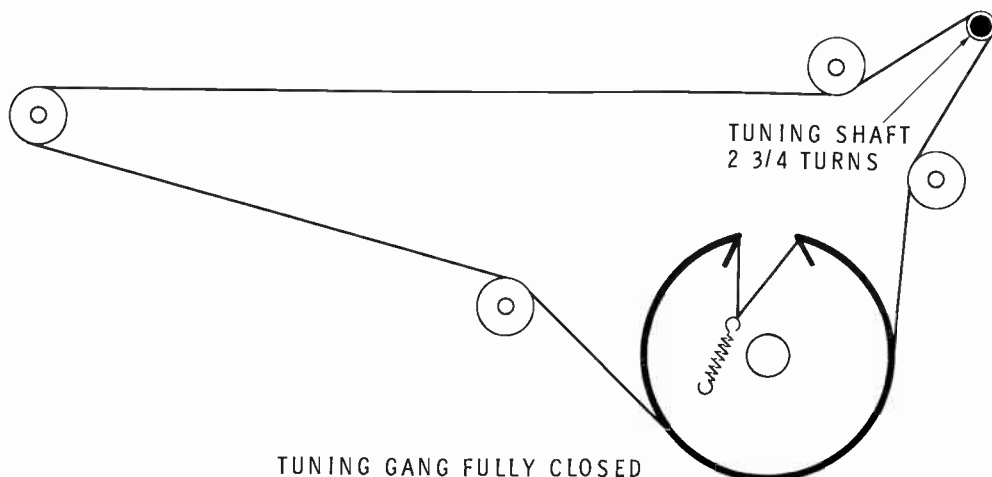
CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	ITEM	PART No.
Cabinet - Complete	10-010060	Knob, Tuning	10-113014
Knob, Control	10-110053	Antenna - Telescopic	10-040017

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 Ft. 17109 (Plastic) or 17129 (Rubber) - 9 Ft.

DIAL CORD STRINGING—FRONT VIEW

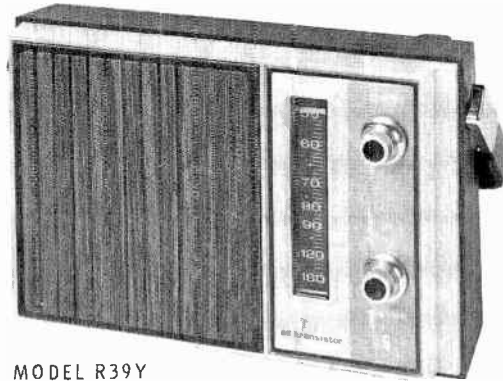




PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index



MODEL R39Y

ZENITH MODELS R39L/Y
ROYAL 39L/Y

ZENITH MODELS R39L/Y, ROYAL 39L/Y

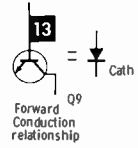
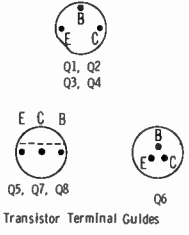
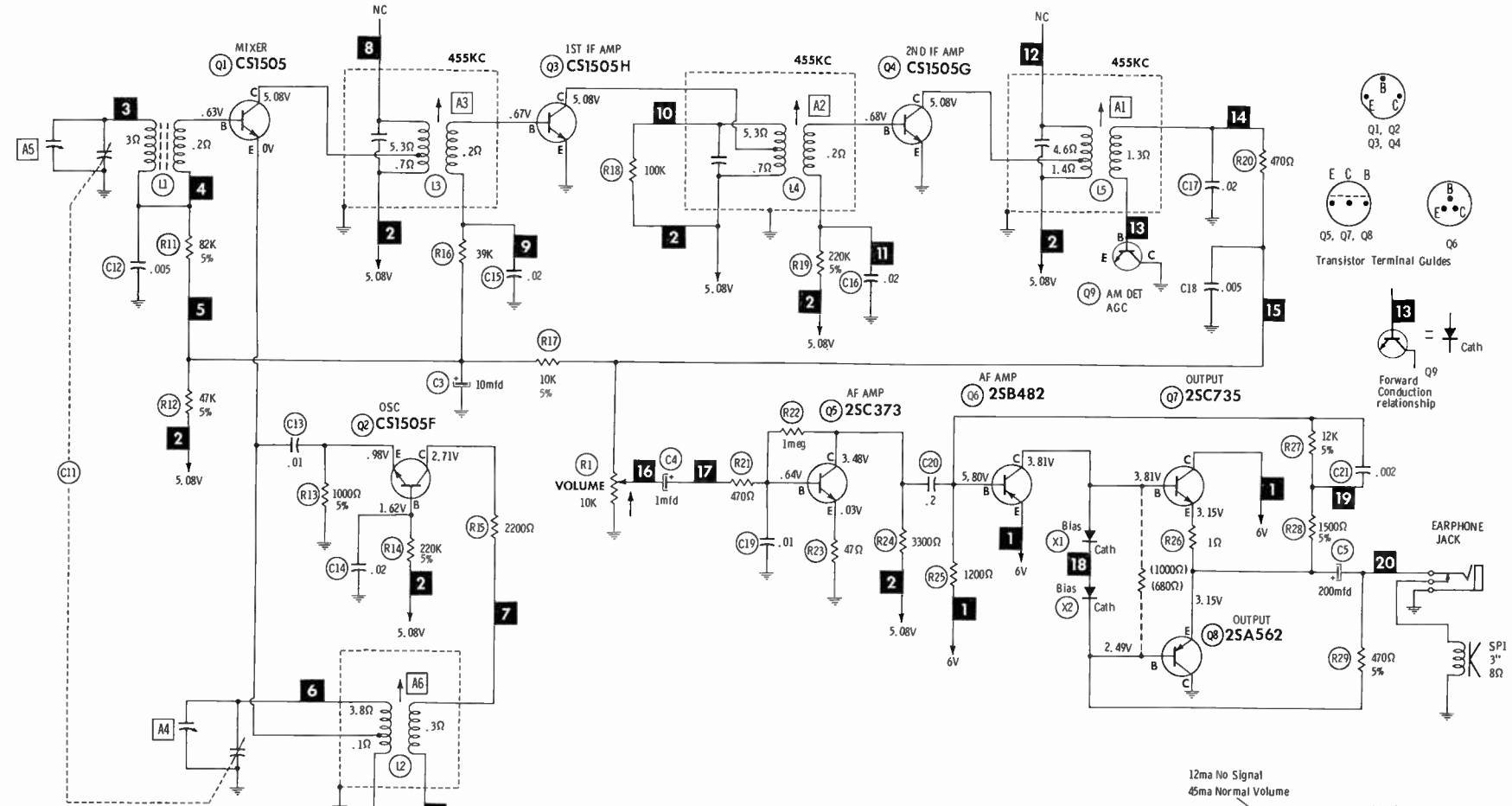
ALIGNMENT INSTRUCTIONS

Check for specified source voltage. Set volume control at maximum. Fashion loop of several turns of wire and connect generator across loop. Use only enough generator output to obtain a suitable indication. Suggested Alignment Tools:
 A1, A2, A3, A6.....GENERAL CEMENT #9087.....WALSCO #2528
 A4, A5.....GENERAL CEMENT #8605.....WALSCO #2505

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	455KC 400 cycle modulation	Tuning gang fully open.	Output Meter across voice coil.	A1,A2, A3	Adjust for maximum. Repeat until no further improvement can be made.
2.	1620KC	"	"	A4	Adjust for maximum.
3.	1400KC	Tune to signal	"	A5	"
4.	600KC	"	"	A6	Rock tuning gang and adjust for maximum. Repeat steps 2 thru 4 until no further improvement can be made.

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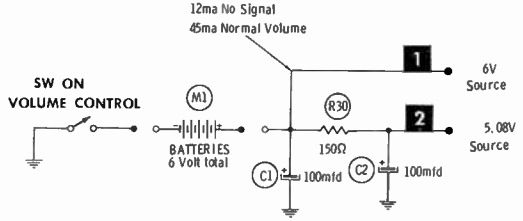


NC No Connection
 ⏏ Denotes ground
 - - - Indicates connection used in some versions.

Values shown in () are used in some applications.
 Resistors are 1/2W or less, 10% or 20%, unless otherwise indicated.
 Supply voltage maintained at rated value for measurements.
 Voltage and resistance measured with VTVM or equivalent meter,
 no signal applied and controls adjusted for normal operation.
 Controls viewed from actuator end. Arrow indicates clockwise rotation.
 Numbers assigned to terminals may not be found on the unit.
 Transistor resistances vary widely. No resistance measurements taken.

A PHOTOFACIT STANDARD NOTATION SCHEMATIC
 with **CIRCUITRACE**

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ZENITH MODELS R39L/Y, ROYAL 39L/Y

PARTS LIST AND DESCRIPTION

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

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid 22AWG) 8524 (Stranded 22AWG) 8570 (Stranded 26AWG)	Available in 12 Colors
---	---	------------------------------

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	CS1505	Mixer	921-20B	GE-20	TR-21	HEP54	SK3018	ECG 123
Q2	CS1505F	Osc	921-21B	GE-20	TR-21	HEP54	SK3018	ECG 123
Q3	CS1505H	1st IF Amp	921-22B	GE-20	TR-21	HEP54	SK3018	ECG 123
Q4	CS1505G	2nd IF Amp	921-23B	GE-20	TR-21	HEP54	SK3018	ECG 123
Q5	2SC373	AF Amp	921-26B	GE-20	TR-21	HEP55	SK3018	ECG 108
Q6	2SB482	AF Amp	921-27B	GE-2	TR-14	HEP632	SK3004	ECG 102
Q7	2SC735	Output	921-288 (1)		TR-25	HEP243	SK3024	ECG 128
Q8	2SA562	Output			TR-28	HEP242	SK3025	ECG 129
Q9		Detector AGC			TR-21	HEP54	SK3018	ECG 108

(1) Matched Pair.

POWER RECTIFIERS & 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	903-14B (-15B)	GE-504A	8D4	ECG 116		
X2	903-14B (-15B)	GE-504A	8D4	ECG 116		

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	100 10V	822-63B	BCD10100	EP15-100	PC100-16	MT1-19	MTV100CD10	TE-1135
C2	100 10V	822-63B	BCD10100	EP15-100	PC100-16	MT1-19	MTV100CD10	TE-1135
C3	10 6V	822-14B	BCD25010	EP6-10	PC10-50	MT1-5	MTV10CB50	TE-1087
C4	1 50V	822-30B	PTT87		AL1-50	MT1-1	MTA1D50	TE-1300
C5	200 10V	822-38B	BCD10190	EA15-250	PC200-16	MT1-23	MTV200CK10	TL-1137

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.	
C11		#822-64B	TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50	
C12	.005		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10	
C13	.01		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20	
C14	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20	
C15	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20	
C16	.02		TTP-D2	CK-203	MGP02	CCD-203	TA120	TG-S20	
C17	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20	
C18	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50	
C19	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10	
C20	.2			UK20-204			MAG25022	HY-470	
C21	.002			GPD X5F202K	DM-202	GP2000	CCD-202	GP220	2SS-D20

Zenith Part Number

(CONTINUED ON PAGE 110)

A4
1620KC

A5
1400KC

Q4

Q9

A1
455KC

L5

Q2

A2
455KC

L4

A6
600KC

L2

Q3

Q5

L3

A3
455KC

L1

Q6

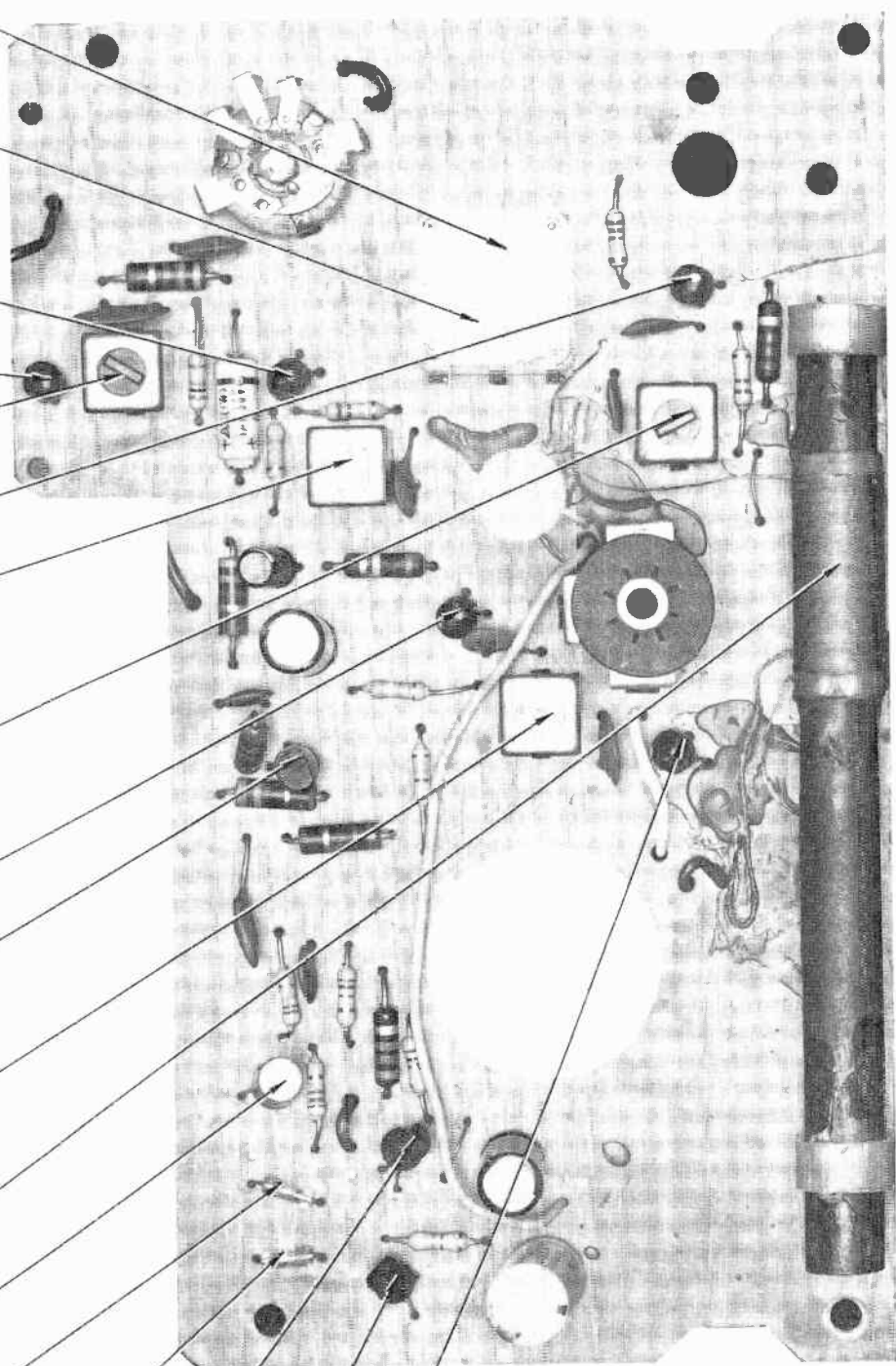
X1

X2

Q7

Q8

Q1



PARTS LIST AND DESCRIPTION (CONTINUED)

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

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume/Switch	10K	863-67B				

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	Loopstick	820-17B		7789	
L2	Osc.	895-40B		2069	
L3	Input IF	895-38B	16-9026	8517	
L4	Interstage IF	895-38B	16-9027	8517	
L5	Output IF	895-42B	16-9028	8518	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	3" PM 8 ohms	849-36B	30A05RZ8	

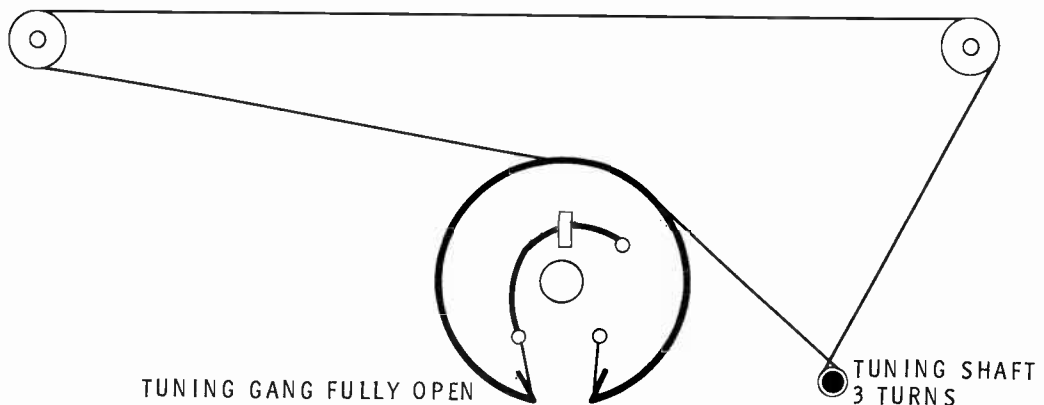
BATTERIES

ITEM No.	VOLTAGE	MFGR. PART No.	REPLACEMENT DATA		NOTES
			EVEREADY	MALLORY	
M1	6V		1015 or E91 or E9	M15R or MN1500 or ZM9	4 Required

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

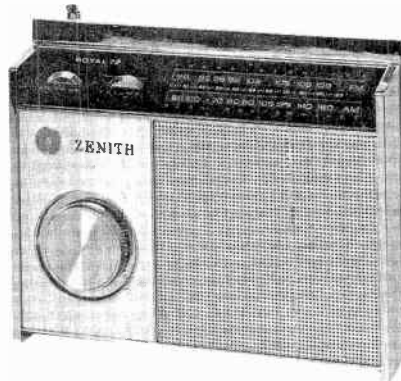
ITEM	PART No.	ITEM	PART No.
Cabinet Front, Model 39L	814-20B	Cabinet Rear, Model 39Y	814-19B
Cabinet Front, Model 39Y	814-21B	Knob, Control	846-95B
Cabinet Rear, Model 39L	814-18B		

DIAL CORD STRINGING—FRONT VIEW





For Supplier Address See PHOTOFACT Index



ZENITH MODELS R72C/J
Royal 72C/J
(Ch. 9XT51Z9)

ALIGNMENT INSTRUCTIONS

Check for specified source voltage. Set volume control at maximum.
Fashion loop of several turns of wire and connect generator across loop.
Use only enough generator output to obtain a suitable indication.
Suggested Alignment Tools:

A1, A2, A3, A7 thru A12...GENERAL CEMENT #9087 WALSCO #2528
A6GENERAL CEMENT #8282 WALSCO #2526
A4, A5, A13, A14.....GENERAL CEMENT #8605 WALSCO #2505

SELECTOR IN AM

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	455KC 400 cycle modulation	Tuning gang fully open.	Output Meter across voice coil.	A1,A2, A3	Adjust for maximum. Repeat until no further improvement can be made.
2.	1620KC	"	"	A4	Adjust for maximum.
3.	1400KC	Tune to signal	"	A5	"
4.	600KC	"	"	A6	Rock tuning gang and adjust for maximum. Repeat steps 2 thru 4 until no further improvement can be made.

SELECTOR IN FM

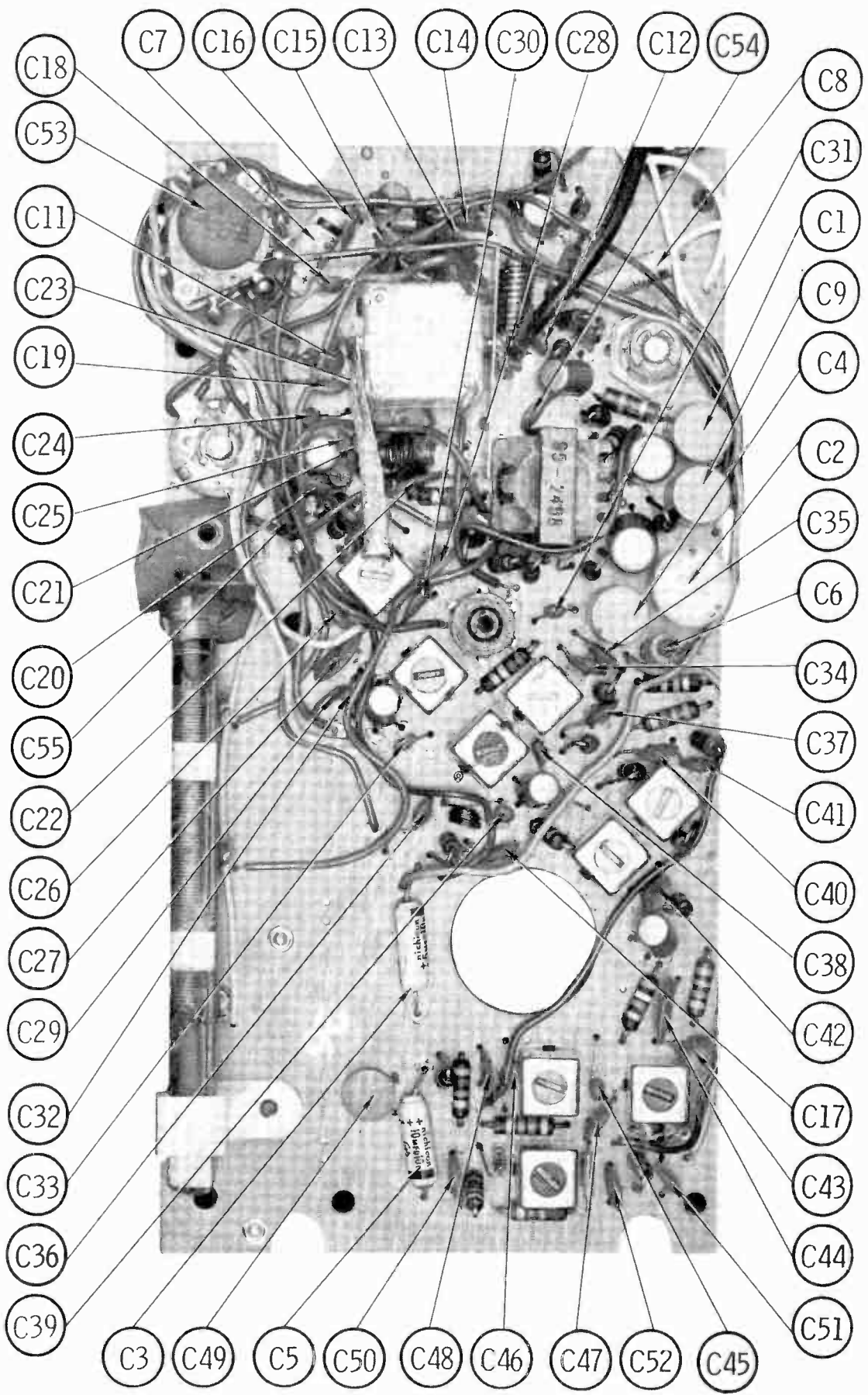
	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
5.	10.7MC Unmodulated	Point of non-interference	DC probe of VTVM to point \diamond , common to ground.	A7 thru A11	Adjust for maximum
6.	"	"	DC probe of VTVM to point \diamond , common to ground.	A12	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.
7.	108.5MC	High freq. end.	DC probe of VTVM to point \diamond , common to ground.	A13,A14	Adjust for maximum

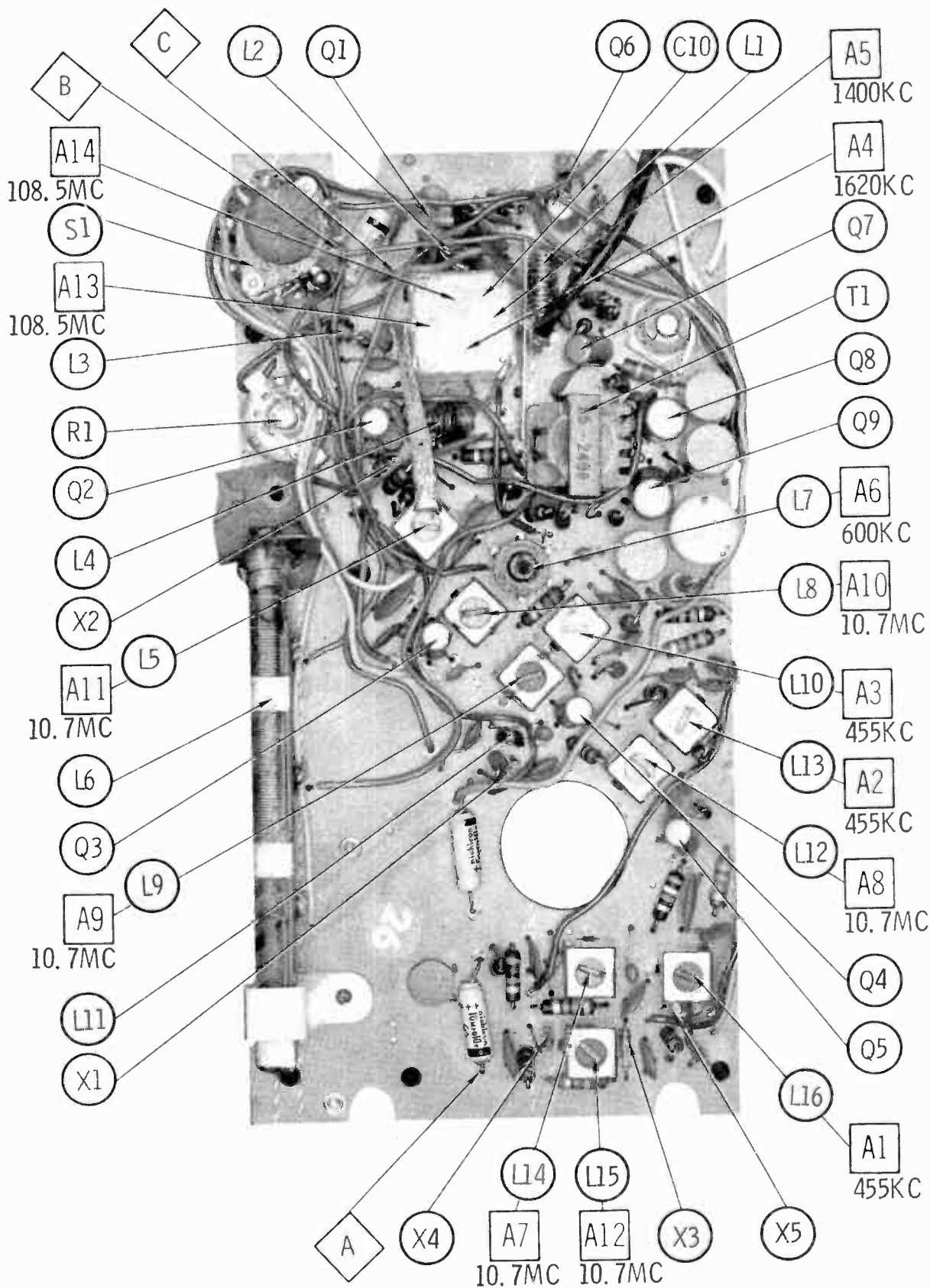
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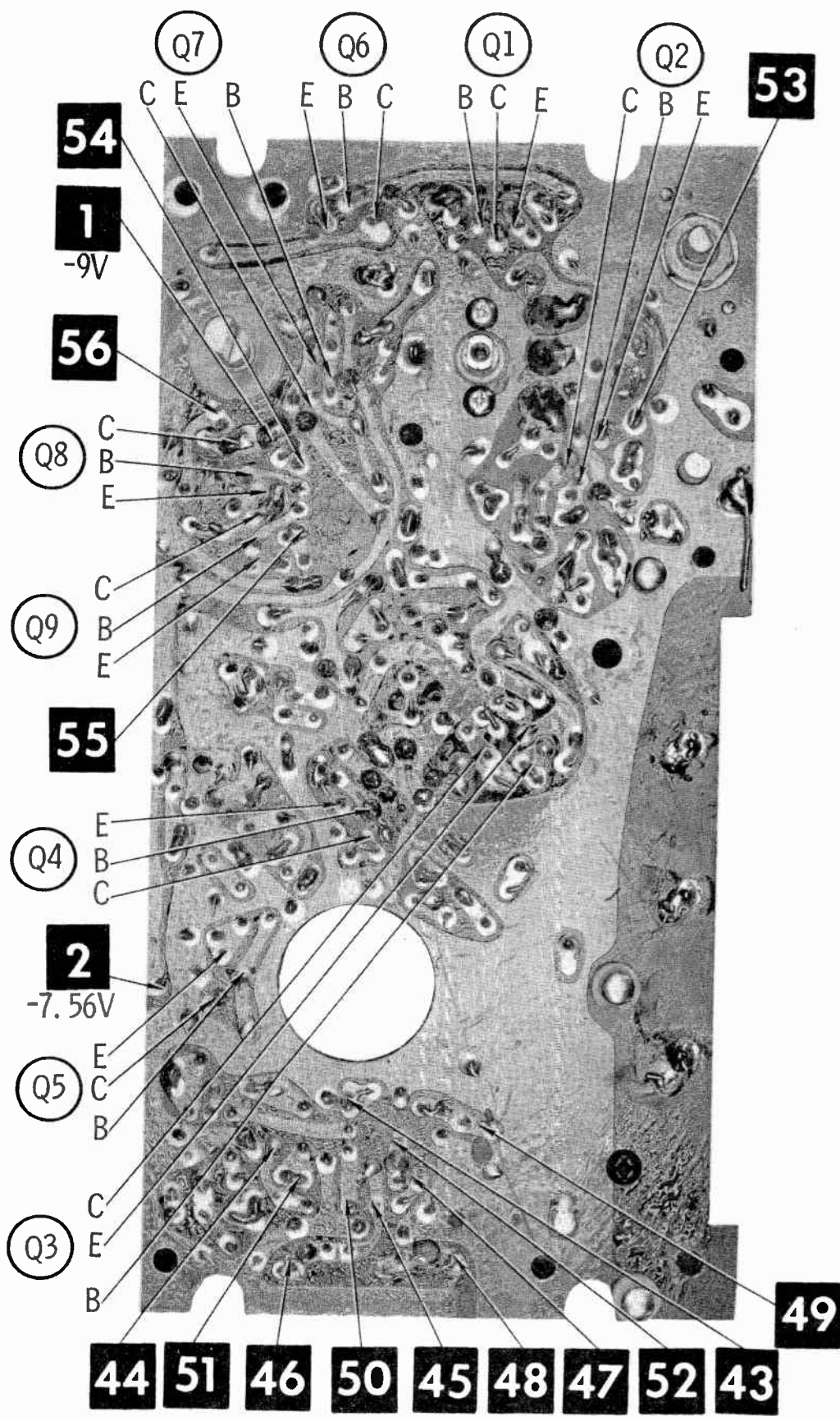
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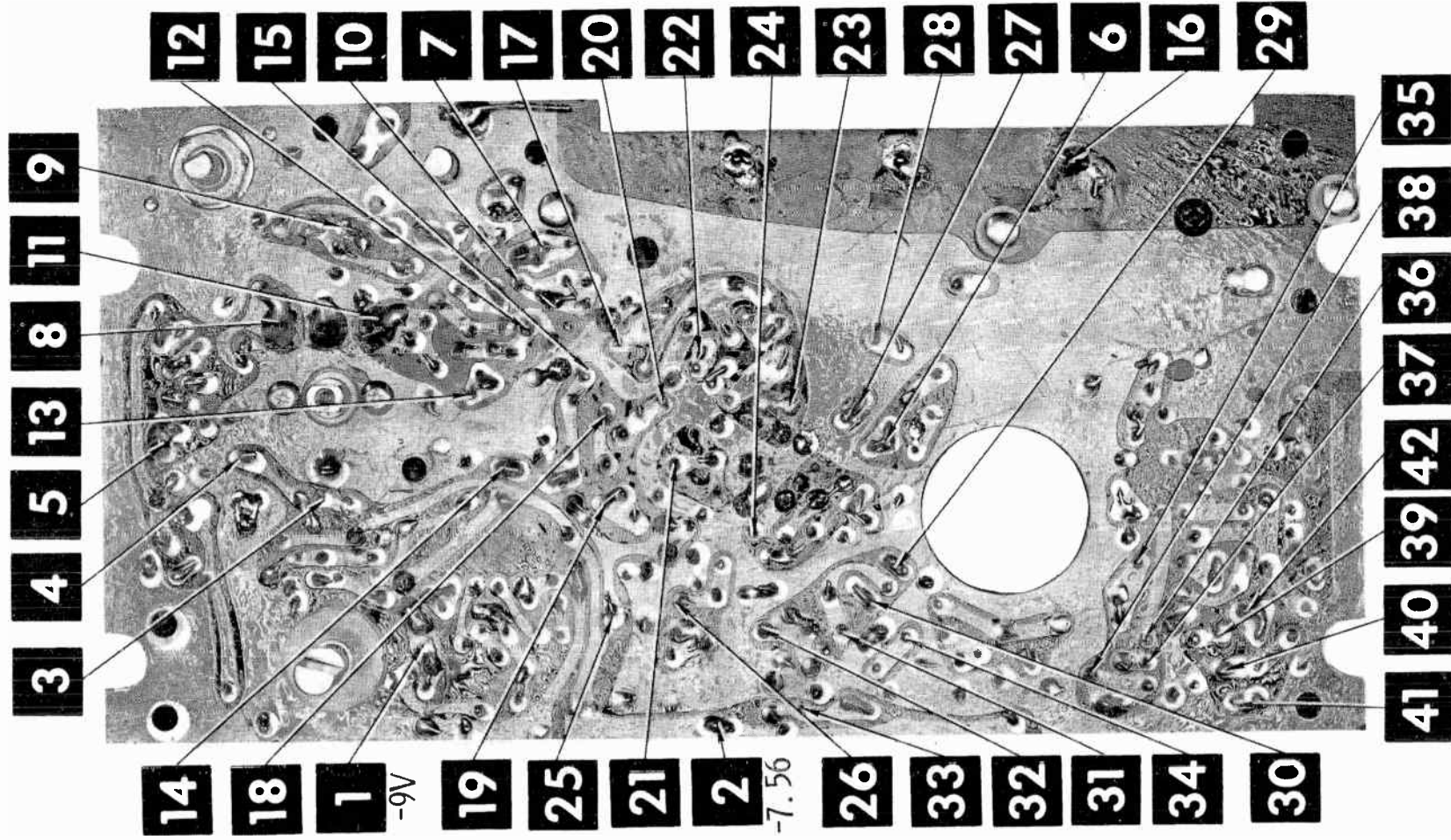
ZENITH MODELS R72C/J, ROYAL 72C/J

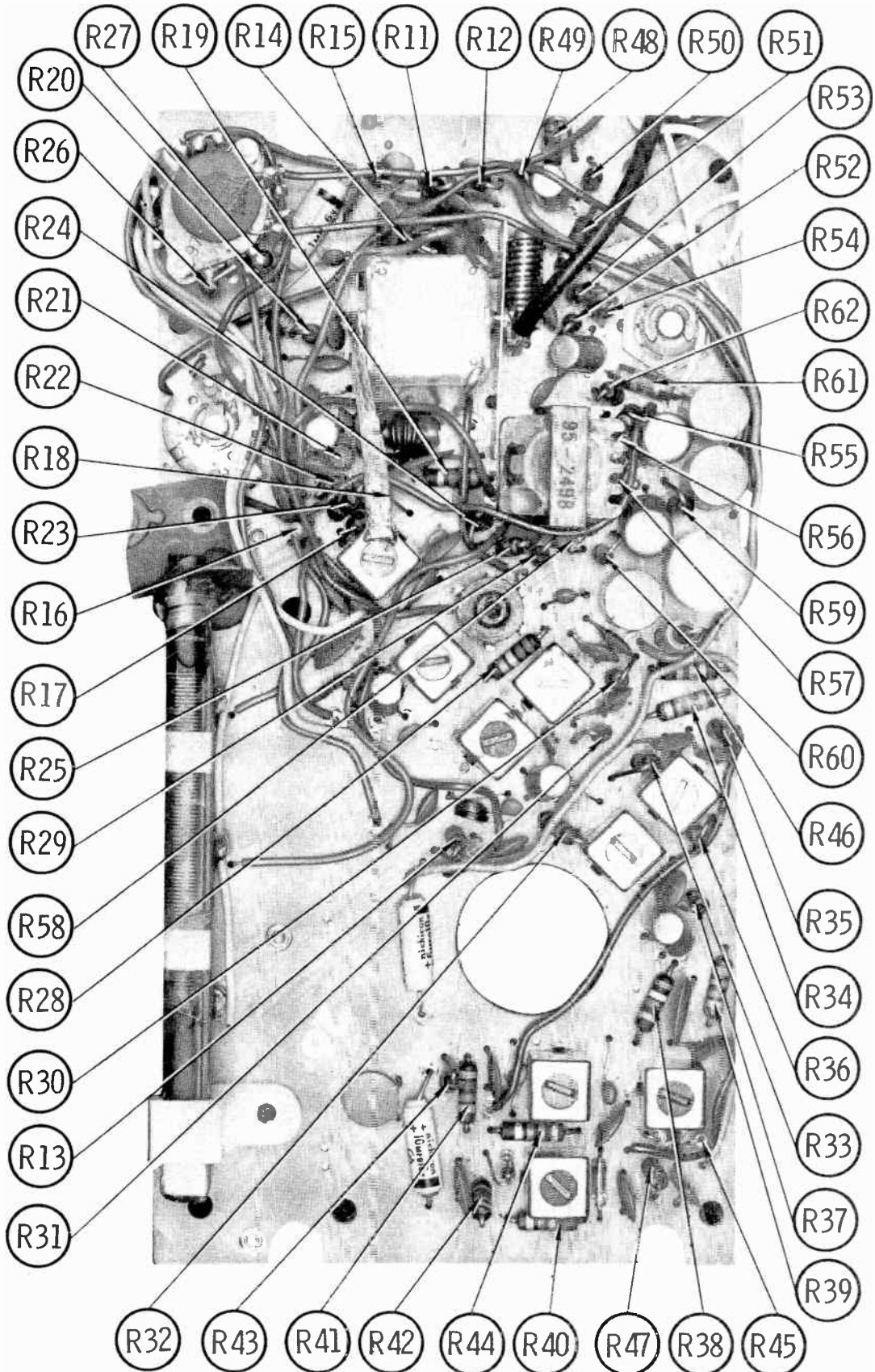






A Howard W. Sams **CIRCUITRACE** Photo





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	2SC535	FM RF Amp	121-585	GE-17	TR-22	HEP56	SK3018	ECG 108
Q2	2SA235	FM Converter	121-539	GE-9	TR-17	HEP637	SK3006	ECG 126
Q3	2SA234	AM Conv.-1st FM IF Amp	121-540	GE-9	TR-17	HEP637	SK3006	ECG 126
Q4	2SA234	1st AM-2nd FM IF Amp	121-541	GE-9	TR-17	HEP637	SK3006	ECG 126
Q5	2SA234	2nd AM-3rd FM IF Amp	121-542	GE-9	TR-17	HEP637	SK3006	ECG 126
Q6		AF Amp	421-15	GE-2	TR-14	HEP250	SK3004	ECG 102
Q7	2SB77	Driver	421-12	GE-2	TR-14	HEP250	SK3004	ECG 102
Q8		Output	421-14 (1)			HEP631		ECG 102
Q9		Output	421-14 (1)			HEP631		ECG 102

(1) Matched Pair.

POWER RECTIFIERS & 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.		
X1	103-44	1N60	1N60	ECG 109		(4) Matched pair.
X2	103-39					
X3	103-102	1N60	1N60	ECG 110 (4)		
X4	103-102	1N60	1N60			
X5	103-44	1N60	1N60	ECG 109		

ELECTROLYTIC CAPACITORS

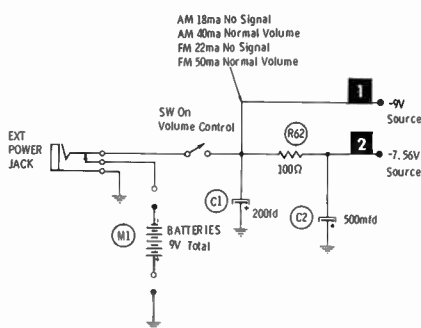
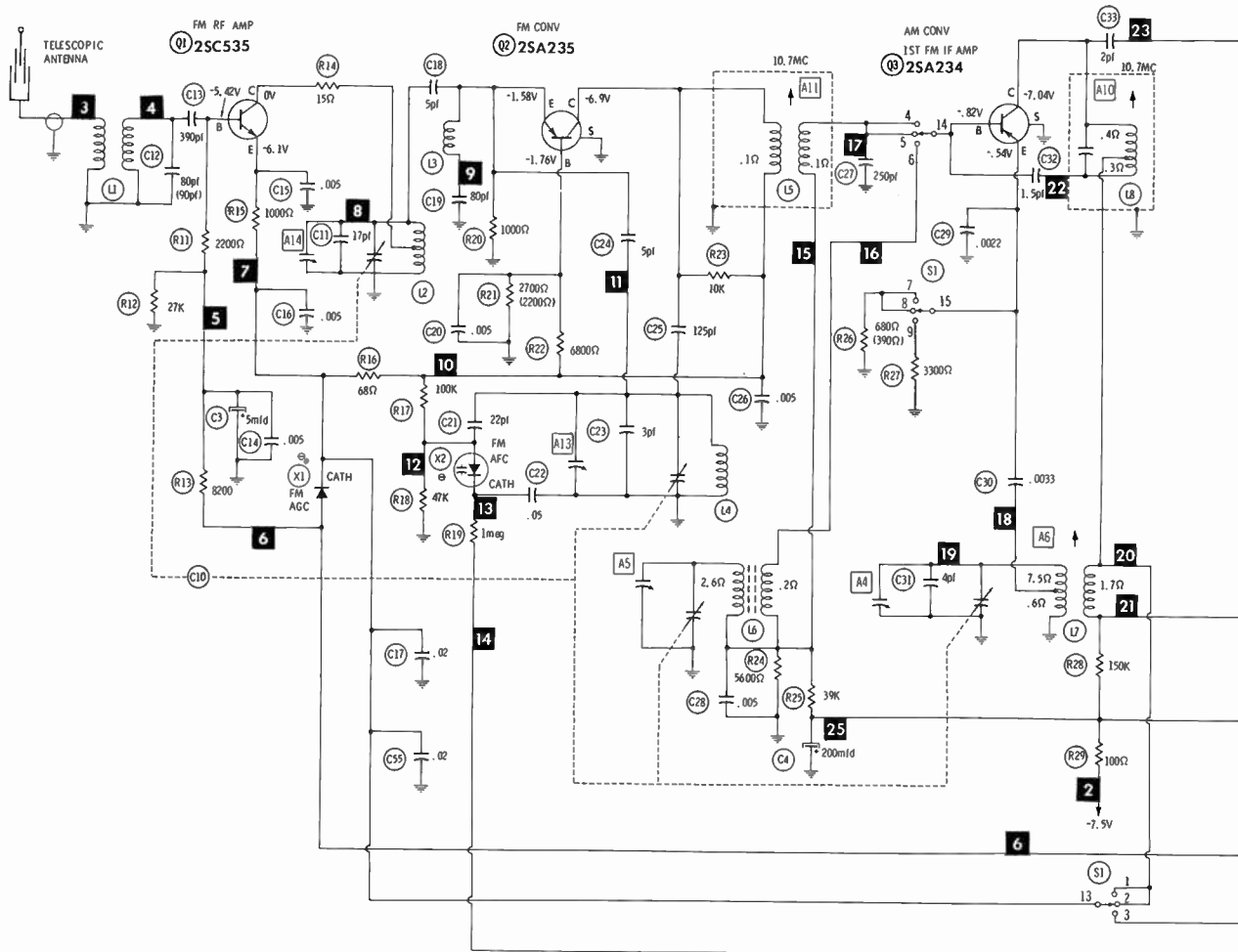
ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	200 10V	22-5448	BCD10190	EA15-250	PC200-16	MT1-23	MTV200CK10	TL-1137
C2	500 10V	22-5447	BCD15500	EA15-500	PC500-16	QT1-30A	MTV500DN15	TL-1141
C3	5 10V	22-2884	CRE604A	EA15-5	WBR5-15C	MT1-3	MTA5050	TE-1127
C4	200 10V	22-5448	BCD10190	EA15-250	PC200-16	MT1-23	MTV200CK10	TL-1137
C5	10 10V	24-3448	PTT39	EA15-10	AL10-25	MT1-5	MTA10D35	TE-1128
C6	10 10V	24-3448	PTT39	EA15-10	AL10-25	MT1-5	MTA10D35	TE-1128
C7	1 6V	22-3857	CRE750A	EA15-5	AL1-50	MT1-1	MTA1D50	TL-1080
C8	5 10V	22-2884	CRE604A	EA15-5	WBR5-150	MT1-3	MTA5050	TE-1127
C9	200 10V	22-5448	BCD10190	EA15-250	PC200-16	MT1-23	MTV200CK10	TL-1137

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.	
C10		#322-145							
C11	17			TCZ-18	NP018	CCT0-180	CN0418	10TCC-Q18	
C12	80			DTZ-82	NP082	CCT0-820	CN0482	10TCC-Q82	
C13	390			00-391		CCD-391	GP339	10TTS-T39	
C14	.005			GPD X5F391K					
C15	.005			TTP-005	CK-502	MGP005	CCD-502	TA250	TG-050
C16	.005			TTP-005	CK-502	MGP005	CCD-502	TA250	TG-050
C17	.02			TTP-02	CK-203	MGP02	CCD-203	TA120	TG-520
C18	5			NPO-DI 5.0		NP05			10TCC-V50
C19	80				DTZ-82	NP082	CCT0-820	CN0482	10TCC-Q82
C20	.005			TTP-005	CK-502	MGP005	CCD-502	TA250	TG-050
C21	22			NPO-DI 20	DTZ-20	NP020	CCT0-200	CN0420	10TCC-Q20
C22	.05			TTP-05	CK-503	MGP05	CCD-503	TA150	TGL-S50
C23	3			NPO-DI 3.0					10TCC-V30
C24	5			NPO-DI 5.0		NP05			10TCC-V50
C25	125			NPO-DI 20	DTZ-120		CCT0-121	CN0312	10TCC-T12
C26	.005			TTP-005	CK-502	MGP005	CCD-502	TA250	TG-050
C27	250			GPD X5F2 1K	DD-251		CCD-251	GP325	10TS-T25

(CONTINUED ON PAGE 120)

ZENITH MODELS R72C/J, ROYAL 72C/J



AM 18ma No Signal
 AM 40ma Normal Volume
 FM 22ma No Signal
 FM 50ma Normal Volume

1 -9V Source

2 -7.56V Source



S1 Terminal guide
 Switch sequence
 1. AFC
 2. FM
 3. AM
 Viewed From Rear

E C B



Q1



Q2, Q3, Q4, Q5



Q6, Q7



Q8, Q9

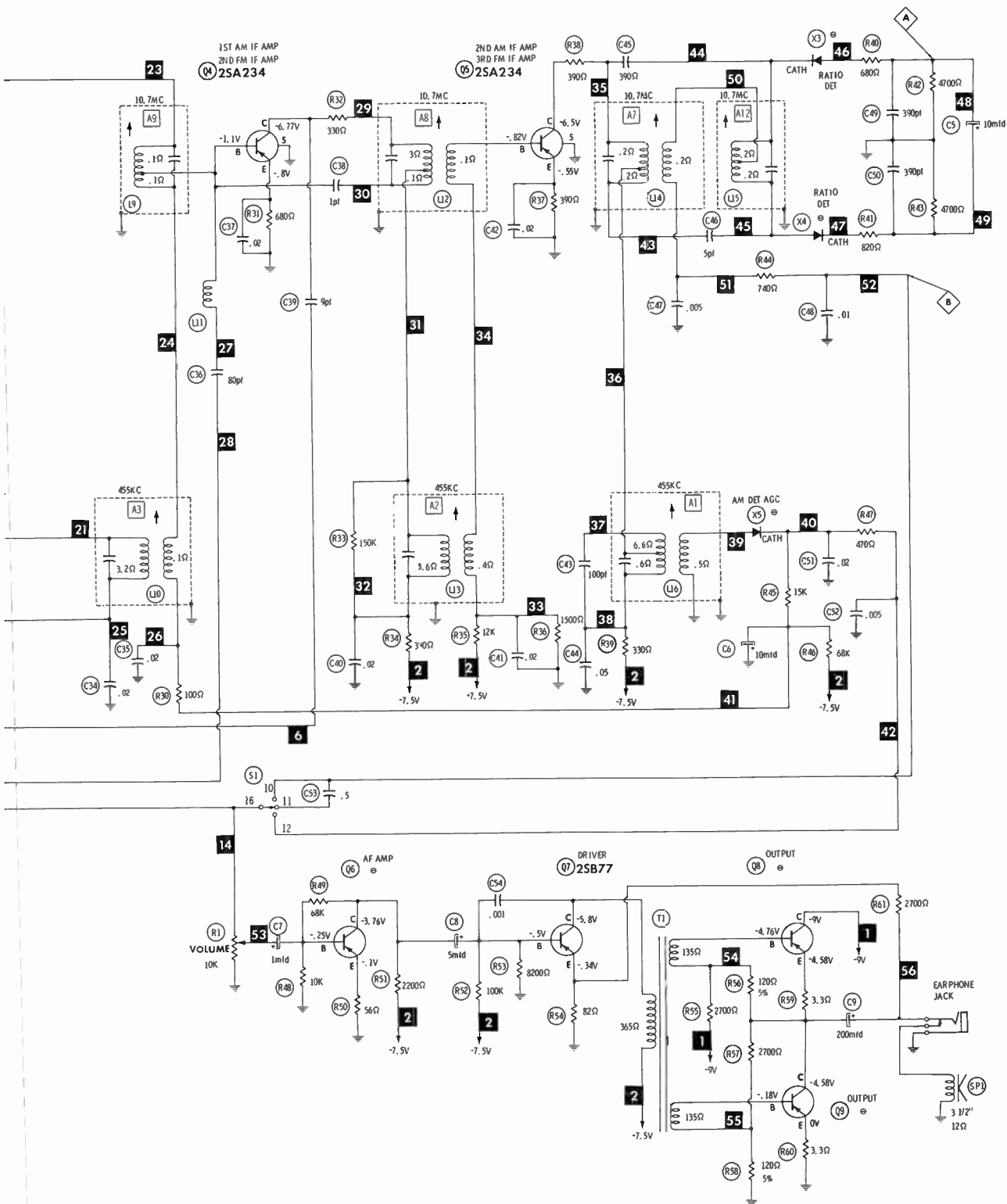
Transistor Terminal Guides

⊕ Denotes ground
 ○ See parts list.

Measurements taken with switching in position shown unless otherwise indicated.
 Values shown in () are used in some applications.
 Resistors are 1/2W or less, 10% or 20% unless otherwise indicated.
 Supply voltage maintained at rated value for measurements.
 Voltage and resistance measured with VTVM or equivalent meter, no signal applied and controls adjusted for normal operation.
 Controls viewed from actuator end. Arrow indicates clockwise rotation.
 Numbers assigned to terminals may not be found on the unit.
 Transistor resistances vary widely. No resistance measurements taken.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
 with CIRCUITRACE

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ZENITH MODELS R72C/J, ROYAL 72C/J

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	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50
C29	.002		GPD X5F202K	DM-202	GP2000	CCD-202	GP220	2SS-D20
C30	.003		GPD X5R332K	DD-332	GP3300	CCD-332	JF233	2SS-D33
C31	4				NP03P9			10TCC-V39
C32	1.5		NPO-DI 1.5	DTZ-1R5	NP01P5		CN0515	10TCC-V15
C33	2		NPO-DI 2.2	DTZ-2R2	NP02P2		CN0522	10TCC-V22
C34	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C35	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C36	80			DTZ-82	NP082	CCT0-820	CN0482	10TCC-Q82
C37	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C38	1		NPO-DI 1.0	TCZ-1			CN0510	10TCC-V10
C39	9		NPO-DI 8.2		NP08P2			10TCC-V82
C40	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C41	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C42	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C43	100		NPO-DI 100	DTZ-100	NP0100	CCT0-101	CN0310	10TCC-T10
C44	.05		TTP-05	CK-503	MGP05	CCD-503	TA150	TGL-S50
C45	5		NPO-DI 5.0		NP05			10TCC-V50
C46	5		NPO-DI 5.0		NP05			10TCC-V50
C47	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50
C48	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C49	390		GPD X5F391K	DD-391		CCD-391	GP339	10TS-T39
C50	390		GPD X5F391K	DD-391		CCD-391	GP339	10TS-T39
C51	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C52	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50
C53	.5			UK10-474			MAG12047	HY-330
C54	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C55	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20

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

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume/Switch	10K	63-6972 (863-55B)				

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	FM Antenna	20-1451			
L2	FM RF	20-1450			
L3	FM IF Trap	20-1456			
L4	FM Osc.	820-188			
L5	FM Input IF	95-2466			
L6	Loopstick	S-75849			
L7	AM Osc.	95-2473			
L8	FM Interstage IF	95-2467			
L9	FM Interstage IF	95-2468			
L10	AM Input IF	95-2463			
L11	FM IF Trap	20-1456			
L12	FM Interstage IF	95-2469	16-9032	2072	
L13	AM Interstage IF	95-2464			
L14	Ratio Detector(Pri.)	395-39			
L15	Ratio Detector(Sec.)	395-40			
L16	AM Output IF	95-2465			

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	1.5	1	1	95-2498					

PARTS LIST AND DESCRIPTION (CONTINUED)

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

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	3 1/2" PM 12 ohms	49-1119	3A05Z12	

BATTERIES

ITEM No.	VOLTAGE	MFGR. PART No.	REPLACEMENT DATA		NOTES
			EVEREADY	MALLORY	
M1	9V		1035 or E93	M14R or MN1400	6 Required

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
S1	Switch, Selector	85-985	

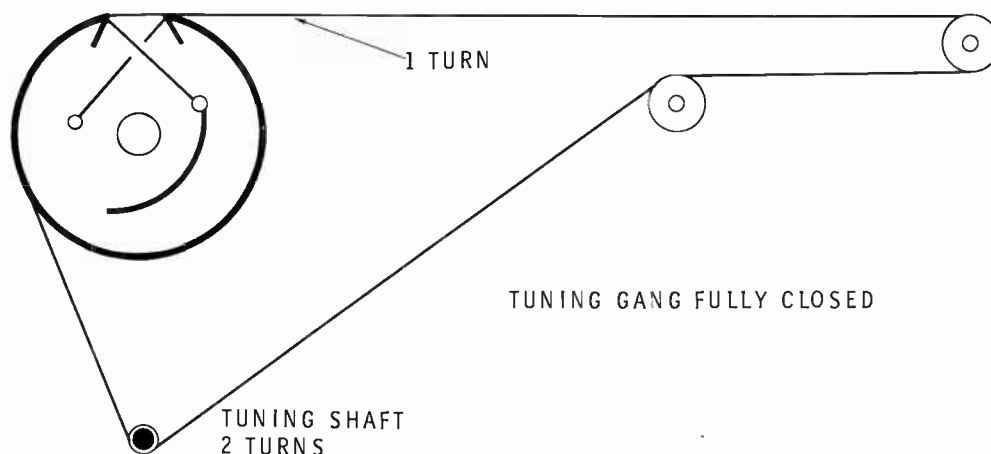
CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	ITEM	PART No.
Cabinet, Front (Model 72C)	S-76684	Knob, Control	46-5647
Cabinet, Front (Model 72J)	S-76685	Knob, Tuning	46-5948
Cabinet, Rear (Model 72C)	14-8118	Antenna, Telescopic	1-10
Cabinet, Rear (Model 72J)	14-8119		

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 853C (Solid 22AWG)	Available
	8524 (Stranded 22AWG)	in
	8570 (Stranded 26AWG)	12 Colors

DIAL CORD STRINGING—FRONT VIEW



ZENITH MODELS R72C/J, ROYAL 72C/J

INDEX

THIS INDEX LISTS ALL TRANSISTOR RADIOS APPEARING IN
"SERVICING TRANSISTOR RADIOS" AND "PHOTOFACT TRANSISTOR RADIO SERIES".

KEY		(EP) Early Productions	(LP) Late Productions	(SN) Serial Number	(REV) Revised						
ACME	VOL.	ADMIRAL (CONT.)	VOL.	AIRLINE	VOL.	AMERICANA (CONT.)	VOL.	ARVIN (CONT.)	VOL.	BRENTWOOD	VOL.
CH-610	16	Y2137C	38	(See Wards)		FP-861	17	1.41700/.43000	1	MB-800	41
CH-620	16	Y2221/23/26/29	20	AIWA		ST-6X	20	1.44600	3	MB-1500	48
		Y2252/53/56	24			ST-6Z	16	1.45200	4		
ADMIRAL		Y2271/72/73		AR-102	38	TP-7	20	1.46201	101	BULOVA	
		Y2301GPN/03GPN/		AR-111	39			1.47200	6		
CHASSIS		07GPN	28	AR-112	79	ARVIN		1.47500	8	C430/32	39
4P2	1	Y2311/12/19	29	AR-113	39			1.47600	6	132/34/36/37	26
5E5/A/B	8	Y2321/23/27	28	AR-115	37	15R75,55R47/48	48	1.47601	11	260/70 Series	1
5F5	6	Y2332/33/38	25	AR-116	55	28R29	105	1.47700	8	662/63/72/73/75/	
5W4	4	Y2351/2371	29	AR-117/-118	39	60R23/28/29	10	1.47900	7	76	16
6M3A	20	Y2411GP/13GP/	36	AR-122/-123/-125	56	60R33/35/38/47/49/	58	1.49201	10	681/82/83/85	18
6M3N/NA	28	21GP/23GP	36	AR-126	59		11	1.50001	107	715/18	17
6M3N (L.P.)	46	Y2451N/61N	40	AR-128	79	60R63/69/73/79	12	1.50101	12	742/43/45/46	17
6S2	3	Y2531GP/37GP/	50	AR-232	60	60R75-19	101	1.50300/401	11	782/85/86	16
6T2	5	39GP	50	AR-666	75	61R13/16/19/23,		1.61601	18	792/93/95	17
6V3	25	Y2542/43/49	46	AR-670	37	61R26/29	17	1.61701	17	810/12	39
7A2	11	Y2557	48	AR-751	54	61R35/39	18	1.62201	19	832/33/36	26
7B2/B	12	Y2577	50	AR-752	77	61R48/49	19	1.62402	21	840 Series	27
7B2C/D	24	Y2587	51	AR-852	37	61R58	21	1.66101/02	22	850/52/55/56	39
7D2	46	YD101GP/07GP/	60	AR-853	38	61R61/64/65/69/		1.66401	24	860 Series	23
7K2	29	09GP	60	AR-854	39	79/95/99	22	1.66402	27	870/72/73/75/76..	22
7L1, 7M1	1	YD102GP/GPA/		AKKORD		62R09	24	1.66502	26	880 Series	23
7P1	7	202GP/GPA	66			62R13/16/19/23/		1.66601	24	890 Series,892/	
7Q1	10	YD242/243	62	Penguin U60	13	26/29	26	1.66801/.69401	25	93/95	22
7V1/A/B	6	YD257	65			62R35/39	25	1.73401	27	1002/03/06	40
8A2	13	YG171	72	ALADDIN		62R48/49	24	1.75001/101	31	1010/12/13	39
8A4	72	YH301GP/02GP/	72			62R48/49	27	1.80601	34	1022/23/25/26	48
8A4 (Rev.)	83	312/13	72	AL65	17	62R65/69	22	1.80602	41	1042/52/53/56/	
8B3N	48	YH321/331GP	73	AL80	19	62R98	25	1.80602 (L.P.)	73	62/63/66,1102/03	49
8B4	72	YH347	74			63R38/58	31	1.81601	36	1110 Series	50
8C2	16	YH351/361	75	ALARON		63R88	36	1.82001/.83101/		1150/52/53	70
8C2C	38	YH371/GP	74			63R98	37	201	48	1170/72/73/76	69
8C3N	50	YK201GP	83	B-666	31	64R03	41	1.84701	44	1180/82/88	72
8C4	74	YK211GP/12GP	84	DC3280	38	64R29	44	1.85301	41	1200	76
8D2	16	YK221GP/23GP	85	FAR-113	35	64R38	36	1.85401	45	1209	76
8F2	28	YK237	88	TR-709	33	64R78	34	1.88101	52	1430/32/33	84
8F3	62	YK301GP/07GP	87	TRN-DX	32	64R78	43	1.88401	58	1460/62/63/64	85
8G2	29	YK311	88	TRN-1210	34	64R78 (L.P.)	71	1.88501	59	1470/72/73/76	87
8H1N	51	YK327	89	UR-300	35	65R03	57	1.90001	57	1480/82/88	87
8K1	4	YK331	87	UR-701	43	65R03-1	70	1.90101	70	1490/92	88
8K2-1N/-2N/-3N	36	YK341	89	ALLIED		65R28	52	1.90801	66	1550/52/58	89
8L1	4	YK351	91			65R58	60	1.90901	67	1570/72/73/76/	
8M1	6	YK367	95	TR-1053	40	65R69	58	1.92701	60	80/82/88	89
8S1/A	5	4P21/22/24/28,		10A4034S	85	65R79	59	1.93301	70	1670/72/73	107
8S1C	9	7L12/14/16/18,		10B4362X	95	65R98	45	1.94101	73	1681/82/83/85	81
8T1/A	8	7M12/14/18	1	10B4370S	96	66R29	66	1.96101	68	1690/92/98	106
8V1	7	221/37	4	10B4516S	93	66R39	68	1.96901	79	7822/55/66	19
9G1	10	521/28	5	24SC062	40	66R58	67	1.97001	68	8200 Series	27
9G1A/B/C	41	531/37	4	24SC075	56	66R69	70	1.97701	69		
9W1	60	561/66	5	24SC080	52	66R78	73	1.99701	75	CALRAD	
10A3	84	581/82	4	24U0265	81	67R09	69	1.99801	79	60A183	9
10B2	73	591/92	8	1053	51	67R19	82	1.99901	81		
10B3	85	703/08	7	1908	81	67R29	81			ASTROPHONE	
10C2	74	711/17	8	2436	93	68R05	89	99-3513L	59		
10C2A/C3	88	739/42/43	6	2540	96	68R89	87			64N09-3	43
10F1N	40	751/57	7	2671	95	77R19	75	ATKINS			
10F3	87	801/02/08	6	2680(10-4113S)	104	77R29	79			CANDLE	
10G1N	50	811	9	3002	85	78R09	89	61N39-11/59-11	34		
10G3	97	811B	5	ALPHA		78R39	99	Chassis			
10J1	65	816	5	Q-62	16	78R88/R89	104	11.62401/.73902	34		
10T1	103	816B	9	AMBASSADOR		86R19	79				
11D1	29	909	10	A-155/-884	50	86R29	68	BAYLOR			
11H1/J1	75	AIRCATTLE		A-1064	52	87R59	81	6YR-15A	18		
12E2	89	TEN-1505	96	FM-10	54	87R79	79				
12H1	72	TR-1204	102	MBE-12	85	90R33-13	107	BENDIX			
13B1	87	TR-1300	83	MBE-14	86	2598	7	Navigator 410	31		
13C1	89	TR-1500	95	TPR-561/-564	53	3588	4				
13D1	91	6GF736	96	1065	67	7595	6	BLAUPUNKT			
13G1	74	136F1	93	1565	68	8576	2	Derby DeLuxe			
15B4	95	1005-J-200	98	6065, 8065	67	8584	3	7657734 (Series	87		
		1505H	92	9065	69	9562	2	Y)			
Models		1505-V	96	AMC		9574P	1	Lido 22503			
Y741R	103	9675-12	96	AMCTF125	64	9577	1	(SN T810001 Up)	28		
Y793/797/798	8	AIR CHIEF		STR16/52	30	9594	8	BRADFORD			
Y811R/13R	97	3-V-80	25	AMERICANA		9598	8				
Y821/822	8	4-C-55	40	FC60	14	Chassis					
Y909A/B	41	4-C-66/-69	30	FM-10	22	1.20101	79	AR-121	48		
Y1009A	74	4-C-82/-83	64	FP-64	16	1.25201	82	AR-857	44		
Y2009/11/12/13/		4-C-88	62	FP-80	19	1.25301	81	P100	49		
23/27/28	10	4-C-89	63			1.28501	89	26	26		
Y2061/63/67/68	11	4-C-90	62			1.28601	99				
Y2081/82/83	12	4-C-92	75			1.30001	87				
Y2081A/82A/83A	24	4-C-96/-97	63			1.37701	104				
Y2091/93/98	13	4-C-100	62			1.39601	105				
Y2101/02/08	12	4-C-101/-102	63			1.40900/.41400	2				
Y2119	46										
Y2127/37	16										

CHANNEL MASTER (CONT.)	VOL.	CONTINENTAL (CONT.) VOL.	DUMONT (CONT.) VOL.	EVER-PLAY (CONT.) VOL.	GENERAL ELECTRIC (CONT.) VOL.	GENERAL ELECTRIC (CONT.) VOL.				
6506	6	TR-751	15	900	2836A	28	P830E	20	P1983A	93
6507	27	TR-801	11	Chassis	EXCEL		P831A	9	P2975A	99
6508	11	TR-814	43	120485	6T-2	4	P831E/32E	20	P7401A	48
6508 (Rev.)	43	TR-823	27	EICO	EXECUTIVE		P840A	23	P8501B/C/11C	17
6509	11	TR-862/63/69/75	45	RA-6	CPR-7	47	P845A	30	P9001A/11A	22
6510	12	TR-884	26	ELECTRO-BRAND	FAIRCREST		P850B/C	17	P9051A	28
6511 (Rev.)	10	TR-1066	45	1255	1094	62	P850D	42	P9151A/B	31
6512	7	TR-1067	48	1466	1670	57	P850E	33	P9151C/D	48
6512-2	17	TR-1085	46	ELECTRONICS GUILD	1982	51	P851C	17	P9151E/61E/71E	79
6514	7	150	5	E-1000	2091	60	P851D	42	P9161A/B	31
6515	13	160	6	ELGIN	FALCON		P855A	40	P9161C/D	48
6516	16	CORONADO		R-800	6THK, 8THK	35	P860A/B/D	25	P9171A/B	31
6517	22	RA44-9914A	23	R-100G/A	FIRESTONE		P860E/F	40	P9171C/D	48
6518	22	RA44-9915A	22	R-1000B/C	4-C-33	3	P865A	21	R310A/15A	30
6519	23	RA48-9898A	4	R-1100C	4-C-34	1	P870A	18	T145A/46A	47
6520	30	RA48-9903A	8	R-1200	4-C-36	4	P871A	27	T285A	57
6521	46	RA48-9905A	9	R-1300	4-C-45, 4-C-50	11	P875A	26	T295A	55
6522	31	RA50-9900A	10	R-1400	4-C-45, 4-C-50	11	P880A/B/81A/B	29	T1205A/06A	57
6523	21	RA50-9902A	7	R-1500	FLEETWOOD		P885B	27	T1205B/C/06B/C	60
6524/26	24	RA50-9908A/		R-1600/-1700	NTR-6G	12	P891A	53	675,676	2
6527/28/31	26	-9909A	23	R-1800	FUJII DENKI		P895A1/A2/B1/B2/		GLOBAL	
6560	58	RA60-5232A	90	R-1900	TRB-611	18	C1/C2/D1/D2/E1/		GR-900	22
6561	57	RA60-9866	77	R-2100	TRS-701	19	E2/E3/E4/H/K	29	GR-920	61
6562	51	RA60-9879A/85A	84	R-2200	FUTURA		P895F/G/J/L/M	34	GOLDEN SHIELD	
CLAIRTONE-BRAUN		RA60-9899A	18	R-2500	111,222	17	P905A	28	2300/06/09, 2500,	
T-4	25	RA60-9917A	22	R-3300	250	18	P910A1/A2/B1/B2/		2601/02/05/09,	
T22C	29	RA60-9922A	43	EMERSON	366	22	C1/C2/D1/D2/E1/		2700/01,2714	11
T-23	30	RA60-9925A/30A	42	31P50	1051	17	E2/E3/E4/H/K	29	3500,3608/09	13
T523	29	RA60-9930B	54	31P53			P910AA	55	7058	17
CLARICON		RA60-9940A	43	31P54			P910AF/G/J/L/M	34	Chassis	
TR-605	36	RA60-9941A	42	31P55			P911AA	55	BP300	13
46-050	78	RA60-9943A	43	31P56			P911F/G/J/L/M/		649-1/-2	11
46-070	60	RA60-9945A	85	31P57/58			12F/G/J/L/M/		682-4	17
46-090	62	RA70-9948A	90	31P60			13F/G/J/L/M	34	GRUNDIG	
46-300	79	RA70-9949A	91	31P61			P914AA	55	Mini-Boy	
COLUMBIA		RA78-5244A	94	31P62			P915A/B	31	Transistor 200	47
C-605	19	2011	90	31P63			P915C/D	48	Prima Boy 201E	32
C-615	18	2318	91	555			P915E/16E/17E	79	Roadmaster	34
TR-1000	3	CORVAIR		555V			P916A/B	31	Teddy Boy II/	
400B/G/R	11	9T-641	42	707			P916C/D	48	59E	15
600BX/G	10	10PL62, 10SK93	41	842			P917A/B	31	TR-11	43
610G/R	9	CREST		844/47/55			P917C/D	48	Transistor	
COMMODORE		IV	17	868/69			P920A	58	Transonette 89	29
J-180	79	CROWN		888			P925A/B/30A	32	Transonette 99U	43
66, 70T	65	TR-9	51	888 Atlas, 888			P940A	40	Transworld	
80T	65	TR-333	5	Explorer			P940C	48	Junior	28
88	67	TR-400	11	888 Galaxy			P943A/B	62	Transworld	
100T	66	TR-555	12	888 Titan			P943C	58	Petite	32
102	67	TR-610	5	888 Transtimer/			P945A	34	Transworld	
104	70	TR-666	6	II/Vanguard			P945B/46B	55	Transworld	
803-S	69	TR-670	10	899			P955A	31	TR-17	54
900, 1000	66	TR-680	75	911			P955C	71	Transonette 89U	29
1000	66	TR-750	15	977			P955E	78	Transonette 99U	43
1010	67	TR-777	13	988 Rambler			P965A	49	Transworld	
1100	68	TR-800	9	991			P968A	51	Junior	28
1203-S	74	TR-810	76	999			P970A	39	Transworld	
1205S	68	TR-820	6	Chassis			P970F	79	Petite	32
1505	69	TR-830	7	120309/14/28			P975A	47	Transworld	
CONTINENTAL		TR-875	9	120350			P975B/C	81	TR-16	44
AC-50	21	TR-999	14	120374			P975D	73	GULTON	
MB-7	14	TRF-16	65	120416			P975E	78	(See Ever-Play)	
PH-421, PR-720	20	TRF-1000	53	120457			P990A	60	HALLICRAFTERS	
SW-7	8	TRF-1150	85	120472/85			P995A/96A	55	FM-1000	94
TFM-1064	47	TRF-1400L	65	120486			P1700A	61	TR-88	1
TFM-1086	42	TRF-1500R/-1600R	53	120510			P1710A/11A	69	WR-3100	68
TFM-1087	42	TRF-1700/-1800	51	120528			P1715A/16A/30A/		WR-3200	76
TFM-1088	49	DELMONICO		120598			31A, P1715A-1/		WR-4000	73
TFM-1090	44	AW6000	49	120655			17A-1	80	HAMILTON	
TFM-1150B	21	TR-7C	25	120664/L			B/C, 25C, 85	91	898	66
TFM-1155	39	TRS-6	6	120713			P1730B/31B	85	HARPERS	
TFM-1200	48	7TA-2	26	ENGLISH TOWN			P1760A/61A	92	GK-200	16
TFM-1365	39	7TH-1	29	1005			P1770A/71A	82	GK-600	24
TR-100	6	7YR707	63	ESSEX			P1800A/01A/02A	59	GK-631	18
TR-182	46	8TR8, 9FM190	58	TR-10P			P1805B/C/07A	88	GK-811	24
TR-200	7	10FM-190	77	EVER-PLAY			P1810A	65	GK-831	22
TR-208	6	10TR10	58	100			P1811C	99	HEMISPHERE	
TR-215	8	DEWALD		1836A			P1815A	59	AM-6T4	33
TR-300	7	K-544/-701A/02B	2				P1819A	85	AM-8T4	34
TR-613	43	L-414	3				P1820A	59	HI-DELITY	
TR-630	46	L-546	4				P1820K/21K	85	CFM-3-1200S	33
TR-632	12	L-703	3				P1830A	64	CFM-18	31
TR-660/-661/-668/		DUMONT					P1835A/B	79	CFM-1000/R/	
-680	39	RA-902	1				P1840A	82	-1200S	32
TR-682	22						P1843A/B	107	N-601	31
TR-683	19						P1851A/58A	98	N-801	36
TR-716	49						P1870A/71A	83	SR-H600	34
TR-716 (Rev.)	54						P1905A	82	STH-601	32

HI-DELITY (CONT.) VOL.	IMPERIAL VOL.	LAFAYETTE (CONT.) VOL.	LLOYD'S (CONT.) VOL.	MASTERWORK VOL.	MMA (CONT.) VOL.
7TA-1X 33	GK-600 24	FS-93 17	TR-10N 54	M-2100TR 26	8TP-416 26
7TA-1Y 34	INVICTA	FS-112 5	TR-12K/L 72	M2810 36	8TP-802M 18
HIGHWAVE	8PK1 59	FS-129 28	TR-62 42	M2812 52	8TP-905 24
7YR-701 66	10PK1 60	FS-200 8	TR-82 70	M2815 39	600,601 25
8FM904 63	ISCO	FS-204 11	TR-86L 58	M2860 80	602 28
9FM901 60	MSS 69	FS-223 16	TR-89L 39	M2862/64 78	MONACOR
9FM902 63	9F-220C 70	FS-225 17	TR-98 71	M2866/68 83	RE-38/-1058 41
9FM915 60	11F-314M8 77	FS-235 22	TR-100 42	M2870 86	RE-606 46
9FM920 64	12F-245 74	FS-238 46	TR-103M8 45	M2880/82 88	RE-612/-613 25
HI-LITE	IIT	FS-243 29	TR-108M8 41	M2884 89	RE-808/-1010 39
STW-6 47	600 22	FS-244 28	TRA-10 53	M2886 91	RE-1200 51
HITACHI	615 28	FS-245 29	4K34 72	M2888 90	RE-1250L 53
KH-811H 70	628 29	FS-248 30	5K04 70	M2890 91	RE-1700 40
KH-903 43	721 25	FS-249 29	5K05 71	M2892 93	MONARCH
KH-915 26	731, 871 23	FS-248 28	5K07 69	M2894 94	RE-760 39
KH-960H 56	881-S 24	FS-251 30	5K10 72	M2895 96	RE-1050 41
KH-970H 71	1000 32	FS-252/-253 32	5N65 71	M3005 33	MOTOROLA
KH-1000H 52	1005 30	FS-258 38	5R01 69	M3108 106	AX4B/G/N,AX5P/
KH-1005 25	1011 25	FS-278L 39	5R02 71	MATSUSHITA	W 18
KH-1007M 83	6406/08/09-A/ 38	FS-279L/-280L/ 37	5R06 70	(Panasonic)	CX1E 19
KH-1090H 107	09-F 38	Hi-Fi Deluxe 97	5R08 75	DT-495 17	CX2 34
T-728 24	6509 46	TR-1645 51	6K87B/D/J 75	T-13 16	CX27G/W,CX28B/
TH-600 43	6521-FX 48	TR-1660 37	6K88A/B/C 76	T-22M/U 18	W 28
TH-610 57	JEFFERSON TRAVIS	TR-1948 39	6K89B/D/N 79	T-30 13	L12G/N, L13S/W,
TH-620 69	JT-D210 13	TR-2051 37	6K98A/B/D 77	T-35 24	L14E 6
TH-621 4	JT-E212 12	TR-2051 37	6N45B 77	T-41M 21	TP1DE 94
TH-627R 30	JT-F211 10	TR-3047 37	6N48B 80	T-41U 18	TP8DE/DH/DL 93
TH-640 13	JT-G104 11	12KC1 77	7N45B 77	T-50 17	TP10DE/EE 89
TH-650 26	JT-G200 14	17G0104 52	7S41A/B/H 78	T-70M 21	TP81BN 68
TH-660 19	JT-G204 12	17G6905L 52	8N53-94C 107	T-70U 17	X118/E/G/R
TH-667 7	JT-H105/S 15	17-4202L 77	8N56-94A 108	T-92 20	(E.P.) (L.P.) 7
TH-680 56	JT-H204 13	99-3515L 72	8R35B-94C 105	MELODIC	X12A/E,
TH-759 21	JEWEL	99-3523L 94	8R-202A 44	GT-586 14	X12A-1/E-1 8
TH-812 33	10 49	99-3524 100	8S74B 102	MT-69 15	X14B/E/R/W,N,
TH-815 83	JULIETTE	99-3526WX 105	9R36 101	MIDLAND	X15A/E/N 10
TH-841 34	AFS-160 100	99-3528 97	10R-200A3 45	10-1068 72	X168/G/N,
TH-848 43	APB-11H 101	99-3530L 98	10R-303A 47	10-112 88	X17B/N/R 11
TH-862R 8	APR-1400 101	99-3534L 99	MACO	10-1368 73	X19A/E 13
TH-890 52	AT-60H 64	LINCOLN	AB-100 8	10-138 68	X21W 15
TH-900 84	AT-65/-85 62	L640 24	AB-175M 21	10-140 73	X238/V,X24N/W 20
WH-761M 15	AT-105 63	TR-970 32	T-16 7	10-150 72	X25E/J 18
WH-761SB 16	AT-125 64	TR-1055 51	MAGNAVOX	10-180 74	X26J/W 19
WH-817 20	AT-105 63	TR-1844/-1946 33	AM-22 11	10-210 42	X27E/W 20
WH-822 8	AT-105 63	TR-3047 34	AM-23 9	10-310 42	X28A/N,X29N/W,
WH-822H 35	AT-105 63	TR-3422 32	AM-60 15	10-312 78	X31A/N 17
WH-822M 19	AT-105 63	TR-4016 26	AM-61 58	10-324 106	X37B/E/S 22
WH-829 8	AT-125 64	TR-4250 51	AM-62 24	10-326 106	X39E/N/S,X40E/S,
WH-829M 25	AT-125 64	TR-4250 51	AM-64 25	10-408 43	X41E/E-1/G/G-1,
WH-888R/-999 57	DTF-150 63	TR-4250 51	AM-80 16	10-409 89	X41N/N-1 24
WH-1160 96	FM-175 65	TR-4016 26	AM-81 58	10-410 43	X42E-1 30
XH-1500 14	FM-175 65	TR-4250 51	AM-82/-83 35	10-413 104	X47B/E 28
HOFFMAN	FPR-1240 104	TR-4250 51	AM-85 57	10-414 105	X48E/N 29
BP 706 4	FPR-1250 105	TR-4250 51	AM-89 57	10-416 87	X49B/E/N,X50B/
BP 707 17	NA-1114 100	TR-4250 51	AM-89 57	10-420 85	E/N 30
BP 708 16	NA-1818 102	TR-4250 51	AM-89 57	10-422 99	X51N,X54B/E 29
BP 709 32	NA-1840 108	TR-4250 51	AM-89 57	10-424 78	X56E/G 31
EP706,KP706 4	NA-5018 96	TR-4250 51	AM-89 57	10-430 42	X57E/N, X61E/N 59
KP707 17	ST-1212 67	TR-4250 51	AM-89 57	10-430E 86	X64E 66
KP708 16	TK-1228 101	TR-4250 51	AM-89 57	10-432 101	X65E 80
KP709X 32	KENT	TR-4250 51	AM-89 57	10-436 107	X70E/N 31
KP709X-CD 34	TR-605 61	TR-4250 51	AM-89 57	10-440 45	X80N 45
KP728 31	KNIGHT	TR-4250 51	AM-89 57	10-440C 83	XP1CE/L/N 75
OP707 17	KN-2400 41	TR-4250 51	AM-89 57	10-444 74	XP2CE/CH/CL/CN 75
OP708 16	24SU2290 41	TR-4250 51	AM-89 57	10-444 74	XP3CE/CH/CL 80
OP709 32	KOWA	TR-4250 51	AM-89 57	10-500 71	XP4CE/CG/CN/CU 80
P410 Series/	KT-31 8	TR-4250 51	AM-89 57	10-515 75	XP5DE/DH/DL 93
411 Series 1	KT-62A 12	TR-4250 51	AM-89 57	10-530 105	XP6EE/EH/EL 108
PP706,PR706,	KT-63 13	TR-4250 51	AM-89 57	10-540 106	XP7CE 81
TP706 4	KT-66 12	TR-4250 51	AM-89 57	11-406 42	XP22DE/DL,
TP709/19 32	KT-67 13	TR-4250 51	AM-89 57	MINUTE MAN	XP23DE/DL/DN 97
727X/28 31	KT-81 15	TR-4250 51	AM-89 57	6T-170 7	XP32FE/FL 106
729 33	KT-91 17	TR-4250 51	AM-89 57	MITCHELL	XP42EE/EH 108
759 44	KTF-1/KTS-1B 14	TR-4250 51	AM-89 57	1101/02/03 2	XP44EE/EL 105
Chassis	KOYO	TR-4250 51	AM-89 57	MITSUBISHI	XP68BE,XP69BE/
BP317 17	KTR-834 49	TR-4250 51	AM-89 57	FX-233 59	BN,XP73BE/BN 67
8P318 16	KTR-1031 61	TR-4250 51	AM-89 57	FX-412/-570E 58	XP73BE/BN 67
1109 1	KROY	TR-4250 51	AM-89 57	7X-164 58	XT18B/S 12
1123 4	T-880/-910 78	TR-4250 51	AM-89 57	9X-628/-980 58	6X28B/N/P/W 4
HONEY TONE	LAFAYETTE	TR-4250 51	AM-89 57	MMA	6X31C/N/R,6X32E 1
FR-601 21	FS-91 12	TR-4250 51	AM-89 57	F-100 30	6X39A/A-1/A-2 3
KTF-102G 24		TR-4250 51	AM-89 57	F-140 29	7X23E,7X24S/W 5
TR-801 26		TR-4250 51	AM-89 57	TF-52 26	7X25P/W 7
8TP-412 22		TR-4250 51	AM-89 57	6TP-317 25	8X26E/S 5
604 27		TR-4250 51	AM-89 57	8TP-412 23	56T1 2
		TR-4250 51	AM-89 57		66T1,76T1/T2 1
		TR-4250 51	AM-89 57		Chassis
		TR-4250 51	AM-89 57		HS-483 2
		TR-4250 51	AM-89 57		HS-507/-556/-563/
		TR-4250 51	AM-89 57		-564 1
		TR-4250 51	AM-89 57		HS-630 3

MOTOROLA (CONT.)	VOL.	NORRICO (CONT.)	VOL.	PANASONIC (CONT.)	VOL.	PENNCREST (CONT.)	VOL.	PHILCO FORD (CONT.)	VOL.	RCA (CONT.)	VOL.
HS-638	4	L2X28T/00/03	40	R-111	71	1991	39	T-600		RLG23A	92
HS-678	7	L2X42T/00L/00R/		R-132	69	3531,5534	50	(Code 124)	4	RLG34T	99
HS-679	5	S2L/S2R	53	R-140	45	Chassis		T-700/-800 (Codes		RLM52A/G	98
HS-683/-684	3	L2X97T	9	R-141	70	2.71301	29	124/26)	2	RLM54E/58Y	96
HS-688	5	L3W22T/00E/00F,		R-147, R-157	48	PENNEY, J.C.		T-703		RLM66E/95EK	95
HS-728/-729/-730	6	L3W22T/00L/54L,		R-502	43	620	26	(Code 124)	30	RLM67B	91
HS-732	8	L3W22T/88E/88F,		R-607	63	628	29	T-802	13	RLM68E/96AK	96
HS-759 (L.P.) (L.P.)	7	L3W22T/88L/97E,		R-807	61	629	23	T-804	25	RZD32B/G	97
HS-789-1/-2	8	L3W22T/97F/97L	40	R-1000	62	Chassis		T-805 (Codes 124/		RZG28Y	100
HS-795/-796	10	L3X09T/54	18	R-1000 (L.P.),		2.71301	29	26)	27	TIEH/EN/JE, T2E/	
HS-797/-798	11	L3X19T/97	41	R-1010	77	PERDIO		T-901BK/BR	14	J/K, TC1E/PE/JE	6
HS-799	15	L3X42T/00C,G,R,		R-1076	76	Super 7	11	T-902 (Codes 124/		TX1HE/K/JE	8
HS-802	12	X/64R/88R	75	R-1082	71	PETITE		26)	26	1-BT-21/-24/-29	5
HS-876	15	L3X76T-01/-02/		RC-155/-175	55	NTR-120	12	T-905		1-BT-32/-34/-36	4
HS-877	19	-04/-05/-07/-1G	13	RD-2001	73	NTR-150	13	(Code 124)	21	1-BT-41/-46/-48	2
HS-880/-881	20	L3X86T/88T	10	RF-775	74	NTR-800	47	T-907	28	1-BT-58	3
HS-882	18	L3X95T/00E/00S/		RF-800	64	PHILCO-FORD		T-908GY	37	1-MBT-6	4
HS-883	19	00W/00X, L4X05T	14	RF-811	61	NT-600BKG		T-909BR/GR	35	1RB11/G14/G15	19
HS-884/-885/-894	17	L4X25T	41	RF-815	45	(Code T.W.)	80	T-911	32	1RG31/33/34/41/	
HS-915	20	L4X95T	11	RF-820	47	NT-600BKG	40	T-1000	8	43/46	22
HS-918/-919	18	L5W34T/01	53	RF-835	48	NT-601BK	55	TC-47	9	1RH10/11/12/13	15
HS-990	28	L5W44T/00	72	RF-1006	45	NT-602BK/WI	44	TC-57	12	1T4E/H/J	9
HS-1005	22	L5X38T/00/01	41	RF-1006M	76	NT-802WHG	47			1TSJ/L	10
HS-1007/-1008/		L5X58T/00R	74	RF-2000	73	NT-807	50	PLATA		1TP1E/HE/JE	11
-1009	24	L6X38T/54	76	RL-112	46	NT-808	49	7R-52	67	1TP1E/HE/JE	15
HS-6108	28	L122G/X, L228, L322	40	T-7	26	NT-814BKG/-815BK	59	7TS-340	67	1TP2E/J	11
HS-6110	34			T-9	42	NT-900	45	8R-34	67	3RG14/G/31/G,	
HS-6111	29	NORTH AMERICAN		T-13	16	NT-900BK	54	8R-75	62	32/G, 61/G, 64/G	25
HS-6112	30	1010	72	T-13P	37	NT-906BKG	47	8S-31	63	3RG81	28
HS-6114	29	1400	63	T-22M, U	18	NT-912BK	57	8S-370	65	4RG11/G, 4RG12/G,	
HS-6117	31			T-30	13	NT-913BK	56	81S-365	65	16/G, 31/G, 34/G	25
HS-6118	30	NORWOOD		T-33	41	NT-1004	50	9FM-64	66	4RG51/G, 52/G,	
HS-6121	45	NA-1200	45	T-35	24	PT-804BKG	71	9TA-370	20	4RG56/G, 61/G,	
HS-6123	29	NM-600	45	T-41M	21	PT-914	80	9TS-375	66	4RG62/G, 66/G	29
HS-6124	31	NM-800	46	T-41U	18	PT-904BK	82	10F-68	66	4RM41	36
HS-6125	59	NM-1000	48	T-50	17	QT91BKG (L.P.)	87	10TF-530	68	7-BT-9J/-10K	2
HS-6133	80	NS-901	46	T-50AA	36	(SN 2161001 Up)	87	101S-377	64	8-BT-7J/-71E,	
HS-6137	59	NT-602	45	T-53	24	QT92BK		14F-77	66	8-BT-8FE/-8JE	1
HS-6139	66	NOVA-TECH		T-59	36	QT9239001 Up)	90	14SF-38	69	8-BT-10K	2
HS-6202	67	Action !! (I1)	105	T-66	21	QT-93BK/-94BK	84	POLYRAD		9-BT-9E/-9H/-9J	1
HS-6204	68	Pilot Pal	33	T-70M	19	QT-95BK	85	P-86	12	RC-1156/A	2
HS-6207/-6208	67	Pilot II	76	T-70U	17	QT-96BK/WA	83			RC-1156B	3
HS-66200/01	75	OLD PARR		T-81	40	RT9108KG	95	988837	1	RC-1159	6
HS-66202/03	80	6TR-305	77	T-81H	49	RT992CB/BR	106	RCA		RC-1196A	8
HS-66204	93			T-89M/-89S	45	RT993GY	106	BC3	4	RC-1197	9
HS-66206	81			T-92	20	RT994BK	94	BC3	5	RC-1199A	11
HS-66207	93			T-92	20	RT995BK	106	BCS4	4	RC-1199B/D	15
HS-66227	89			T-100M	53	RT999BK	93	BCS4	5	RC-1200C	19
HS-66249	108			T-601	33	T-3 (Codes 124/		PT1	6	RC-1208A/B	22
				T-745	41	26/28/30)	6	RFG20A/AG/H/H/G/		RC-1208C/D/H	25
				T-808	39	T-4, T-4J		V/VG, RFG25B/BG/		RC-1212	28
						(Code 124)	5	E/EG	44	RC-1214A	29
						T-5	3	RFG3E/W	37	RC-1216	37
						T-6 (Code 124)	4	RGG29E	61	RC-1219A/B	44
						T-7	2	RGH10E	73	RC-1219D	76
						T-7X (Code 128)	6	RGH112A/E/J	62	RC-1221A	61
						T-9 (Codes 124/		RGM19E	68	RC-1222A	62
						26)	5	RGM29E	68	RC-1229A/B	81
						T-50	8	RGM39E	71		
						T-50-126/-51-		RGM49E	70		
						124	10	RGM55E	76		
						T-52-124	12	RHE10E	80		
						T-60 (Code 124)	6	RHE15E	83		
						T-61BK/IV/TE	15	RHG21A/E/N	76		
						T-64 (Code 124)	25	RHG25A/E/N	76		
						T-65	7	RHH10E	82		
						T-66AQ/CR/IV	15	RHM19E/G/J	81		
						T-67/GP	28	RHM36E/J, 39E/G	81		
						T-68BK/BKG/WI/		RHM49E	82		
						WHG	31	RHM65E	84		
						T-69WH	35	RHM79EK	83		
						T-70-124	14	RJG12A/B/E	85		
						T-74-124	13	RJG15G/Y, 81EK/			
						T-75 (Code 124)	5	GK	87		
						T-76B/8R/T		RJG20B/E	86		
						(Code 124)	11	RJG25A/E/G, 80EK	90		
						T-77AQ/BK/IV	17	RJG30A	84		
						T-78 (Codes 124/		RJG37E/N	89		
						26)	7	RJG42E	86		
						T-81, T-81GP	29	RJM10A/J/R, 12A/			
						T-84BR	31	N	88		
						T-88	20	RJM21E/N, 23G/N	92		
						T-89BK/BR	24	RJM36E/D	90		
						T-90	25	RJM38E	88		
						T-500	3	RJM40E/45N,			
								RLM67B	91		
								RJM68E	84		
								RJMS2DK/EK,			
								8SEK	88		
								RK222	4		
								RK222	5		
								RK249	9		
								RLG20B/20E	93		

RAYTHEON VOL.	RHAPSODY VOL.	SEARS-SILVERTONE VOL. (CONT.)	SEARS-SILVERTONE VOL. (CONT.)	SEARS-SILVERTONE VOL. (CONT.)	SHARP (CONT.) VOL.						
T-100-1/-2/-3/ -4/-5/-150-1/-2/ -3/-4/-5,T-2500 . 2 8TP-1/-2/-3/-4 . 2	FA-101 36 TR8AT 31	211/12/13 9 214 8 217 6 220 7 222 9 1013 47 1016/17/18 47 1019 13 1044/45/46 15 1201 12 1202/03/04/05/06/ 07 15 1208/09 14 1215/16 11 1217 10 2016 20 2201 18 2202/03/04 20 2205/06/07 18 2208/09 16 2212/13 19 2214 19 2215/16 17 2218 22 2223 (EP) 18 2223 (LP) 101 2224 (EP) 21 2224 (LP) 101 2226/A 20 2230/31/32 103 2237/38 100 2263 99 2267/68 102 2270 100 2273 104 2276 105 2278 108 3208/09/10 26 3211/12 25 3219/20 25 3221/22 27 3223/24/25 27 3226 26 3228 21 3229 28 4041 51 4201/02/03/04 29 4205/06/07 51 4208/09/10 26 4211/12 25 4217 53 4219/20 25 4221/22 27 4223/24/25 27 4228 35 4229 40 5043,5044 48 5201 41 5201-A 51 5202/A,05/A, 54 04/A,05/A 54 5208/09/10/11 44 5212/13 36 5214 50 5217 52 5219/20 42 5221/22 42 5223/24/25 45 5226 50 6040/41 61 6045 61 6200 82 6201 61 6202/03/04 65 6208/09/10/11 63 6217 70 6223/24/25 64 6226 74 6228 71 6229 75 7200 82 7201 85 7202/03/04 85 7208/09/10/11 86 7212/13 86 7214/15 83 7216 75 7218 82 7219/20 80 7221 79 7222 80 7226 83 7228 88 8200 8 8204/06 1 8214/15 97 8216 95	8219/20 (1968) . . . 88 8220 (1948) . . . 3 8221 . . . 93 8222 . . . 98 8223/25 . . . 87 8226 . . . 83 8227 . . . 92 8228/29 (1948) . . . 5 8228 (1968) . . . 88 8229 (1968) . . . 88 9014/15/16 . . . 6 9202/03 . . . 4 9204/05/06 . . . 5 9222 . . . 5 9226 . . . 7 42051/61/71 . . . 33 42081 . . . 34 42091 . . . 34 42101 . . . 34 42191/201 . . . 35 42211/21 . . . 35 42231/41/51 . . . 35	528.53800/01/02 . . . 19 528.53900/01 . . . 17 528.53910 . . . 11 528.53920 . . . 10 528.54080 . . . 15 528.54090/91 . . . 22 528.54100/01/02/ 05 (EP) . . . 18 528.54110/11/12/ 13 (EP) . . . 21 528.54120/21/ 80 . . . 20 528.54320/21/23 . . . 25 528.54330/31/32 . . . 27 528.54342 . . . 27 528.54360/61/62/ 63 . . . 28 528.54390 . . . 18 528.54580 . . . 27 528.54590 . . . 27 528.54650/31 . . . 25 528.54640/41 . . . 27 528.54650/51/52 . . . 40 528.54660 . . . 35 528.54700 . . . 31 528.54710/11 . . . 27 528.54950 . . . 35 528.54960 . . . 35 528.54970 . . . 35 528.65030 . . . 42 528.65040 . . . 42 528.63050 . . . 45 528.63060 . . . 48 528.63130/31 . . . 64 528.63140 . . . 82 528.63150 . . . 61 528.63160 . . . 61 528.63610 . . . 82 528.63620 . . . 80 528.63640 . . . 82 528.63860 . . . 88 528.63870/71 . . . 87 528.63880 . . . 88 528.64160/61 (LP)101 528.64170 . . . 104 528.64180/81 . . . 100 562.10101 . . . 75 565.20000 . . . 56 565.20100 . . . 71 565.20110/11 . . . 88 564.40000 . . . 79 564.40010 . . . 80 564.40050 . . . 88 564.40050 . . . 92 564.40060 . . . 108	132.20701 . . . 83 132.22401 . . . 85 132.22501 . . . 85 132.29101 . . . 97 132.29201 . . . 95 132.29301 . . . 93 132.29401/02/03 . . . 98 132.30201 . . . 83 132.41501 . . . 103 132.41801 . . . 99 132.41901 . . . 102 132.42101 . . . 100 132.42201 . . . 105 132.42500 . . . 1 132.43100 . . . 3 132.43600 . . . 5 132.43601 . . . 9 132.45100 . . . 4 132.45103 . . . 8 132.45700 . . . 6 132.45701 . . . 46 132.48000/01 . . . 8 132.48700 . . . 46 132.50801/02, 60101/02 . . . 15 132.60201 . . . 12 132.60301 . . . 47 132.60401 . . . 47 132.60601 . . . 14 132.60701 . . . 13 132.61101 . . . 18 132.61901 . . . 16 132.62901 . . . 20 132.63201/02 . . . 19 132.63301 . . . 18 132.64101 . . . 20 132.67101/02 . . . 25 132.68201/02 . . . 26 132.69001/02 . . . 26 132.74601/02, 74701/02 . . . 29 132.74801 . . . 26 132.74901 . . . 33 132.76501 . . . 31 132.76701 . . . 25 132.80401 . . . 33 132.80701 . . . 34 132.81801 . . . 44 132.84401 . . . 41 132.84402 . . . 51 132.84501/02 . . . 54 132.84801 . . . 50 132.84902 . . . 52 132.85001 . . . 50 132.90201 . . . 61 132.90301 . . . 65 132.91201 . . . 74 132.91301 . . . 63 132.92301 . . . 70 132.98201 . . . 86 132.98301 . . . 83 132.98401 . . . 86 151.10000 . . . 73 528.48700/01 . . . 2 528.53140 . . . 3 528.53400 . . . 5 528.53430/31 . . . 7 528.53650 . . . 6 528.53660 . . . 7 528.53670 . . . 7 528.53680 . . . 9 528.55710/11/12 . . . 46	BP-460 27 BP-485 52 BP-486 66 BPC-12 98 BX-326 15 FV-1700 73 FW-503 37 FX-109 40 FX-110 60 FX-111 70 FX-112 74 FX-113 70 FX-114 78 FX-495 32 FX-502 47 FX-505/A, -506 . . . 20 FY-115 58 FY-151M 79 FY-514 32 FYS-25 76 FYS-151 59 TR-182 4 TR-203 19	SHAW 6TR6 55 8TR8 48 9FMI90 53 10TR10 49	SILVERTONE (See Sears-Silvertone)	SONIC TR-500 2 TR-600/-700 1	SONORA 610 1	SONY AFM-152 58 EFM-117 47 SSA10/11 72 STA10/11 72 STA-110 71 TFM-95 25 TFM-96 34 TFM-110W 71 TFM-116A 37 TFM-117WB 82 TFM-119A 55 TFM-121 12 TFM-121A 27 TFM-122 25 TFM-151 8 TFM-825 35 TFM-916 59 TFM-917W 54 TFM-951 37 TFM-1000W 103 TR-65 5 TR-84 13 TR-86 5 TR-510 15 TR-608 13 TR-609 18 TR-610 6 TR-620 12 TR-624 19 TR-630 24 TR-650 52 TR-710A/L 11 TR-711 47 TR-712 12 TR-714 14 TR-717B/Y 23 TR-725 35 TR-727Y 28 TR-730 24 TR-733 35 TR-751 32 TR-752 81 TR-810 14 TR-812 13 TR-814 15 TR-815B/Y 21 TR-816/Y 29 TR-817 27 TR-818 27 TR-820A 36 TR-824 44 TR-826 34

SONY (CONT.)	VOL.	STAR-LITE (CONT.)	VOL.	SYLVANIA (CONT.)	VOL.	TOSHIBA (CONT.)	VOL.	TRUETONE (CONT.)	VOL.	TRUETONE (CONT.)	VOL.
TR-830	52	PM-714	57	311-1	40	6TC-485	23	DC3164A/66A	20	TAE3782A-76	
TR-833A	49	Royal 915		324-1	37	6TP-31A	27	DC3280	21	(DC3782)	81
TR-910T	36	(FR-915)	59	325-1	55	6TP-304	9	DC3306	25	TAE3810A-86	90
TR-911	30	RY-516	52	326-1	60	6TP-309Y	7	DC3316	27	TAE3812A-86	
TR-1000	97	SF-400	58	327-1	60	6TP-314	9	DC3318	25	(DC3812)	94
TR-1811	48	SP-514	50	328-1	56	6TP-354	10	DC3326	45	TAE3850A-86	
TR-6080	26	TD-660	50	330-1	61	6TP-357	12	DC3338	27	(DC3850)	92
TR-6120	34	TFM-620	46	331-1	61	6TP-385	15	DC3346	46	TAE3852-86	90
TR-7120	46	TM-680	57	333-1	77	6TP-394	12	DC3350	44	YRC3908A-86	
TR-7170/C	30	TO-812	39	334-1	74	6TP-515	20	DC3406	27	(DC3908)	101
TRW-621	16	TR-628	50	335-1	81	6TR-92	5	DC3407	45	YRC3910A-96	102
1R-81	67	TR-709	55	337-1	62	6TR-186	5	DC3407B/C	42	YRC3972A-96	106
2R-21	68	TR-905	50	338-1	83	7P-130S	32	DC3408	47	1327	99
3F-61W	97	TR-960	55	340-1	85	7TH-425/Y	14	DC3408B	42	2215	100
3F-66W	100	TRJ-10	58	341-1	84	7TH-513A	28	DC3416	43		
3F-77W	108	TRN-69	39	342-1	84	7TM-312S	14	DC3418/B	43	UNITED ROYAL	
3RA-62	84	TRN-89/-90	39	343-1	87	7TP-21	23	DC3426	43	Ten Hundred	36
SF-90W	84	TRN-112	38	344-1	86	7TP-30	13	DC3429B	47		
7F-74W	85	TRN-899/-990	37	345-1	88	7TP-303	15	DC3436	47	UNIVERSAL	
7F-81W	106	TS-640	59	346-1	86	7TP-352M	12	DC3438	31		
7FA-70W	100	TW-800A	46	348-1	92	7TP-352S	11	DC3440/B	46		
8F-31W	98			349-1	90	8L-420R	28	DC3448	31	PTR-62B	25
		SUDFUNK		350-1	95	8P-823F	99	DC3449	33	RE-64	45
SOUNDESIGN		K986A	12	351-1	98	8P-870F	97	DC3459	31	VANTAGE	
SD-1094	57			352-1	102	8TH-428R	29	DC3460	46	3002	70
SD-1670	53	SUPEREX		353-1	107	8TM-41	21	DC3462	33	4597	71
SD-1889	58			649-1/-2	11	8TM-294	8	DC3506	46	VESPER	
SD-2038	79	TR-66	8	661-1	10	8TM-294A/B	14	DC3550	42	G-1110	30
SD-2091	62			666-1/-2	13	8TM-300S	7	DC3562	50	VICTORIA	
		SUPERSONIC		673-1	12	8TM-613	30	DC3606	66	TR-650	11
SPARTAN				679-1	14	8TP-90	23	DC3608	61	VISCOUNT	
Chassis		P.R. 80	60	682-1/-2/-3	17	8TP-686F	33	DC3609	61	601	60
CR729AA, CR729BA	2	P.R. 80C	64	690-1	18	9TL-365S	20	DC3610	62	602	16
		P.R. 94T	103	700-2	23	9TL-641R	35	DC3612	63	711	64
						9TM-40	16	DC3614	73	712	62
SPICA		SUPREME				10M-890F	101	DC3614	73	832	65
FM-102	77	TR-803	17			10TL-429F/FY	15	DC3649	76	1022	59
FM-122	65			4597	70	10TL-655F	31	DC3649	76	1440	65
FM-142	78	SYLVANIA				10TM-631F	35	DC3662	72	VISTA	
ST-600	49					11L-805F	101	DC3672	66	G-1050	36
ST-608	75	TH10W	17	S-52	25	11L-855F	103	DC3708	75	LTR-106	60
ST-711	64	TH16 Series	23	S-73	26	12L-828F	103	DC3718	77	NTR-8G	63
ST-822	64	TR22	37	S-84	26	12TL-666F	36	DC3762	75	NTR-800	34
		TR25	38	S-93	27	14L-828F	102	DC3810	90	NTR-850	32
		TR35	40	SF-400	28	62VT95	30	DC3852	91	NTR-890	61
		TR40	40	SF-600	29			DC3853	90	NTR-966	33
		TR50	55			TRANCEL		DC3884	4	8A-104	61
		TR54	56			T-7	6	DC3886A	4	10	61
		TR58	60			T-11	21	DC3908	101	440	74
		TR60	60			TR-81	21	DC3910	102	VORNADO	
		TR62	61	TANDBERG				DC3912	99	V-600	52
		TR64	61	Transistor				DC3914	103	V-700	51
		TR66	62	Radio	41			DC3915	105	V-820	51
		TR76	77	TIMES		TRANSETTE		DC3954	107	V-1000	52
		TR80	74	TR801	26	TRN-3/-346B	13	DC3955	108	V-1007	67
		TR86	81	TOKAI		TRN-700	53	DC3962	102	V-1670	55
		TR102BG	83			YRM6	17	DC3972	106	V-1800	68
		TR110BK	85	FA-9V/-941	50	10-440	45	DC3974	104	V-2091	55
		TR114CH	84	FA-951	32	TRANSITONE		MIC3704A-76		V-3002	69
		TR120BG/WI	84	FA-1051	34	TR-1645	35	(DC3704)	83	V-4597	72
		TR122 Series	90	FA-1251	37			MIC3709A-76		WALTHAM	
		TR124GY	87	G-607	16	TRANSONIC		(DC3709)	82	WA1001	54
		TR125BN	95	HA-911	35			MIC3715A-76		WA3201L	54
		TR126BK	86	MA-911	37	9T-641	42	(DC3715)	85	WAS001	54
		TR130MH	88	MS-21	55	10PL62	41	MIC3718A-76	77	WAS001	54
		TR132GY	86	RA-9	54	1095N	43	MIC3750A-76	83	WAS102L	54
		TR136BK	98	RA-9	54			(DC3750)	83	WAS303L	52
		TR137BK	102	RA-611	31			MIC3755A-76	86	WAS5771	77
		TR140BK	92	RA-711	32	TRAVLER		(DC3755)	86	WB4101	52
		TR150BK	107	RA-801	34	TR-250-A/-251-A	2	MIC3806A-86	91	WBS201L	53
		4P05/06E	18	SA-911	34	TR-280/-281/-282/-285	3	(DC3806)	87	WB7303L	52
		4P14	10			TR-600, TR-601	17	MIC3853A-86	91	WM8001	82
		4P19W/WC/WD	17	TONECREST		TR-620, TR-625,		MIC3914A-96	103	WARDS AIRLINE	
		5P10B, 11R/T	10	645	52	TR-630	13	MIC3915A-96	105	GEN-1106A/12A	3
		5P16R/S/T	11	946	51			MIC3954A-96	107	GEN-1119A	
		6P08B/T, 09W	13	1051	51	TREND		MIC3955A-96	108	(62-1119)	94
		7K10/11	14	1094	58	FR-625PH	60	MID-3718A-76	77	GEN-1120A/B/C	5
		7P12E/T	9	1670	60			MID-3853A-86	91	GEN-1126A	5
		7P13	9	1800	69			REC3912A-96	99	GEN-1130A/B/31A	12
		8P18B/W	12	1801	68			REC3952A-96	100	GEN-1146A	74
		2800/08/09, 2901	9	1889	56	TRUETONE		(DC3952)	100	GEN-1156B	75
		3100	9	2091	57	D3614A	2	REC3962A-96	102	GEN-1157A	82
		3203GR, 04TU/YE	3	4597	73	D3715A	3	REC3974A-96	104	GEN-1159A	97
		3211	9			D3716A	1	RLT3808A-86		GEN-1176B	80
		3305BL/TA	3	TONEMASTER		D3716B	3	(DC3808)	94		
		3406 Series	7			DC1400	42	RLT3962A-86	102		
STAR-LITE						DC2405	33	SDC3752A-76	81		
AF-642	59	Chassis				DC2517/21	47	(DC3752)	81		
DF-118	52	1-616-2	7	TOSHIBA		DC3050	5	SDC3762A-76	86		
DP-222	55	1-617-1	3			DC3052	7	(DC3762) (Rev.)	85		
FM-50	49	1-617-4	9	STP-315Y	11	DC3084	9	SDC3772A-76	76		
FM-500	51	1-620-1	3	3WX	15	DC3088A	8	(DC3772)	82		
FM-620S	41	1-637-1	10	STP-90	13	DC3085A/B	9	SDC3862A-86	82		
FM-820	54	1-638-1/-2/-3	9	5TR-195/-194	4	DC3088A	8	(DC3862)	98		
FM-900	51	309-1	38	6P-10	27	DC3090	10	TAC3714A-76	91		
FT-412	56	310-1	40	6P-15	21	DC3090 (Rev.)		(DC3714)	87		
GK-615	52					3105A/B	23	TAC3754A-76	84		
MF-147	53							TAE3754A-76	84		

WARDS AIRLINE (CONT.)	VOL.	WARDS AIRLINE (CONT.)	VOL.	WESTINGHOUSE (CONT.)	VOL.	YAOU	VOL.	ZENITH (CONT.)	VOL.	ZENITH (CONT.)	VOL.
GEN-1177A	83	62-1244	41	H-907P8	36	6G-909 (909)	19	Royal 490L	33	7AT42Z1	3
GEN-1188A	86	62-1329	103	H-908PN9GP	56			Royal 500	2	7AT43	3
(62-1188)	86	62-1359	99	H-909PN9/GP	31	YASHICA		Royal 500CN/WN	75	7AT43Z1	4
GEN-1202A	17	62-1379	101	H-914P8GP	50	AR-605, YR-665	25	Royal 500FL	40	7AT43Z3	3
GEN-1202B	22	62-1399	104	H-914P8GPC	86	YT-100	13	Royal 500GH	21	7AT44Z1	6
GEN-1206A/07A	15	62-1416A	71	H-919PN9GP	76	YT-300	14	Royal 500GHI	40	7AT46Z1	7
GEN-1208A	20	62-1428	91	H-926P8GP	81			Royal 500RD/WD	3	7AT47Z/22/Z4,	
GEN-1212A	16	62-1447A	78	H-926P8GPA	87			Royal 500RE/WE/		7AT48Z/22/Z4,	
GEN-1213A	24	62-1457	83	H-929P8GP	77	YORK		YE	27	7CT40Z1/Z2	8
GEN-1214A	14	62-1458	90	H-938P6GPA	83	B/E-80	95	Royal 500WH	21	7CT43Z1	10
GEN-1215A	19	62-1467A	78	H-939P8GP/GPA	86	B/E-100	95	Royal 500WH1	40	7FT45Z1	16
GEN-1218A	21	62-1468	91	H-950PN10	54	B/E-101	103	Royal 500WL	40	7GT40Z2	23
GEN-1222A	24	62-1479	106	H-955XP8	81	B/E-102	104	Royal 500YD	3	7KT43Z1/5	28
GEN-1225A	26	62-1487	90	H-955XP8A	85	B/E-150	99	Royal 500YH	21	7KT45Z1	33
GEN-1228A	25			H-954P6/-955P6/ -956L6/-957L6/ A/B/-958L6/A	57	TR-65	61	Royal 500YH1	40	7MT43Z2	58
GEN-1229A	27	WATTERSON		H-968PL	77	TR-81/-84/-86/ -87	30	Royal 500YL	40	7MT44Z2	65
GEN-1231A	28	601	3	H-969C/C/GP	83	TR-89	62	Royal 555C/W	74	7MT45Z8/9	66
GEN-1232A	34			P951PN10	82	TR-90	63	Royal 640G/J/W/		7XT40/Z/Z1	2
GEN-1240A	36	WEBCOR		RF43U070	88	TR-99	62	Y	73	7ZT41	1
GEN-1245A/B	41	B-308	18	RF52U58A	98	TR-100	30	Royal 645L/Y/Y	33	8AT40Z2	3
GEN-1244A	41	E-306	15	RG15S68A/B/C	97	TR-101	61	Royal 645LN/YN	73	8AT41Z2	4
GEN-1245A	36	E-307	40	RG21S570	84	TR-103	61	Royal 650L/W/Y	27	8AT42Z2	5
GEN-1246A	35	E-312	20	RG32S170	88	TR-104	62	Royal 670L	34	8CT40Z7	27
GEN-1247A	37	E315	40	RS11P28A/16P98A/ 21P08A	94	TR-105	62	Royal 675L	9	8CT41/Z2	11
GEN-1247B	55	E314	40	Chassis		TR-106	62	Royal 700L	3	8CT42/Z2	12
GEN-1248A	37	E315/L/S	42	V-2278-1	2	TR-121	63	Royal 700L	4	8GT41Z2	25
GEN-1249A	37	E316	42	V-2278-2	1	TR-122	62	Royal 705JM/YM	66	8GT43Z2	28
GEN-1249C	53	G-309	19	V-2278-3	1	TR-123	62	Royal 710CM/LM	65	8HT40Z2	21
GEN-1253A	48	R-305	15	V-2278-4	2	TR-140	30	Royal 710CM/LM	58	8KT40Z2	36
GEN-1254A	48	310	22	V-2278-5	5	TR-150	62	Royal 710L	10	8KT41Z2	25
GEN-1255A	58	311	47	V-2295-1	1	TR-151	60	Royal 710LK	28	8KT43Z2	28
GEN-1257A	51	WESTCLOX		V-2296-1	1	TR-152	76	Royal 745LL/YL	42	8LT40Z1	40
GEN-1258A	52	80002/4/6/10/12	17	V-2393-1	4	TR-153	100	Royal 750L	4	8LT45Z1/3	40
GEN-1258B	59	WESTINGHOUSE		V-2393-3	7	ZENITH		Royal 755L	11	8MT40Z2	68
GEN-1259A	44	CR-566	81	V-2393-4	20	MS60C/L/W,		Royal 755LG/LK	25	8MT41Z2	57
GEN-1260A	56	CR-570	82	V-2397-1	5	M875C/V/W	57	Royal 755LM/YM	57	8MT43Z3	58
GEN-1261A	56	H-587P7	2	V-2397-3	8	Royal 10C1/W1	90	Royal 760	5	8MT50Z8/Z9	54
GEN-1262A	53	H-588P7	2	V-2397-4	14	Royal 11P/W	102	Royal 780	12	8MT51Z8/Z9	54
GEN-1300A	88	H-588P7A	1	V-2397-5	18	Royal 12C1/L1/	89	Royal 790Y/YK	28	8MT52Z8/Z9	55
GEN-1319A	98	H-589P7	2	V-2399-1/-3	9	Royal 14J1/W1/	89	Royal 790YM	58	8NT40Z8/Z9	75
GEN-1329A	103	H-589P7A	2	V-2402-1	9	Y1	89	Royal 800	1	8NT42Z8/Z9	74
GEN-1336A	69	H-602P7	1	V-2403-1	10	Royal 15C/W	101	Royal 810J/L/Y	72	8NT45Z8	73
GEN-1338A	87	H-610P5/-611P5/ -612P5	1	V-2403-1 (L.P.)	19	Royal 20C/P/V/W/	82	Royal 820C/L	42	8NT45Z9	73
GEN-1356A	71	H-617P7/-618P7/ -619P7	1	V-2403-6	36	W	89	Royal 850C/L/V/	6	8NT47Z8/Z9	82
GEN-1357A	84	H-621P6/-622P6/	2	V-2403-7	42	Royal 15C/W	101	Royal 850C/L/V/	6	8NT50Z8/Z9	67
GEN-1359	89	H-651P6/-652P6/ -653P6	2	V-2404-1	11	Royal 15C/W	101	Royal 880L/Y	31	8NT51Z8/Z9	67
GEN-1369A	100	H-655P5/-656P5/ -657P5	4	V-2404-1	11	Royal 20C/P/V/W/	82	Royal 900G/P/W	6	8NT52Z8/Z9	81
GEN-1377A	85	H-685P8/-686P8	5	V-2422-1/-4	23	Y-1	105	Royal 950	7	8XT45Z9	105
GEN-1378A	89	H-690P5	7	V-2425-1	25	Royal 38J	92	Royal 955Y	86	8XT50Z9	89
GEN-1379A	101	H-695P8/-694P8/ -695P8	5	V-2425-2	44	Royal 39L/Y	108	Royal 990Y	84	8XT51Z9	89
GEN-1397A	87	H-699P7	7	V-2425-3	36	Royal 40	27	Royal 1000	3	8XT52Z9	90
GEN-1398B	102	H-707P6GPA	83	V-2426-2	36	Royal 44L/Y	99	Royal 1000D	6	8XT53Z9	92
GEN-1399A	104	H-712P9A/-713P9A/ -713P9A	27	V-2426-3/-3M	35	Royal 50C/L/V/	11	Royal 1000-1	73	8XT56Z9	104
GEN-1408A	86	H-725P6/-726P6/ -727P6/-728P6	8	V-2429-1	26	W/Y	11	Royal 2000	16	9HT40Z2/41Z2	23
GEN-1416A	71	H-729P7/-730P7	9	V-2451-1	31	Royal 50C/LK/	27	Royal 3000	33	9HT40Z8	73
GEN-1417A	84	H-732P7/-733P7/	10	V-2455-1/-2	36	Royal 55K-1/W-1/	102	Royal 3000-1	74	9KT42Z6	31
GEN-1427A	79	GT	10	V-2455-3/-4	36	VK/WK	27	R10C1/W1	90	9KT42Z8	42
GEN-1428A	91	H-790P6/GP	11	V-2456-1	36	Royal 50F/L/L/VL/	28	R11P/W	102	9KT42Z8	42
GEN-1436A	69	H-791P6/GP	20	V-2459-1	56	YL	28	R12C1/L1/W1	89	9NT41Z8	72
GEN-1457A	77	H-795P6GP	18	V-2460-1	50	Royal 51J1/L1/	84	R14J1/W1/Y1	89	9NT42Z8	86
GEN-1477A/B	86	H-795P6A/GP/GPA, -796P6A/GP/GPA, -797P7A/GP/GPA	19	V-2460-3	86	Royal 51J1/L1/	84	R15C/W	101	9XT41Z3	84
GEN-1479A	106	H-799P7A/GA/GP, -812P8/-866P8	23	V-2461-1	50	Y1	84	R20C/P/V/W	82	9XT51Z9	108
GEN-1487A	90	H-841P6/GPA	25	V-2461-2/-3	83	Royal 59C/F/W	55	R35J-1/W-1/Y-1	105	9XT52Z9	99
GEN-2030A/B	10	H-842P6/GPA	25	V-2463-1/-2/-3/ -4	57	Royal 59C/F/W	55	W-1	81	9XT57Z9	106
GNT-1215	19	H-842P6GPA	44	V-2464-1	54	Royal 60C/L/W	27	Royal 60C/L/W	27	11ET40Z2	16
GTL-1234A	24	H-846P8GP/GPM	35	V-2467-1	76	Royal 68C/L	104	Royal 60C/L/W	27	11NT42Z8	82
GTM-1108A	1	H-847P8	36	V-2468-1	77	Royal 72C/J	108	Royal 68C/L	104	11NT44Z8	84
GTM-1109A	2	H-868P1	26	V-2571-2/-3	98	Royal 75J/L	106	Royal 72C/J	108	12KT40Z3	33
GTM-1200A	11	H-890P6GP	36	V-2580-1	85	Royal 78Y	82	Royal 75J/L	106	12KT40Z8	74
GTM-1201	7	H-893P8GP	36	V-2583-1	82	Royal 80F/V/W/Y	54	R72C/J	108	13YT40Z3	101
GTM-1230A	27	H-896P6	36	V-2584-1	81	Royal 85F/J/L/W	67	R73J/L	106	16-1	102
GTM-1233A	25	H-898P8/-899P8	36	V-2584-2	87	Royal 90C/L/V/W	25	R78Y	82	17-1	101
62-1126	75	H-901P7GP	36	V-2585-1	77	Royal 91Y	86	R91Y	86	ZEPHYR	
62-1157	82	H-902P6GP	50	V-2586-1	88	Royal 92C	101	R92C	101	ZR-620	17
62-1159	97	H-902P6GPA	83	V-2587-1	88	Royal 94Y	84	R94Y	84		
62-1176B	80	H-905P8GP	42	V-2588-1	84	Royal 100C/F/L/ P/W	14	R955Y	86		
62-1177	83	-904P8GP	42	V-2593-1	97	Royal 125C/L/P	25	R960Y	82		
62-1243	41					Royal 130F/J/W	30	R990Y	84		
						Royal 150F/J/W	42				
						Royal 150C/F/L/ W	19				
						Royal 180J/W/Y	54	Chassis			
						Royal 185C/L/W	67	4LT20Z2/21Z2	57		
						Royal 200H/K/V/ W	6	6CT40Z1/2	13		
						Royal 250L/W/Y	15	6CT41Z1	9		
						Royal 265J/L/Y	33	6ET42Z1/2	14		
						Royal 275B/F/J/ Y	8	6GT40Z1/2	11		
						Royal 280Y	68	6GT42Z2	19		
						Royal 285F/J/W/ Y	36	6JT40Z1/41Z1	25		
						Royal 300F	3	6JT45Z1	27		
						Royal 300F/R/Y	5	6KT40Z1/8	28		
						Royal 400F/J/W/ Y	23	6KT41Z1	34		
						Royal 475L/Y	16	6KT42Z1	33		
								6KT43Z1/44Z1	27		
								6KT45Z1	33		
								6KT47Z1	30		
								6KT47Z8	42		
								6LT45Z2	42		
								7AT42	5		

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