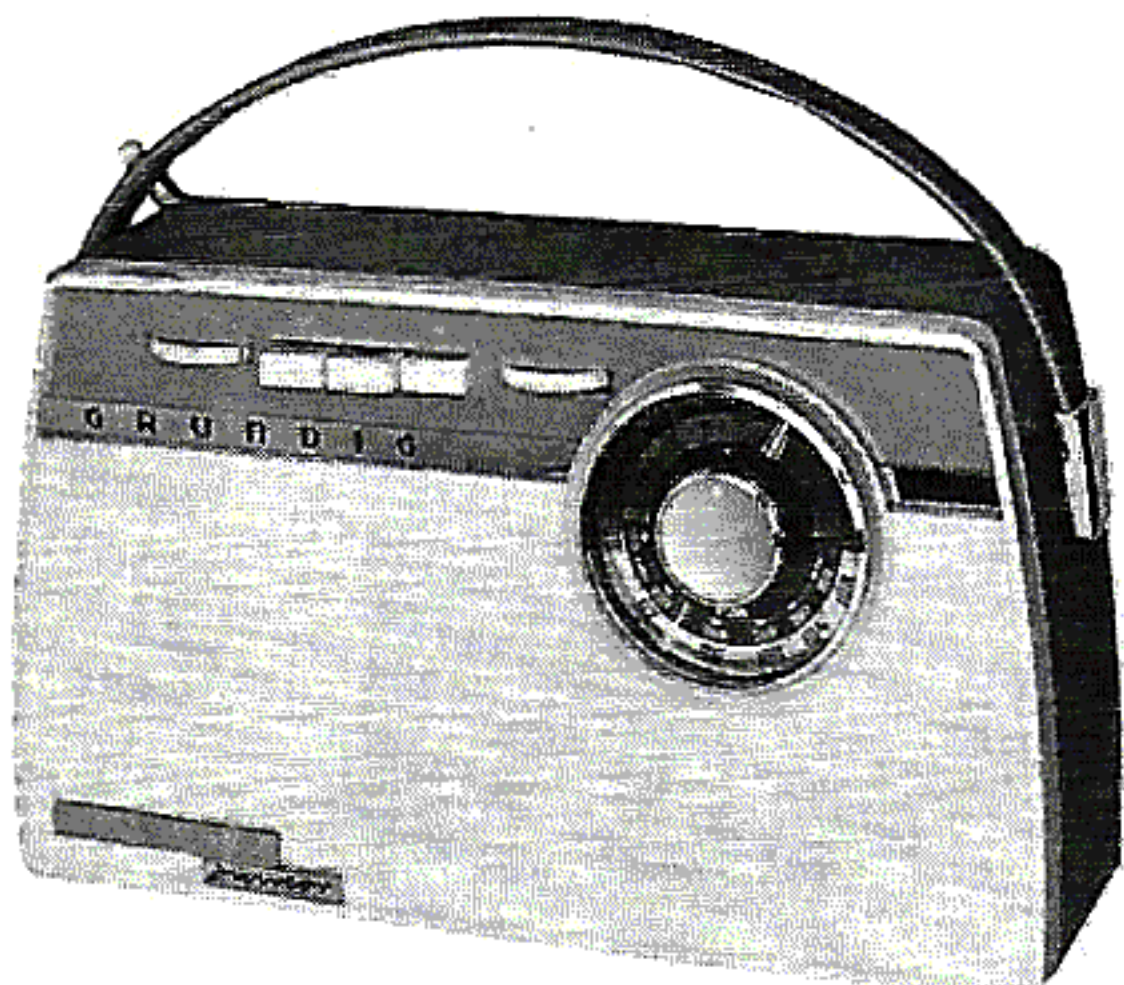




PHOTOFACT[®] with

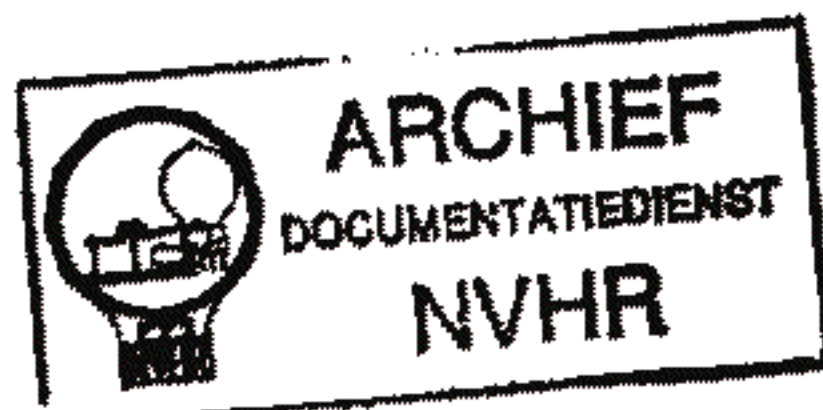
CIRCUITRACE[®]



Met dank aan Jef Bos

TRADE NAME : Grundig Model Transworld Junior
 SUPPLIER : Grundig-Triumph-Adler Sales Corp.,
 75 Sedgwick Street, Brooklyn 31, N. Y.
 TYPE SET : 8 Transistor BC-SW-FM Receiver
 POWER SUPPLY : 9 Volts DC
 RATING : 10MA @ 9VDC (No Signal, Min. Volume)
 45MA @ 9VDC (Signal, Normal Volume)
 TUNING RANGE : BROADCAST 510-1620KC
 SHORT WAVE 4.5-13.5MC
 FREQ. MOD. 88-108MC

Ned. Ver. v. Historie v/d



ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

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, A2, A3, A4, A5, A13, A15, A18, A20, A22..... GENERAL CEMENT #8282..... WALSCO #2528
 A6, A8, A9, A11, A12, A16, A19, A23, A25, A26, A27, A28.. GENERAL CEMENT #5000, 8290.. WALSCO #2525, 2528
 A7, A10, A21, A24, A29, A30..... GENERAL CEMENT #9440,..... WALSCO #2501
 A14, A17..... GENERAL CEMENT #8605..... WALSCO #2505

BC ALIGNMENT - SELECTOR IN BC POSITION

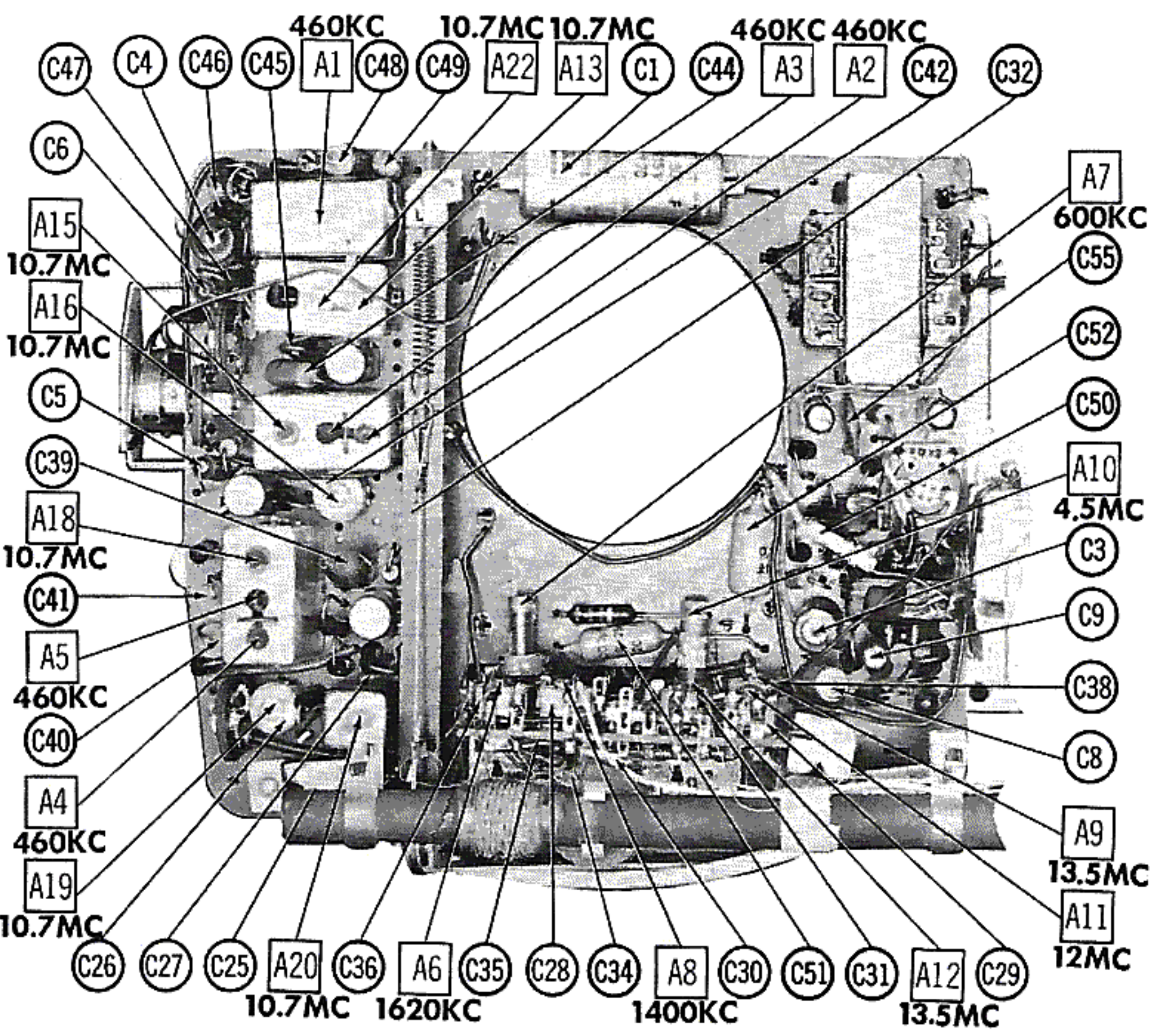
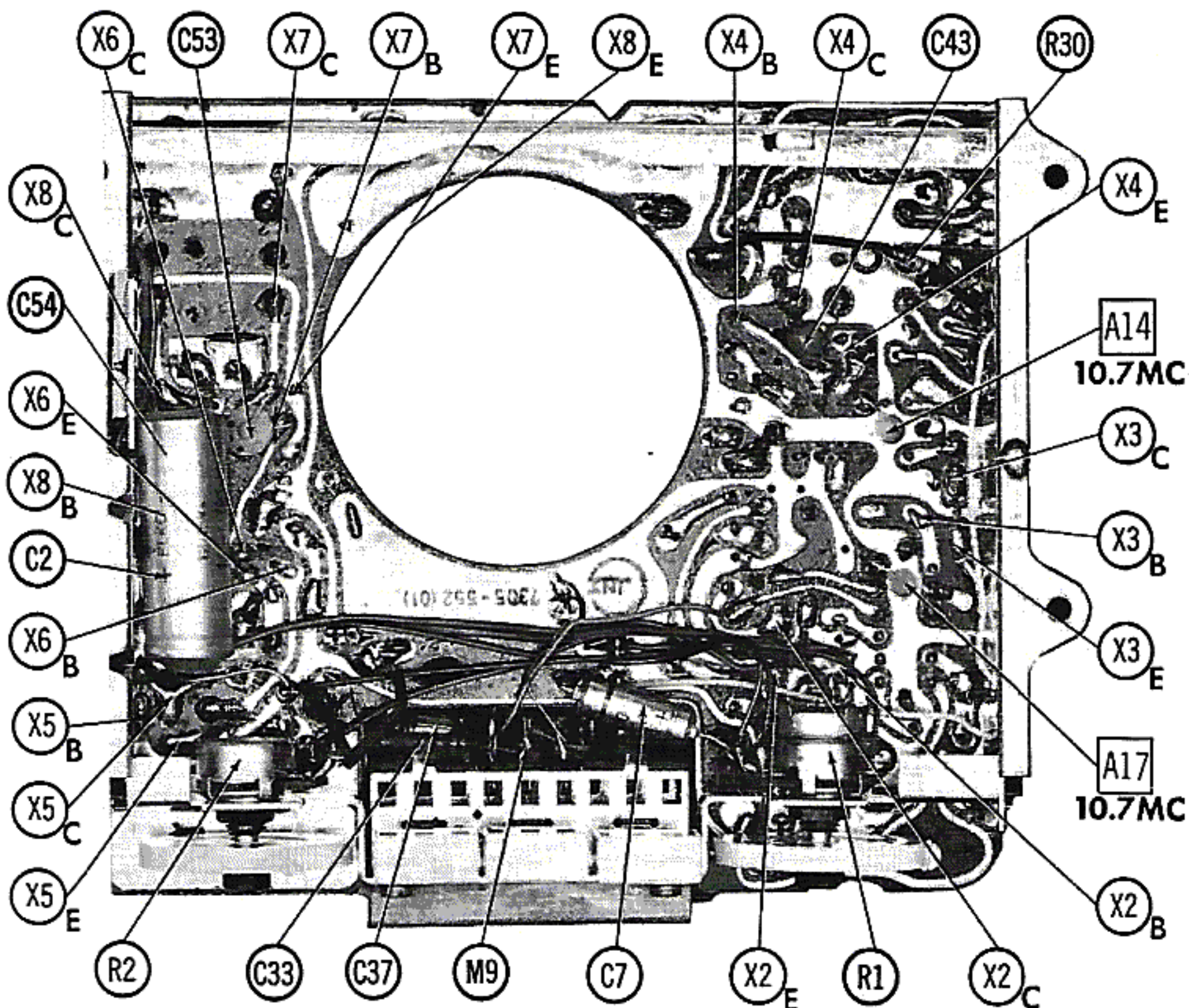
	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	455KC (400% Mod.)	Tuning gang fully open.	Output Meter across voice coil.	A1, A2, A3, A4, A5	Adjust for maximum. Repeat as required.
2.	1620KC	"	"	A6	Adjust for maximum.
3.	600KC	Tune to Signal.	"	A7	Rock tuning gang and adjust for maximum. Repeat steps 2 and 3.
4.	1400KC	"	"	A8	Adjust for maximum.

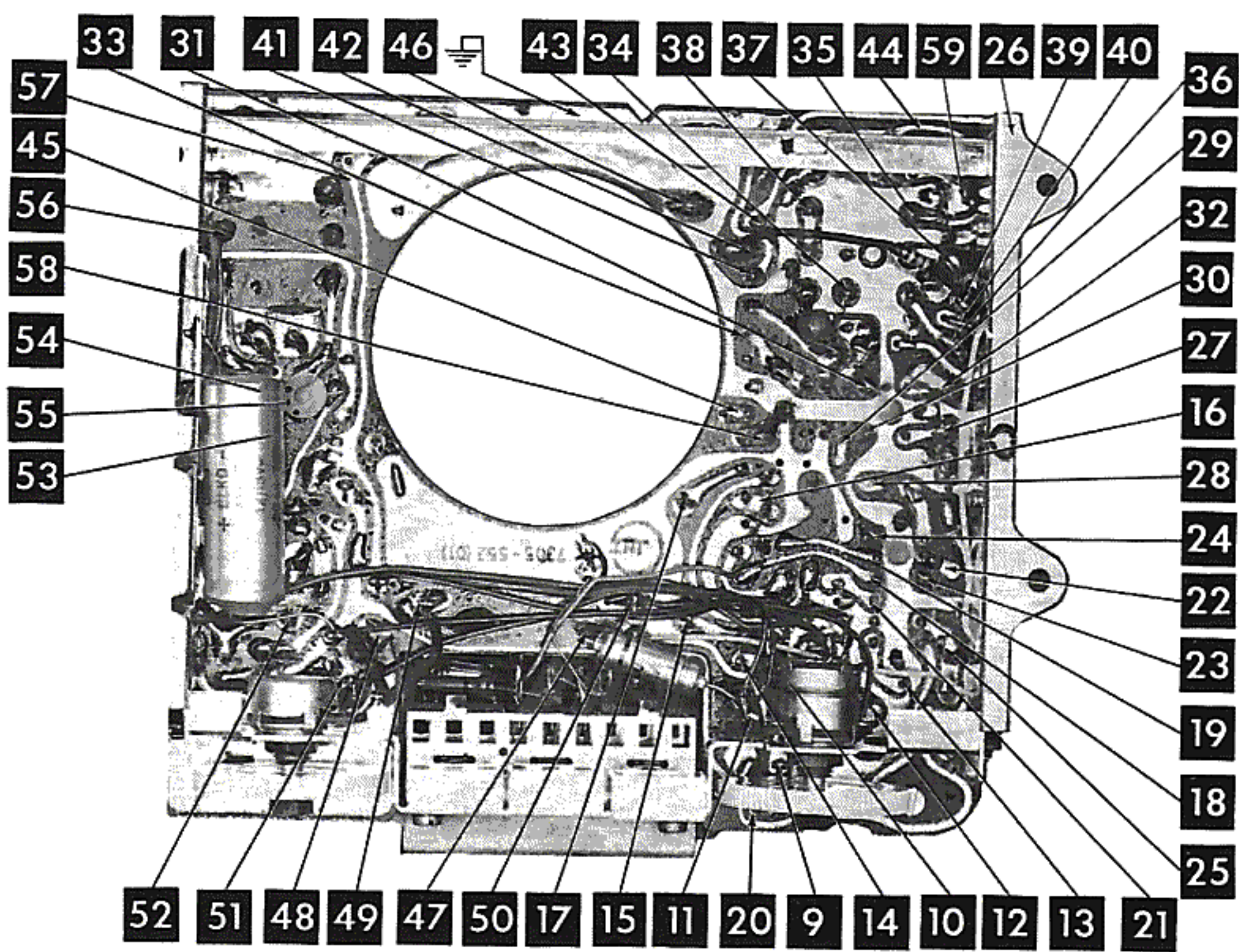
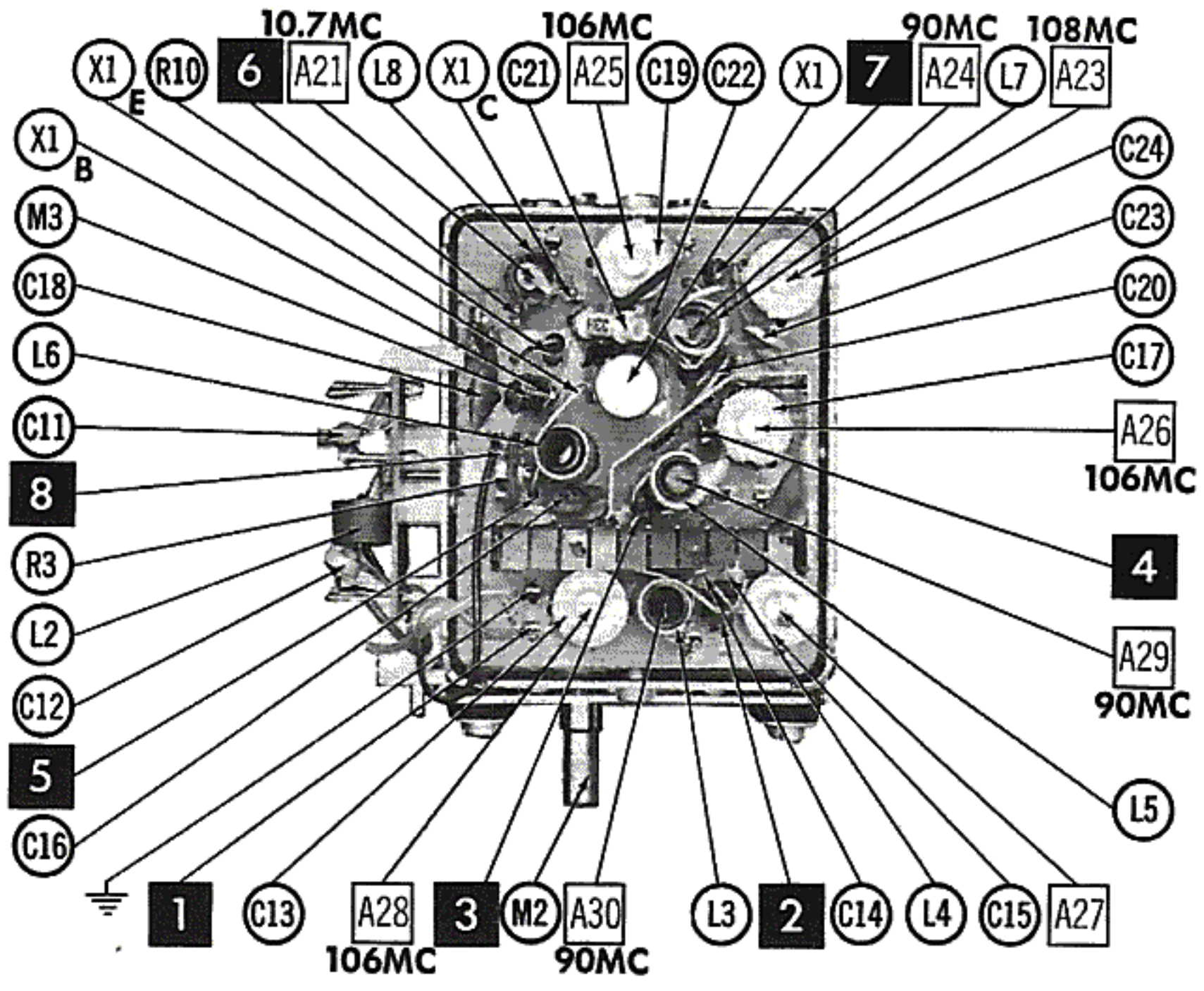
SW ALIGNMENT - SELECTOR IN SW POSITION

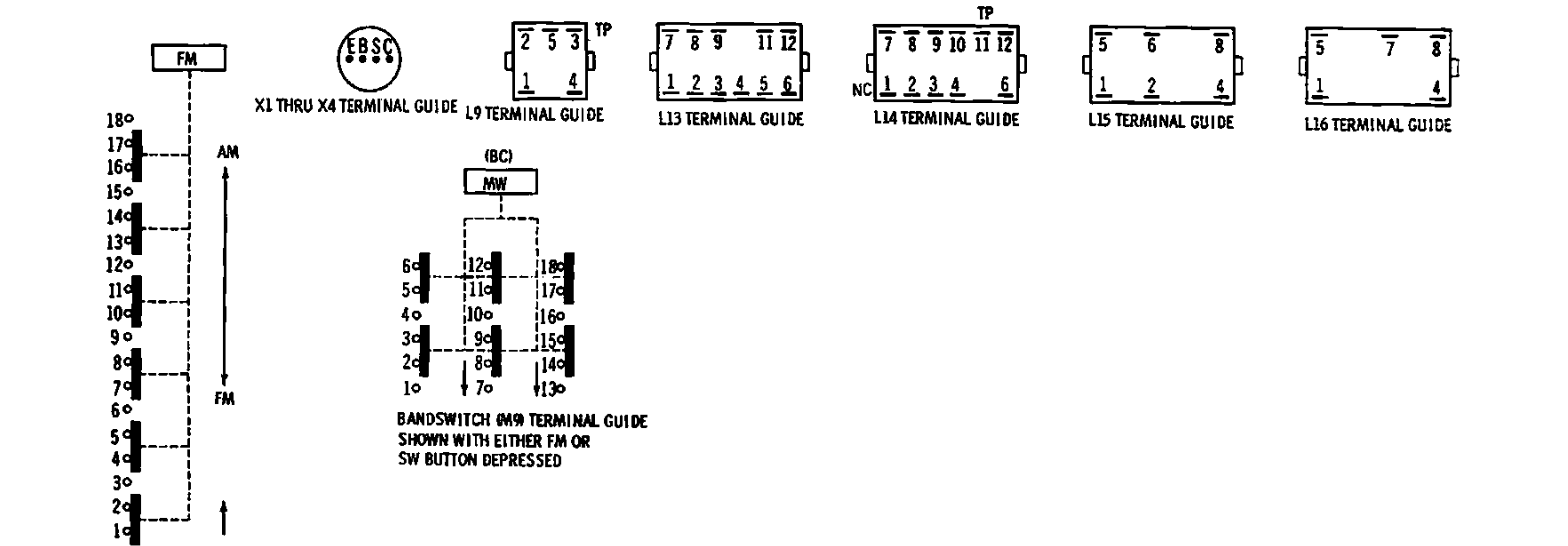
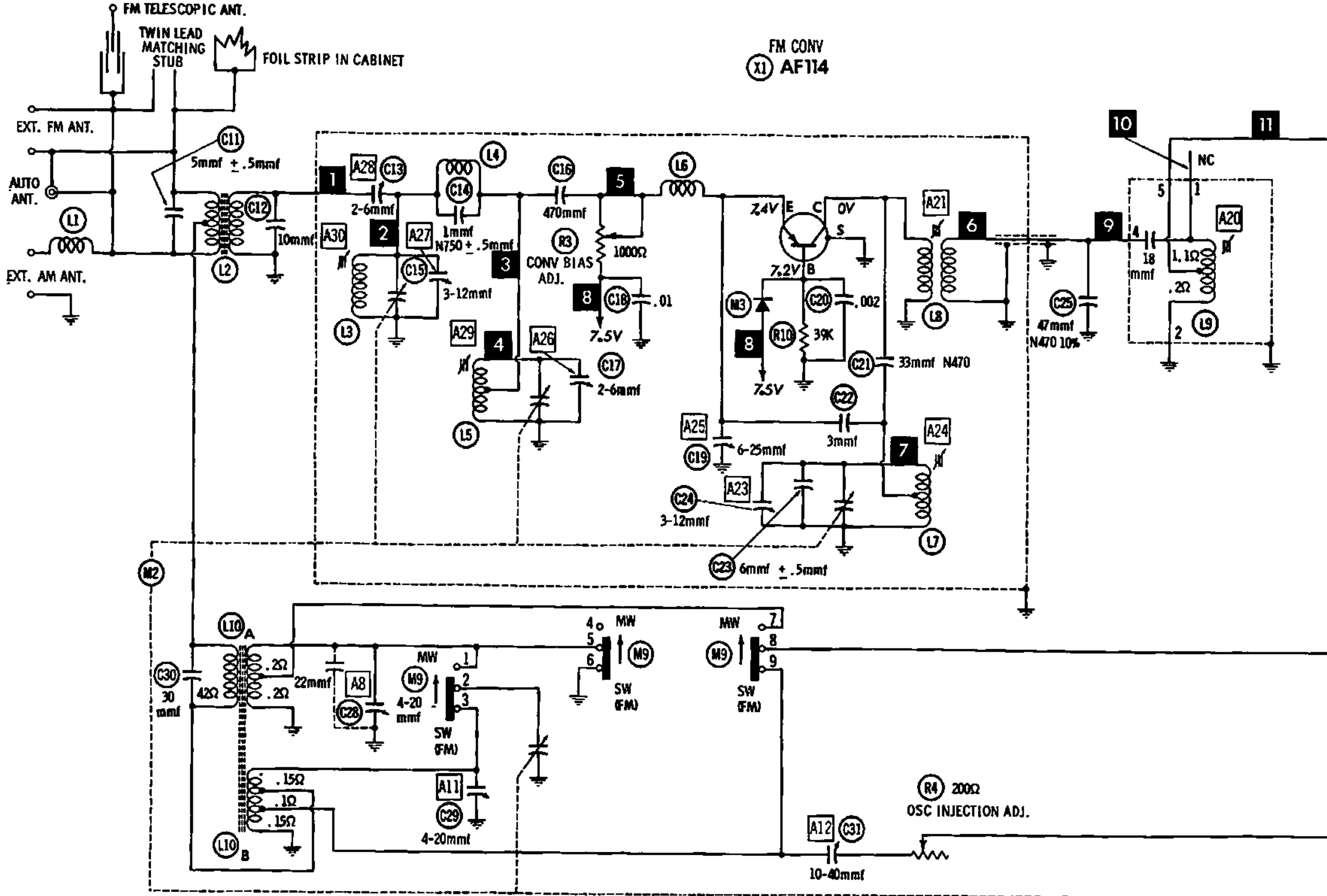
5.	13.5MC	"	"	A9	"
6.	4.5MC	"	"	A10	"
7.	12MC	"	"	A11	"
8.	13.5MC	"	"	A12	"

FM ALIGNMENT - SELECTOR IN FM POSITION

9.	10.7MC	Tuning gang fully open.	DC probe of VTVM to point A , common to ground.	A13 thru A21	Adjust for maximum.
10.	10.7MC	"	DC probe to point B , common to ground.	A22	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
11.	108MC	Tune to signal.	DC probe to point A , common to ground.	A23	Adjust for maximum.
12.	90MC	"	"	A24	"
13.	106MC	"	"	A25 thru A28	"
14.	90MC	"	"	A29, A30	"







FUNCTION SWITCH (M9)
TERMINAL GUIDE
SHOWN WITH FM BUTTON DEPRESSED

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 PHOTOFACIT STANDARD NOTATION SCHEMATIC
with CIRCUITRACE

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SCHMATIC FOR AUDIO AND POWER CIRCUITS
ARE ON PAGE 45.

PARTS LIST AND DESCRIPTION

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	AF114	FM Converter	DS-25	GE-1		PNP
X2	AF116	1st FM IF Amp. - AM Conv.	DS-25	GE-1		PNP
X3	AF116	2nd FM - 1st AM IF Amp.	DS-25	GE-1		PNP
X4	AF116	3rd FM - 2nd AM IF Amp.	DS-25	GE-1		PNP
X5	OC75	AF Amp.	DS-26	GE-2	2N406	PNP
X6	OC75	Driver	DS-26	GE-2	2N406	PNP
X7	OC74	Output	DS-26	GE-2	2N408	PNP
X8	OC74	Output	DS-26	GE-2	2N408	PNP

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	500	12		PRS1170	BR500-12	QT1-30	TD-500-12	TC1505	TVA-1132
C2	500	12		PRS1170	BR500-12	QT1-30	TD-500-12	TC1506	TVA-1132
C3	50	12		PTT59	NLW50-12	MT1-16	MLV50-12	TT15X50	TE-1133
C4	50	12		PTT59	NLW50-12	MT1-16	MLV50-12	TT15X50	TE-1133
C5	5	15		PTT64	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152
C6	5	15		PTT64	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152
C7	1	12		PTT48	NLW1-50	MT1-1	MLV1-150	TT12X1	TE-1120
C8	1	12		PTT48	NLW1-50	MT1-1	MLV1-150	TT12X1	TE-1120
C9	5	15		PTT64	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152

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.	
C11	5 ±.5mmf		NPO-DI 5.0	DTZ-4R7	C10V47C	CCTO-050	CNO-547	10TCC-V50	
C12	10		NPO-DI 10	DTZ-10	C10Q1C	CCTO-100	CNO-410	10TCC-Q10	
C13	2-6								
C14	1 N750 ±.5mmf								
C15	3-12								
C16	470		DI-470	DD-471	JB6T47	CCD-471	GP347	10TS-T47	
C17	2-6								
C18	.01		TTD-01	CK-103	H2		TA-110	TG-S10	
C19	6-25								
C20	.002			DM-202					
C21	33 N470								
C22	3		NPO-DI 3.0	DTZ-3R3	C10V33C	CCTO-3R3	CNO-533	10TCT-Q33 10TCC-V30 10TCC-V56	
C23	6 ±.5mmf								
C24	3-12								
C25	47 N470 10%							10TCT-Q47	
C26	6-25								
C27	.01		TTD-01	CK-103	H2		TA-110	TG-S10	
C28	4-20								
C29	4-20								
C30	30			CPR-30J					
C31	10-40								
C32	.01		TTD-01	CK-103	H2		TA-220	TG-S10	
C33	.0047		SI 4700	D6-472	JB6D47	CCD-472	GP247	5HK-D47	
C34	295			CPR-300J					
C35	10								
C36	4-20								
C37	.0027			CPR-2700J					
C38	4-20								
C39	.0047			CPR-4700J					
C40	.047 125V 10%		BE2S47	WMF1S47	WMF1S47	1DP-1-153	PVC1147	192P47392	
C41	.1 125V 10%		BE2P1		WMF1P1	1DP-1-104	PVC101	192P10492	
C42	6-25								
C43	2 ±.25mmf			TCZ-2R2	C10V22C	CCTO-2R2	CNO-522	10TCC-V22	
C44	.018 125V		BE2S15		WMF1S15	1DP-1-153	PVC1118	192P18392	
C45	.047							HY-310	
C46	4							10TCC-V39	
C47	.002			DM-202					
C48	.047 125V 10%		BE2S47		WMF1S47	1DP-2-473	PVC1147	192P47392	
C49	.01 125V 10%		BE2S1	CF-103	WMF1S1	1DP-1-103	PVC211	102P10392	
C50	100 N470 10%					*		10TCT-T10	
C51	.033 125V 10%		BE4S33		WMF1S33	1DP-1-333	PVC1133	192P33392	
C52	.1 125V 10%		BE2P1		WMF1P1	2DP-2-104	PVC101	192P10492	
C53	.002			DM-202					
C54	.002			DM-202					
C55	.1		TTD-1	CK-104	H6		TA-010	TG-P10	

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

CONTROLS

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

ITEM No.	USE	RESIST- ANCE	REPLACEMENT DATA				
			GRUNDIG PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	50K 10K Tap	7801-365				
R2	Tone	100K	7801-366				
R3	Bias, RF	1000Ω					
R4	Bias, Osc.	200Ω					
R5	Bias, AGC	1meg					
R6	Bias, AVC	500K					
R7	Bias, Ratio Det.	3000Ω					
R8	Bias, Output	8000Ω					

PARTS LIST AND DESCRIPTION (CONTINUED)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		GRUNDIG PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (126uh)	9218-017	BC-562	4604	RTC-8516	T856	
L2	Ant. Matching	9238-604					
L3	FM Ant.	9226-117					
L4	RF Choke (6 turns)	9218-018					
L5	FM Ant.	9226-118					
L6	RF Choke (4 turns)	9226-110					
L7	FM Osc.	9226-116					
L8	1st FM IF	9226-111					
L9	2nd FM IF	7214-203					
L10A	BC Loop	9238-045 & 9234-029					
L10B	SW Loop	9234-037					
L11	BC Osc.	9226-427					
L12	SW Osc.	9226-058					
L13	3rd FM - 1st AM IF	7215-351					
L14	4th FM - 2nd AM IF	7215-352					
L15	Ratio Detector	7215-201					
L16	3rd AM IF	7215-107					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
			GRUNDIG PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T1	2	1	9020-008					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			GRUNDIG PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T2	450Ω CT	4-6Ω	9038-050					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		GRUNDIG PART No.	QUAM PART No.	
SP1	3 3/4" x 5 5/8" PM 4-6Ω	7049-022		

BATTERIES

ITEM No.	VOLTAGE	GRUNDIG PART No.	REPLACEMENT DATA			NOTES
			BURGESS	EVEREADY	MALLORY	
M1	9V		D6	276	M1603	

MISCELLANEOUS

ITEM No.	PART NAME	GRUNDIG PART No.	NOTES
M2	Tuning Cap	9653-419	
M3	FM AFC	E25C5	
M4	AM Detector (1N60)		
M5	Ratio Det. (OA90)		
M6	Ratio Det. (OA90)		
M7	Bias Rectifier	E25C5	
M8	Switch (FM-AM)		
M9	Switch (MW-SW)		

WIRING DATA

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