



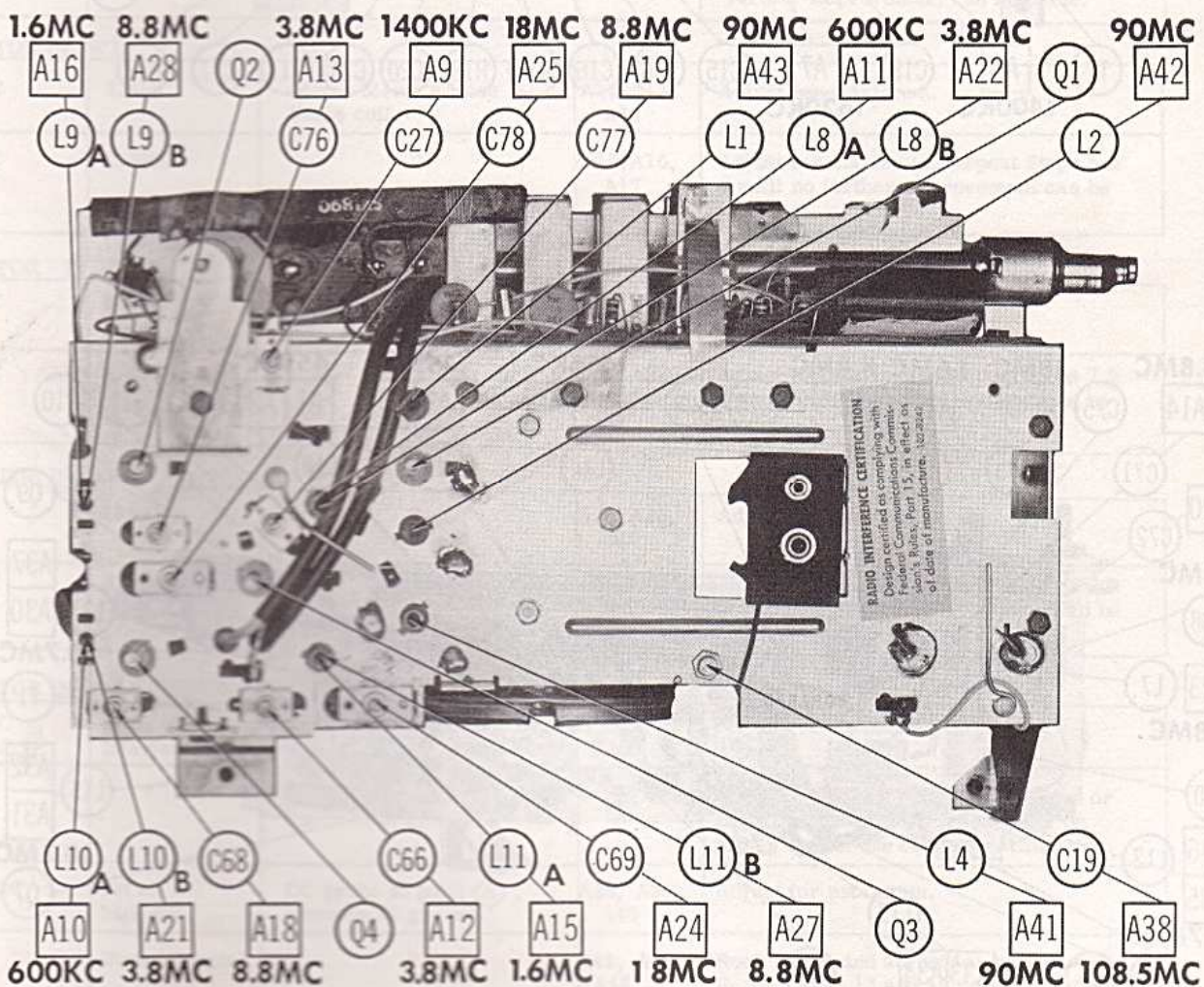
PHOTOFACT[®] with

CIRCUITRACE[®]

TRADE NAME: Zenith Models Royal 94Y, R94Y,
 Royal 990Y, R990Y (Ch. 11NT44Z8)
SUPPLIER: For Current Address, See Annual Index
TYPE SET: 11-Transistor AM-SW-FM Receiver
POWER SUPPLY: 12 Volts DC
RATING: (FM) 24ma @ 12VDC (No Signal, Min. Volume)
 40ma @ 12VDC (Signal, Normal Volume)
TUNING RANGE: BROADCAST 540 - 1620KC
 SHORT WAVE 1 1.6 - 3.8MC
 SHORT WAVE 2 3.8 - 8.8MC
 SHORT WAVE 3 8.8 - 18MC
 FREQ. MOD. 88 - 108MC

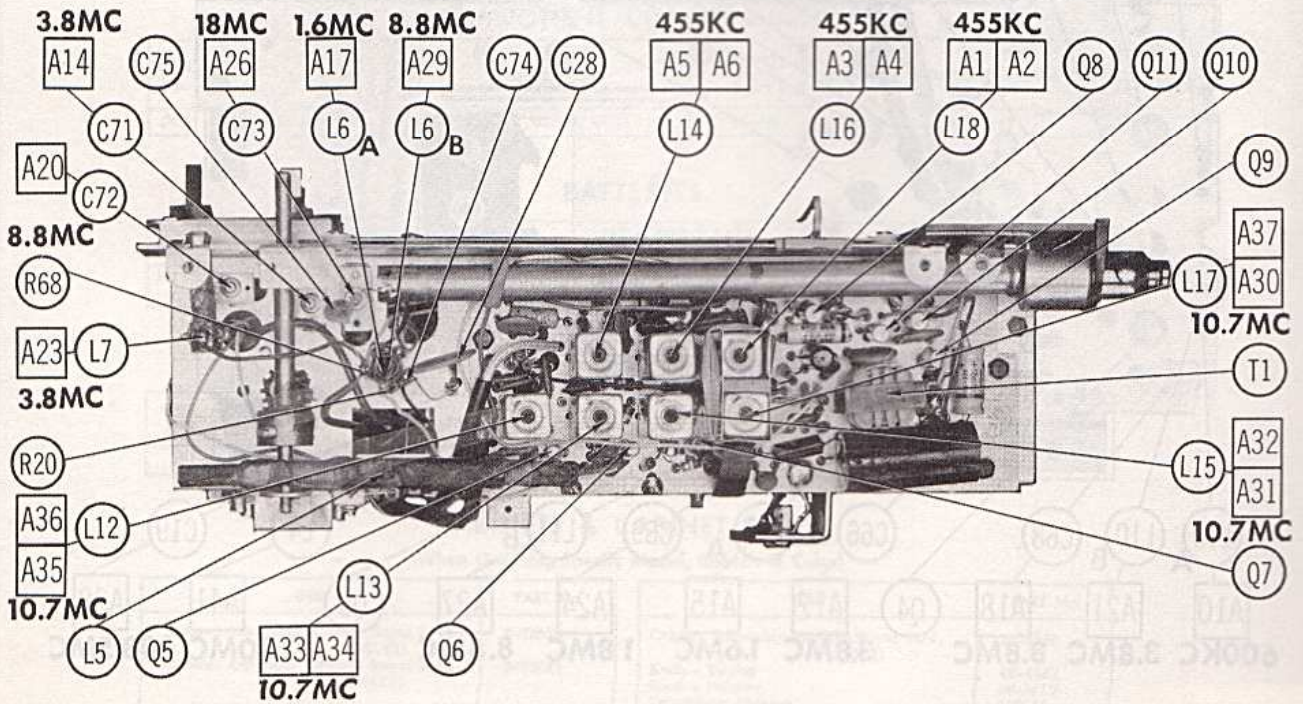
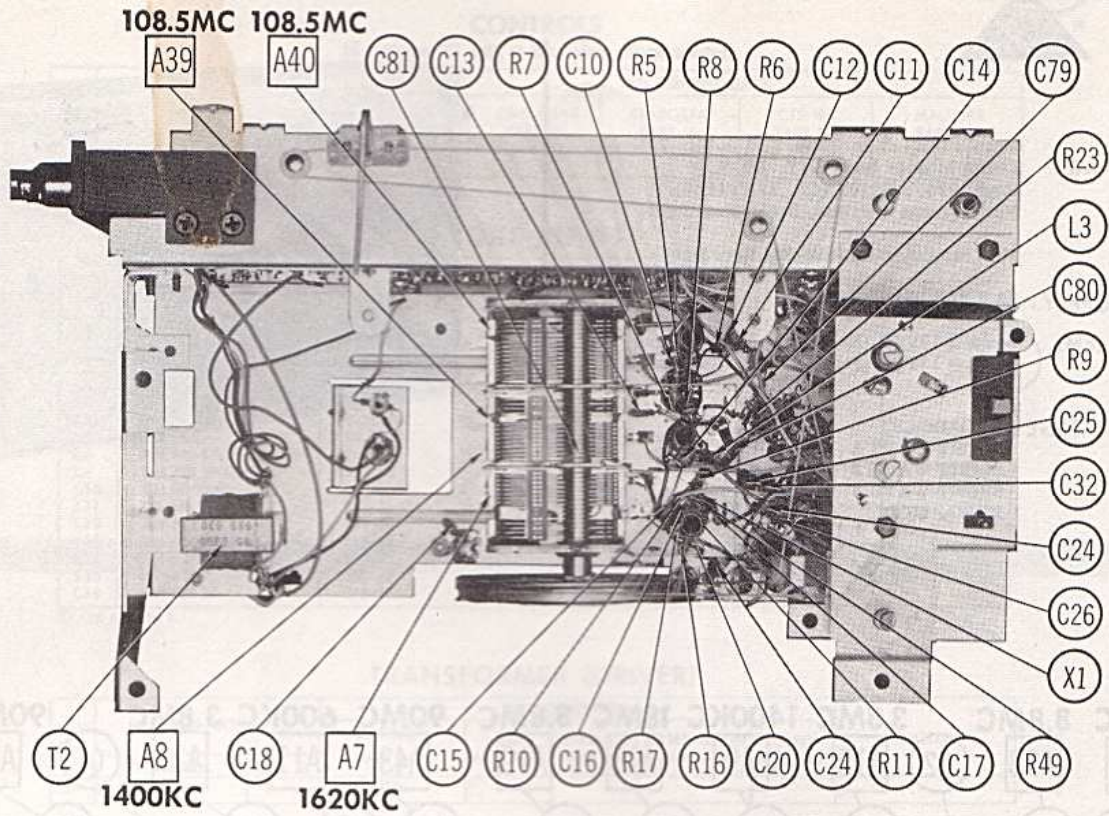


ZENITH CHASSIS 11NT44Z8



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

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ALIGNMENT INSTRUCTIONS

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

A1 thru A6, A30 thru A37..... GENERAL CEMENT #9296, 9297, 9300
 WALSCO #2510, 2546, 2547

A7, A8, A9, A12, A13, A14, A18, A19, A20,
 A24, A25, A26, A38, A39, A40..... GENERAL CEMENT #8868, 9089
 WALSCO #2541, 2587

A10, A11, A15, A16, A17, A21, A22, A23,
 A27, A28, A29, A41, A42, A43..... GENERAL CEMENT #8606, 8869, 9295
 WALSCO #2543, 2544, 2588

SELECTOR IN AM

	GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	455KC (400v Mod.)	Tuning gang fully open.	Output Meter across Voice coll.	A1 thru A6	Adjust for maximum. Repeat until no further improvement can be made.
2.	1620KC	"	"	A7	Adjust for maximum.
3.	1400KC	Tune to signal.	"	A8, A9	Adjust for maximum.
4.	600KC	"	"	A10, A11	Rock tuning gang and adjust for maximum. Repeat steps 2 thru 4 until no further improvement can be made.

SELECTOR IN SW 1

5.	3.8MC	3.8MC	Output Meter across Voice coil.	A12, A13, A14	Adjust for maximum.
6.	1.6MC	1.6MC	"	A15, A16, A17	Adjust for maximum. Repeat Steps 5 & 6 until no further improvement can be made.

SELECTOR IN SW 2

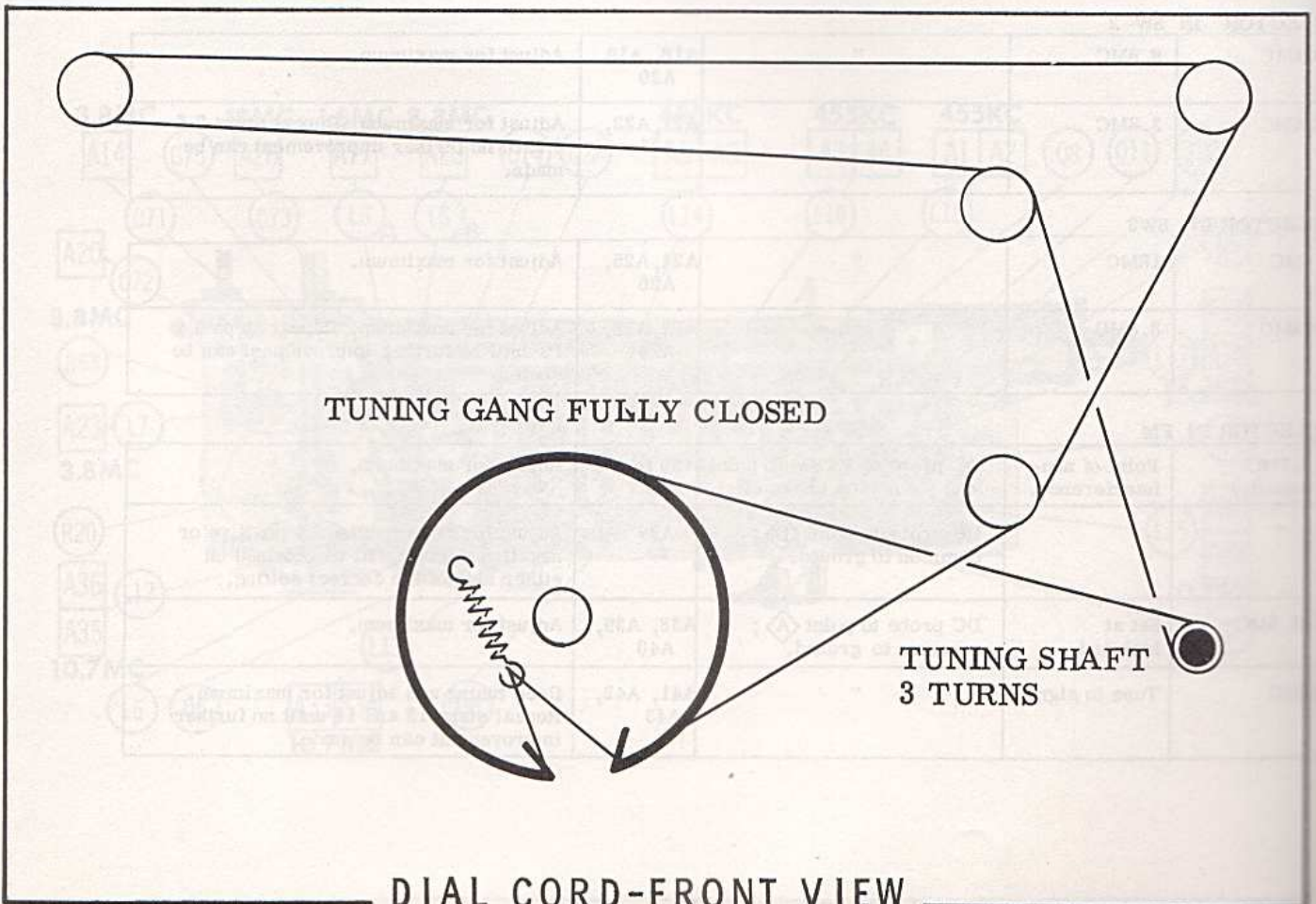
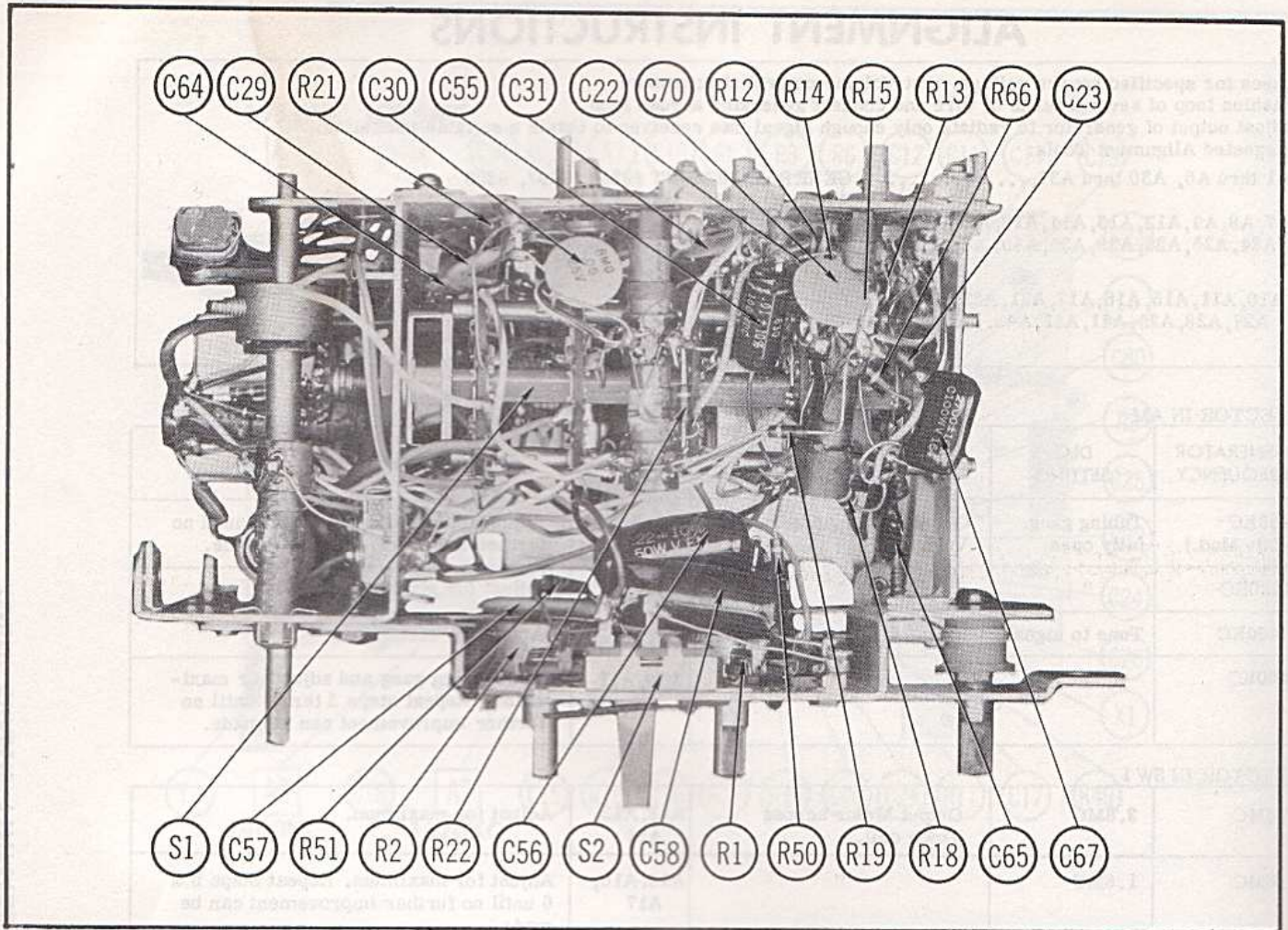
7.	8.8MC	8.8MC	"	A18, A19, A20	Adjust for maximum.
8.	3.8MC	3.8MC	"	A21, A22, A23	Adjust for maximum. Repeat steps 7 & 8 until no further improvement can be made.

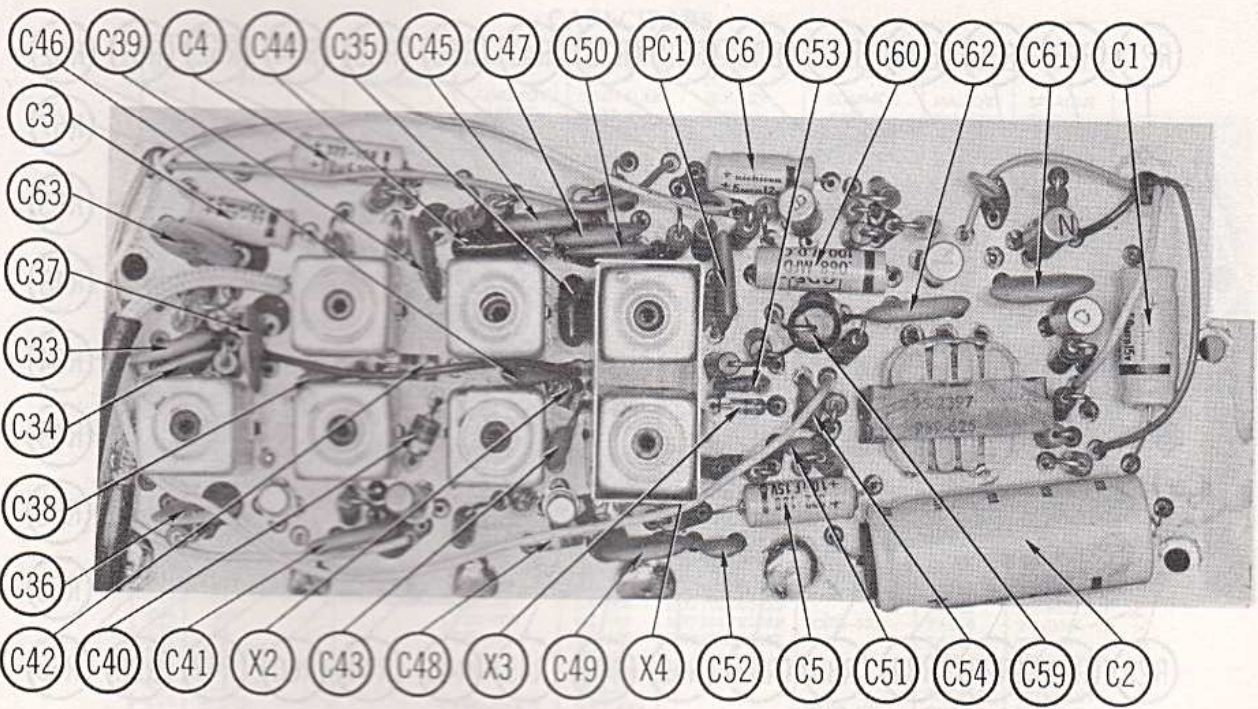
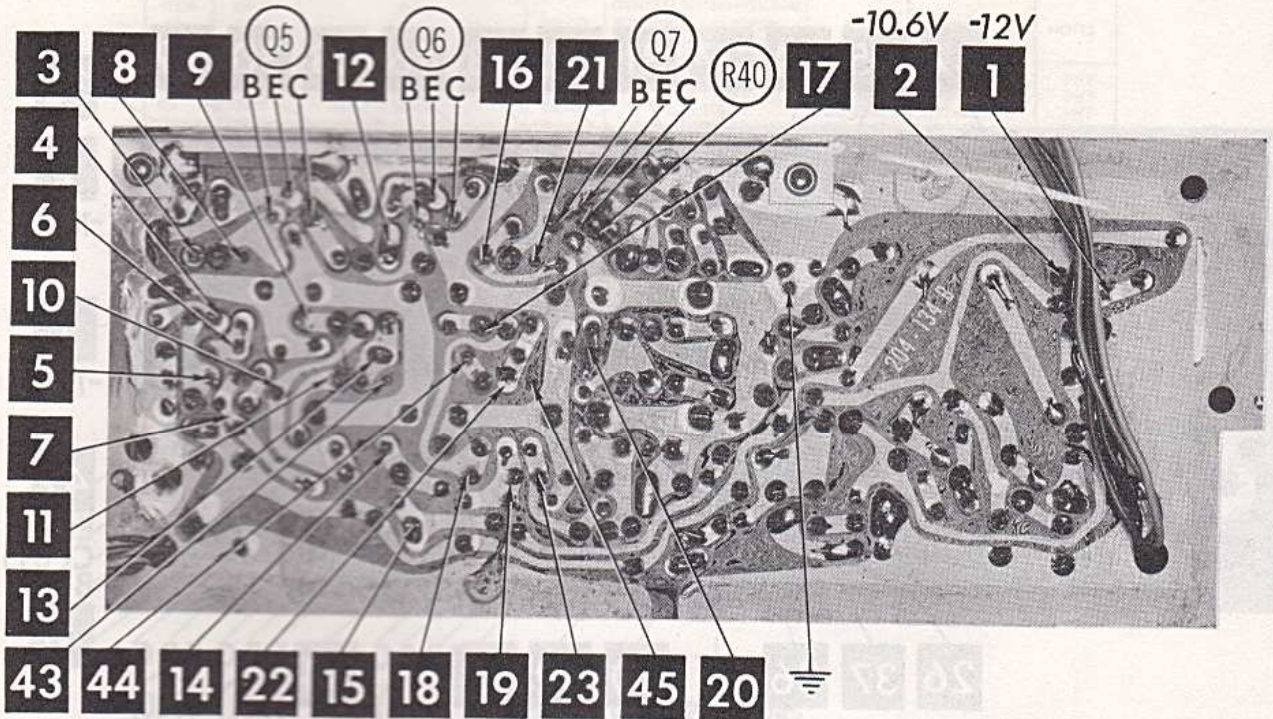
SELECTOR IN SW3

9.	18MC	18MC	"	A24, A25, A26	Adjust for maximum.
10.	8.8MC	8.8MC	"	A27, A28, A29	Adjust for maximum. Repeat steps 9 & 10 until no further improvement can be made.

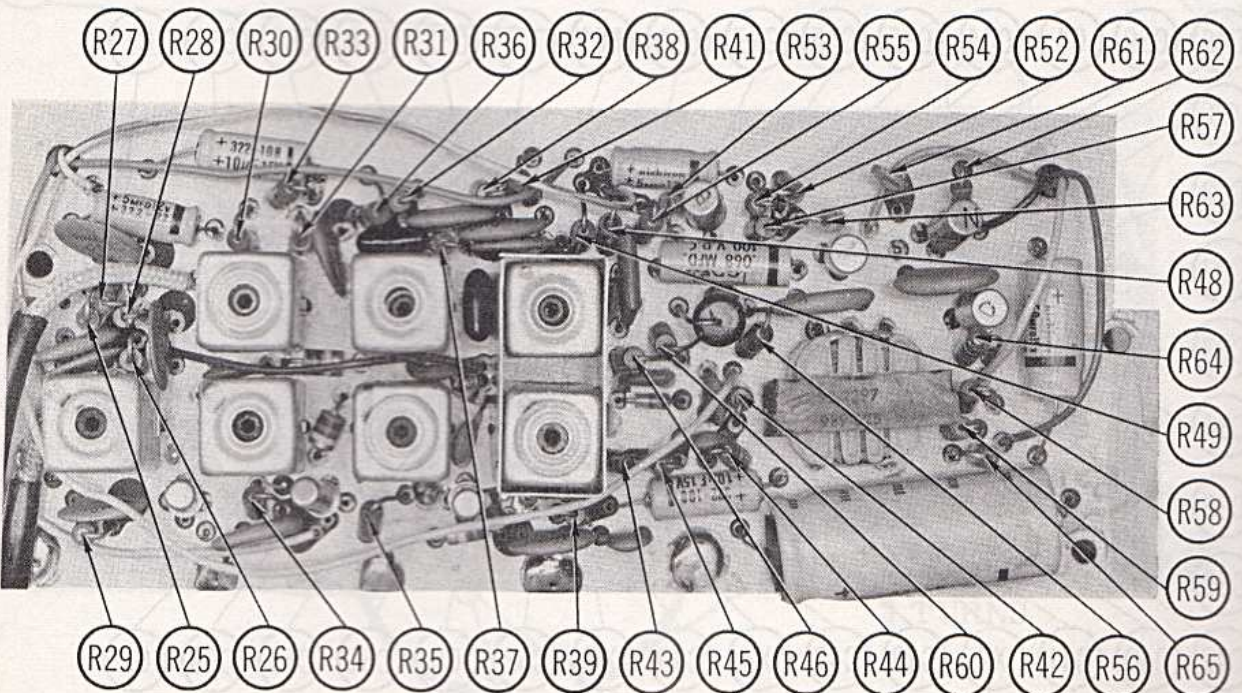
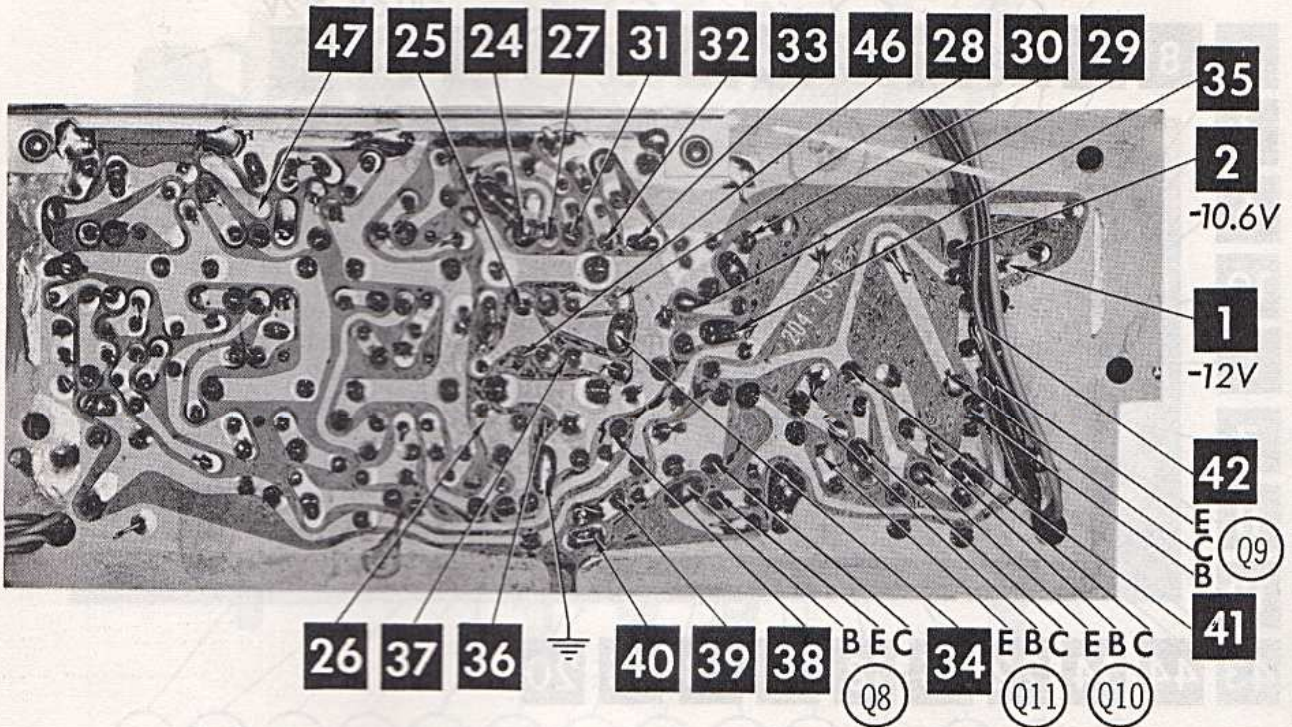
SELECTOR IN FM

11.	10.7MC (Unmod.)	Point of non-interference.	DC probe of VTVM to point $\diamond A$; common to ground.	A30 thru A36	Adjust for maximum.
12.	"	"	DC probe to point $\diamond B$; common to ground.	A37	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.
13.	108.5MC	Set at high end.	DC probe to point $\diamond A$; common to ground.	A38, A39, A40	Adjust for maximum.
14.	90MC	Tune to signal.	"	A41, A42, A43	Rock tuning and adjust for maximum. Repeat steps 13 and 14 until no further improvement can be made.





ZENITH CHASSIS 11NT44Z8



PARTS LIST AND DESCRIPTION

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

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA				ZENITH PART No.	NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.		
Q1	2N3588	FM RF Amp.	DS-41		TR-17	SK-3006	121-426	PNP
Q2	2N990	AM-RF Amp.	DS-41		TR-17	SK-3006	121-427	PNP
Q3	2N3588	AM-FM Mixer	DS-41		TR-17	SK-3006	121-426	PNP
Q4	2N3588	AM-FM Osc.	DS-41	GE-9	TR-17	SK-3006	121-429	PNP
Q5	2N3588	1st FM IF Amp.	DS-41	GE-9	TR-17	SK-3006	121-413	PNP
Q6	2N3588	1st AM-2nd FM IF Amp.	DS-41	GE-9	TR-17	SK-3006	121-414	PNP
Q7	2N3588	2nd AM-3rd FM IF Amp.	DS-41	GE-9	TR-17	SK-3006	121-415	PNP
Q8	2N2429	AF Amp.	DS-26	GE-2	TR-05	SK-3004	121-309	PNP
Q9	2N2428	Driver	DS-26	GE-2	TR-05	SK-3004	121-310	PNP
Q10	2N2431	Output	DS-26	GE-2	TR-05	SK-3004	121-425	PNP
Q11	2N2431	Output	DS-26	GE-2	TR-05	SK-3004	121-425	PNP

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES		RECTIFIERS		
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X1		103-39	1N60	1N60			
X2		103-22	1N60	1N60			
X3		103-90	1N60	1N60			
X4		103-90	1N60	1N60			
X5		103-22	1N60	1N60			

ELECTROLYTIC CAPACITORS

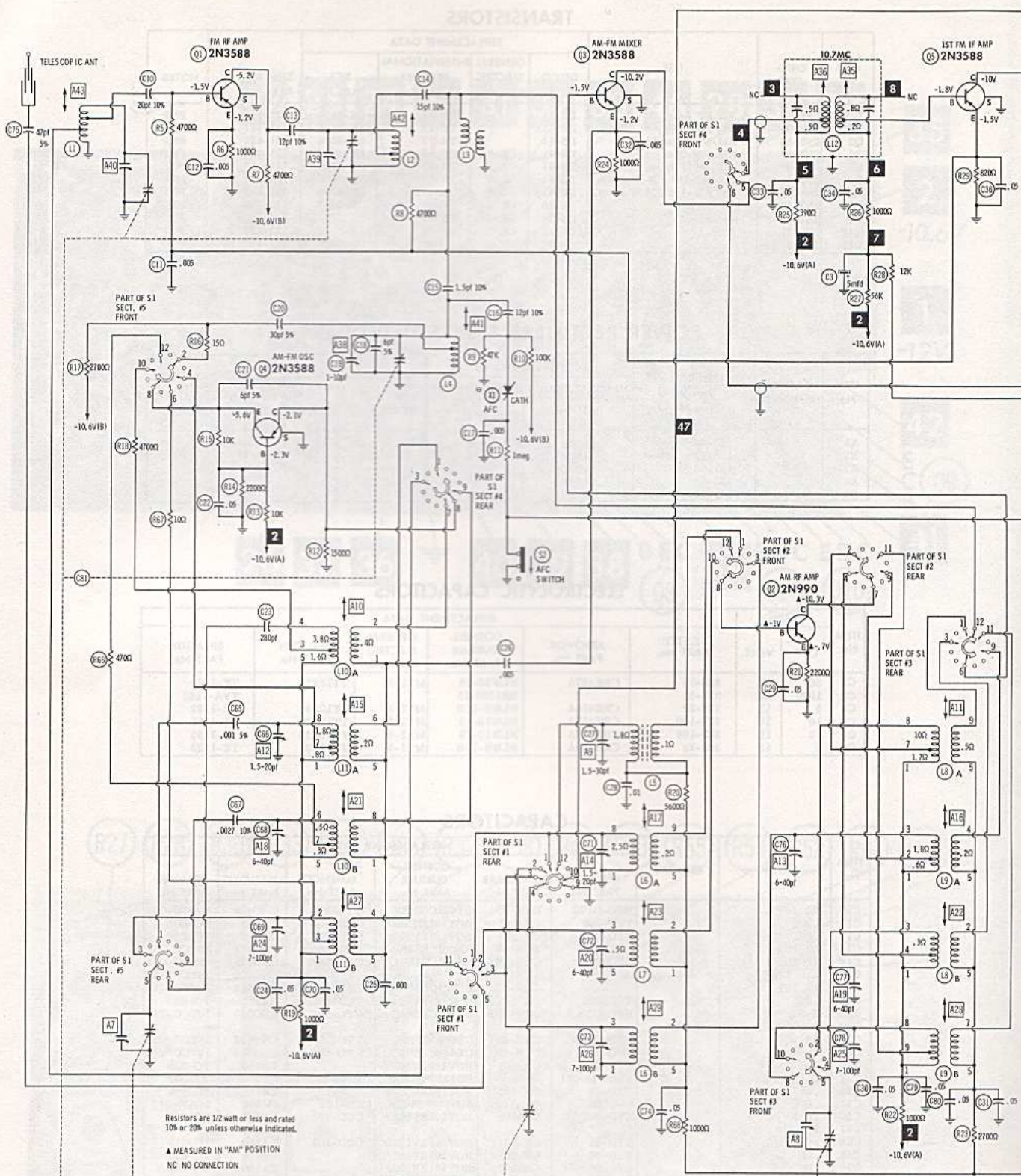
ITEM No.	RATING		ZENITH PART No.	REPLACEMENT DATA				
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	50	15	322-55	CRE467A	NLW50-15	MT1-16	TT15X50	TE-1160
C2	1000	15	322-61		BR1000-15			TVA-1163
C3	5	12	322-22	CRE404A	NLW5-15B	MT1-3	TT12X5	TE-1127
C4	10	15	322-108	CRE457A	NLW10-15	MT1-5	TT15X10	TE-1155
C5	10	15	322-108	CRE457A	NLW10-15	MT1-5	TT15X10	TE-1155
C6	5	12	322-22	CRE404A	NLW5-15B	MT1-3	TT12X5	TE-1122

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	20 10%		NPO-DI 22	DTZ-22	CY601CG220K	CCTO-220	CNO422	10TCC-Q22
C11	.005		TTD-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C12	.005		TTD-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C13	12 10%			TCZ-12	CZ601CG120J	CCTO-120	CNO412	10TCC-Q12
C14	15 10%		NPO-DI 15	DTZ-15	CZ601CG150J	CCTO-150	CNO415	10TCC-Q15
C15	1.5 10%			TCZ-1			CNO510	10TCC-V10
C16	12 10%			TCZ-12	CZ601CG120J	CCTO-120	CNO412	10TCC-Q12
C17	.005		TTD-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C18	6 5%		NPO-DI 6.8	DTZ-6R8	CZ601CH6R8D	CCTO-6R8	CNO568	10TCC-V68
C19	1-10	#22-4656						
C20	30 5%		NPO-DI 33	DTZ-33	CS601CG330K	CCTO-330	CNO433	10TCC-Q33
C21	6 5%		NPO-DI 6.8	DTZ-6R8	CZ601CH6R8D	CCTO-6R8	CNO568	10TCC-V68
C22	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C23	250 2%		ADM19-15-251		CD10E251J500	DM-15-251		MS-325
C24	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C25	.001		DI-1000	DM-102	JBS601YP102K	CCD-102	SM210	5GAB-D10
C26	.005		TTD-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C27	1.5 -30	#22-5074						
C28	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C29	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C30	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C31	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C32	.005		TTD-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C33	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C34	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C35	470 10%		ADM-15-471	CPR-470J	CD15F471J500	DM-16-471J	SX347	MS-347
C36	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C37	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C38	.005		TTD-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C39	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C40	1.1 10%			TCZ-1			CNO510	10TCC-V10
C41	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C42	1.2 10%			TCZ-1			CNO510	10TCC-V10
C43	4 10%		NPO-DI 4.7	DTZ-4R7		CCTO-4R7	CNO547	10TCC-V47
C44	470 10%		ADM-15-471	CPR-470J	CD15F471J500	DM-16-471J	SX347	MS-347
C45	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C46	.005		TTD-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C47	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C48	2.7 10%			DTZ-2R2	CZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22
C49	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C50	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50

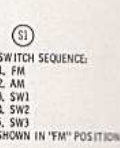
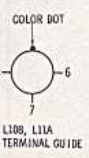
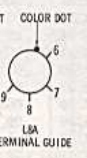
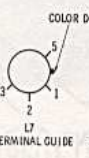
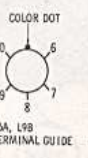
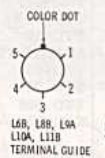
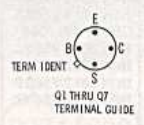
(CONTINUED ON PAGE 150)

TRANSISTORS



Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.
 ▲ MEASURED IN "AM" POSITION
 NC NO CONNECTION

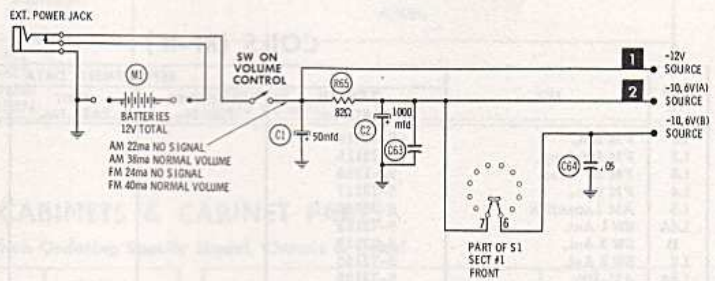
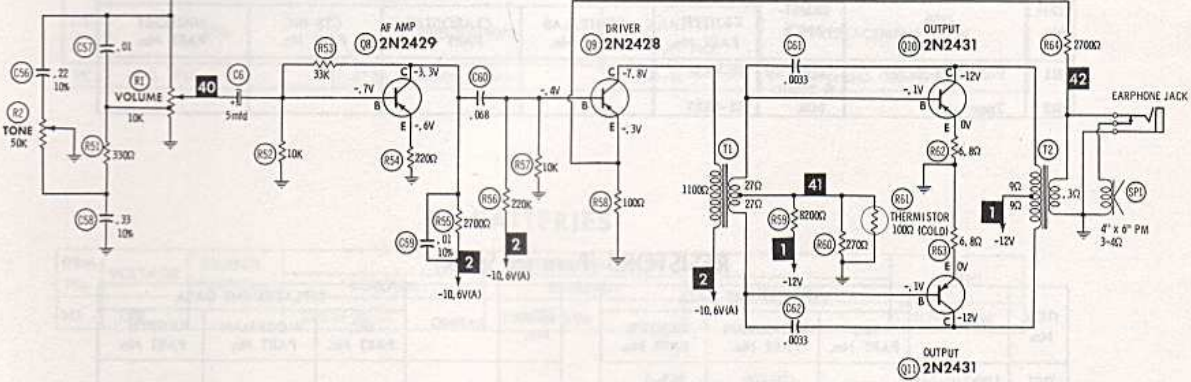
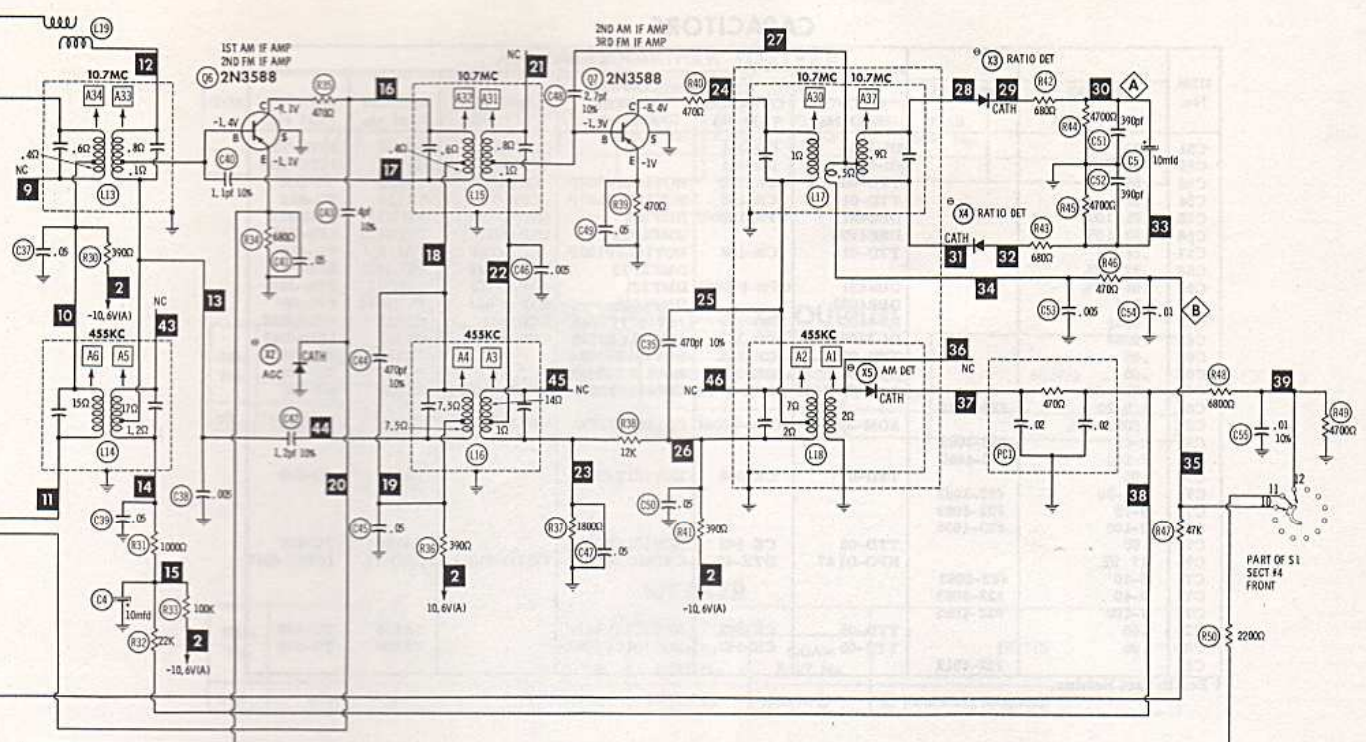
- 0 See parts list
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise designated.
- 5. Numbers assigned 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.



A PHOTOFAC STANDARD NOTATION SCHEMATIC
 with **Circuitrace**
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PARTS LIST FOR ZENITH CHASSIS 11NT44Z8

ZENITH CHASSIS 11NT44Z8



ZENITH CHASSIS 11NT44Z8

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.
C51	390		DI-390	DD-391		CCD-391	GP339	10TS-T39
C52	390		DI-390	DD-391		CCD-391	GP339	10TS-T39
C53	.005		TTD-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C54	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C55	.01 10%		DBE4S1	CPR-10000J	DMF2S1	4DP-1-103	PVC211	2TM-S10
C56	.22 10%		DBE4P22		DMF4P22	4DP-5-224	PVC4022	4PS-P22
C57	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C58	.33 10%				DMF2P33	2DP-5-334	PVC2033	2PS-P33
C59	.01 10%		DBE4S1	CPR-10000J	DMF2S1	4DP-1-103	PVC211	2TM-S10
C60	.068		DBE4S68		DMF4S68	4DP-3-683	PVC6168	4PS-S68
C61	.0033		DI-3300	DD-332	JBV601YP332K	CCD-332	GP233	10TS-D33
C62	.0033		DI-3300	DD-332	JBV601YP332K	CCD-332	GP233	10TS-D33
C63	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C64	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C65	.001 5%		ADM-20-102	CPR-1000J	CD19F102J500	DM-19-102J	SX210	MS-21
C66	1.5-20	#22-3082						
C67	.0027 10%		ADM-20-222	CPR-2200J	CD19F222J500	DM-19-222J	SX222	MS-222
C68	6-40	#22-3083						
C69	7-100	#22-4655						
C70	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C71	1.5-20	#22-3082						
C72	6-40	#22-3083						
C73	7-100	#22-4655						
C74	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C75	47 5%		NPO-DI 47	DTZ-47	CX601CG470K	CCTO-470	CNO447	10TCC-Q47
C76	6-40	#22-3083						
C77	6-40	#22-3083						
C78	7-100	#22-4655						
C79	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C80	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C81		#22-4512						

Zenith Part Number.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			ZENITH PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	10K Tap @ 3000Ω	63-6834				
R2	Tone	50K	63-6835				

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	ZENITH PART No.			IRC PART No.	WORKMAN PART No.	ZENITH PART No.
R61	100Ω (Cold)		GM100	363-8					

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		ZENITH PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.
L1	FM Ant.	S-72119			
L2	FM RF Amp.	S-72115			
L3	FM IF Trap	20-1256			
L4	FM Osc.	S-72117			
L5	AM Loopstick	S-71890			
L6A	SW1 Ant.	S-72152			
B	SW3 Ant.	S-72152			
L7	SW2 Ant.	S-72156			
L8A	AM RF	S-72155			
B	SW 2 RF	S-72155			
L9A	SW 1 RF	S-72153			
B	SW 3 RF	S-72153			
L10A	AM Osc.	S-72150			
B	SW 2 Osc.	S-72150			
L11A	SW 1 Osc.	S-72154			
B	SW 3 Osc.	S-72154			
L12	1st FM IF	95-2378			
L13	2nd FM IF	95-2379			
L14	1st AM IF	95-2249			
L15	3rd FM IF	95-2380			
L16	2nd AM IF	95-2250			
L17	Ratio DeL	95-2381			
L18	3rd AM IF	95-2251			
L19	FM Trap	20-1256			

PARTS LIST AND DESCRIPTION (CONTINUED)

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

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
				ZENITH PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC. 1	SEC. 2						
T1	3,3	1		95-2397					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			ZENITH PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T2	100Ω CT	4Ω	95-2398					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		ZENITH PART No.	JENSEN PART No.	QUAM PART No.	
SP1	4" x 6" PM 3-4Ω	49-1053	4X6K7 Ⓡ	46A070 Ⓡ	Ⓡ Fabricate Mounting

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	ZENITH PART No.	REPLACEMENT DATA
PC1	Det. Filter	470Ω, .02mfd, .03mfd	105-49	Centralab PC-457

BATTERIES

ITEM No.	VOLTAGE	ZENITH PART No.	REPLACEMENT DATA			NOTES
			BURGESS	EVEREADY	MALLORY	
M1	12V		230 or AL-2	1050 or E95		8 Required

MISCELLANEOUS

ITEM No.	PART NAME	ZENITH PART No.	NOTES
S1 S2	Switch, Selector Switch - AFC AC Adapter AC Adapter	85-851 85-817 S-64352 S-85074	120 Volts AC 115-230 Volts AC

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Cabinet - Front	14-7360	Knob - Tone	S-72723
Cabinet - Back	14-7349	Knob - Volume	S-72723
Cabinet - Handle	36-470	Knob - Tuning	S-66581
Knob - Selector	S-72724	Telescopic Antenna	1-12

WIRING DATA

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

ZENITH CHASSIS 11N144Z8