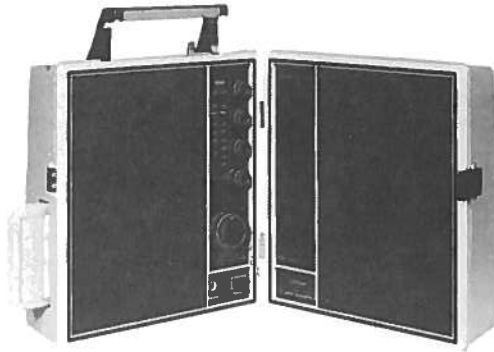




PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index



MODEL 3850
(AM-FM-FM MPX w/8-Track Stereo Tape Player)

ADJUSTMENTS

ADJUST	REMARKS
Head Height	Play a test cartridge, follow instructions with cartridge, and adjust B1 for proper response.
Head Azimuth	Connect an AC VTVM across right output. Play a test cartridge and adjust B2 for maximum.
Volume Range	Tune to a strong radio signal, set the Volume controls to the same position and adjust R5 and R6 for equal undistorted output.
Tape Level	Tune to a strong radio signal and note the output level. Without changing the Volume controls, play a tape and adjust R7 and R8 for output equal to the radio output level.

CLEANING

LUBRICATING

HEAD DEMAGNETIZING

Refer to "General Servicing Information" on page 4.

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

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PENNCREST MODEL 3850

TROUBLE CHART

SYMPTOM	REMARKS
Capstan does not rotate.	Belt (1) dirty, worn, or broken. Assembly (10) binding. Motor defective or not supplied with power.
Track-shift mechanism inoperative.	Cam (3) binding or worn. Pawls (4) and (5) worn. Arm (6) binding. Switch (S2) dirty. Solenoid (M3) defective or not supplied with power. Cartridge defective.
Wow or Flutter.	Belt (1) dirty or worn. Capstan dirty or binding. Cartridge defective. Motor defective.
Sound weak or distorted.	Head dirty, misaligned, or defective. Cartridge defective. Amplifiers defective.

MECHANICAL PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	21W0117	Flywheel Belt	9	23W7053	Flywheel Bearing
2	21V7007	Program Indicator Belt	10	22R7001	Capstan Bearing Assembly
3	22R7003	Track Changing Cam	11	26W7003	Head Lifting Spring
4	23W7358	Push Pawl	12	26W0104	Azimuth/Height Spring
5	23W7357	Pull Pawl	13	23W7061	Cartridge Detent Arm
6	23W7020	Head Mounting Arm	14	21W0054	Cartridge Detent Roller
7	23W7022	Head Clamp	15	25R0066	Motor Pulley
8	21R7000	Cog Pulley	16	26W0048	Pawl Spring

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:

GENERAL CEMENT:

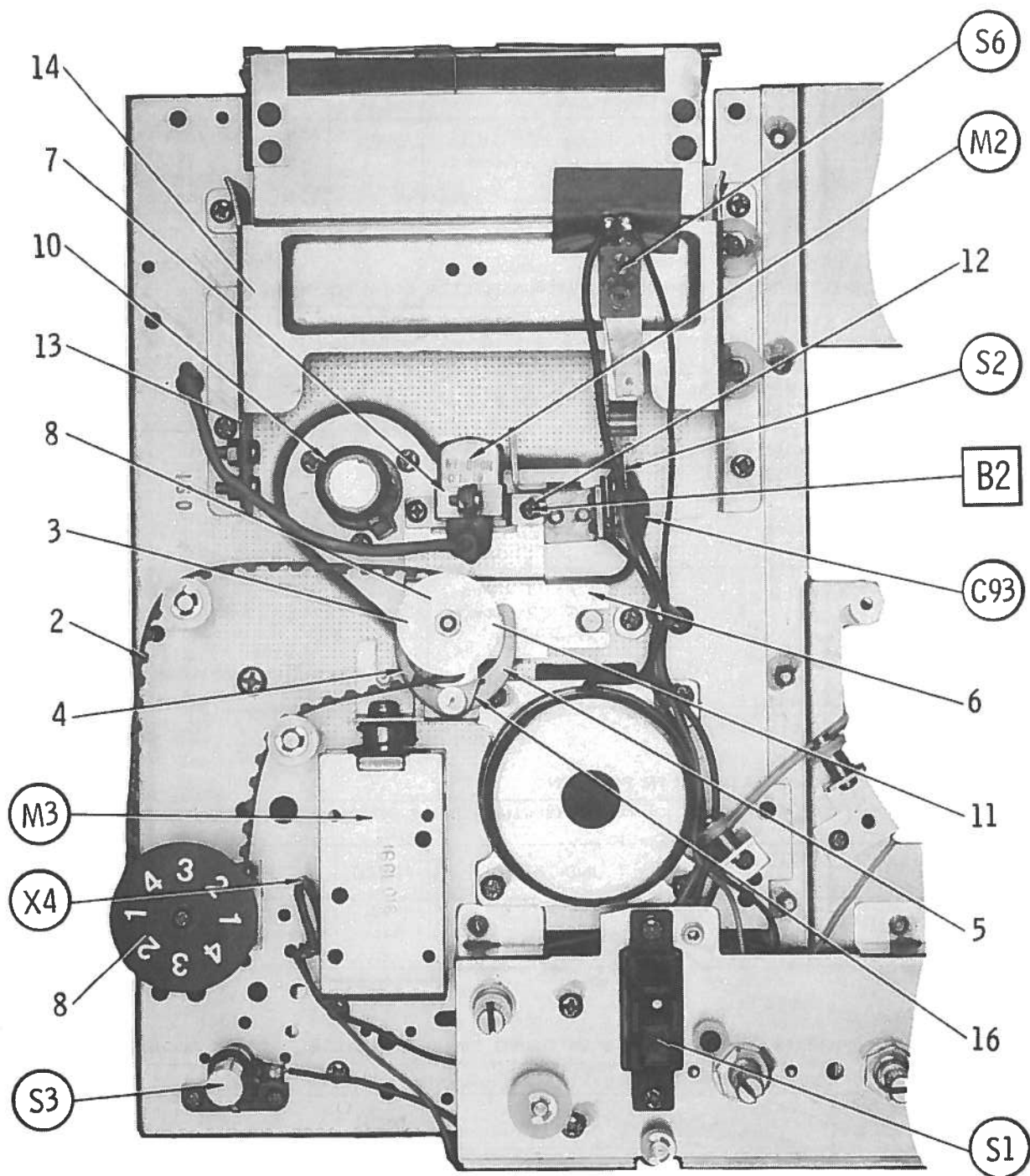
A1 thru A3, A6 thru A11, A14, A13 #9087
A4, A5, A12, A13 #8605

AM ALIGNMENT—SELECTOR IN AM POSITION

Connect generator across loop fashioned of several turns of wire. Set volume at maximum.

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	455KC 400 cycle modulation	Tuning gang fully open.	Output Meter across voice coil.	A1 Thru 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.

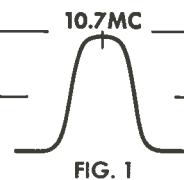
(CONTINUED ON PAGE 86)



ALIGNMENT INSTRUCTIONS (Continued)

FM IF ALIGNMENT USING AM SIGNAL GENERATOR—SELECTOR IN FM POSITION

High side of generator thru .001mfd to point $\diamond B$, low side to ground.				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
5. 10.7MC Unmodulated	Point of non-interference	DC probe of VTVM to point $\diamond C$, common to point $\diamond E$.	A7 Thru A10	Adjust for maximum.
6. "	"	DC probe of VTVM to point $\diamond D$, common to point $\diamond E$.	A11	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.

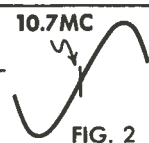


FM IF ALIGNMENT USING FM SIGNAL GENERATOR—SELECTOR IN FM POSITION

High side of generator thru .001mfd to point $\diamond B$, low side to ground. Use only enough marker signal for indication. Use 60 cycle frequency modulated signal with 450KC sweep. Use 60 cycle sawtooth voltage in scope for horizontal deflection.				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
5. 10.7MC 450KC Sweep	Point of non-interference	Vert. amp of scope to point $\diamond C$, low side to ground.	A7 Thru A10	Disconnect stabilizing capacitor C11. Adjust for maximum gain and symmetry of response similar to Fig.1 with marker as shown. Reconnect C11.
6. "	"	Vert. amp of scope to point $\diamond D$, low side to ground.	A11	Adjust A11 (secondary) to place marker at center of "S" curve similar to Fig. 2. Readjust A7 (primary) for maximum amplitude and straightness of line.

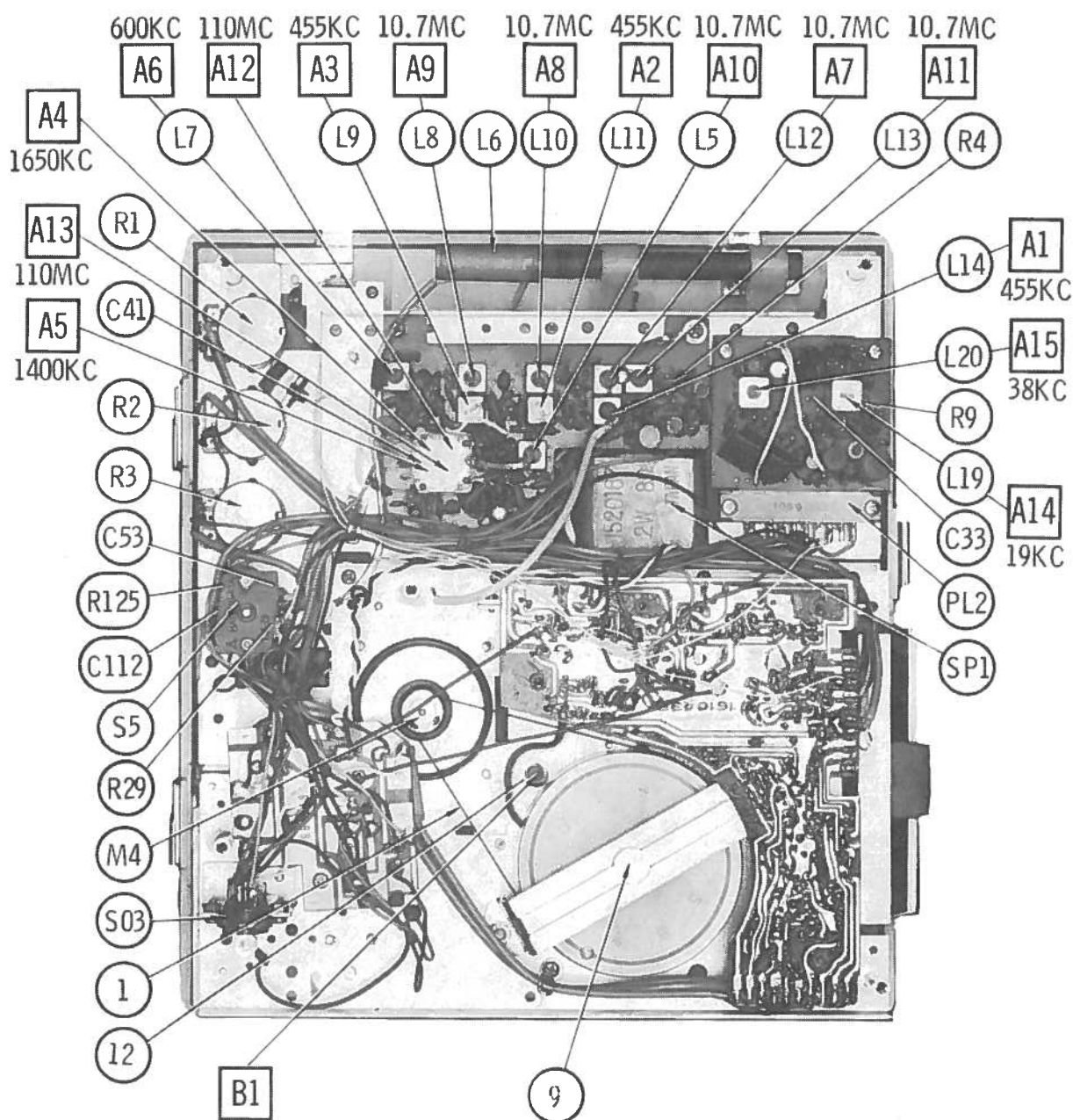
FM RF ALIGNMENT—SELECTOR IN FM POSITION

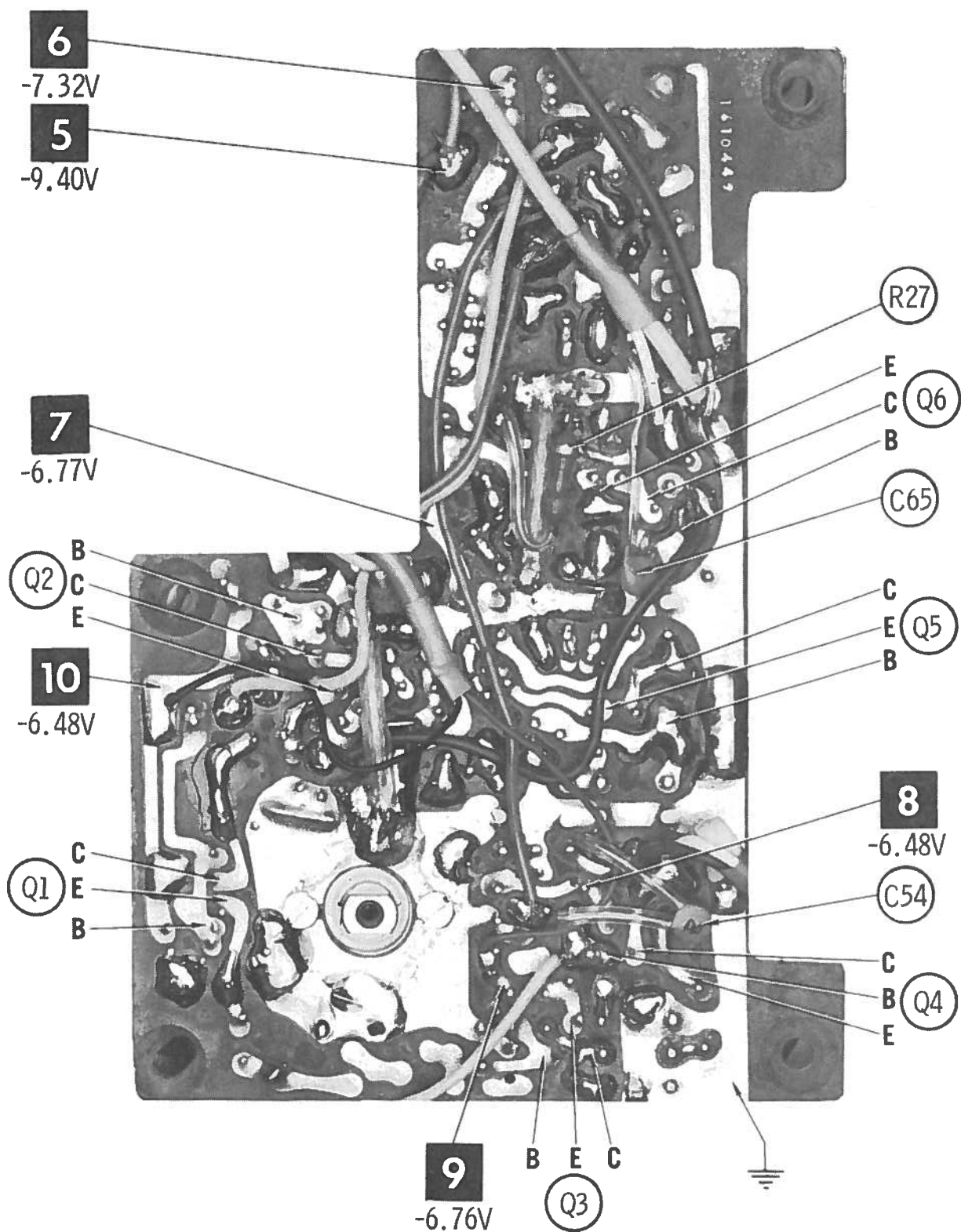
Connect generator across antenna terminals with 120-ohm carbon resistor in series with each lead.				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
7. 110MC	High freq. end	DC probe of VTVM to point $\diamond C$, common to point $\diamond E$.	A12, A13	Adjust for maximum.

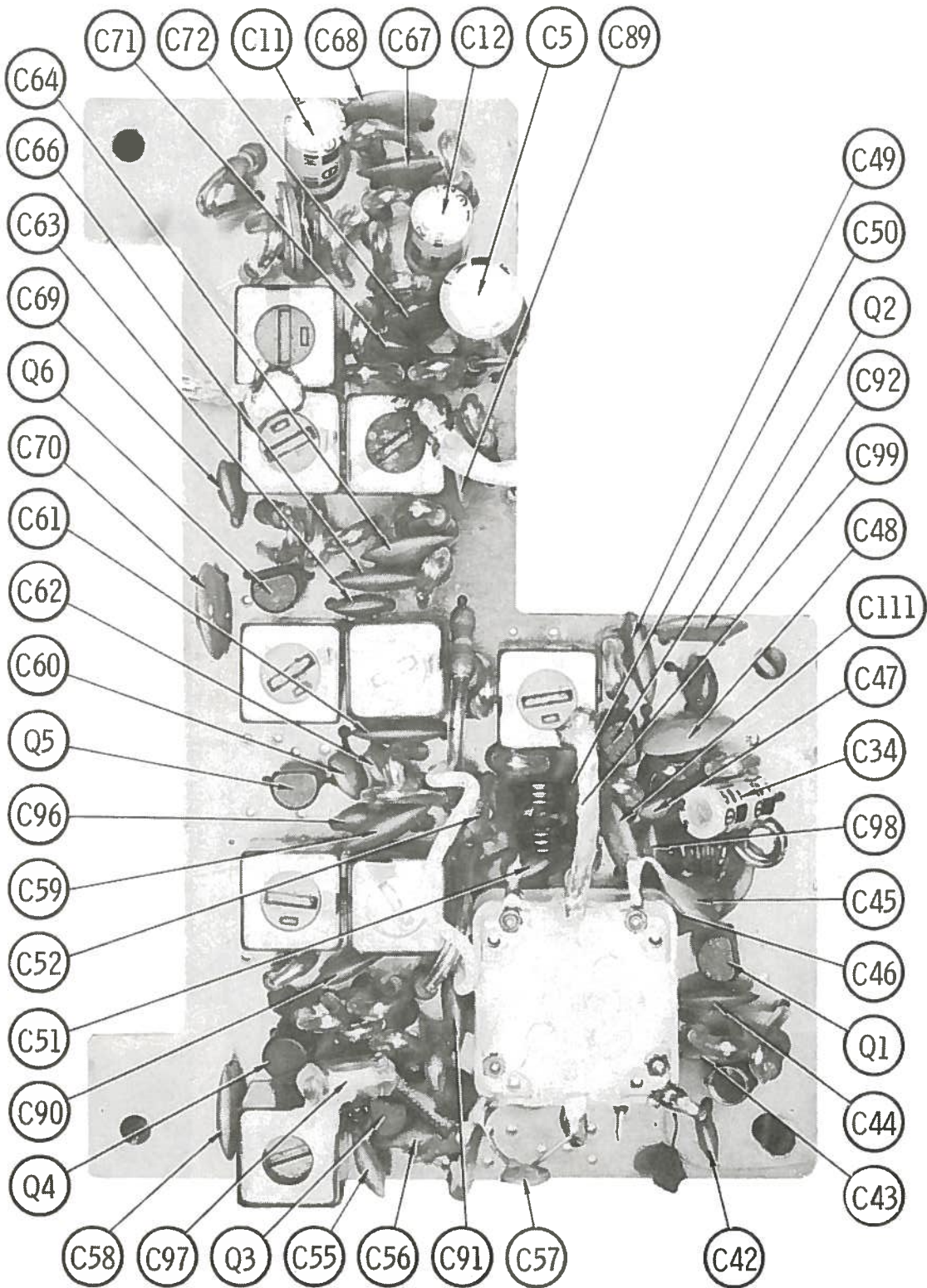


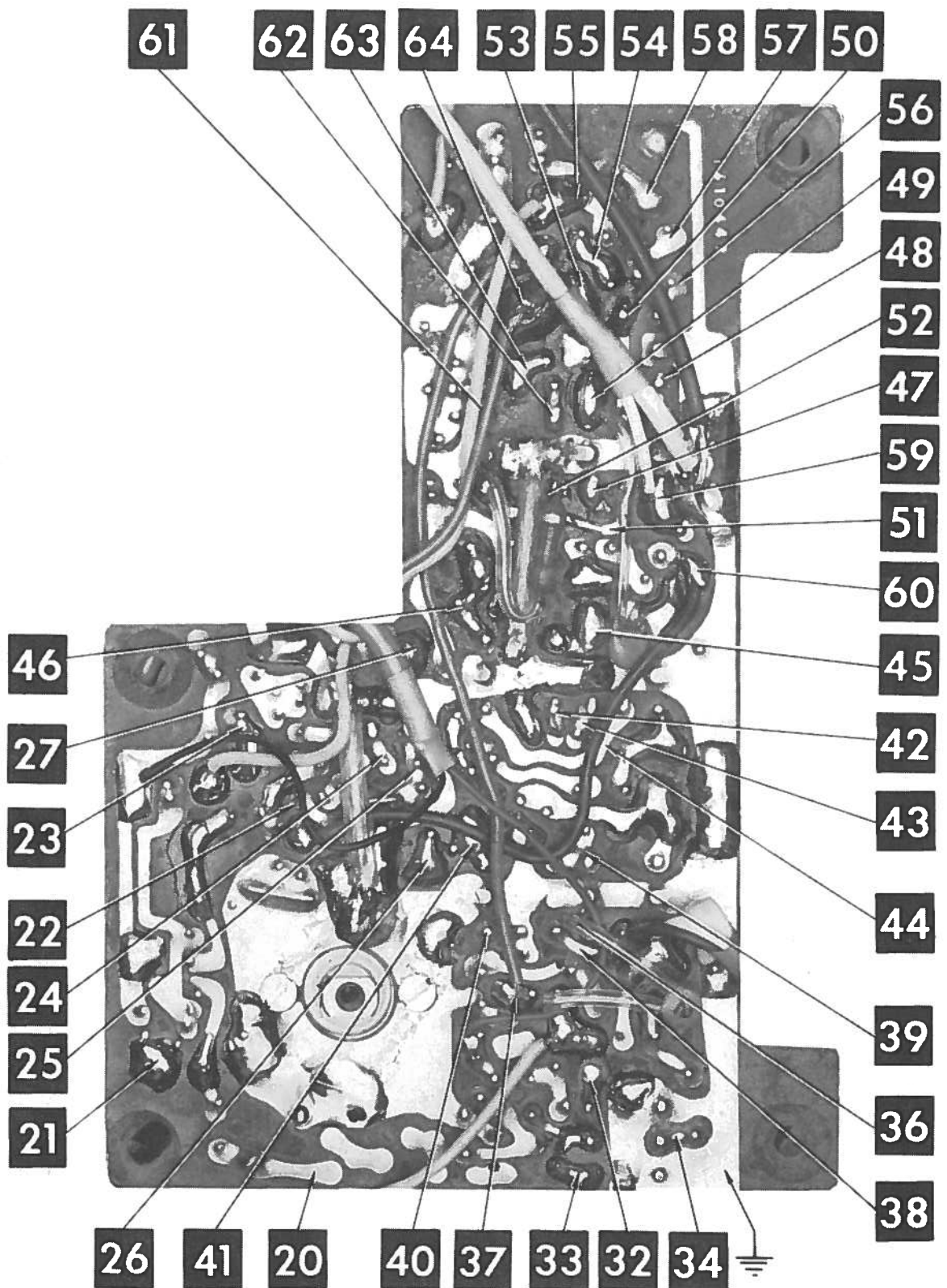
FM STEREO MULTIPLEX ALIGNMENT USING FM STEREO SIGNAL GENERATOR ($\pm .0001\%$ ACCURACY)

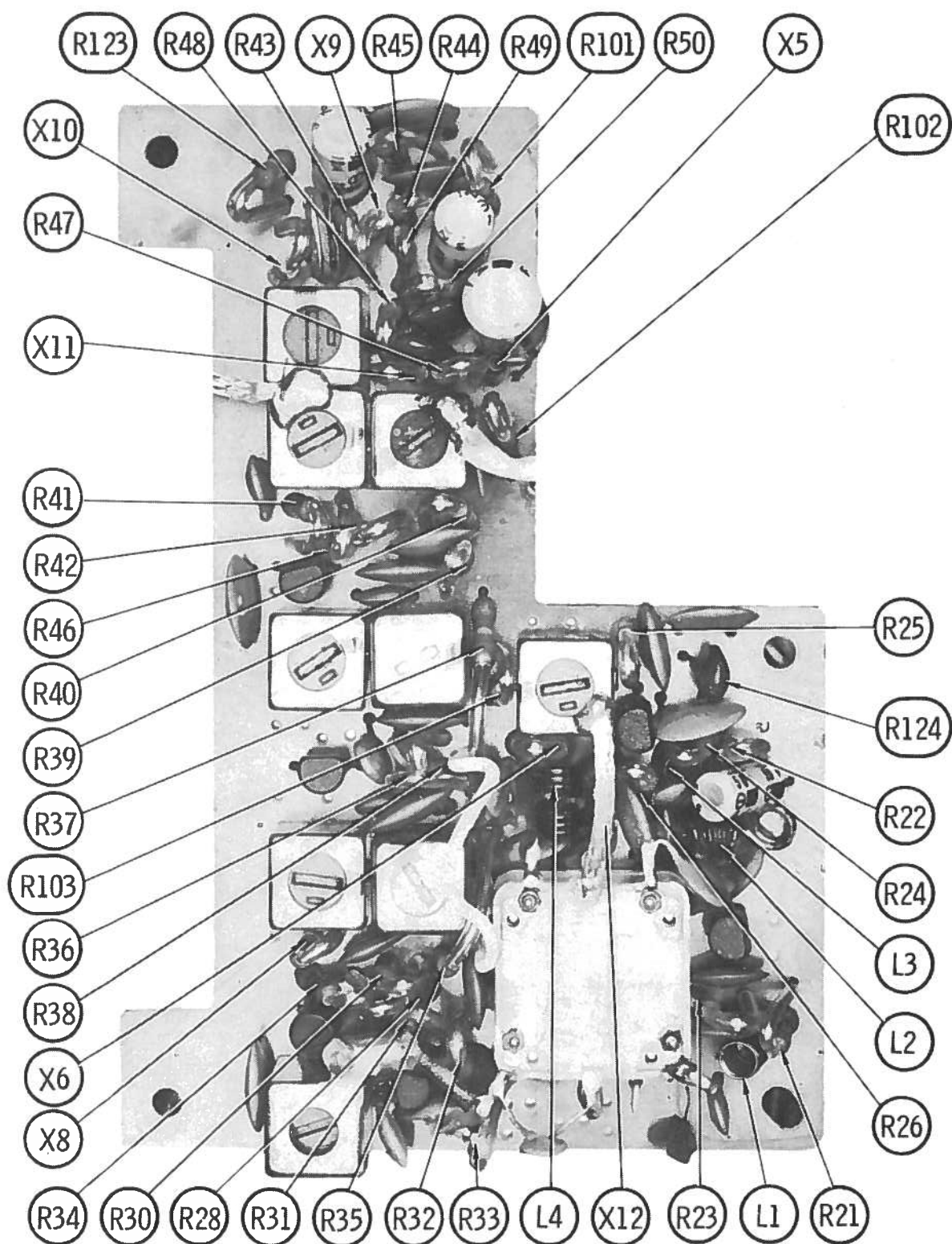
High side of generator thru 47K to point $\diamond D$, low side to ground.			
GENERATOR FREQUENCY	INDICATOR	ADJUST	REMARKS
8. 19KC	Vert. amp of scope thru 47K to point $\diamond G$, low side to ground.	A14	Adjust for maximum.
9. "	Vert. amp of scope thru 47K to point $\diamond H$, low side to ground.	A15	Adjust for maximum 38KC response.
10. Modulated Left Channel	Vert. amp of scope to point $\diamond J$, low side to ground.	A14,A15, R9	Adjust for MINIMUM. This step should require only slight adjustment.
11. Modulated Right Channel	Vert. amp of scope to point $\diamond K$, low side to ground		Check for MINIMUM. If necessary make compromise adjustment of A14, A15, R9.

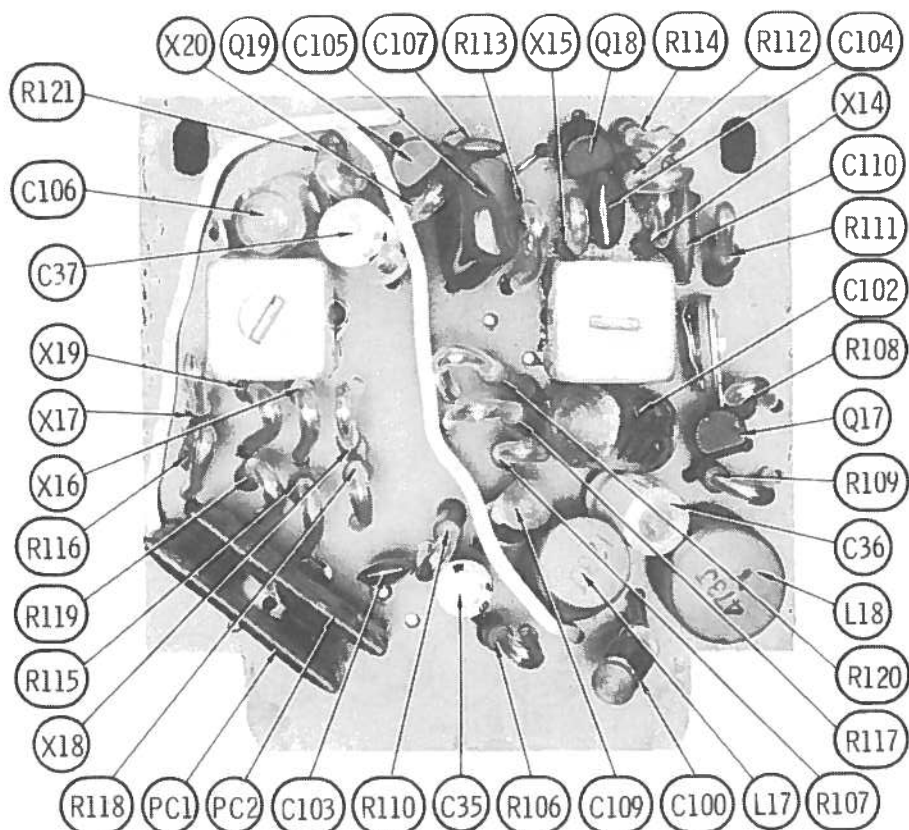
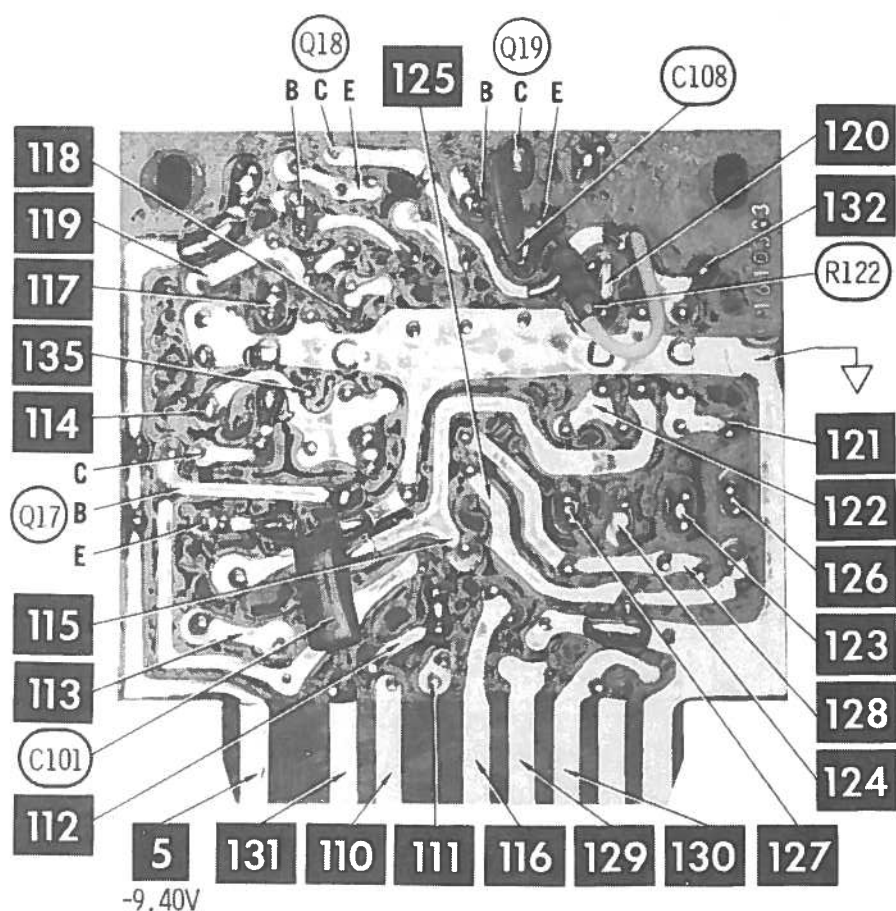


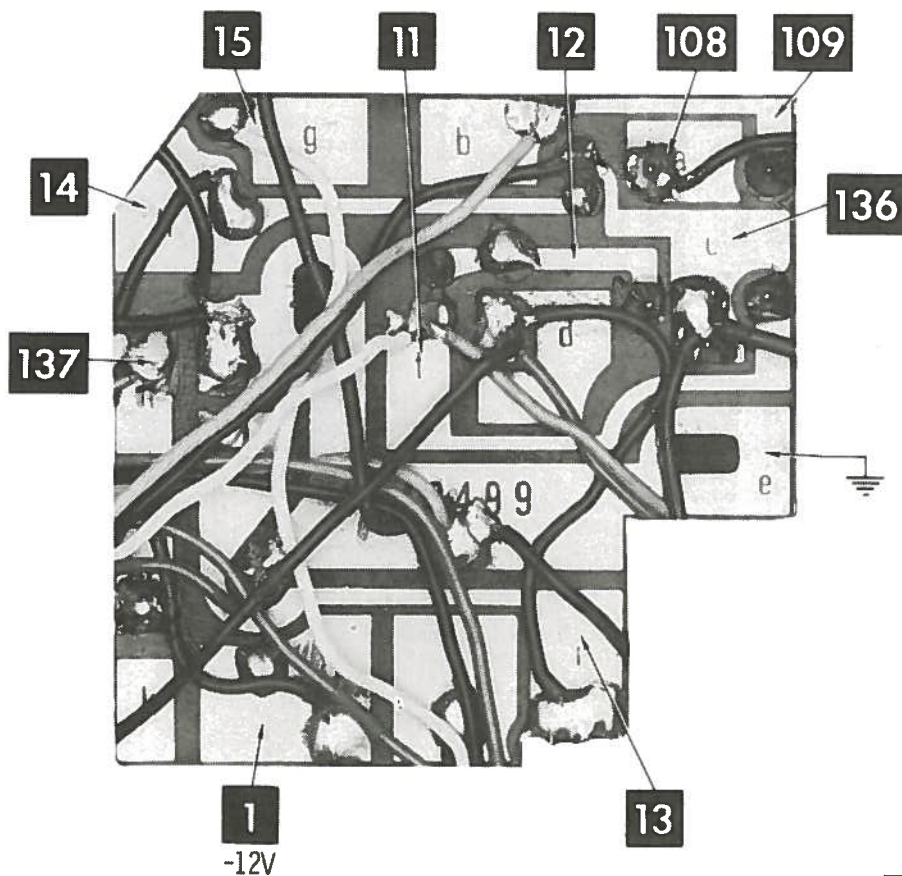
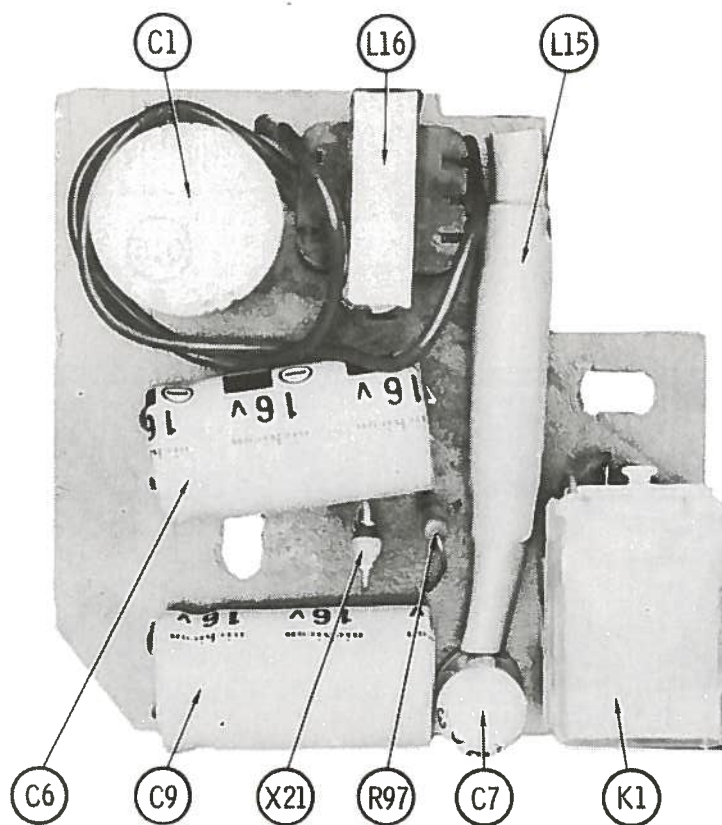


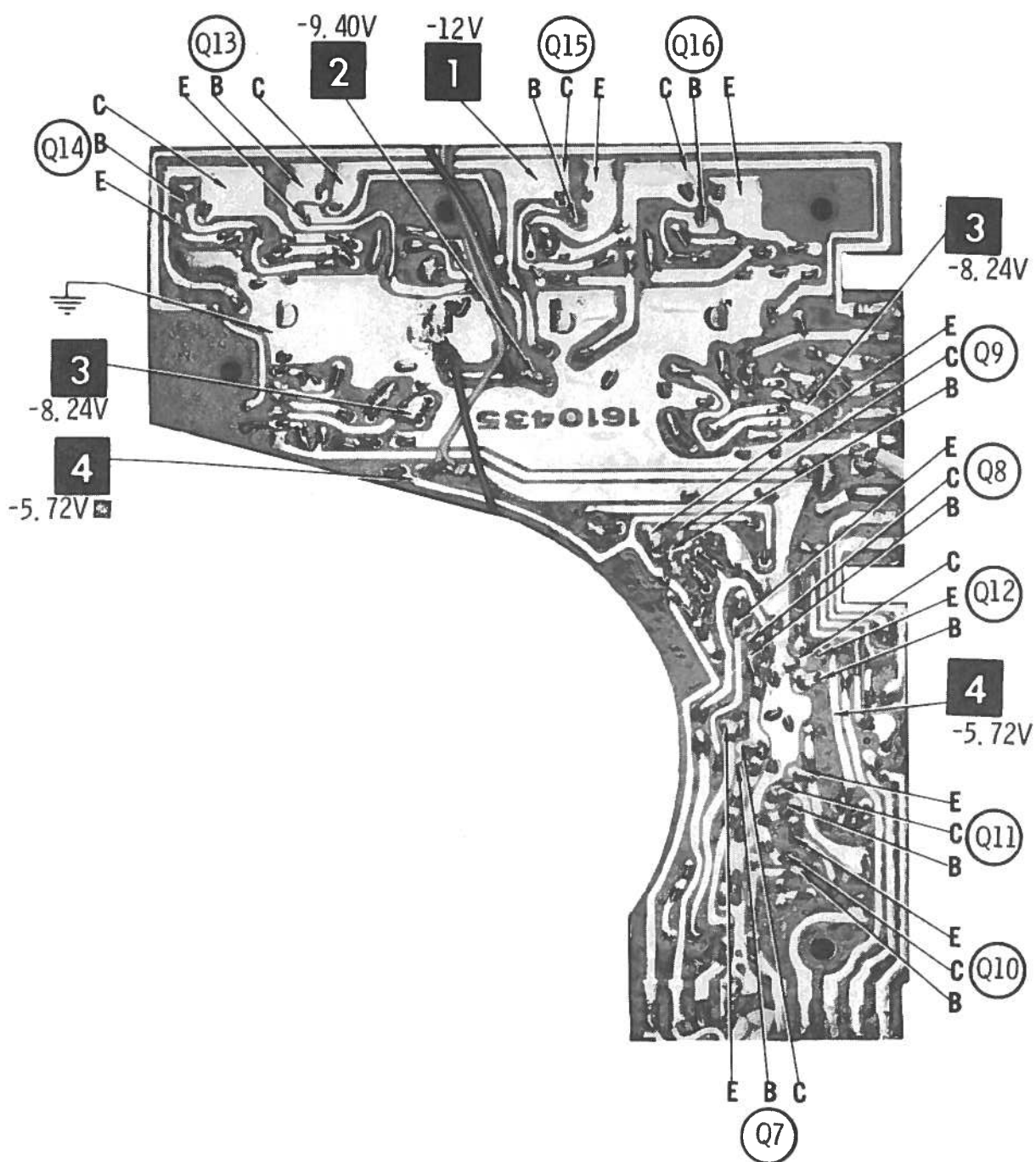


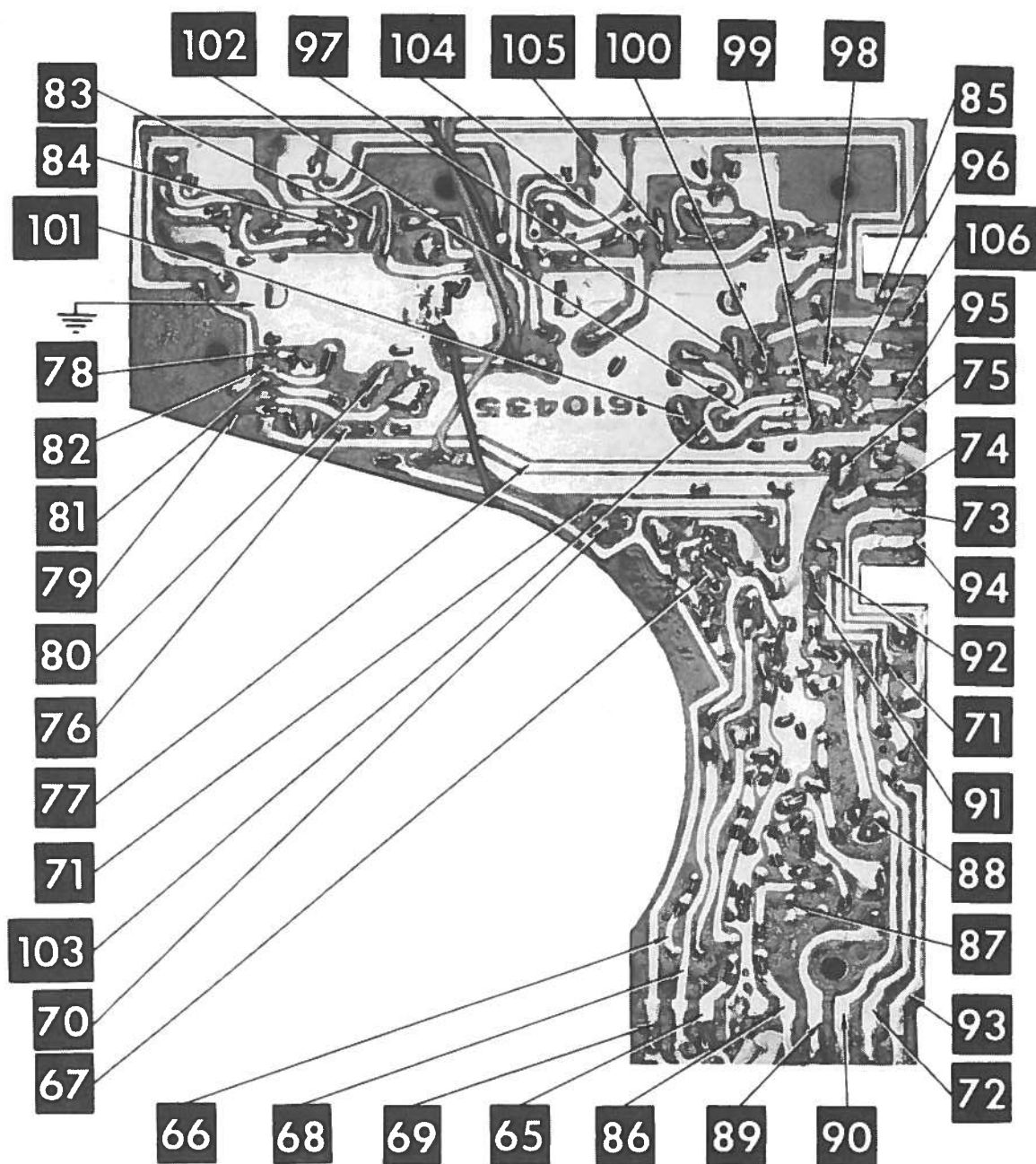


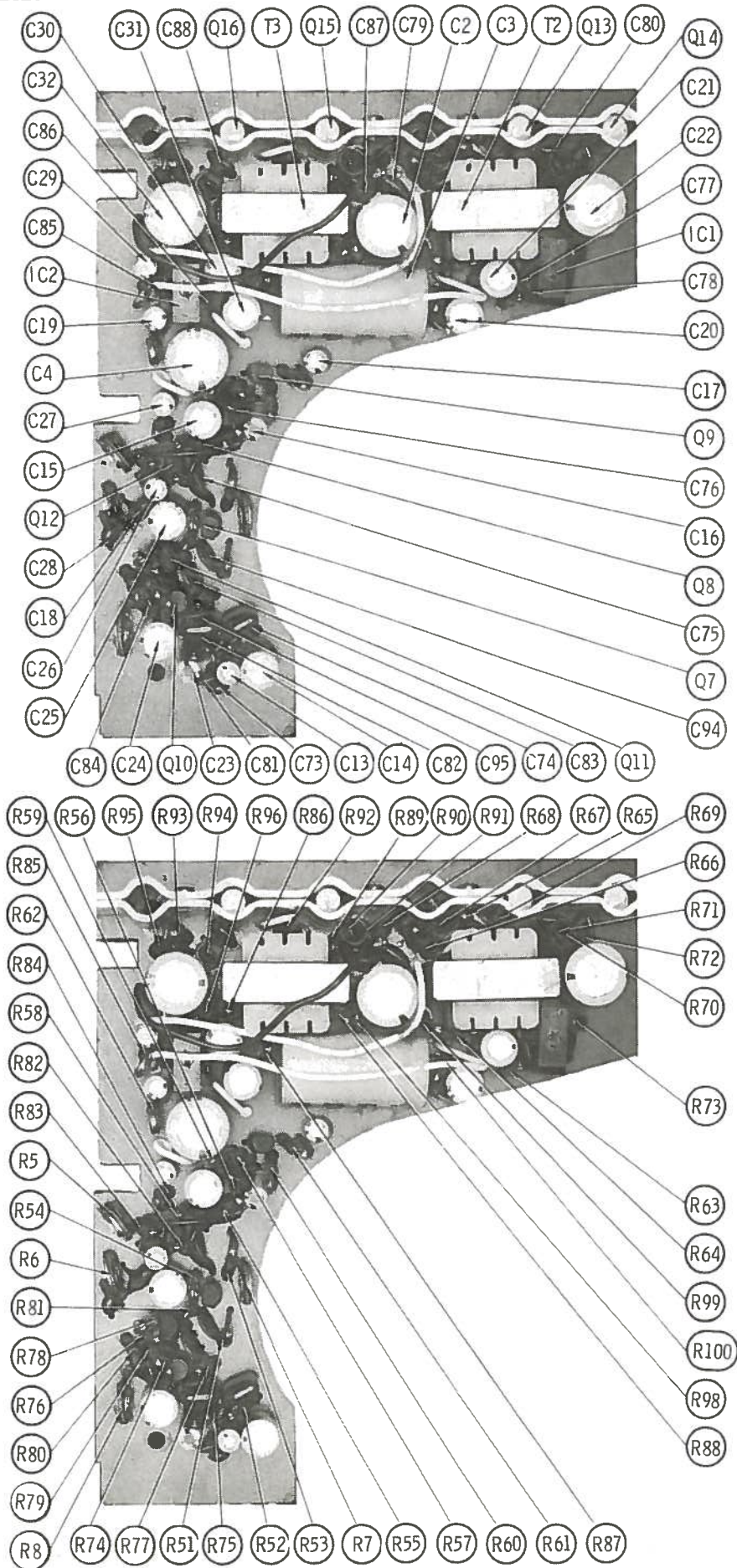












PARTS LIST AND DESCRIPTION

(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	2SC829	FM RF Amp	C-829	GE-17	TR-51	HEP50	SK3018	ECG 107
Q2	2SC829	FM Converter	C-829	GE-17	TR-51	HEP50	SK3018	ECG 107
Q3	2SC828	AM Oscillator	C-828	GE-20	TR-24	HEP55	SK3020	ECG 123A
Q4	2SC828	AM Mixer-1st FM IF Amp	C-828	GE-20	TR-24	HEP55	SK3020	ECG 123A
Q5	2SC828	1st AM-2nd FM IF Amp	C-828	GE-20	TR-24	HEP55	SK3020	ECG 123A
Q6	2SC828	2nd AM-3rd FM IF Amp	C-828	GE-20	TR-24	HEP55	SK3020	ECG 123A
Q7	2SC644	Preamp	C-644	GE-18	TR-51	HEP55	SK3020	ECG 108
Q8	2SC644	Preamp	C-644	GE-18	TR-51	HEP55	SK3020	ECG 108
Q9	2SC828	AF Amp	C-828	GE-20	TR-24	HEP55	SK3020	ECG 123A
Q10	2SC644	Preamp	C-644	GE-18	TR-51	HEP55	SK3020	ECG 108
Q11	2SC644	Preamp	C-644	GE-18	TR-51	HEP55	SK3020	ECG 108
Q12	2SC828	AF Amp	C-828	GE-20	TR-24	HEP55	SK3020	ECG 123A
Q13	2SB324	Output	B-324	GE-2	TR-05	HEP254	SK3004	ECG 158
Q14	2SB324	Output	B-324	GE-2	TR-05	HEP254	SK3004	ECG 158
Q15	2SB324	Output	B-324	GE-2	TR-05	HEP254	SK3004	ECG 158
Q16	2SB324	Output	B-324	GE-2	TR-05	HEP254	SK3004	ECG 158

POWER RECTIFIERS & SIGNAL DIODES

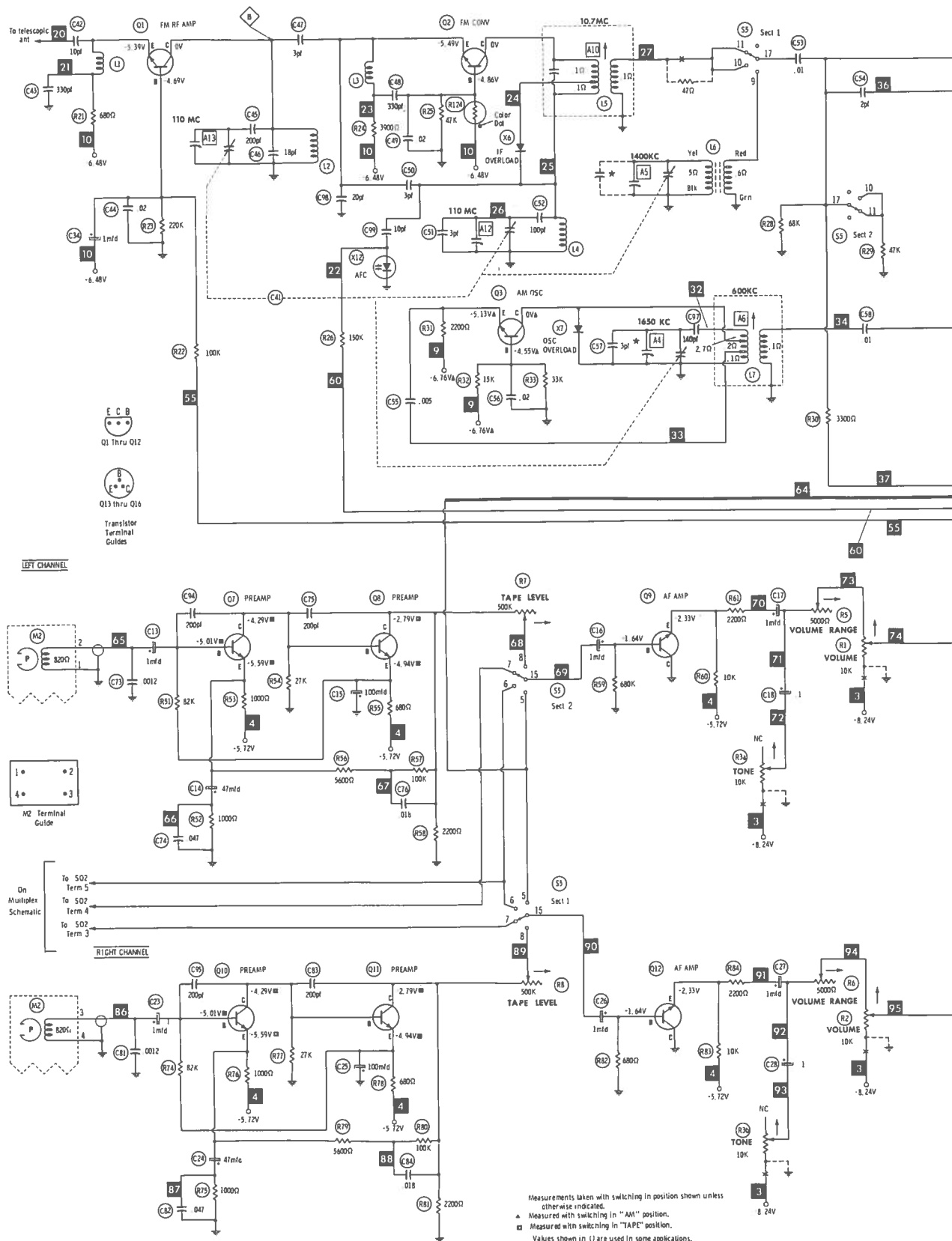
ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT DATA				NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.	
X1	1S1850	GE-504A (1)	8D4 (1) or 5A4D (1)	SK3030 (1) or SK3031 (1)	ECG 116 (1) or ECG 117 (1)	(1) Two required.
X2	1S1850R	GE-504A (1)	8D4 (1) or 5A4D (1)	SK3030 (1) or SK3031 (1)	ECG 116 (1) or ECG 117	
X3	VO-6	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
X4	VO-6	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
X5	1S332			SK3059	ECG 138	(2) Matched pair.
X6	0A90	1N60	1N60	SK3088	ECG 109	
X7	0A90	1N60	1N60	SK3088	ECG 109	
X8	0A90	1N60	1N60	SK3088	ECG 109	
X9	0A90	1N60	1N60	SK3088	ECG 110 (2)	
X10	0A90	1N60	1N60	SK3088	ECG 109	
X11	0A90	1N60	1N60	SK3088	ECG 109	
X12	0A90	1N60	1N60	SK3088	ECG 109	
X13	1S2139					
X14	1N60	1N60	1N60	SK3088	ECG 110 (2)	
X15	1N60	1N60	1N60	SK3088	ECG 110 (2)	
X16	1N60	1N60	1N60	SK3088	ECG 110 (2)	Varistor
X17	1N60	1N60	1N60	SK3088	ECG 110 (2)	
X18	1N60	1N60	1N60	SK3088	ECG 110 (2)	
X19	1N60	1N60	1N60	SK3088	ECG 110 (2)	
X20	1N60	1N60	1N60	SK3088	ECG 110 (2)	
X21	VO-6	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	

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 16V	1203108						
C2	220 16V	1203227						
C3	1000 16V	1203108						
C4	470 16V	1202477						
C5	10 16V	1203106	MCD-70	EP15-10	WBR10-25	MT1-5	MTV10CB50	TE-1155
C6	470 16V	1203477						
C7	33 16V		MCD-110	EP15-25	WBR35-50	MT1-13.5	MTV30CB25	TE-1158
C9	470 16V	1203477						
C10	2000 25V	1220045						
C11	10 16V	1203106	MCD-70	EP15-10	WBR10-25	MT1-5	MTV10CB50	TVA-1213
C12	10 16V	1203106	MCD-70	EP15-10	WBR10-25	MT1-5	MTV10CB50	TE-1155
C13	1 6.3V	1201105	MCD-10	EP6-2	WBR1-50	MT1-1	MTV1CB50	TE-1080
C14	47 6.3V	1201476	MCD-130	EP6-50	WBR50-25	MT1-15	MTV50CB15	TE-1133
C15	100 6.3V	1201107	MCD-170	EP6-100	WBR100-16	MT1-21	MTV100CB6	TE-1102
C16	1 6.3V	1201105	MCD-10	EP6-2	WBR1-50	MT1-1	MTV1CB50	TE-1080
C17	1 6.3V	1201105	MCD-10	EP6-2	WBR1-50	MT1-1	MTV1CB50	TE-1080
C18	.1						TDC104M050EL	196D104X0035DB
C19	1 6.3V	1201105	MCD-10	EP6-2	WBR1-50	MT1-1	MTV1CB50	TE-1080

(CONTINUED ON PAGE 102)

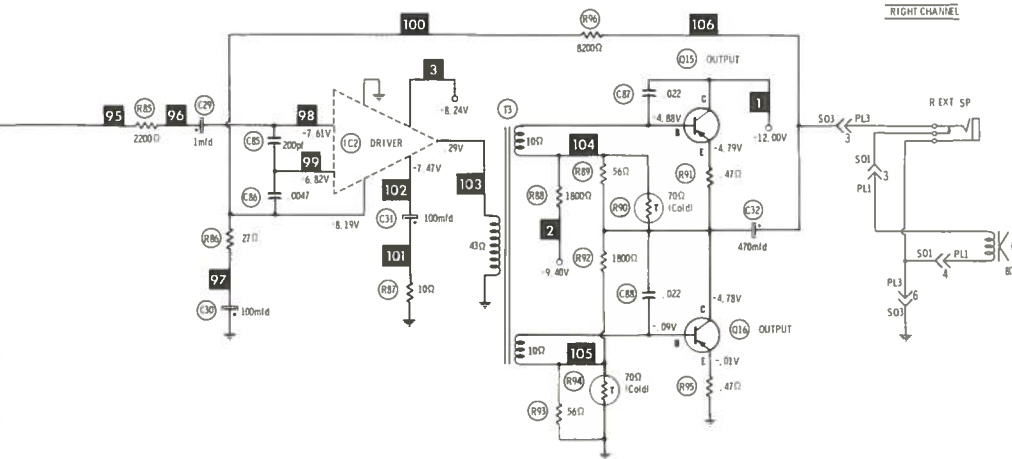
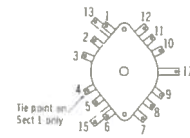
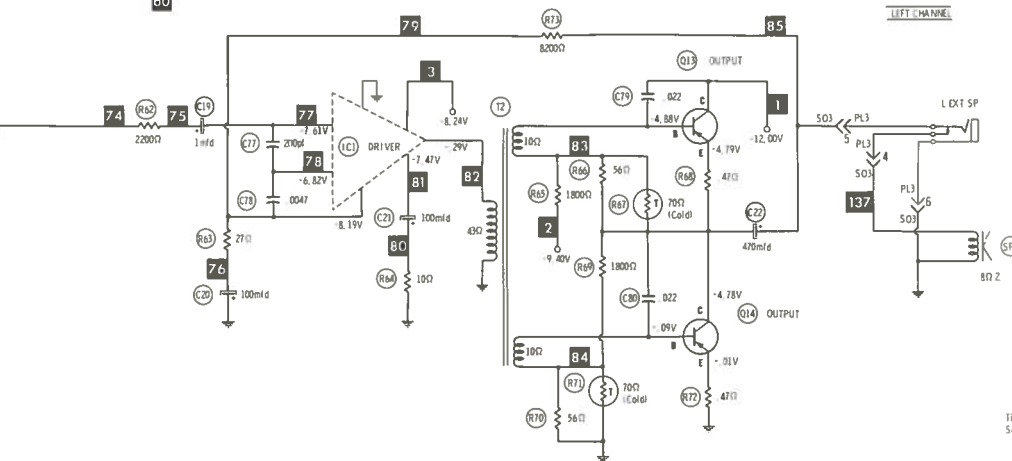
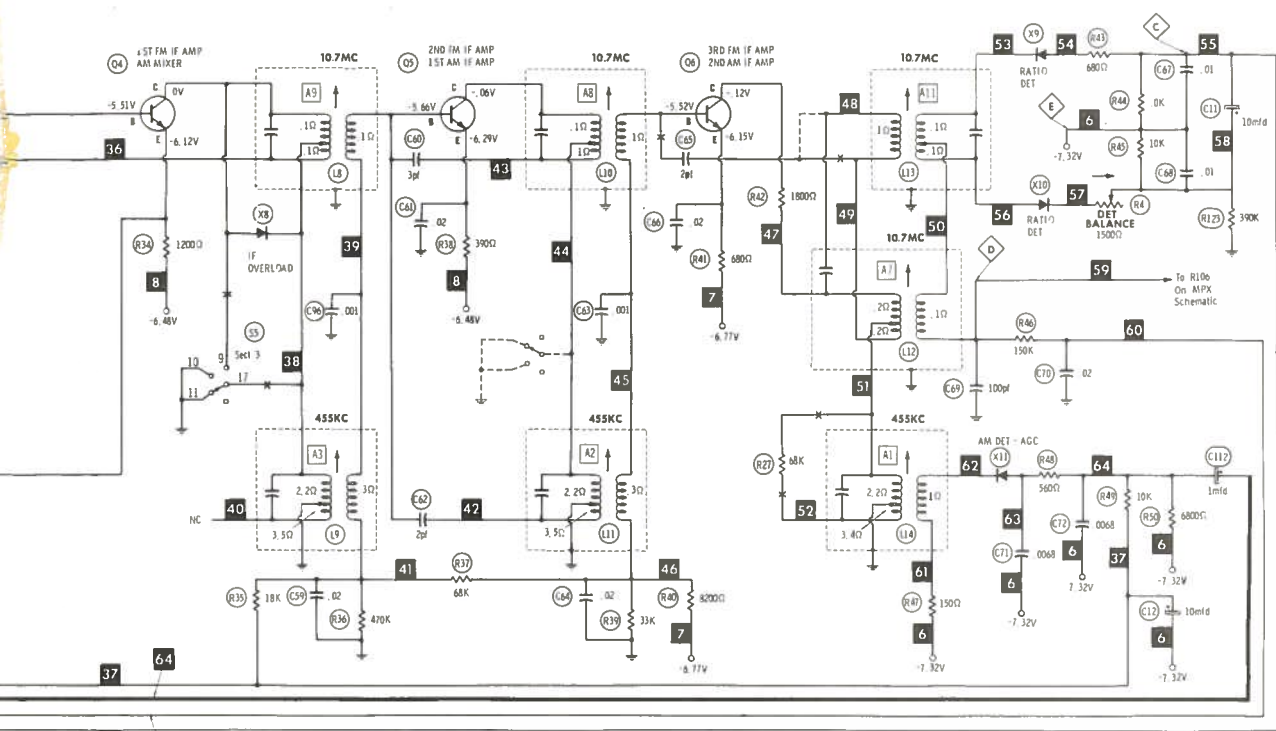
NOTE: DEMAGNETIZE HEADS AFTER SERVICING



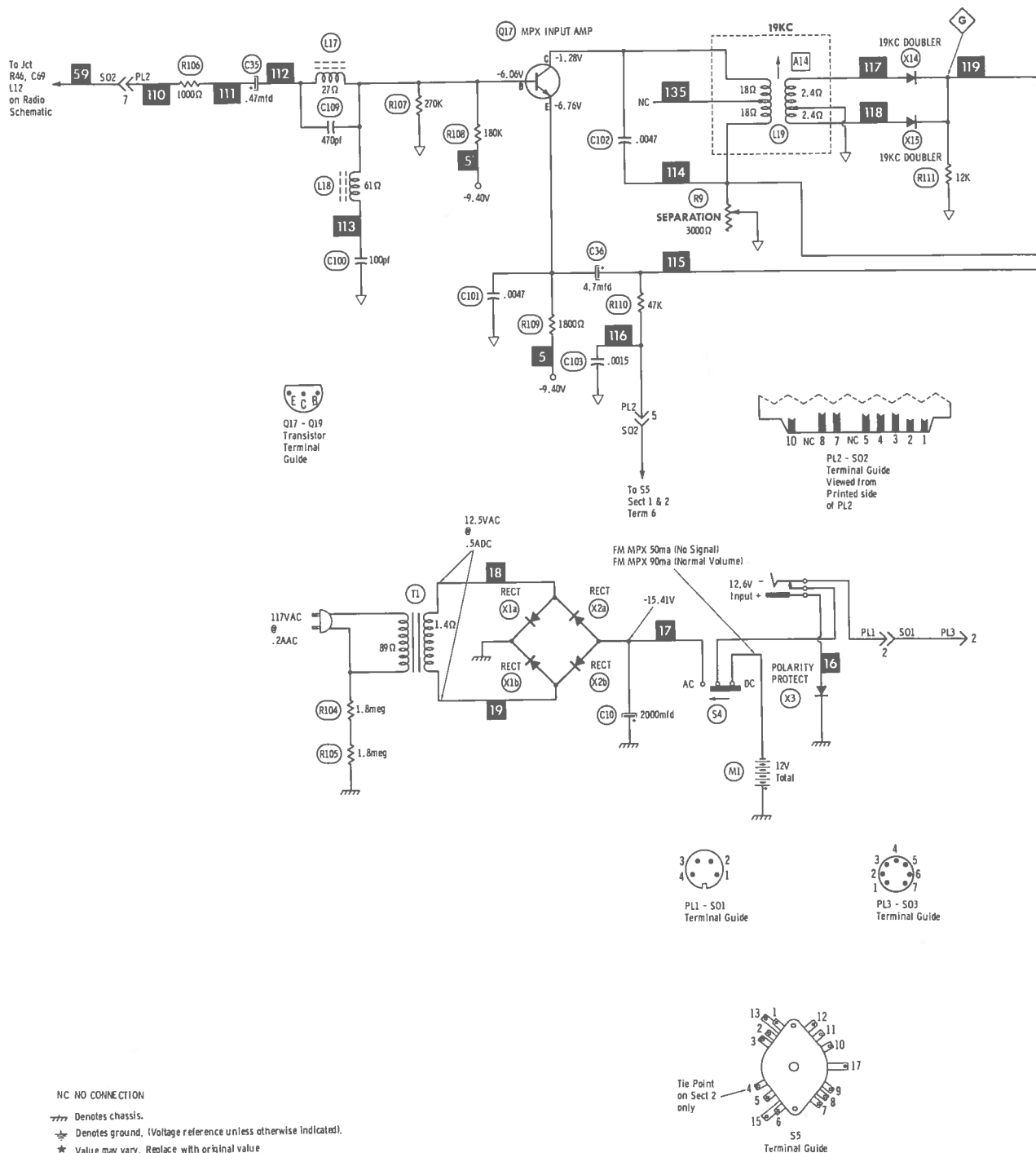
A PHOTOFACI STANDARD NOTATION SCHEMATIC
with **CIRCUITRACK**
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NC: NO CONNECTION
* Value may vary. Replace with original value.
— Denotes ground. (Voltage reference unless otherwise indicated).
--- Indicates connection used in some versions.
-X- Indicates connection not used in some versions.

Measurements taken with switching in position shown unless otherwise indicated.
▲ Measured with switching in "AM" position.
■ Measured with switching in "TAPE" 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.
Arrow on control indicates direction of advance.
Numbers assigned to terminals may not be found on the unit.
Transistor resistances vary widely. No resistance measurements taken.



PENNCREST MODEL 3850



NC NO CONNECTION

Denotes chassis.

Denotes ground. (Voltage reference unless otherwise indicated).

Value may vary. Replace with original value

Measurements taken with switching in position shown unless otherwise indicated.

Measured with Switching in "TAPE" 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 VTVM or equivalent meter,

no signal applied and controls adjusted for normal operation.

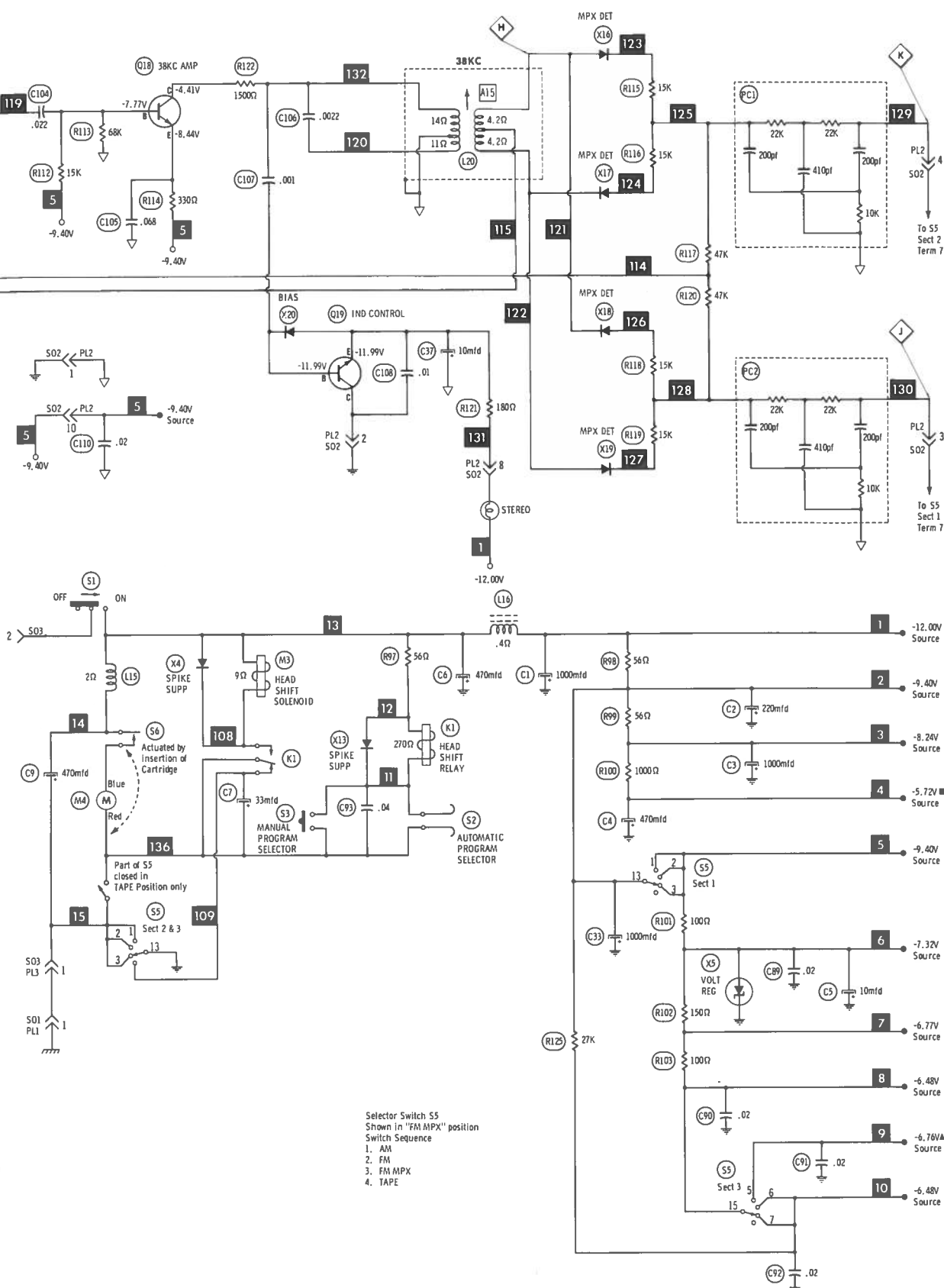
Arrow on control indicates direction of advance.

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 3850

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS (cont)

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.
C20	100 6.3V	1201107	MCD-170	EP6-100	WBR100-16	MT1-21	MTV100CB6	TE-1102
C21	100 6.3V	1201107	MCD-170	EP6-100	WBR100-16	MT1-21	MTV100CB6	TE-1102
C22	470 6.3V	1201477						
C23	1 6.3V	1201105	MCD-10	EP6-2	WBR1-50	MT1-1	MTV1CB50	TE-1080
C24	47 6.3V	1201476	MCD-130	EP6-50	WBR50-25	MT1-15	MTV50CB15	TE-1133
C25	100 6.3V	1201107	MCD-170	EP6-100	WBR100-16	MT1-21	MTV100CB6	TE-1102
C26	1 6.3V	1201105	MCD-10	EP6-2	WBR1-50	MT1-1	MTV1CB50	TE-1080
C27	1 6.3V	1201105	MCD-10	EP6-2	WBR1-50	MT1-1	MTV1CB50	TE-1080
C28	.1						TDC104M050EL	196D104X0035DB
C29	1 6.3V	1201105	MCD-10	EP6-2	WBR1-50	MT1-1	MTV1CB50	TE-1080
C30	100 6.3V	1201107	MCD-170	EP6-100	WBR100-16	MT1-21	MTV100CB6	TE-1102
C31	100 6.3V	1201105	MCD-10	EP6-2	WBR1-50	MT1-1	MTV1CB50	TE-1080
C32	470 6.3V	1201477						
C33	1000 16V	1203108						
C34	.1 50V		MCD-10	EP50-2	WBR1-50	MT1-1	MTV1CB50	TE-1300
C35	.47 25V	1201474					TDC474M050EL	196D474X0035DB
C36	4.7 25V	1201475	MCD-50	EP30-5	WBR5-50	MT1-3	MTV5CB50	TE-1202
C37	10 25V		MCD-70	EP30-10	WBR10-25	MT1-5	MTV10CB50	TE-1204
C112	1 50V		MCD-10	EP50-2	WBR1-50	MT1-1	MTV1CB50	TE-1300

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.
C41		#1290096	NPO-DI 10	DTZ-10	NPO10	CCT0-100	CN0410	10TCC-Q10
C42			GPD X5F301K	DM-301	GP300	CCD-301	GP330	10TS-T30
C43	330		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C44	.02		GPD X5F201K	DM-201	GP200	CCD-201	GP320	10TS-T20
C45	200			TCZ-18	NPO18	CCT0-180	CN0418	10TCC-Q18
C46	18							10TCC-V30
C47	3		NPO-DI 3.0					10TS-T30
C48	330		GPD X5F301K	DM-301	GP300	CCD-301	GP330	TG-S20
C49	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	10TCC-V30
C50	3		NPO-DI 3.0					10TCC-V30
C51	3		NPO-DI 3.0					10TCC-T10
C52	100		NPO-DI 100	DTZ-100	NPO100	CCT0-101	CN0310	TG-S10
C53	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	10TCC-V22
C54	2		NPO-DI 2.2	DTZ-2R2	NP02P2		CN0522	TG-D50
C55	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-S20
C56	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	10TCC-V30
C57	3		NPO-DI 3.0					TG-S10
C58	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S20
C59	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	10TCC-V30
C60	3		NPO-DI 3.0					TG-S20
C61	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	10TCC-V22
C62	2		NPO-DI 2.2	DTZ-2R2	NP02P2		CN0522	25S-D10
C63	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	TG-S20
C64	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C65	2							TG-S20
C66	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S10
C67	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C68	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	10TCC-T10
C69	100		NPO-DI 100	DTZ-100	NPO100	CCT0-101	CN0310	TG-S20
C70	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	10TS-D68
C71	.0068 50V		GPD X5R682K	DD-682		CCD-682	JF268	10TS-D68
C72	.0068 50V		GPD X5R682K	DD-682		CCD-682	JF268	10TS-D12
C73	.0012 50V		GPD X5F122K	DD-122	GP1200	CCD-122	GP212	TGL-S50
C74	.047 50V		TTP-05	CK-503	MGP05	CCD-503	TA150	10TS-T20
C75	200		GPD X5F201K	DM-201	GP200	CCD-201	GP320	TG-S20
C76	.018 50V		TTP-02	CK-203	MGP02	CCD-203	TA120	10TS-T20
C77	200		GPD X5F201K	DM-201	GP200	CCD-201	GP320	10TS-D47
C78	.0047 50V		GPD X5R472K	DD-472G	GP4700	CCD-472	JF247	TG-S20
C79	.022 50V		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C80	.022 50V		TTP-02	CK-203	MGP02	CCD-203	TA120	10TS-D12
C81	.0012 50V		GPD X5F122K	DD-122	GP1200	CCD-122	GP212	TGL-S50
C82	.047 50V		TTP-05	CK-503	MGP05	CCD-503	TA150	10TS-T20
C83	200		GPD X5F201K	DM-201	GP200	CCD-201	GP320	TG-S20
C84	.018 50V		TTP-02	CK-203	MGP02	CCD-203	TA120	10TS-T20
C85	200		GPD X5F201K	DM-201	GP200	CCD-201	GP320	10TS-D47
C86	.0047 50V		GPD X5R472K	DD-472G	GP4700	CCD-472	JF247	TG-S20
C87	.022 50V		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C88	.022 50V		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C89	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C90	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C91	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C92	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C93	.04			DD-403			GP140	10TS-T20
C94	200		GPD X5F201K	DM-201	GP200	CCD-201	GP320	10TS-T20
C95	200		GPD X5F201K	DM-201	GP200	CCD-201	GP320	10TS-D10
C96	.001		GPD X5F102K	DD-102	GP1000	CCD-102	GP210	10TS-T15
C97	140 50V		GPD X5F151K	DD-151	GP150	CCD-151	GP315	10TCC-Q20
C98	20		NPO-DI 20	DTZ-20	NP020	CCT0-200	CN0420	10TCC-Q10
C99	10		NPO-DI 10	DTZ-10	NP010	CCT0-100	CN0410	MS-31
C100	100			CPR-100J	CD15F101J500	DM-15-101	SX310	10TS-D47
C101	.0047		GPD X5R472K	DD-472G	GP4700	CCD-472	JF247	MS-247
C102	.0047			CPR-100J	CD19F472J500	DM-19-472	SX247	10TS-D15
C103	.0015		GPD X5F152K	DD-152		CCD-152	GP215	TG-S20
C104	.022		TTP-02	CK-203	MGP02	CCD-203	TA120	225P68391
C105	.068		V1612568		DPMS656	10P-2-683	PVC1168	424ME2201J501
C106	.0022			CPR-2200J	CD19F222J500	DM-19-222J	SX222	25S-D10
C107	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	TG-S10
C108	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	MS-347
C109	470			CPR-470J	CD15F471J500	DM-16-471	SX347	TG-S20
C110	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	

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	RESIST-ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume (Left)	10K	139N170	F2-10K (1), SSK100	A47-10K-Z (1), KSS-3 or [NP-10K-Z (1), UP-C-400]	B13-116 (1) or [BU1 (1), CF61, SS1, DC1]*	RU14A, SL36, SL3250 or [UA14A (1), SK1000] or U18 (1)
R2	Volume (Right)	10K	139N170	F2-10K (1), SSK100	A47-10K-Z (1), KSS-3 or [NP-10K-Z (1), UP-C-400]	B13-116 (1) or [BU1 (1), CF61, SS1, DC1]*	RU14A, SL36, SL3250 or [UA14A (1), SK1000] or U18 (1)
R3a b	Tone (Left) Tone (Right)	10K 10K	139N208	F1-10K (1), SSK100, CPL-2	NP-10K-S (1), NR-10K-S, UP-C-400, DC-2	B11-116, B11-116, SK1 (1), QCM or [BU1 (1), CF9, CR5, SS1, SS7A, DC1]*	P14L, 3014 (1), RU14L, CS3500
R4	Detector Balance	1500	1390048 (V-48)	T-1500 (2) or TSV-2.5K (2)		X201R152B (2)	MTC152L1 (2)
R5	Volume Range (Left)	5000	1390120 (V-120)	TSV-5K (2) or T-5000 (2)		X201R502B (2)	MTC53L1 (2)
R6	Volume Range (Right)	5000	1390120	TSV-5K (2) or T-5000 (2)		X201R502B (2)	MTC53L1 (2)
R7	Tape Level (Left)	500K	1390200 (RB-212)	TSV-500K (2) or T-500K (2)		X201R504B (2)	MTC55L1 (2)
R8	Tape Level (Right)	500K	1390200 (RB-212)	TSV-500K (2) or T-500K (2)		X201R504B (2)	MTC55L1 (2)
R9	Separation	3000	1390175 (V-175)	TSV-5K (2) or T-5000 (2)		X201R302B (2)	MTC33L1 (2)

* "SNAPTROL"

(1) Enlarge mounting hole.

(2) Cut off one of the end terminals and bend to fit "PC" board.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.
R67	70 (Cold)		MT-70
R71	70 (Cold)		MT-70
R90	70 (Cold)		MT-70
R94	70 (Cold)		MT-70

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.
R68	.47 WW 1/2W		1327478
R72	.47 WW 1/2W		1327478
R91	.47 WW 1/2W		1327478
R95	.47 WW 1/2W		1327478

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	FM Antenna	111B077			
L2	FM RF	111B230			
L3	FM IF Trap	111B077			
L4	FM Oscillator	111B100			
L5	FM Input IF	11LM105	16-9031	2071	
L6	Loopstick	111B387		7789	
L7	AM Oscillator	1130135			
L8	FM Interstage IF	11LM105	16-9031	2071	
L9	AM Input IF	1141004	16-9026	2066	
L10	FM Interstage IF	11LM105	16-9032	2072	
L11	AM Interstage IF	1141004	16-9027	2067	
L12	Ratio Detector (Pri)	11DM060			
L13	Ratio Detector (Sec)	11EM060			
L14	AM Output IF	11CM204	16-9028	2068	
L15	Choke	1170004			
L17	67KC Trap	1170017			
L18	19KC Trap	1170015			
L19	19KC Doubler	11PM001			
L20	38KC Output	11QN001			

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	
L16	.03ADC	.4	2.3mh	117S021			

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	PRI.	SEC. 1	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC @ .2AAC	12.5VAC @ .5ADC	118N070				

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	
T2	3	1	1	1150095			
T3	3	1	1	1150095			

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	4" x 6" PM, 8 ohms	1520135	46A1Z10	
SP2	4" x 6" PM, 8 ohms	1520135	46A1Z10	

BATTERIES

ITEM No.	VOLTAGE	MFGR. PART No.	REPLACEMENT DATA	NOTES
			EVEREADY	
M1	12V		1050 or E95	8 Required.

TAPE HEADS

ITEM No.	MEASURED			PART No.	NORTRONICS PART No.	DESCRIPTION
	INDUCTANCE	BIAS/ERASE VOLTS (RMS)	BIAS FREQ.			
H2	330mh			1641006	5800 (1)	8-Track Stereo

(1) Use original mounting.

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
K1	Relay	168C001	Head Shift
M3	Solenoid	166L016	Head Shift
M4	Motor	1640016	Tape Transport
S1	Switch		On/Off
S2	Switch		Automatic
S3	Switch		Manual Program Selector
S4	Switch	1623025	AC/DC
S5	Switch	1620131	Selector
S6	Switch		Tape On/Off
PC1	Antenna	27A7000	Telescopic
PC2	Component Combination	1810013 (6FC02)	38KC Filter
	Component Combination	1810013 (6FC02)	38KC Filter

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

ITEM	PART No.	ITEM	PART No.
Cabinet - Front (Left)	21C7041	Battery - Door	21B7008
Cabinet - Front (Right)	21C7043	Knob - Tuning	21N7081
Cabinet - Rear (Left)	21C7042	Knob - Volume, Tone, Selector	21N7092
Cabinet - Rear (Right)	21C7044	Button - Selector	21D7043

WIRING DATA

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

DIAL CORD STRINGING—FRONT VIEW

