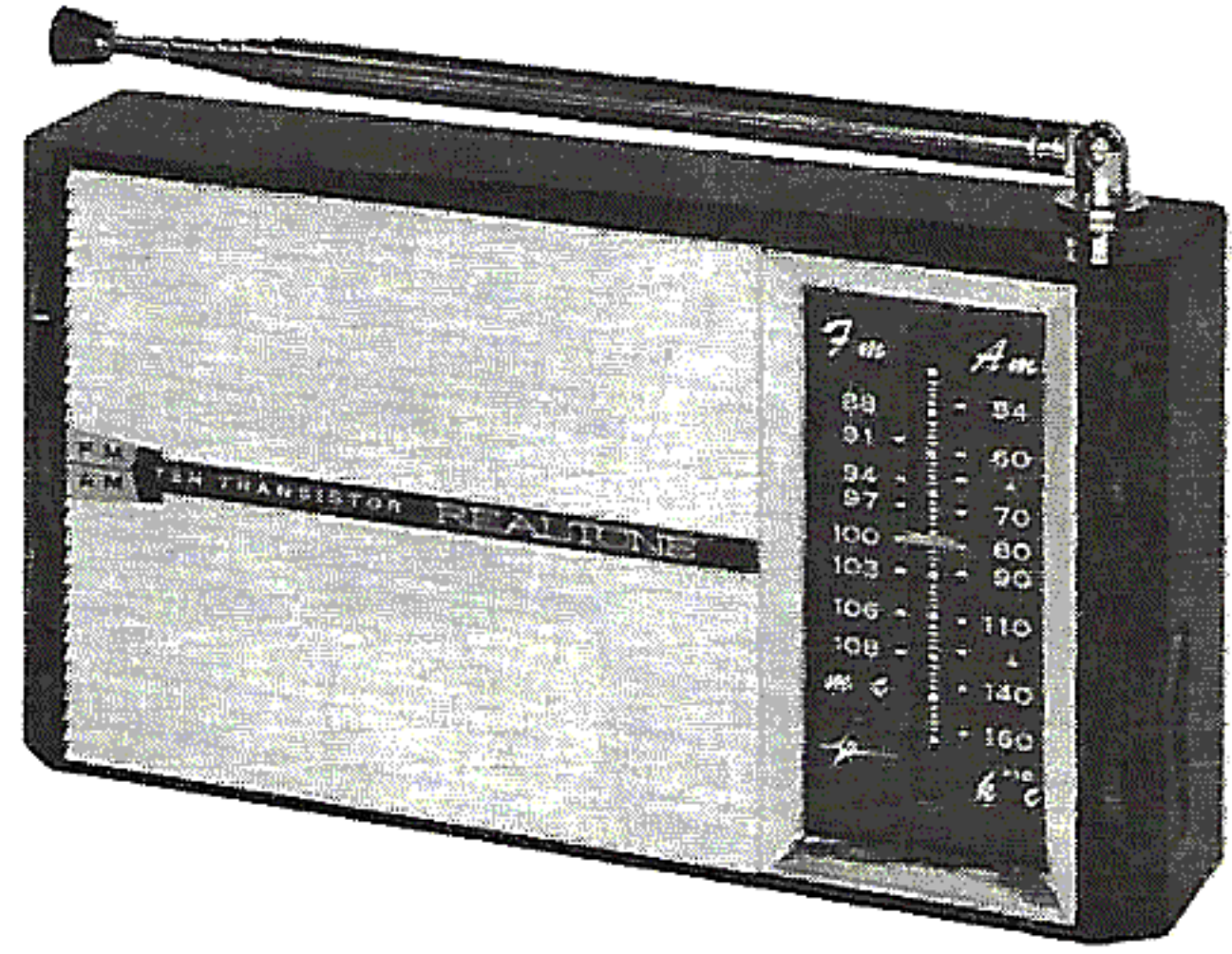




PHOTOFACT[®] with

CIRCUITRACE[®]

Met dank aan Jof Bos



TRADE NAME: Realtone Model TR-2051

SUPPLIER: Realtone Electronics
71 Fifth Ave., New York 3, N. Y.

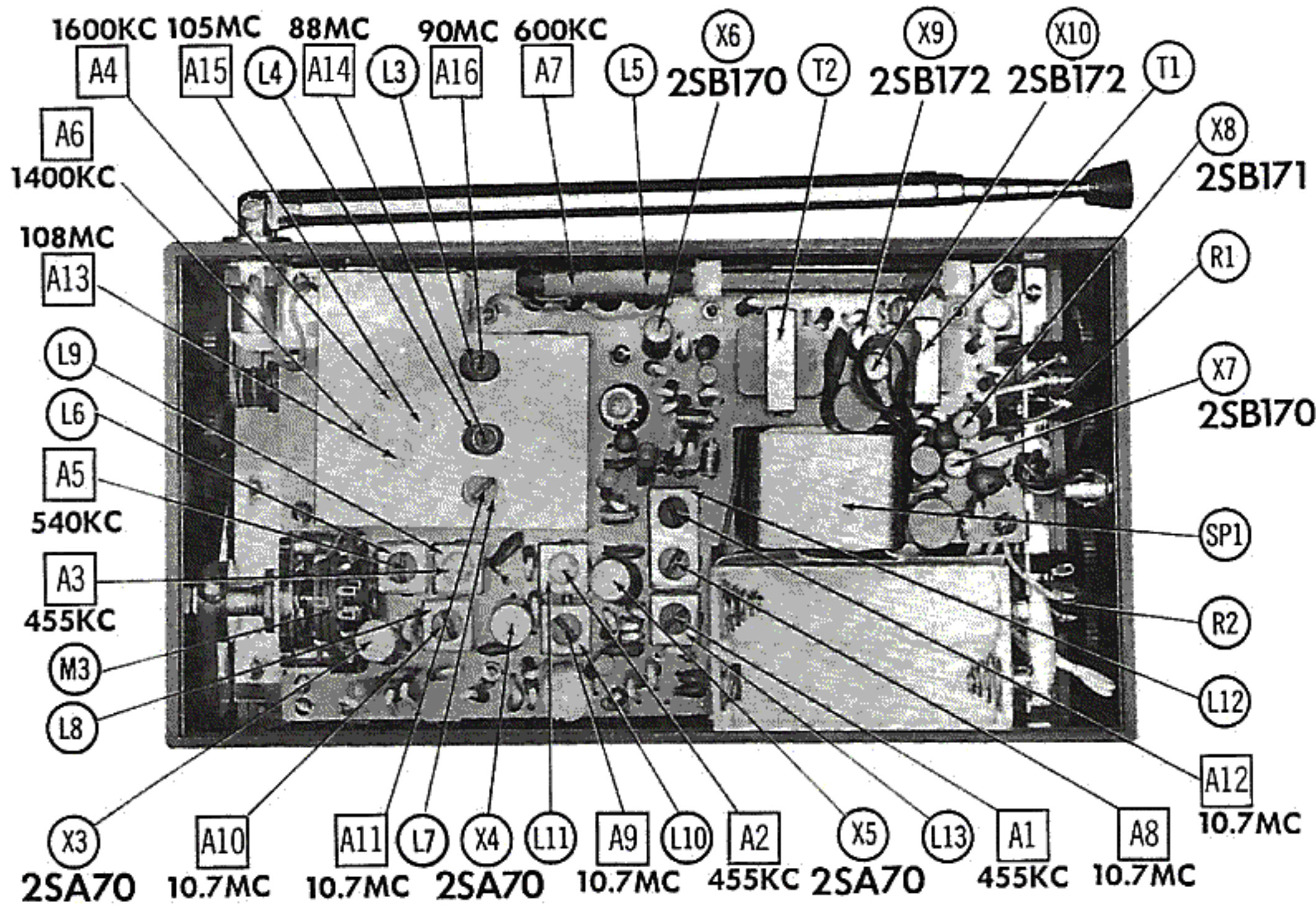
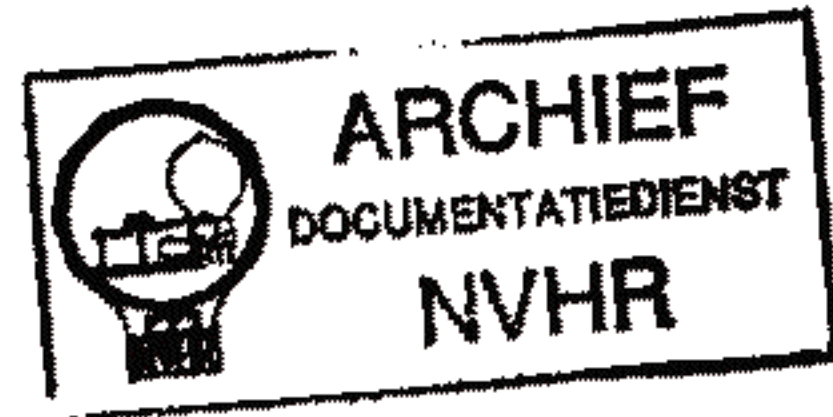
TYPE SET: 10 Transistor AM-FM Receiver

POWER SUPPLY: 6 Volts DC

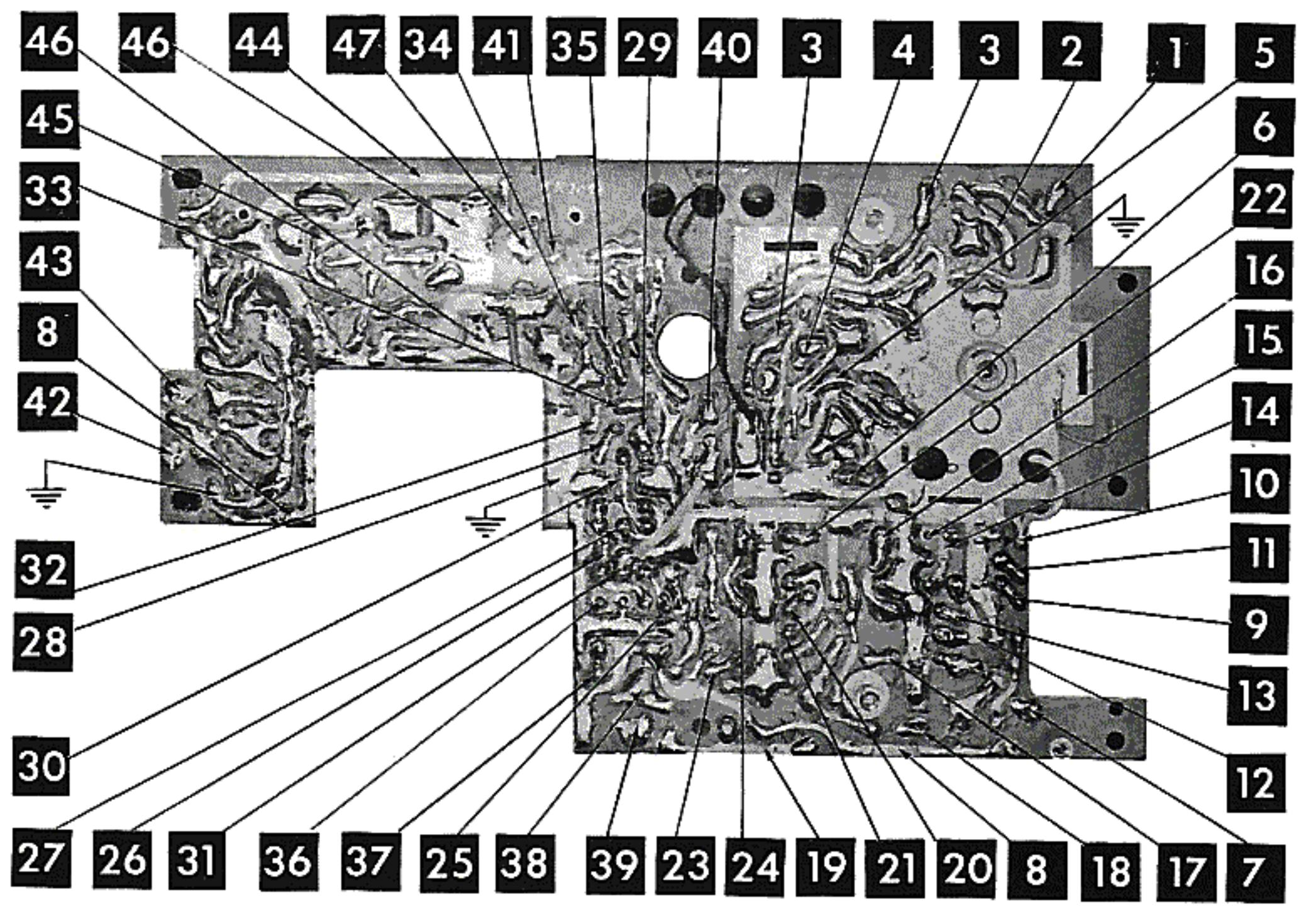
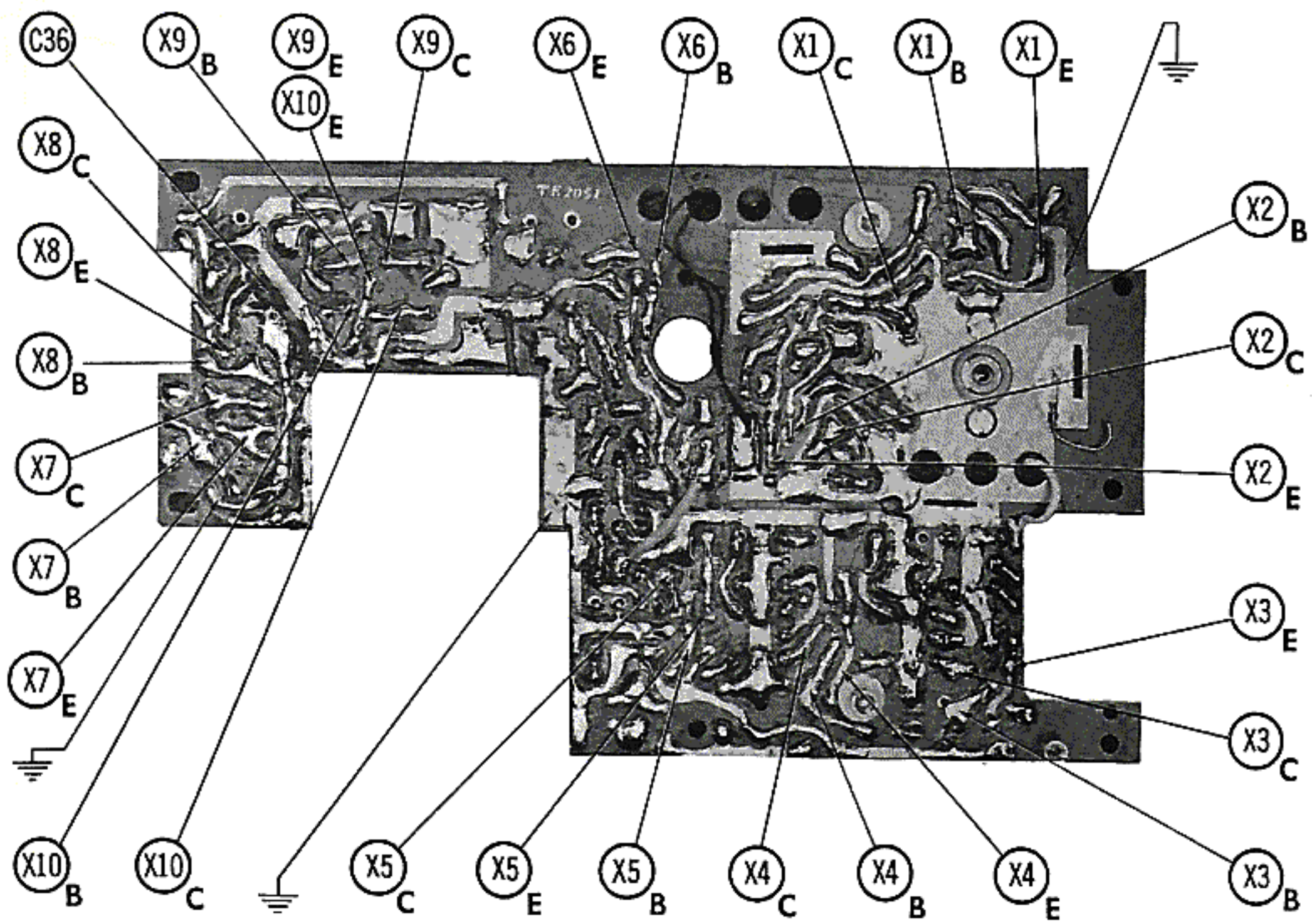
RATING: (AM) 6MA @ 6VDC (No Signal, Min. Volume)
25MA @ 6VDC (Signal, Normal Volume)
(FM) 10MA @ 6VDC (No Signal, Min. Volume)
30MA @ 6VDC (Signal, Normal Volume)

TUNING RANGE: BROADCAST 540-1620KC
FREQ. MOD. 88-108MC

Ned. Ver. v. Historie v/d Radio



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



ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
 Output of signal generator should be no higher than necessary to obtain a suitable indication.
 Suggested Alignment Tools:
 A1 thru A6, A8 thru A13, A15 .. GENERAL CEMENT #5000, 5066, 5067 ... WALSCO #2512, 2525, 2528
 A14, A16 GENERAL CEMENT #9440 WALSCO #2501

AM Alignment – Set Band Switch (M2) in AM Position.

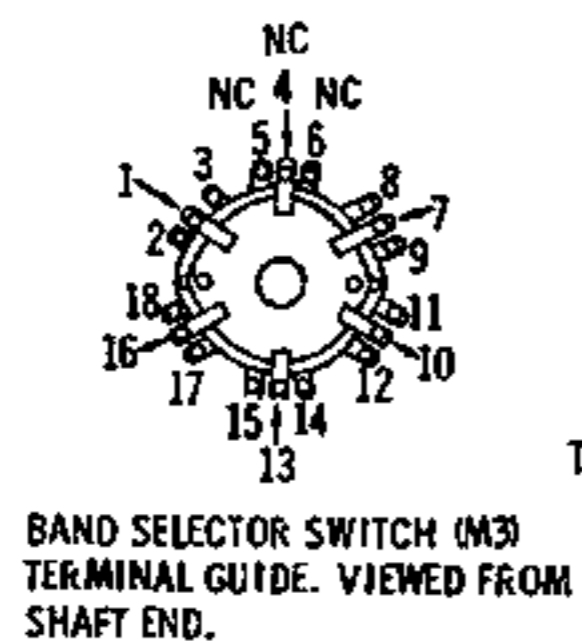
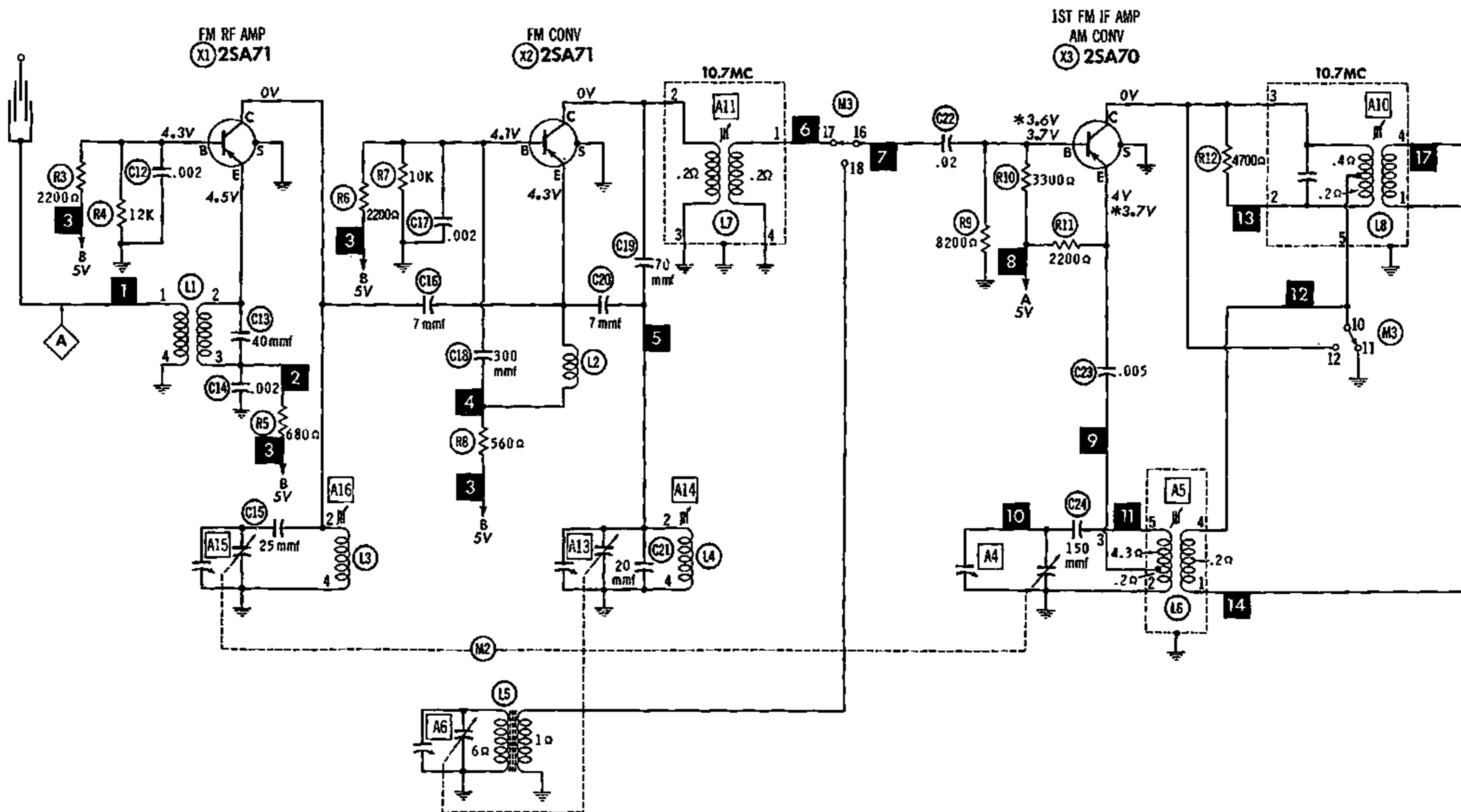
1.	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455KC (400% Mod.)	Tuning gang fully open.	Connect output meter across speaker voice coil.	A1, A2, A3	Adjust for maximum output.
2.	"	1000KC	1600KC	"	A4	"
3.	"	540KC	540KC	"	A5	Adjust for maximum output. Repeat steps 2 and 3.
4.	"	1400KC	1400KC	"	A6	Adjust for maximum output.
5.	"	600KC	600KC	"	A7	Adjust for maximum output by moving antenna coil (L5) along ferrite core. Repeat steps 2 thru 5.

FM IF Alignment Using AM Signal Generator and VTVM – Set Band Switch (M2) in FM Position

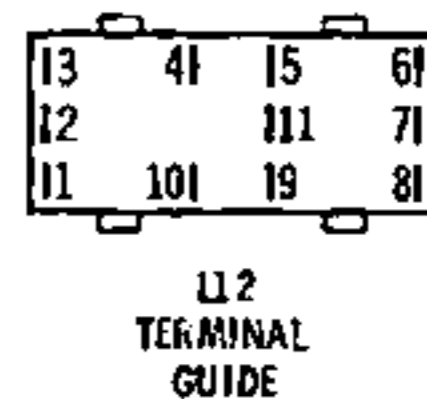
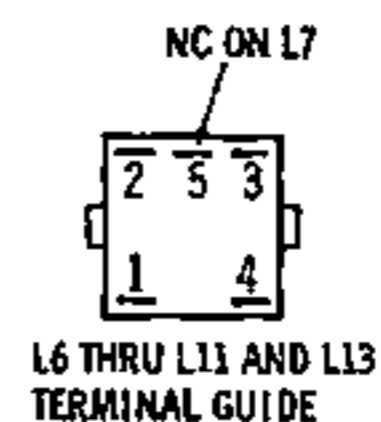
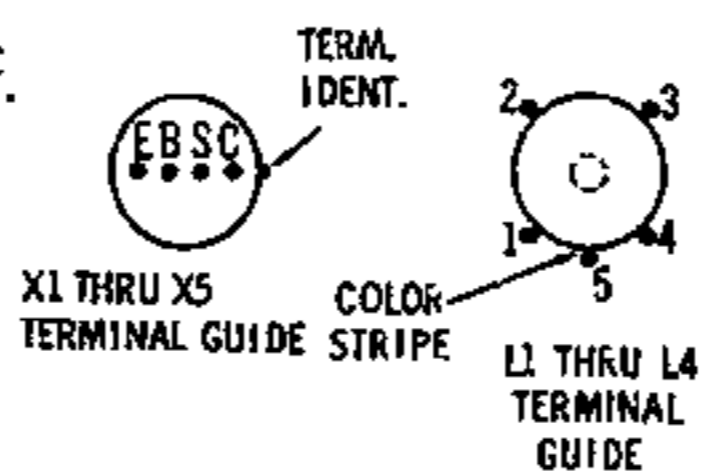
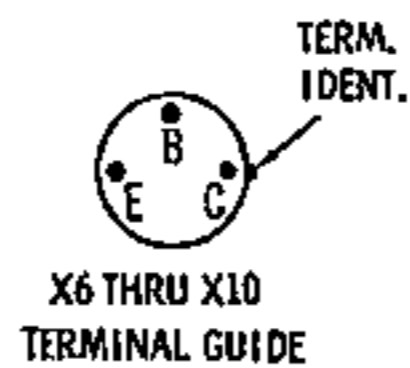
6.	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
	High side thru .01mfd to point $\diamond A$, low side to chassis.	10.7MC (Unmod.)	Point of non-interference.	Connect DC probe of VTVM to point $\diamond B$, low side to chassis.	A8, A9, A10, A11	Adjust for maximum deflection.
7.	"	"	"	DC probe of VTVM to point $\diamond C$, low side to chassis.	A12	Adjust for zero reading. A positive and negative reading will be obtained on either side of correct setting.

FM RF Alignment – Set Band Switch (M2) in FM Position

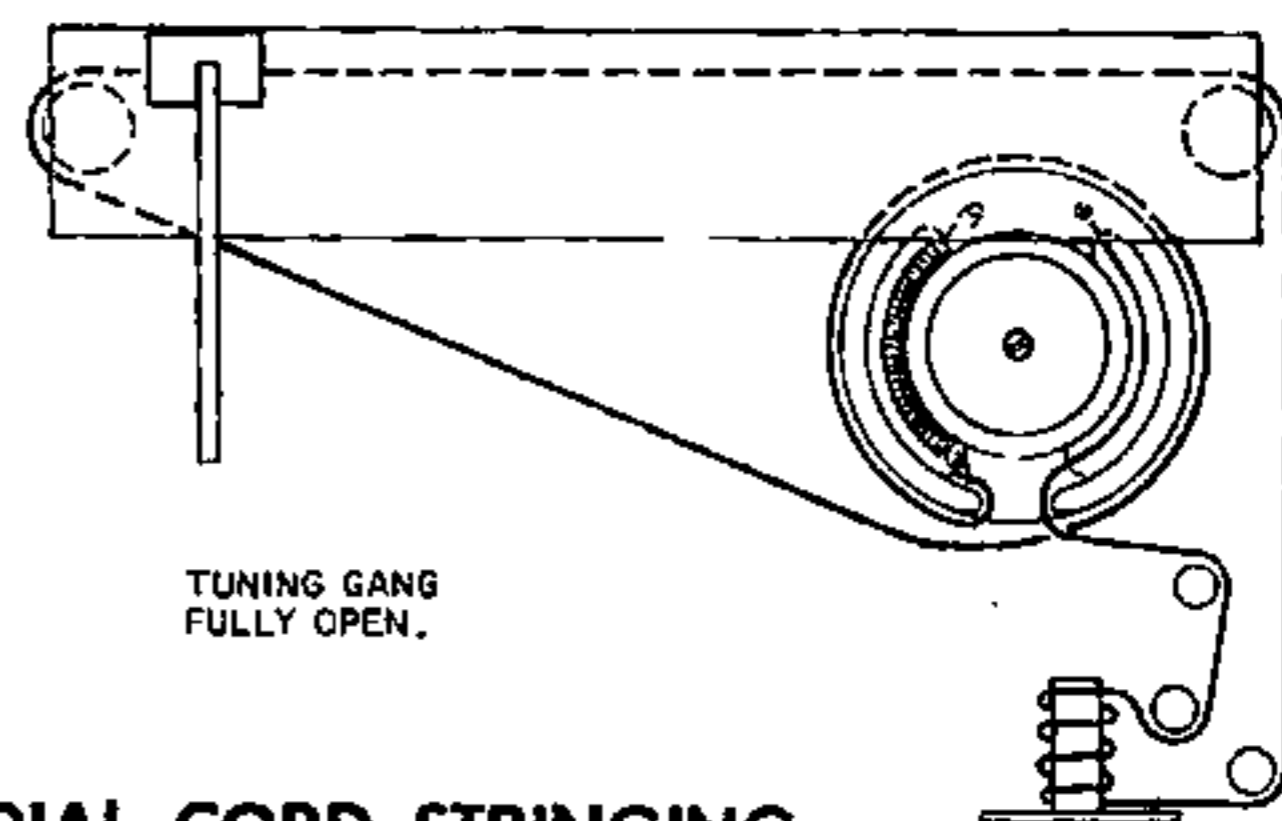
8.	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
	High side to point $\diamond A$, low side to chassis.	108MC (Unmod.)	108MC	Connect DC probe of VTVM to point $\diamond C$, common to chassis.	A13	Adjust for maximum deflection.
9.	"	88MC	88MC	"	A14	Adjust for maximum deflection. Repeat steps 8 and 9.
10.	"	105MC	105MC	"	A15	Adjust for maximum deflection.
11.	"	90MC	90MC	"	A16	Adjust for maximum deflection. Repeat steps 8 thru 11.



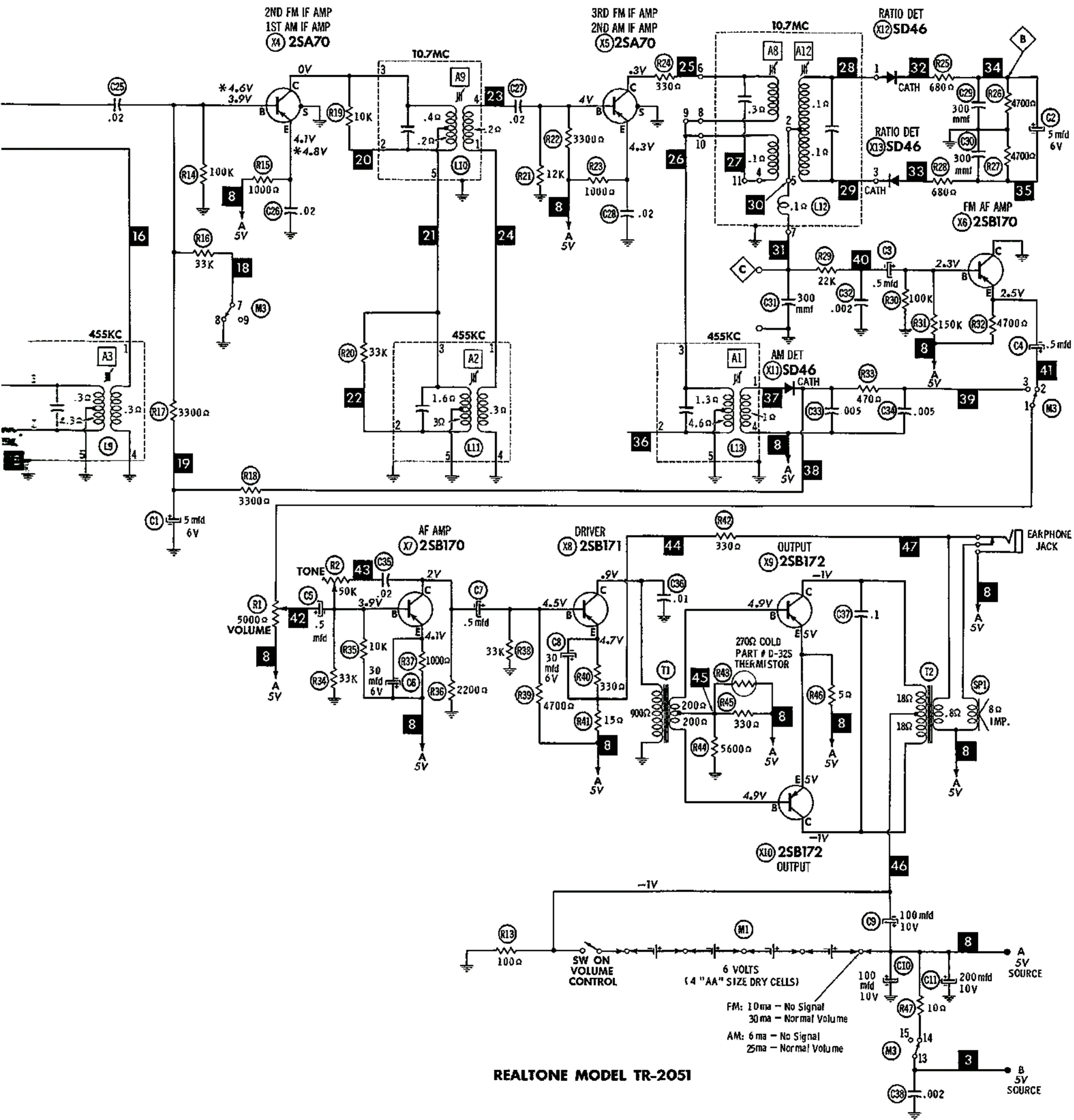
Band Selector switch (M2) shown
in "FM" position.



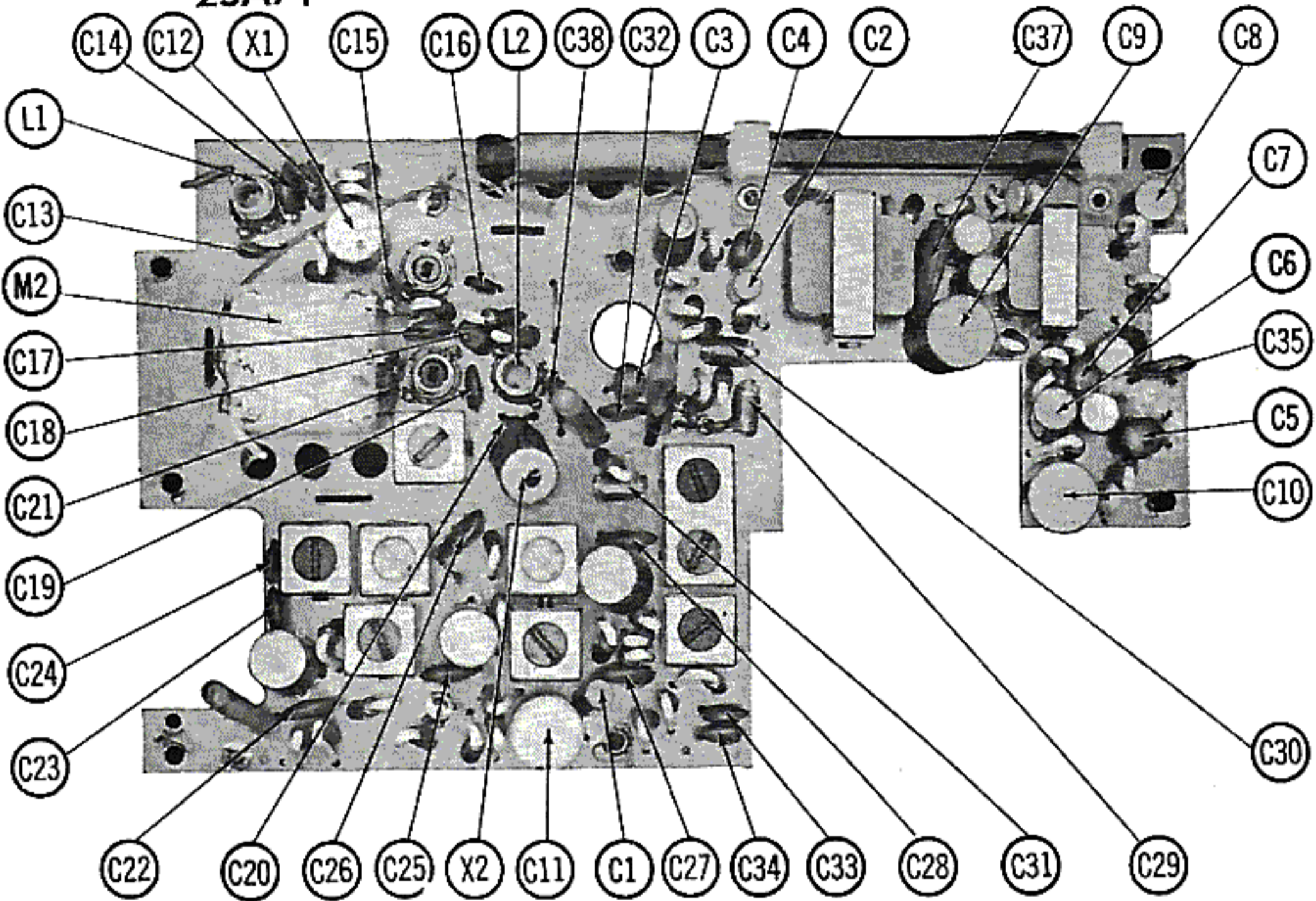
1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be 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.
 8. All voltage measurements taken with AM-FM switch (M2) in FM position, unless otherwise designated.
- * Measured in AM position.



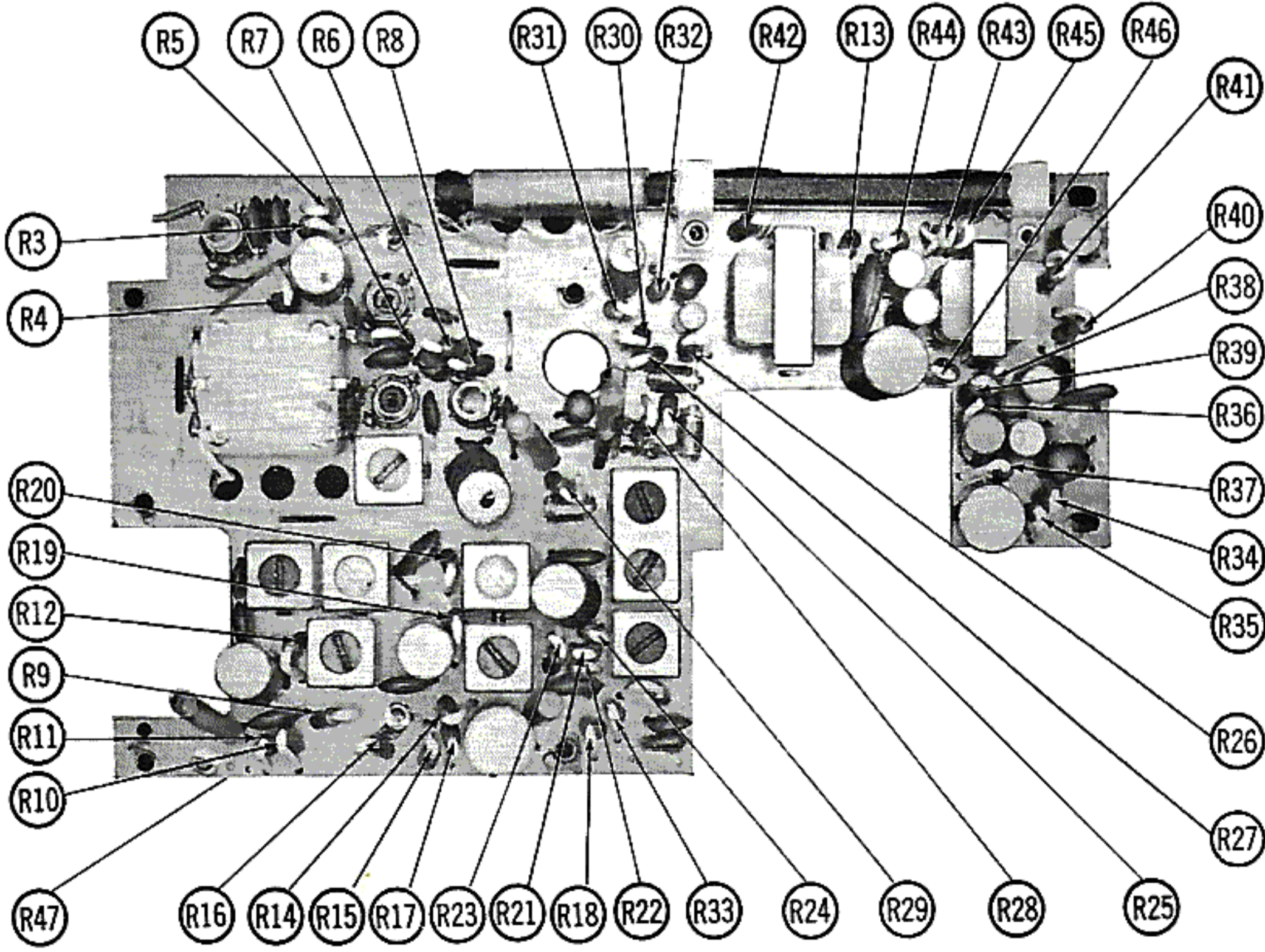
DIAL CORD STRINGING



2SA71



2SA71



PARTS LIST AND DESCRIPTION

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2SA71	FM RF Amp.	DS-25	GE-1	2N1177	PNP
X2	2SA71	FM Converter	DS-25	GE-1	2N1178	PNP
X3	2SA70	1st FM IF Amp. - AM Conv.	DS-25	GE-1	2N1180	PNP
X4	2SA70	2nd FM - 1st AM IF Amp.	DS-25	GE-1	2N1180	PNP
X5	2SA70	3rd FM - 2nd AM IF Amp.	DS-25	GE-1	2N1180	PNP
X6	2SB170	FM AF Amp.	DS-26	GE-2	2N406	PNP
X7	2SB170	AF Amp.	DS-26	GE-2	2N406	PNP
X8	2SB171	Driver	DS-26	GE-2	2N408	PNP
X9	2SB172	Output	DS-26	GE-2	2N408	PNP
X10	2SB172	Output	DS-26	GE-2	2N408	PNP

RECTIFIERS

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS		
			MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X11		AM Detector (SD48)			
X12		Ratio Det. (SD46)			
X13		Ratio Det. (SD46)			

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	REALTONE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	5	6	V-5-6	BCD6005	ECPB405	MT1-3	MLV5-6	PET1210	VL-1084
C2	5	6	V-5-8	BCD6005	ECPB405	MT1-3	MLV5-6	PET1210	VL-1084
C3	.5	6	CA-0.5	BCD6001	ECPB401	MT1-1		TT12X1	VL-1080
C4	.5	6	CA-0.5	BCD6001	ECPB401	MT1-1		TT12X1	VL-1080
C5	.5	8	CA-0.5	BCD6001	ECPB401	MT1-1		TT12X1	VL-1080
C6	30	6	V-30-6	BCD6025	ECPB412	MT1-13	MLV30-6	TT6X30	VL-1092
C7	.5	6	CA-0.5	BCD6001	ECPB401	MT1-1		TT12X1	VL-1080
C8	30	6	V-30-6	BCD6025	ECPB412	MT1-13	MLV30-6	TT6X30	VL-1092
C9	100	10	V-100-10	BCD10100	ECPB417	MT1-19	MLV100-10	PET1400	VL-1140
C10	100	10	V-100-10	BCD10100	ECPB417	MT1-19	MLV100-10	PET1400	VL-1140
C11	200	10	V-200-10	BCD10190	ECPB417	MT1-19	MLV100-10	PET1400	VL-1140

FIXED 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.	
C12	.002			DM-202	LA10Q39				
C13	40		DI-39	DD-390	LA10Q39	CCD-390	GP439		10TS-Q39
C14	.002			DM-202	LA10Q25				
C15	25		DI-25	DD-250	LA10Q25	CCD-250	GP425		10TS-Q25
C16	7		NPO-DI 6.8	DTZ-6R8	C10V7C	CCTO-6R8	CNO-568		10TCC-V68
C17	.002			DM-202					
C18	300		SI 300	D6-301	LA10T3	CCD-301	GP330		10TS-T30
C19	70		DI-68	DD-68	LA10Q68	CCD-680	GP468		10TS-Q68
C20	7		NPO-DI 6.8	DTZ-6R8	C10V7C	CCTO-6R8	CNO-568		10TCC-V68
C21	20		NPO-DI 20	DTZ-20	C10Q2C	CCTO-200	CNO-422		10TCC-Q20
C22	.02		TTD-02	CK-203	H3			TA-120	TG-S20
C23	.005		TTD-005	CK-502	H1			TA-250	TG-D50
C24	150		DI-150	DD-151	LA10T15	CCD-151	GP315		10TS-T15
C25	.02		TTD-02	CK-203	H3			TA-120	TG-S20
C26	.02		TTD-02	CK-203	H3			TA-120	TG-S20
C27	.02		TTD-02	CK-203	H3			TA-120	TG-S20
C28	.02		TTD-02	CK-203	H3			TA-120	TG-S20
C29	300		SI 300	D6-301	LA10T3	CCD-680	GP330		10TS-T30
C30	300		SI 300	D6-301	LA10T3	CCD-680	GP330		10TS-T30
C31	300		SI 300	D6-301	LA10T3	CCD-680	GP330		10TS-T30
C32	.002			DM-202					
C33	.005		TTD-005	CK-502	H1			TA-250	TG-D50
C34	.005		TTD-005	CK-502	H1			TA-250	TG-D50
C35	.02		TTD-02	CK-203	H3			TA-120	TG-S20
C36	.01		TTD-01	CK-103	H2			TA-110	TG-S10
C37	.1		TTD-1	CK-104	H6			TA-010	TG-P10
C38	.002			DM-202					

CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA				
			REALTONE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	5000Ω	RV-083				
R2	Tone	50K	RV-084				

PARTS LIST AND DESCRIPTION (CONTINUED)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		REALTONE PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	FM Ant.	HB-041					
L2	RF Choke	HC-041					
L3	FM RF	HK-041					
L4	FM Osc.	HO-041					
L5	AM Loopstick	HA-014					
L6	AM Osc.	HO-013					
L7	1st FM IF	HF-031					
L8	2nd FM IF	HF-032					
L9	1st AM IF	HI-025	BC-574	2066		RTC-9266	
L10	3rd FM IF	HF-032					
L11	2nd AM IF	HI-025	BC-575	2067		RTC-9267	
L12	Ratio Det.	HF-043					
L13	3rd AM IF	HI-035	BC-576	2068		RTC-9268	

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
			REALTONE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T1	1.1	1.0	LI-009					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			REALTONE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T2	250Ω	10-12Ω	LO-017					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		REALTONE PART No.	QUAM PART No.	
SP1	3" PM 10-12Ω	AS-080		

BATTERIES

ITEM No.	VOLTAGE	REALTONE PART No.	REPLACEMENT DATA			NOTES
			BURGESS	EVEREADY	MALLORY	
M1	6V		930 (or AL-9, EG-9)	1015 (or E91, E9)	M-15R (or MN1500, ZM-9)	4 Required

MISCELLANEOUS

ITEM No.	PART NAME	REALTONE PART No.	NOTES
M2	Tuning Cap	CV-050	
M3	Function Switch	SB-050	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Knob - Tuning	K3047-0006	Cabinet - Complete	F2051-0001
Knob - Volume, Tone	K3047-0005	Whip Antenna	F2051-0008
Knob - Function	F2051-0003		

WIRING DATA

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