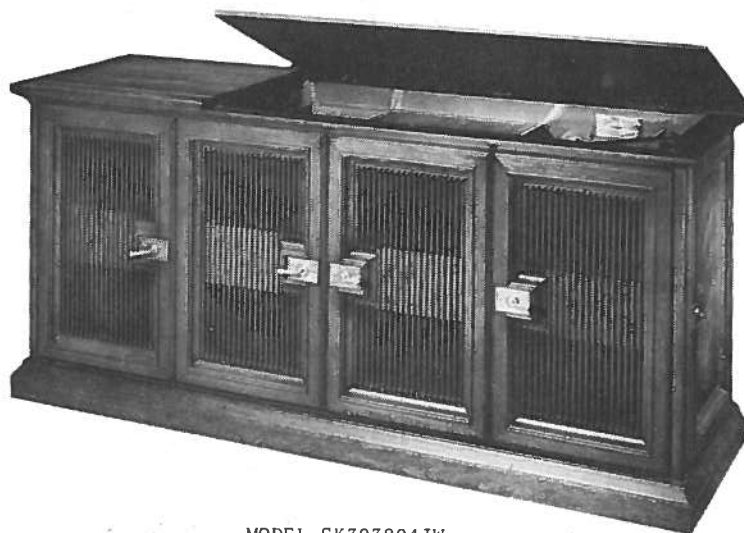


For Supplier Address See PHOTOFACT Index

MOTOROLA CHASSIS  
CHS-/DHS-/EHS-/YEHS-62433

MODEL SK303804JW

For servicing information on Tape Unit GP12GU, see PHOTOFACT specialized volume TR120, pages 19 thru 42.

For servicing information on Tape Units GA128JU and YGA128JU, see PHOTOFACT Set 1387, Folder 4-B.

For servicing information on Tape Units GA148JU and YGA148JU, see PHOTOFACT Set 1387, Folder 4-A.

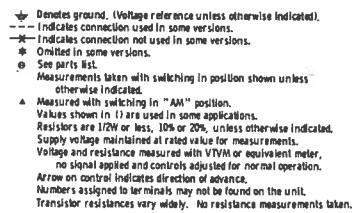
For servicing information on Record Changer 59E62494B01, see page 17 of this folder.

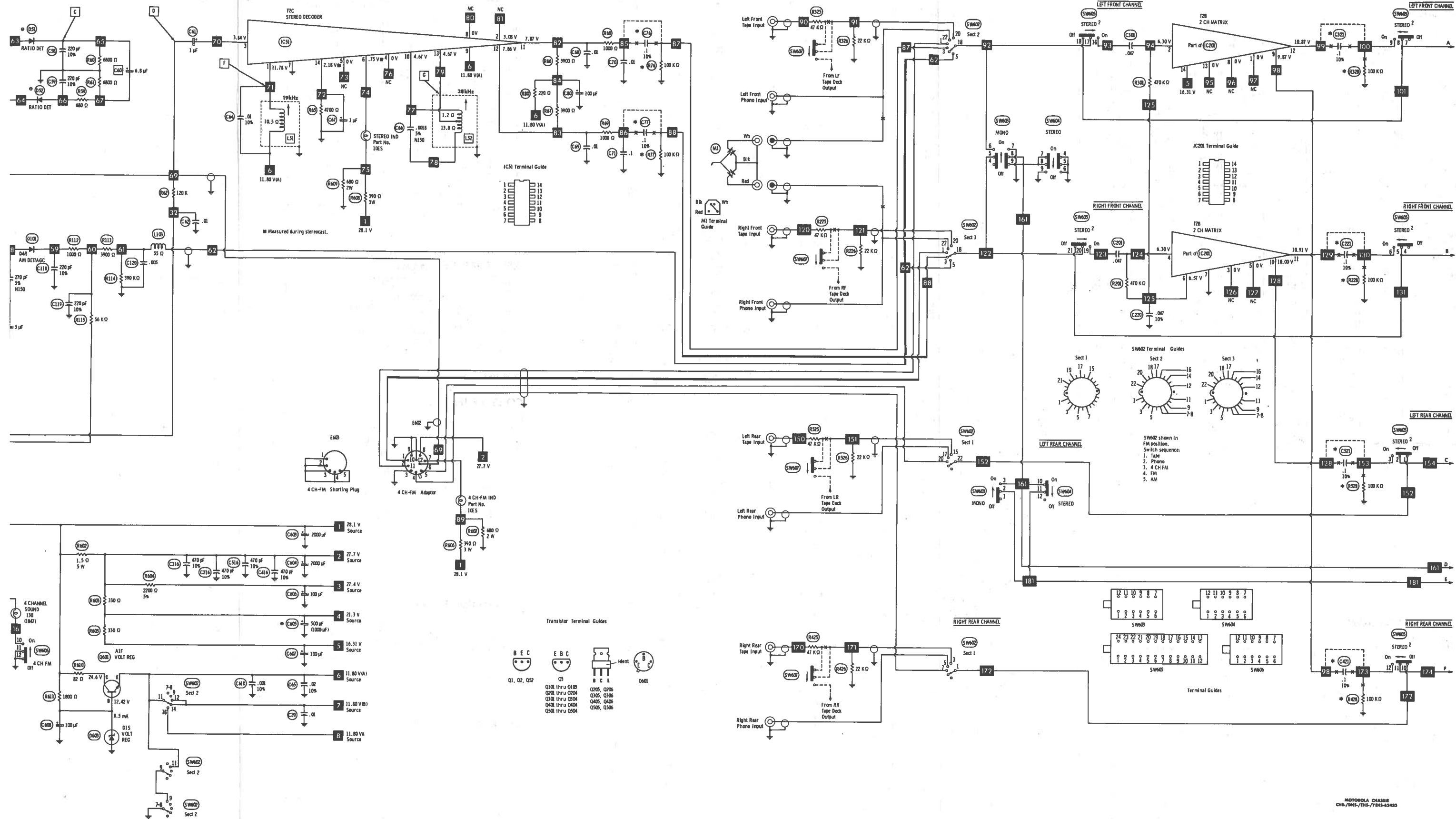
MODEL	CHASSIS	TAPE UNIT	MODEL	CHASSIS	TAPE UNIT
FH410HW	CHS-62433		SK307203JW	EHS-62433	GA128GU
FH411JW	CHS-62433		SK307204JW	EHS-62433	GA148JU
SK303601JP	EHS-62433		SK307205JW	EHS-62433	GA128JU
SK303602JP	EHS-62433	GP12GU	YSK303601JP	YEHS-62433	
SK303603JP	EHS-62433	GA128JU	YSK303603JP	YEHS-62433	YGA128JU
SK303604JP	EHS-62433	GA148JU	YSK303604JP	YEHS-62433	YGA148JU
SK303605JP	EHS-62433	GA128JU	YSK303605JP	YEHS-62433	YGA128JU
SK303701JS	EHS-62433		YSK303701JS	YEHS-62433	
SK303702JS	EHS-62433	GP12GU	YSK303703JP	YEHS-62433	YGA128JU
SK303703JS	EHS-62433	GA128JU	YSK303704JP	YEHS-62433	YGA148JU
SK303704JS	EHS-62433	GA148JU	YSK303705JP	YEHS-62433	YGA128JU
SK303705JS	EHS-62433	GA128JU	YSK303801JW	YEHS-62433	
SK303801JW	EHS-62433		YSK303803JW	YEHS-62433	YGA128JU
SK303802JW	EHS-62433	GP12GU	YSK303804JW	YEHS-62433	YGA148JU
SK303803JW	EHS-62433	GA128JU	YSK303805JW	YEHS-62433	YGA128JU
SK303804JW	EHS-62433	GA148JU	YSK307101JP	YEHS-62433	
SK303805JW	EHS-62433	GA128JU	YSK307103JP	YEHS-62433	YGA128JU
SK307101JP	EHS-62433		YSK307104JP	YESH-62433	YGA148JU
SK307102JP	EHS-62433	GP12GU	YSK307105JP	YESH-62433	YGA128JU
SK307103JP	EHS-62433	GA128JU	YSK307201JW	YESH-62433	
SK307104JP	EHS-62433	GA148JU	YSK307203JW	YESH-62433	YGA128JU
SK307105JP	EHS-62433	GA128JU	YSK307204JW	YESH-62433	YGA148JU
SK307201JW	EHS-62433		YSK307205JW	YESH-62433	YGA128JU
SK307202JW	EHS-62433	GP12GU		DHS-62433	

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

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. 3PL801

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## CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			ARCO/ELMenco PART No.	CENTRALAB PART No.	CORNELL DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	Tuning Gang	19D61941801	CCD-103	DD-103	GP10000	JF110	10TS-510
C2	.01		CCTO-150	DTZ-15	NP015	CN0415	10TC-Q15
C3	.01		CCD-103	DD-103	GP10000	JF110	10TS-510
C4	.01		CCD-103	DD-103	GP10000	JF110	10TS-510
C5	.01		CCD-103	DD-103	GP10000	JF110	10TS-510
C6	.01		CCD-103	DD-103	GP10000	JF110	10TS-510
C7	8.2				NP08P2	CN0510	10TC-V82
C8	1				NP08P2	CN0510	10TC-V10
C9	220	N150 630V			NP08P2	CN0510	10TCP-T22
C10	.01		CCD-103	DD-103	GP10000	JF110	10TS-510
C11	8.2		CCTO-270		NP08P2	CN0427	10TC-V82
C12	27		CCD-103	DD-103	GP10000	JF110	10TC-Q27
C13	.01				NP03P9		10TS-510
C14	3.9				NP03P9		10TC-V39
C15	1.8				NP03P9		10TC-V18
C16	3.9				NP03P9		10TC-V39
C17	.01		CCD-103	DD-103	GP10000	JF110	10TS-510
C18	.01		CCD-103	DD-103	GP10000	JF110	10TS-510
C19	.01		CCD-103	DD-103	GP10000	JF110	10TS-510
C20	.01		CCD-103	DD-103	GP10000	JF110	10TS-510
C21	.01		CCD-103	DD-103	GP10000	JF110	10TS-510
C51	.1				MP02	TA120	TG-520
C53	.02	50V	CCD-203	CK-203	MP02	TA120	TG-520
C54	.002	25V	CCD-202	CK-202	GP2000	GP220	255-D20
C55	.02	25V	CCD-203	CK-203	MP02	TA120	TG-520
C57	220		CCD-221	DD-221	GP220	GP322	10TS-T22
C58	220		CCD-221	DD-221	GP220	GP322	10TS-T22
C59	220		CCD-221	DD-221	GP220	GP322	10TS-T22
C62	.01		CCD-103	DD-103	GP10000	JF110	10TS-510
C63	.01		CCD-103	DD-103	GP10000	JF110	10TS-510
C64	.01	160V	DM-30-103J	CPR-10000J		SA110	
C65	.02	25V	CCD-203	CK-203	MP02	TA120	TG-520
C66	.0018	N150 630V					
C68	.01		CCD-103	DD-103	GP10000	JF110	10TS-510
C69	.01		CCD-103	DD-103	GP10000	JF110	10TS-510
C70	.01		CCD-103	DD-103	GP10000	JF110	10TS-510
C71	.01		CCD-103	DD-103	GP10000	JF110	10TS-510
C75	.1	250V	ADP-3-104	CK-203	MP02	TA120	TG-520
C77	.1	250V	ADP-3-104	CK-203	MP02	TA120	TG-520
C103	.02	25V	CCD-203	CK-203	MP02	TA120	TG-520
C104	150	N750	CCTN-151	DTN-150	N150	CN7315	10TCU-T15
C105	.02		CCD-203	CK-203	MP02	TA120	TG-520
C106	.02	25V	CCD-203	CK-203	MP02	TA120	TG-520
C107	.02	25V	CCD-203	CK-203	MP02	TA120	TG-520
C108	.02		CCD-203	CK-203	MP02	TA120	TG-520
C109	3.9	NPO	CCD-203	CK-203	MP02	TA120	TG-520
C110	.02	25V	CCD-203	CK-203	MP02	TA120	TG-520
C111	470	N150 630V	CCD-203	CK-203	MP02	TA120	TG-520
C112	.02	25V	DM-16-471	CPR-470J	CD15F471J500	MS347	MS-347
C113	470	630V					
C114	.001	N150 630V					
C115	.02	25V	CCD-203	CK-203	MP02	TA120	TG-520
C116	270	N150 630V					
C118	220		CCD-221	DD-221	GP220	GP322	10TS-T22
C119	220		CCD-221	DD-221	GP220	GP322	10TS-T22
C120	.005		CCD-502	CK-502	MP005	TA250	TG-050
C122	6.8			DTZ-688	NP06P8	CN0568	10TC-V68
C201	.047	250V	4DP-3-473		DPMS6547	EW4147	4PS-547
C202	.047	250V	4DP-3-104		DPMS4P1	EW4010	4PS-P10
C203	.1	250V	4DP-3-104		DPMS4P1	EW4010	4PS-P10
C204	.1	250V	CCD-331	DD-331	GP330	GP333	10TS-T33
C205	330		DM-30-203J				
C206	.022	250V					
C207	.047	250V					
C208	100		CCD-101	DD-101	GP100	GP310	10TS-T10
C209	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C211	.0068	400V	DM-30-682J	CPR-6800J		5X268	
C212	.015	160V	DM-30-153J				
C215	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C216	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C218	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C219	100		CCD-101	DD-101	GP100	GP310	10TS-T10
C220	.047	250V					
C221	.1	250V	4DP-3-104		DPMS4P1	EW4010	4PS-P10
C301	.047	250V	4DP-3-473		DPMS6547	EW4147	4PS-547
C302	.047	250V	4DP-3-104		DPMS4P1	EW4010	4PS-P10
C303	.1	250V	4DP-3-104		DPMS4P1	EW4010	4PS-P10
C304	.1	250V	4DP-3-104		DPMS4P1	EW4010	4PS-P10
C305	330		CCD-331	DD-331	GP330	GP333	10TS-T33
C306	.022	250V	DM-30-203J				
C307	.047	250V					
C308	100		CCD-101	DD-101	GP100	GP310	10TS-T10
C309	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C311	.0068	400V	DM-30-682J	CPR-6800J		5X268	
C312	.015	160V	DM-30-153J				
C315	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C316	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C318	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C321	.1	250V	4DP-3-104		DPMS4P1	EW4010	4PS-P10
C402	.047	250V					
C403	.1	250V	4DP-3-104		DPMS4P1	EW4010	4PS-P10
C404	.1	250V	4DP-3-104		DPMS4P1	EW4010	4PS-P10
C405	330		CCD-331	DD-331	GP330	GP333	10TS-T33
C406	.022	250V	DM-30-203J				
C407	.047	250V					
C408	100		CCD-101	DD-101	GP100	GP310	10TS-T10
C409	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C411	.0068	400V	DM-30-682J	CPR-6800J		5X268	
C412	.015	160V	DM-30-153J				
C415	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C416	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C418	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C421	.1	250V	4DP-3-104		DPMS4P1	EW4010	4PS-P10
C502	.047	250V					
C503	.1	250V	4DP-3-104		DPMS4P1	EW4010	4PS-P10
C504	.1	250V	4DP-3-104		DPMS4P1	EW4010	4PS-P10
C505	330		CCD-331	DD-331	GP330	GP333	10TS-T33
C506	.022	250V	DM-30-203J				
C507	.047	250V					
C508	100		CCD-101	DD-101	GP100	GP310	10TS-T10
C509	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C511	.0068	400V	DM-30-682J	CPR-6800J		5X268	
C512	.015	160V	DM-30-153J				
C515	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C516	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C518	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C521	.1	250V	4DP-3-104		DPMS4P1	EW4010	4PS-P10
C601	.047	250V	4DP-3-473		DPMS6547	EW4147	4PS-547
C602	.047	250V	4DP-3-473		DPMS6547	EW4147	4PS-547
C610	.001		CCD-102	DD-102	GP1000	GP210	10TS-D10
C611	.047	250V					
C71	Trimmer						
C72	Trimmer						
CT3	3.5-13 pF						
CT101	Trimmer						
CT102	Trimmer						

(1) Part of Tuning Gang.

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

## 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.
R207	Loudness (Right Front)	500K "d" Tap @ 200K	18062332802(1)	F11-500K, R11-500K, R11-500K, Tap @ 200K			
R307	Loudness (Left Front)	500K "c"					
R407	Loudness (Right Rear)	500K "b" Tap @ 200K					
R507	Loudness (Left Rear)	500K "a" Tap @ 200K					
R211	Balance (Right Front)	100K "b"	18062332805(2)				
R311	Balance (Left Front)	100K "a"					
R411	Balance (Right Rear)	100K "d"					
R511	Balance (Left Rear)	100K "c"					
R212	Bass (Right Front)	250K "d"	18062332801(3)	F2-250K, R2-250K, R2-250K, SF102, CPL-4			
R312	Bass (Left Front)	250K "c"					
R412	Bass (Right Rear)	250K "a"					
R512	Bass (Left Rear)	250K "b"					
R213	Treble (Right Front)	50K "c"	18062332803(4)				
R313	Treble (Left Front)	50K "d"					
R413	Treble (Right Rear)	50K "b"					
R513	Treble (Left Rear)	50K "a"					
R227	Balance Front Left & Right	1meg "a"	18062332807(5)	F1-1meg, R1-1meg, SF102, CPL-2	NP-1meg-5, NR-1meg-5, UP-E-400, DC-2, TT-2	B11-137, B11-137, TMS, OCM or [BU11, CF17, CR12, SS1, SS7A, DC1]*	P16L, SLF37, RU16L, CS3500
R227	Balance (Front Left & Right)	1meg	18062332804(6)				
R427	Balance (Rear Left & Right)	1meg	18062332806(6)				

\* "SNAPTROL"

(1) Includes R207, R307, R407, R507.

(2) Includes R211, R311, R411, R511.

(3) Includes R212, R312, R412, R512.

(4) Includes R213, R313, R413, R513.

(5) Includes R227, R427.

(6) Used in models FH410HM, FH411JM.

## 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.
R219	.47 2W WW	WS.47	175488266	R519	.47 2W WW	WS.47	175488266
R220	.47 2W WW	WS.47	175488266	R520	.47 2W WW	WS.47	175488266
R219	.47 2W WW	WS.47	175488266	R602	1.5 5W WW		175747495 (1)
R320	.47 2W WW	WS.47	175488266	R606	390 3W WW		175138330
R419	.47 2W WW	WS.47	175488266	R608	390 3W WW		175138330
R420	.47 2W WW	WS.47	175488266				

(1) Use 17510159A02

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	REMARKS
L1	FM RF	24D61967802			
L2	RF Choke	24B62587A01			
L3	FM Oscillator	24D61967803			
L51	19kHz Trap	24C60555801			
L52	38kHz Trap	24C60555803			
L101	Loopstick (430uH)	24C61968801			
L102	AM Oscillator	24C61224802			
L103	Peaking (3.2mH)	24D68002490			
T1	FM Antenna	24D61967801			
T2	FM Input IF	24D61965802			
T51	FM Interstage IF	24D61965802			
T52	Ratio Detector	24D61966801			
T101	AM Input IF	24C60461803			
T102	AM Output IF	24C60461802			

PARTS LIST AND DESCRIPTION  
(When ordering parts, state Model, Part Number, and Description.)

SEMICONDUCTORS

ITEM No.	TYPE / MFR. PART No.	REPLACEMENT DATA						
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
D1	1S164B/ 48B53494A01 (8)	GE-90 (8)	D201 (8)		HEPR2503 (8)	SK3126 (8)		
D51	48C61074801	1N34AS (7)	1N34A (7)	PTC207 (7)	HEP134 (7)	SK3087 (7)		ECG 109 (7)
D52	48C61074801	1N34AS	1N34A	PTC207	HEP134	SK3087		ECG 109
D101	48R/48S137299	1N34AS	1N34A	PTC207	HEP134	SK3087		ECG 109
D102	48R/48S137299	1N34AS	1N34A	PTC207	HEP134	SK3087		ECG 109
D103	48R/48S137299	1N34AS	1N34A	PTC207	HEP134	SK3087		ECG 109
D201	D1L/48S134990	GE-504A	B04 or 5A4D	PTC201 or	HEPR0052	SK3030 or	RT213 or	ECG 116 or
				PTC202	HEPR0052	SK3031	RT214	ECG 117
D301	D1L/48S134990	GE-504A	B04 or 5A4D	PTC201 or	HEPR0052	SK3030 or	RT213 or	ECG 116 or
				PTC202	HEPR0052	SK3031	RT214	ECG 117
D501	D1L/48S134990	GE-504A	B04 or 5A4D	PTC201 or	HEPR0052	SK3030 or	RT213 or	ECG 116 or
				PTC202	HEPR0052	SK3031	RT214	ECG 117
D601	48S191A05 (1)	GE-504A	B04 or 5A4D	PTC201 or	HEPR0052	SK3030 or	RT213 or	ECG 116 or
				PTC202	HEPR0052	SK3031	RT214	ECG 117
D602	48S191A05 (1)	GE-504A	B04 or 5A4D	PTC201 or	HEPR0052	SK3030 or	RT213 or	ECG 116 or
				PTC202	HEPR0052	SK3031	RT214	ECG 117
D603	D1S/48S137000	GE-ZD-12	Z-1212	PTC507	HEP20415	SK3062	RT243	ECG 142
D604	48S191A04 (1)	GE-504A	B04 or 5A4D	PTC201 or	HEPR0052	SK3030 or	RT213 or	ECG 116 or
				PTC202	HEPR0052	SK3031	RT214	ECG 117
IC50	T2E/51S10600A01	GEIC-9	IC513	PTC721	HEPC6010	TVCH-10		ECG 722
IC51	T2C/51S10592A01	GEIC-9	IC513	PTC721	HEPC6056P	TVCH-10		ECG 722
IC201	T2S/51S10585A01	GE-60	IRTR-95	PTC121	HEP56	SK3018	RT113	ECG 108
Q1	A1U/48S134932	GE-60	IRTR-95	PTC121	HEP56	SK3018	RT113	ECG 108
Q2	A1U/48S134932	GE-60	IRTR-95	PTC121	HEP56	SK3018	RT113	ECG 108
Q3	M4857/48S134857	GE-20	TR-24	PTC115	HEP718	SK3018	RT113	ECG 108
Q52	A2V/48S134979	GE-20	TR-24	PTC133	HEP56	SK3018	RT113	ECG 108
Q101	A2L/48S134960	GE-20	TR-24	PTC121	HEP727	SK3018	RT113	ECG 108
Q102	A2L/48S134960	GE-20	TR-24	PTC121	HEP727	SK3018	RT113	ECG 108
Q103	A3K/48S134997	GE-20	TR-21	PTC136	HEP737	SK3024	RT102	ECG 199
Q201	A4B/48S137015	GE-20	TR-21	PTC139	HEP737	SK3038	RT102	ECG 199
Q202	A4B/48S137015	GE-20	TR-21	PTC139	HEP737	SK3038	RT102	ECG 199
Q203	A5U/48S137115	GE-20	TR-21	PTC136	HEP728	SK3122	RT102	ECG 123A
Q204	A4B/48S137321	GE-28 (9)	IRTR-76 (9)	PTC110 (9)	HEP701 (9)	SK3038	RT102	ECG 152 (9)
Q205	A4B/48S137321	GE-28 (9)	IRTR-76 (9)	PTC110 (9)	HEP701 (9)	SK3038	RT102	ECG 152 (9)
Q301	A4B/48S137015	GE-20	TR-21	PTC139	HEP737	SK3038	RT102	ECG 199
Q302	A4B/48S137015	GE-20	TR-21	PTC139	HEP737	SK3038	RT102	ECG 199
Q303	A5U/48S137115	GE-20	TR-21	PTC136	HEP728	SK3122	RT102	ECG 123A
Q304	A4B/48S137321	GE-28 (9)	IRTR-76 (9)	PTC110 (9)	HEP701 (9)	SK3038	RT102	ECG 152 (9)
Q305	A4B/48S137321	GE-28 (9)	IRTR-76 (9)	PTC110 (9)	HEP701 (9)	SK3038	RT102	ECG 152 (9)
Q401	A4B/48S137015	GE-20	TR-21	PTC139	HEP737	SK3038	RT102	ECG 199
Q402	A4B/48S137015	GE-20	TR-21	PTC139	HEP737	SK3038	RT102	ECG 199
Q403	A5U/48S137115	GE-20	TR-21	PTC136	HEP728	SK3122	RT102	ECG 123A
Q404	A4B/48S137321	GE-28 (9)	IRTR-76 (9)	PTC110 (9)	HEP701 (9)	SK3038	RT102	ECG 152 (9)
Q405	A4B/48S137321	GE-28 (9)	IRTR-76 (9)	PTC110 (9)	HEP701 (9)	SK3038	RT102	ECG 152 (9)
Q501	A4B/48S137015	GE-20	TR-21	PTC139	HEP737	SK3038	RT102	ECG 199
Q502	A4B/48S137015	GE-20	TR-21	PTC139	HEP737	SK3038	RT102	ECG 199
Q503	A5U/48S137115	GE-20	TR-21	PTC136	HEP728	SK3122	RT102	ECG 123A
Q504	A4B/48S137321	GE-28 (9)	IRTR-76 (9)	PTC110 (9)	HEP701 (9)	SK3038	RT102	ECG 152 (9)
Q505	A4B/48S137321	GE-28 (9)	IRTR-76 (9)	PTC110 (9)	HEP701 (9)	SK3038	RT102	ECG 152 (9)
Q506	A5U/48S137115	GE-20	TR-21	PTC136	HEP728	SK3122	RT102	ECG 123A
Q601	A1F/48S134903	GE-20	TR-21	PTC136	HEP53	SK3024	RT102	ECG 123A

(1) Manufacturer suggests replacement with part number 48S191A07.  
(7) Two required - select matched pair.

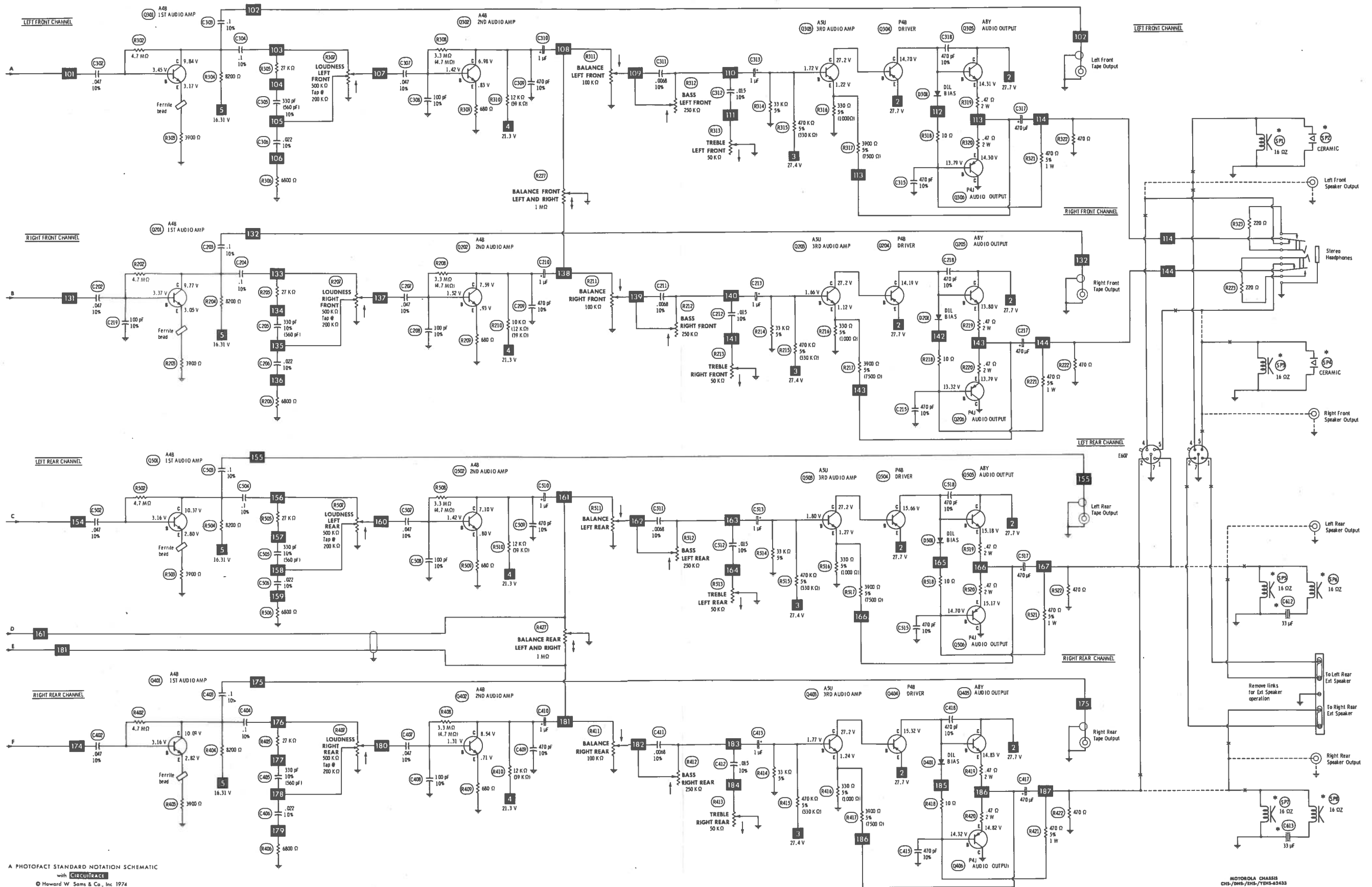
(8) Varactor  
(9) Complementary Pair.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA					
		MFR. PART No.	ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C56	5 6V	23S10229A27				TD475M010EL	SD10-5R69
C60	6.8 20V	23S10218A18				TD685M025FL	SD25-6R89
C61	1 10V	23S10229A25				TD105M035EL	SD25-1R29
C67	1 10V	23S10229A25				TD105M035EL	SD25-1R29
C80	100 16V	23S10255A06	ME-4-E-100	EA15-100	WBR100-16	TD105M035EL	SD25-1R29
C102	6.8 20V	23S10218A18				TD685M025FL	SD25-6R89
C117	5 6V	23S10229A27				TD475M010EL	SD10-5R69
C123	5 6V	23S10229A27				TD475M010EL	SD10-5R69
C210	1 10V	23S10229A25				TD105M035EL	SD25-1R29
C213	1 10V	23S10229A25				TD105M035EL	SD25-1R29
C310	1 10V	23S10229A25	ME-G500	EA30-500	WBR500-25	TD105M035EL	SD25-1R29
C313	1 10V	23S10229A25				TD105M035EL	SD25-1R29
C317	470 25V	23S10255A24	ME-G500	EA30-500	WBR500-25	TD105M035EL	SD25-1R29
C410	1 10V	23S10229A25				TD105M035EL	SD25-1R29
C413	1 10V	23S10229A25				TD105M035EL	SD25-1R29
C417	470 25V	23S10255A24	ME-G500	EA30-500	WBR500-25	TD105M035EL	SD25-1R29
C510	1 10V	23S10229A25				TD105M035EL	SD25-1R29
C513	1 10V	23S10229A25				TD105M035EL	SD25-1R29
C517	470 25V	23S10255A24	ME-G500	EA30-500	WBR500-25	TD105M035EL	SD25-1R29
C603	2000 35V	23S10255A11	ME-J2000			TD105M035EL	SD25-1R29
C604	2000 35V	23S10255A11	ME-J2000			TD105M035EL	SD25-1R29
C605	500 50V	23S10255A11	ME-J500	EA50-500	WBR500-50	TD105M035EL	SD25-1R29
C606	1000 50V	23S10255A85	ME-J1000	EA50-1000	WBR1000-35	TD105M035EL	SD25-1R29
C607	100 35V	23S10255A19	RNE-J-H-100	EA50-100	PC100-50	MTV1000B35	EV-1530
C608	1000 16V	23S10255A86	ME-G1000	EA50-1000	WBR1000-16	TC1501B	TVA-1163
C609	1000 16V	23S10255A86	ME-G1000	EA50-1000	WBR1000-16	TC1501B	TVA-1163
C612	33 25V NP					EN25-306	TVAN-1306.2
C613	33 25V NP					EN25-306	TVAN-1306.2

CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			ARCO/ELMENCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	Tuning Gang	19061941801	CCD-103	DD-103	GP10000	JF110	10TS-S10
C2	.01		CCD-150	DD-15	NP015	CH0415	10TCC-015
C3	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C4	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C5	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C6	.01		CCD-103	DD-103	NP08P2	CH0415	10TS-S10
C7	8.2						
C8	220						
C9	220						
C10	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C11	8.2						
C12	27		CCD-270	DD-103	NP08P2	CH0427	10TCC-V82
C13	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C14	.01						
C15	1.8						
C16	3.9						
C17	.01		CCD-103	DD-103	NP08P2	CH0415	10TCC-V82
C18	.01		CCD-103	DD-103	NP08P2	CH0415	10TCC-V82
C19	.01		CCD-103	DD-103	NP08P2	CH0415	10TCC-V82
C20	.01		CCD-103	DD-103	NP08P2	CH0415	10TCC-V82
C21	.01		CCD-103	DD-103	NP08P2	CH0415	10TCC-V82
C22	.01		CCD-103	DD-103	NP08P2	CH0415	10TCC-V82
C23	.01		CCD-103	DD-103	NP08P2	CH0415	10TCC-V82
C24	.01		CCD-103	DD-103	NP08P2	CH0415	10TCC-V82
C25	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C26	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C27	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C28	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C29	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C30	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C31	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C32	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C33	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C34	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C35	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C36	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C37	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C38	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C39	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C40	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C41	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C42	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C43	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C44	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C45	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C46	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C47	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C48	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C49	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C50	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C51	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C52	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C53	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C54	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C55	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C56	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C57	.02		CCD-203	DD-203	GP2000	TA120	10TCC-V82
C58	.02		CCD-203	DD-203	GP2000	TA120	10TCC



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with CIRCUITTRACE  
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MOTOROLA CHASSIS  
CHS-/DHS-/EHS-/YHS-62433

ALIGNMENT INSTRUCTIONS

CAUTION: Use isolation transformer or observe polarity when connecting test equipment. Maintain line voltage at 120VAC. Allow a 15-minute warm-up period. Use only enough generator output to obtain a suitable indication.

Suggested Alignment Tools: GC ELECTRONICS:  
L51, L52, L102 . . . . . 9440  
L1, L3, T1, T2, T51, T52, T101, T102 . . . . . 9296, 9297, 9300

10.7MHz

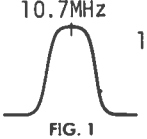


FIG. 1

10.7MHz

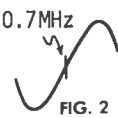


FIG. 2

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
455kHz 400-hertz Modulation	Tuning gang fully open	Output meter across voice coil	T102, T101	Adjust for maximum. Repeat until no further improvement is noted.
600kHz	Tune to signal	"	L102	Adjust for maximum.
1640kHz	"	"	CT102	Adjust for maximum.
1400kHz	"	"	CT101	Adjust for maximum. Repeat AM alignment until no further improvement is noted.

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

High side of generator thru .001mfd to point B low side to ground.				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MHz Unmodulated	Point of non-interference	DC probe of VTVM to point C common to ground.	T52 (Bottom) T51 T2	Adjust for maximum.
"	"	DC probe of VTVM to point D common to ground.	T52 (Top)	Adjust for zero reading. A positive or negative reading will be obtained on either side of correct setting.

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

High side of generator thru .001mfd to point B low side to ground. Use only enough marker signal for indication. Use 60-hertz frequency modulated signal with 450kHz sweep. Use 60-hertz sawtooth voltage in scope for horizontal deflection.				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MHz 450kHz Sweep	Point of non-interference	Vert input of scope to point C low side to ground.	T52 (Bottom) T51 T2	Disconnect stabilizing capacitor C 60. Adjust for maximum gain and symmetry of response similar to Fig. 1 with markers as shown. Reconnect C 60.
"	"	Vert input of scope to point D low side to ground.	T52	Adjust top to place marker at center of S curve similar to Fig. 2. Readjust bottom 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. Adjustment of coils by bending should not be attempted unless the coil is deformed or replaced.				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
88MHz Unmodulated	Low freq end	DC probe of VTVM to point C common to ground.	L3, L1 T1	Adjust for maximum.
108MHz Unmodulated	Tune to signal	"	CT3, CT2, CT1	Adjust for maximum. Repeat FM RF steps until no further improvement is noted.

ALIGNMENT INSTRUCTIONS (Continued)

FM STEREO MULTIPLEX ALIGNMENT USING FM STEREO SIGNAL GENERATOR (± .0001% ACCURACY)

High side of generator thru 47K to point D low side to ground.			
GENERATOR FREQUENCY	INDICATOR	ADJUST	REMARKS
19kHz	Vert input of scope thru 47K to point F low side to ground.	L51	Adjust for maximum.
19kHz	Vert input of scope thru 47K to point G low side to ground.	L52	Adjust for maximum 38kHz response.

RECORD CHANGER SERVICING

MOTOROLA Record Changer 59E62494B01

ADJUSTMENTS

TONE ARM SETDOWN

Adjust screw B1 so the needle sets down in the center of the lead-in groove on a 12-inch record. Turning the screw clockwise moves the set-down point inward.

TONE ARM HEIGHT

Adjust B2 so the top of the tone arm clears a 12-inch record on the center spindle shelf during the change cycle. Turning B2 clockwise decreases the lift-up height.

NEEDLE PRESSURE

Nominal pressure 3.5 grams. Adjust B3 to obtain correct needle pressure. Turning B3 clockwise decreases needle pressure.

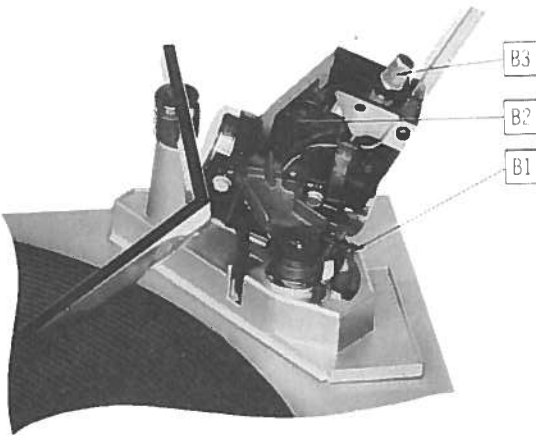
CLEANING

Use a cloth dampened with isopropyl alcohol to clean the driving surfaces of the idler wheel, motor shaft and inside rim of the turntable.

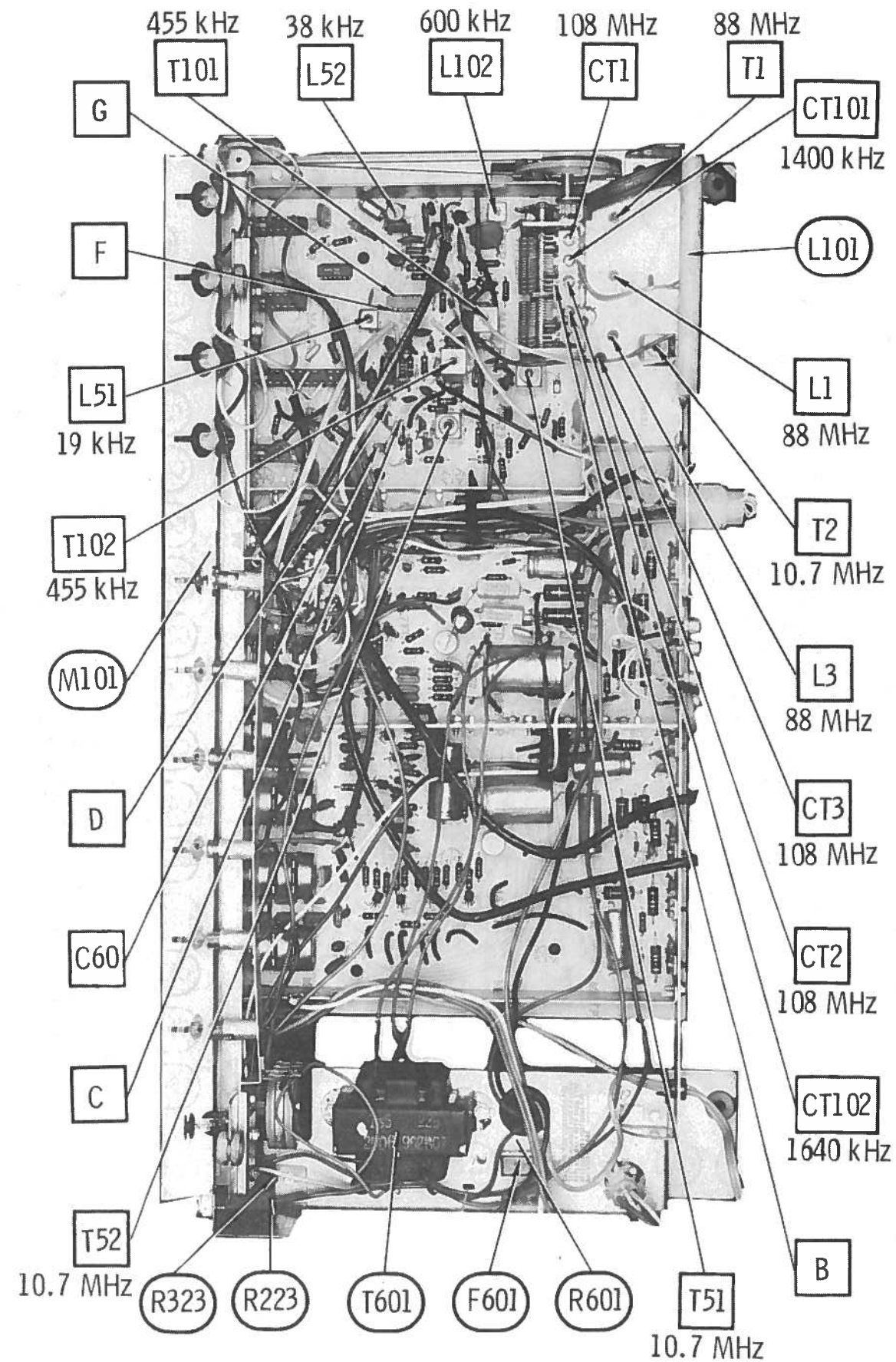
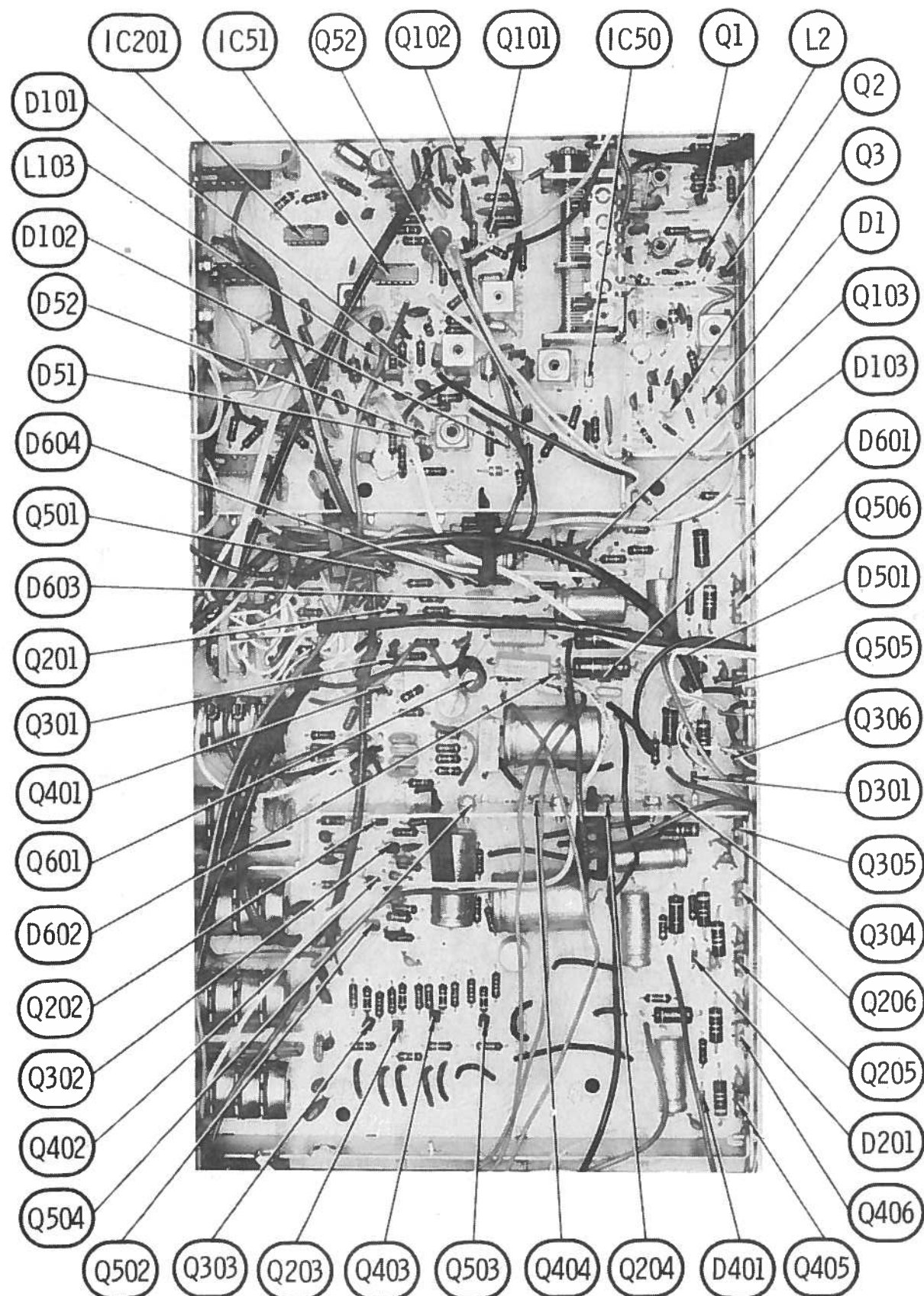
LUBRICATION

Apply light nonhardening grease to sliding cam surfaces and pivot points, light machine oil on the tone arm lift rod, idler wheel bearings, and motor bearings.

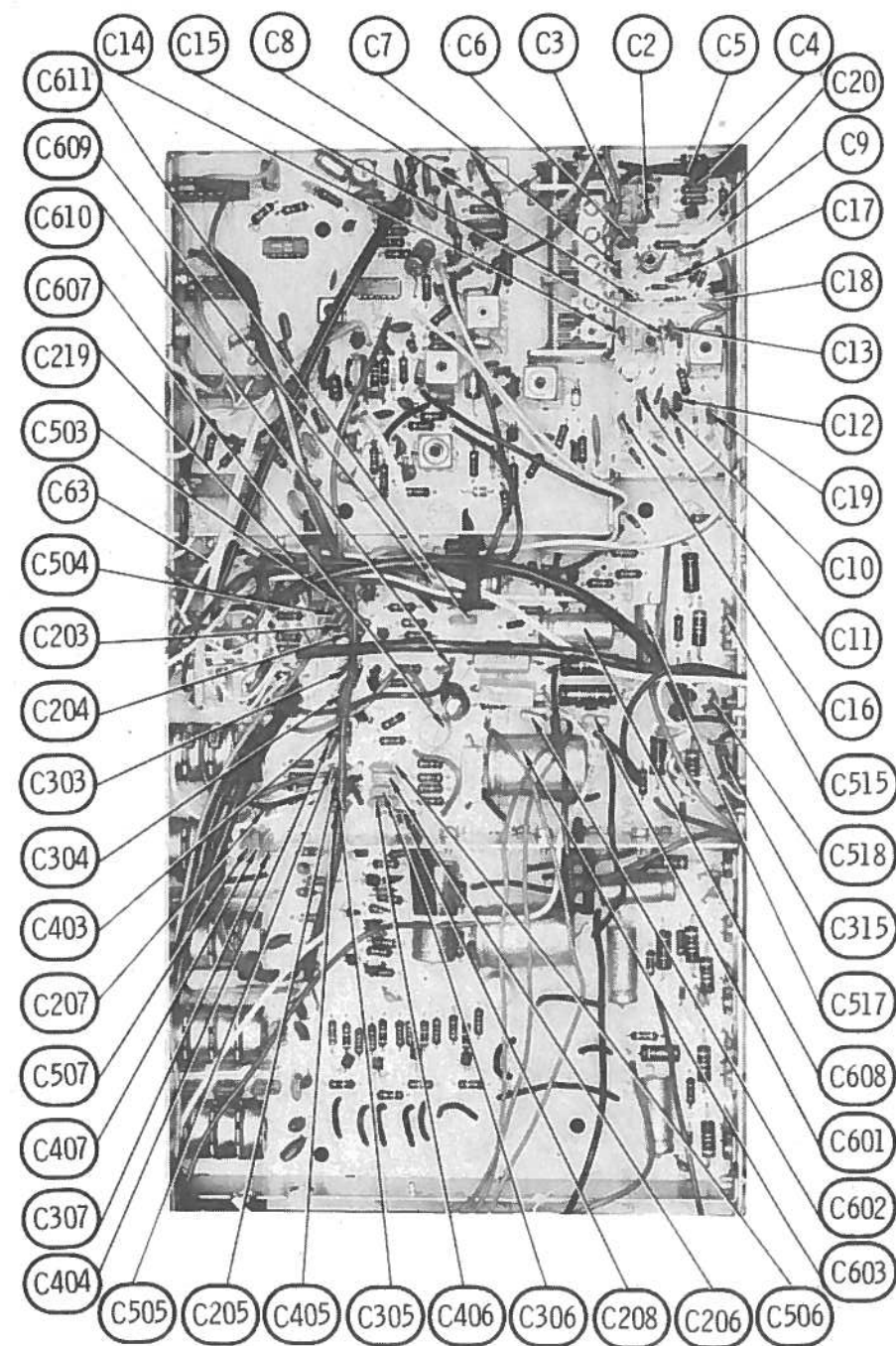
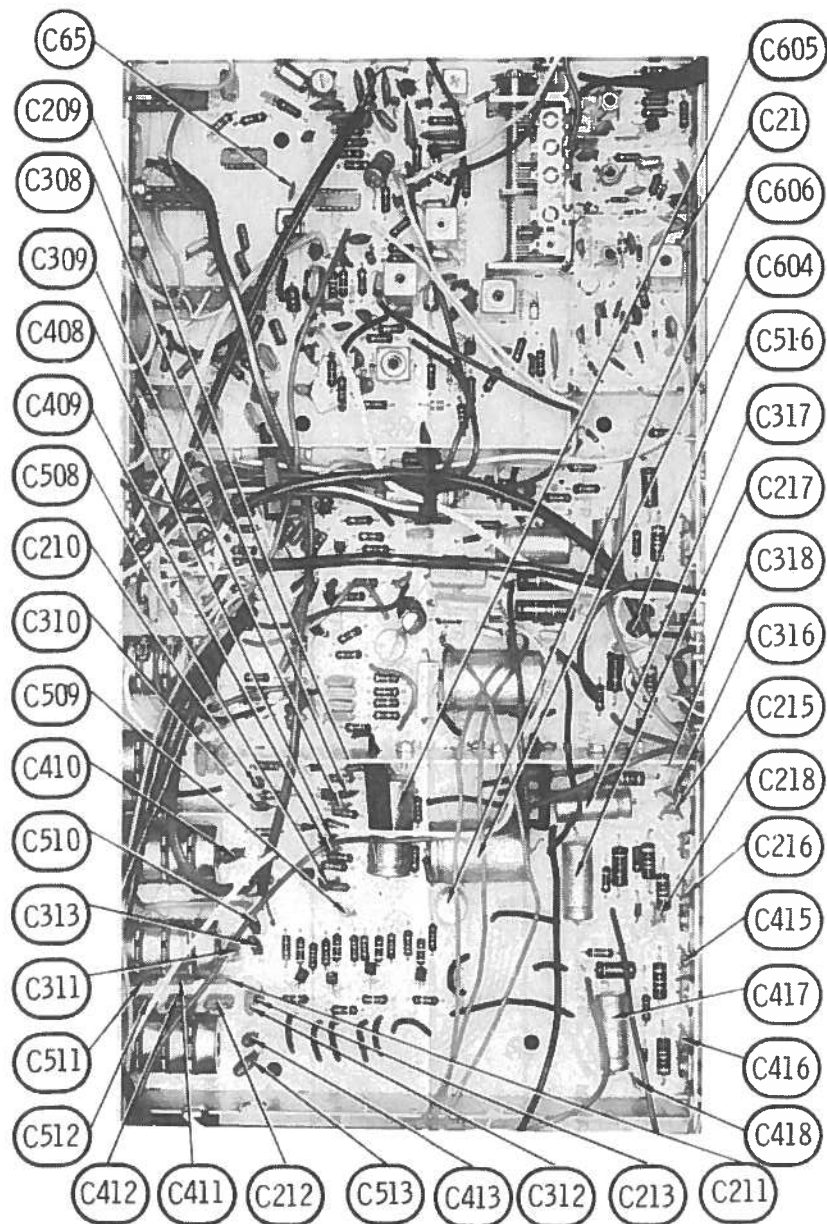
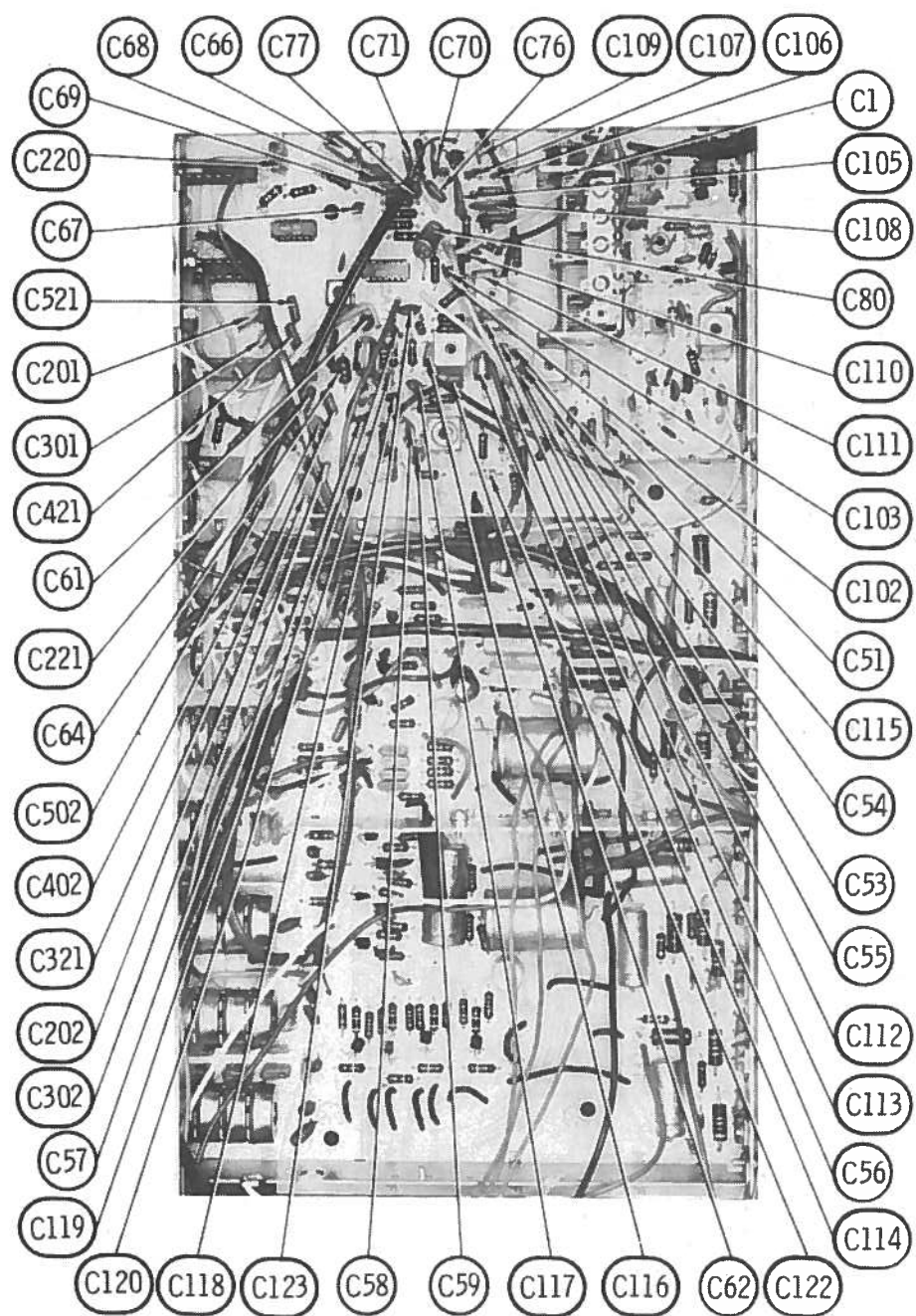
DO NOT lubricate turntable driving surface, the teeth on cycling gear or turntable hub.



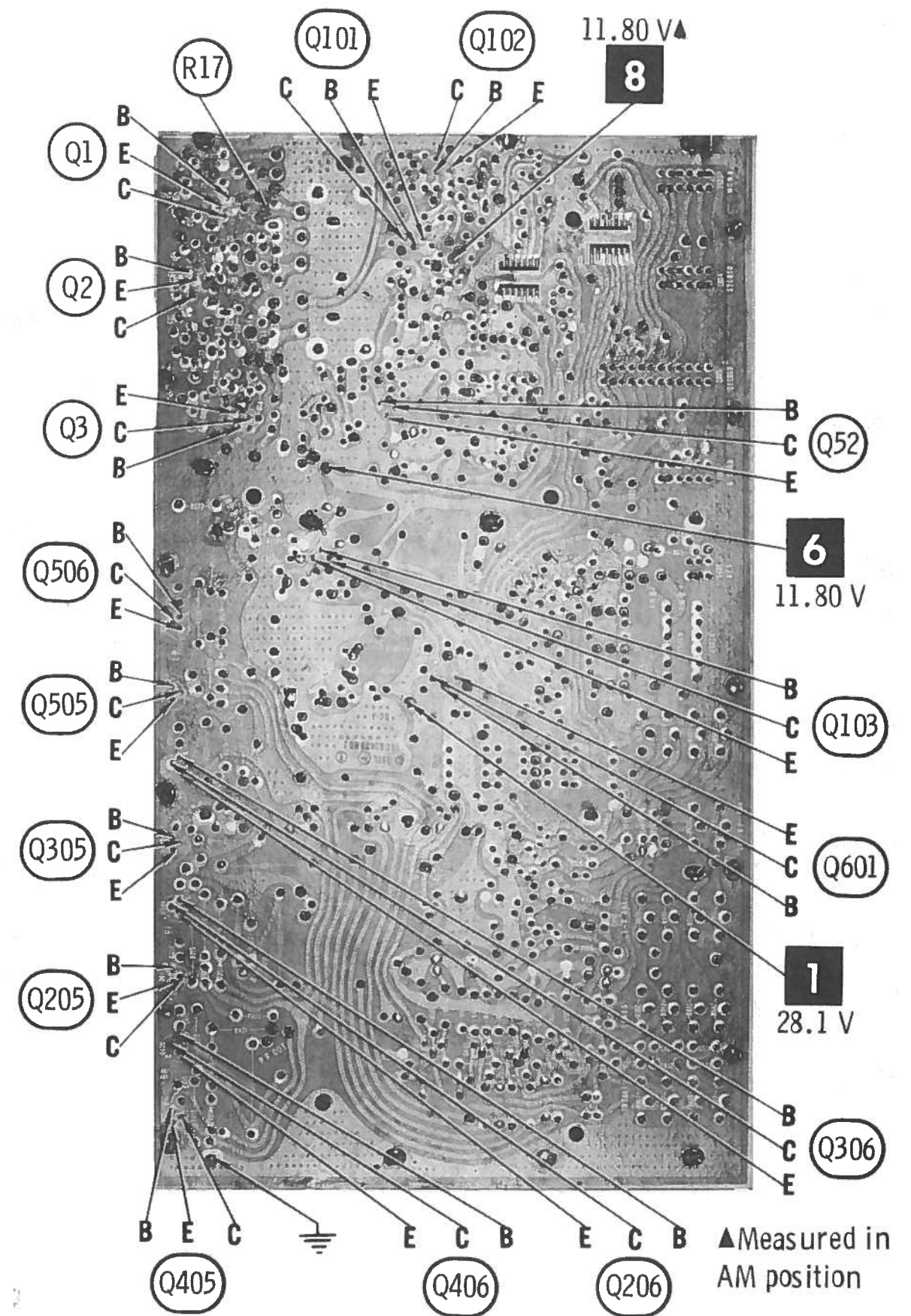
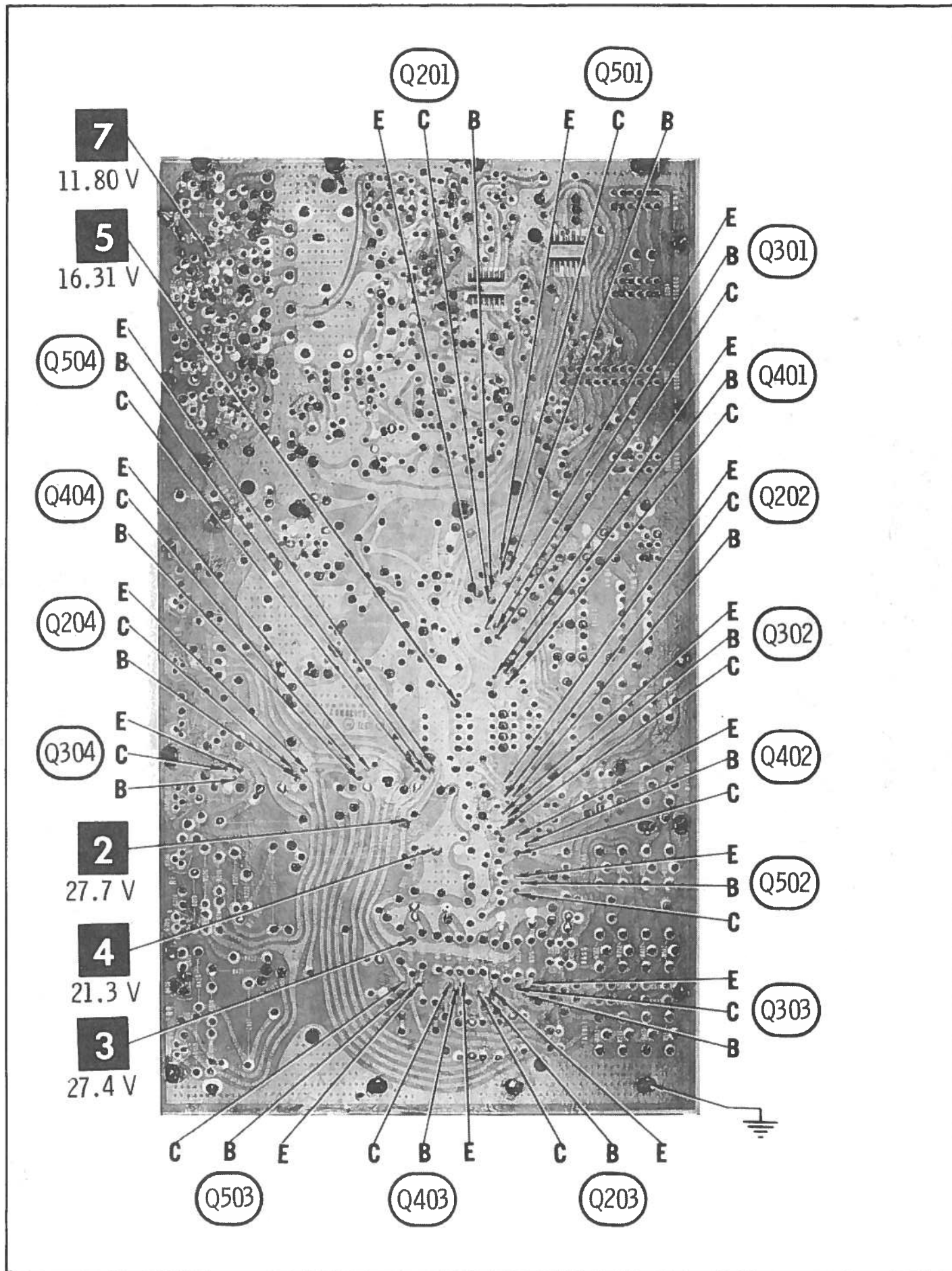






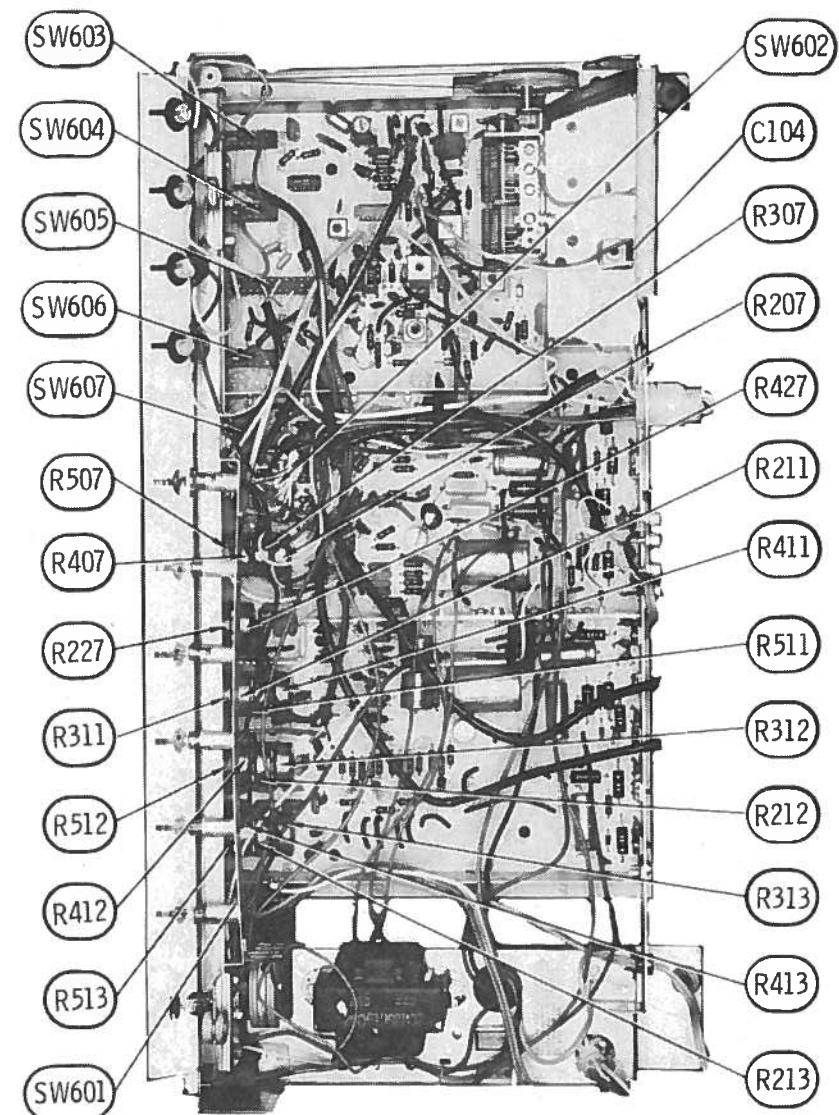
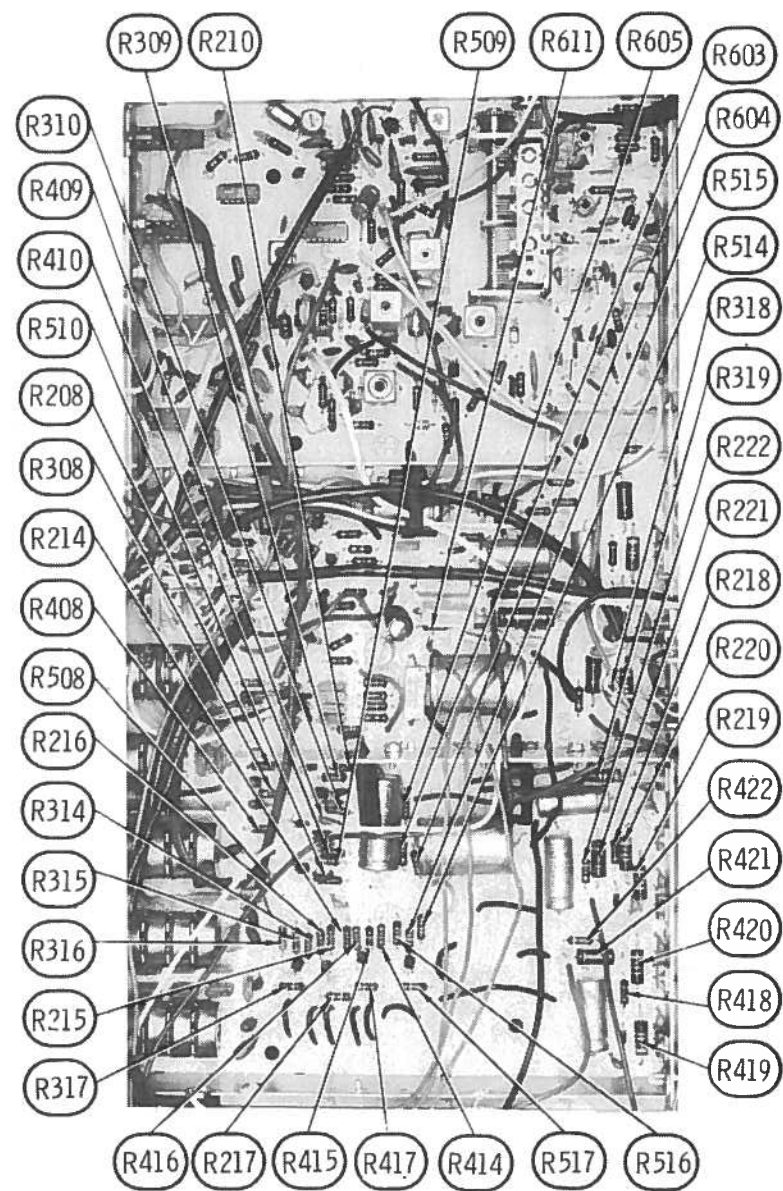
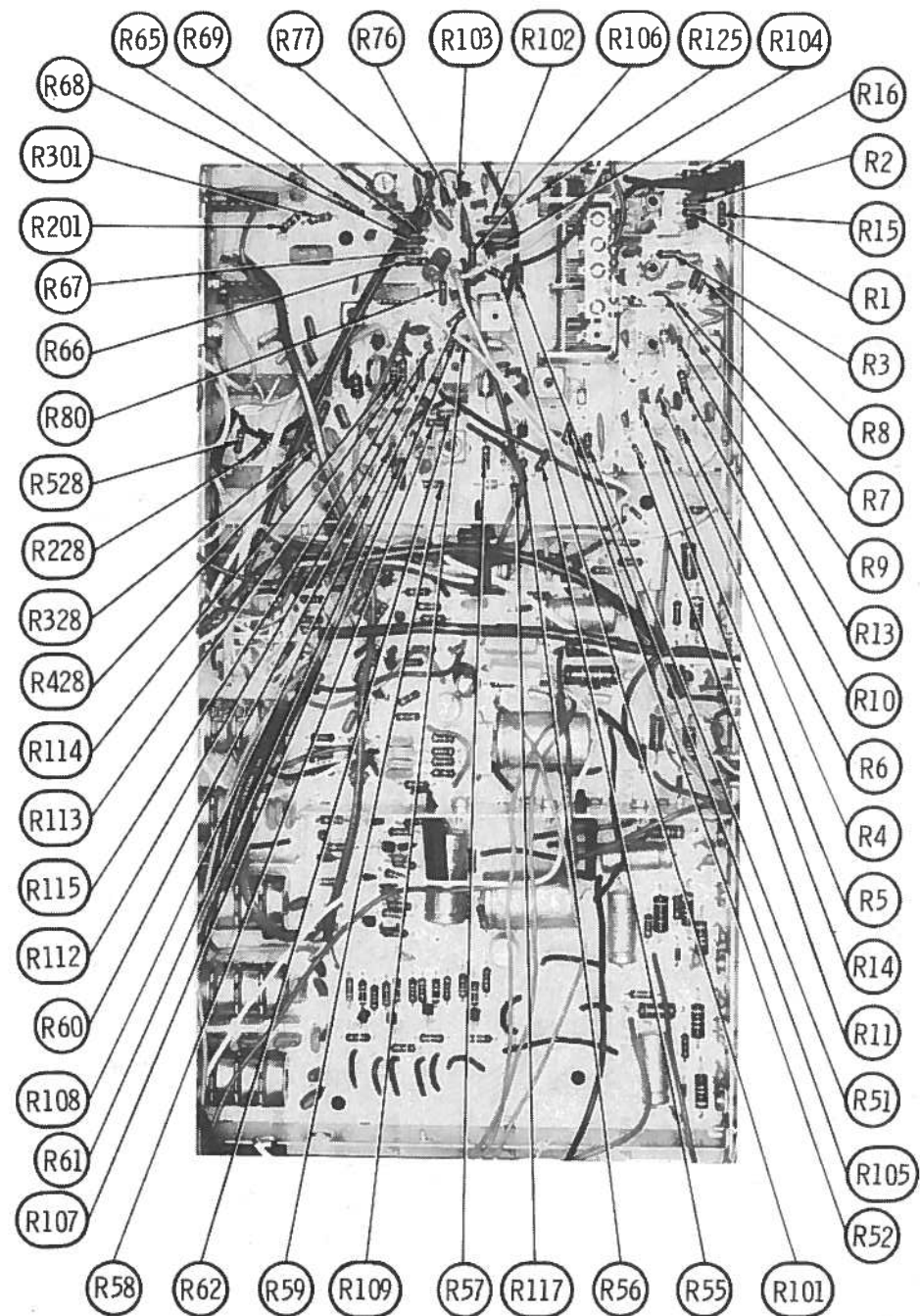




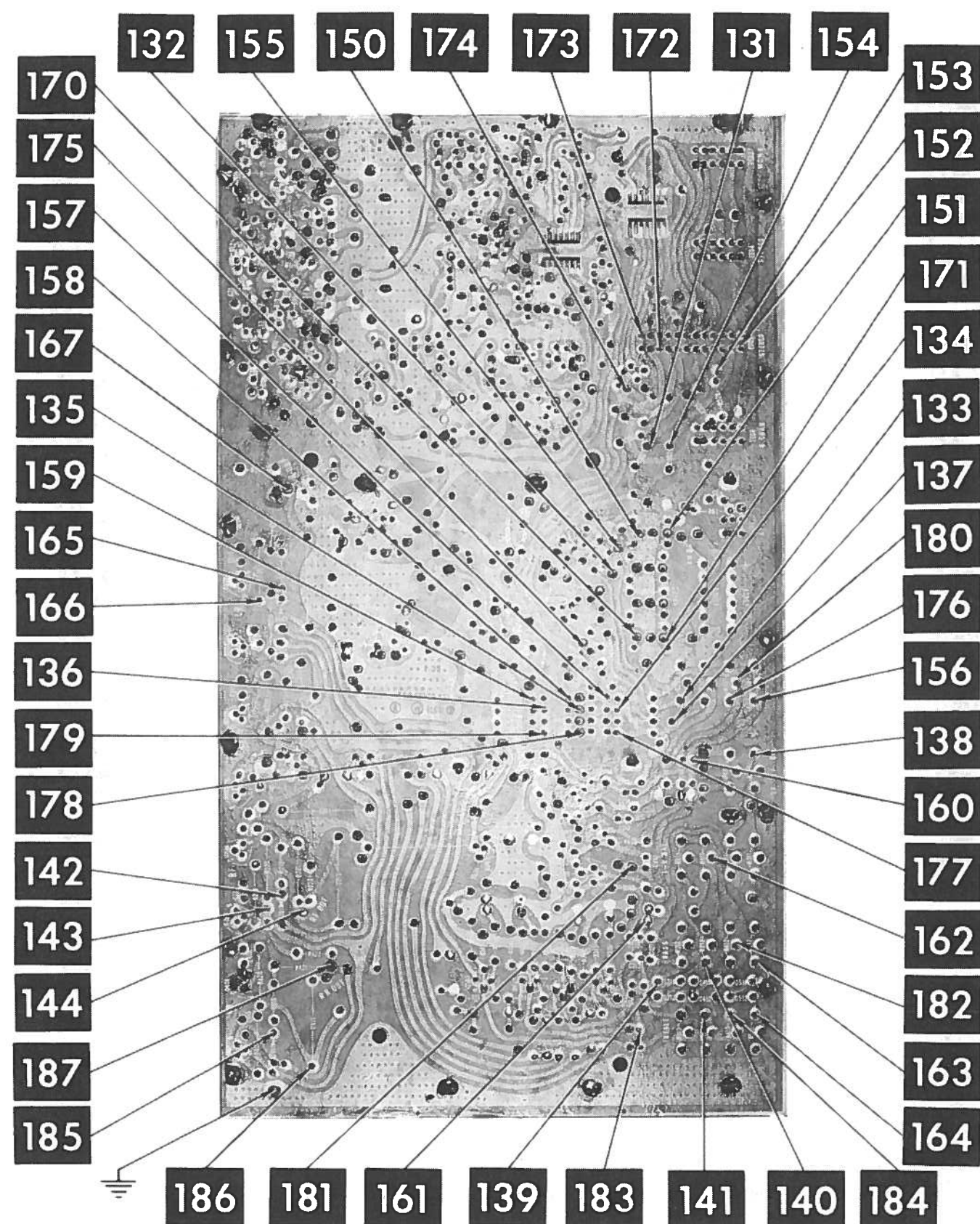
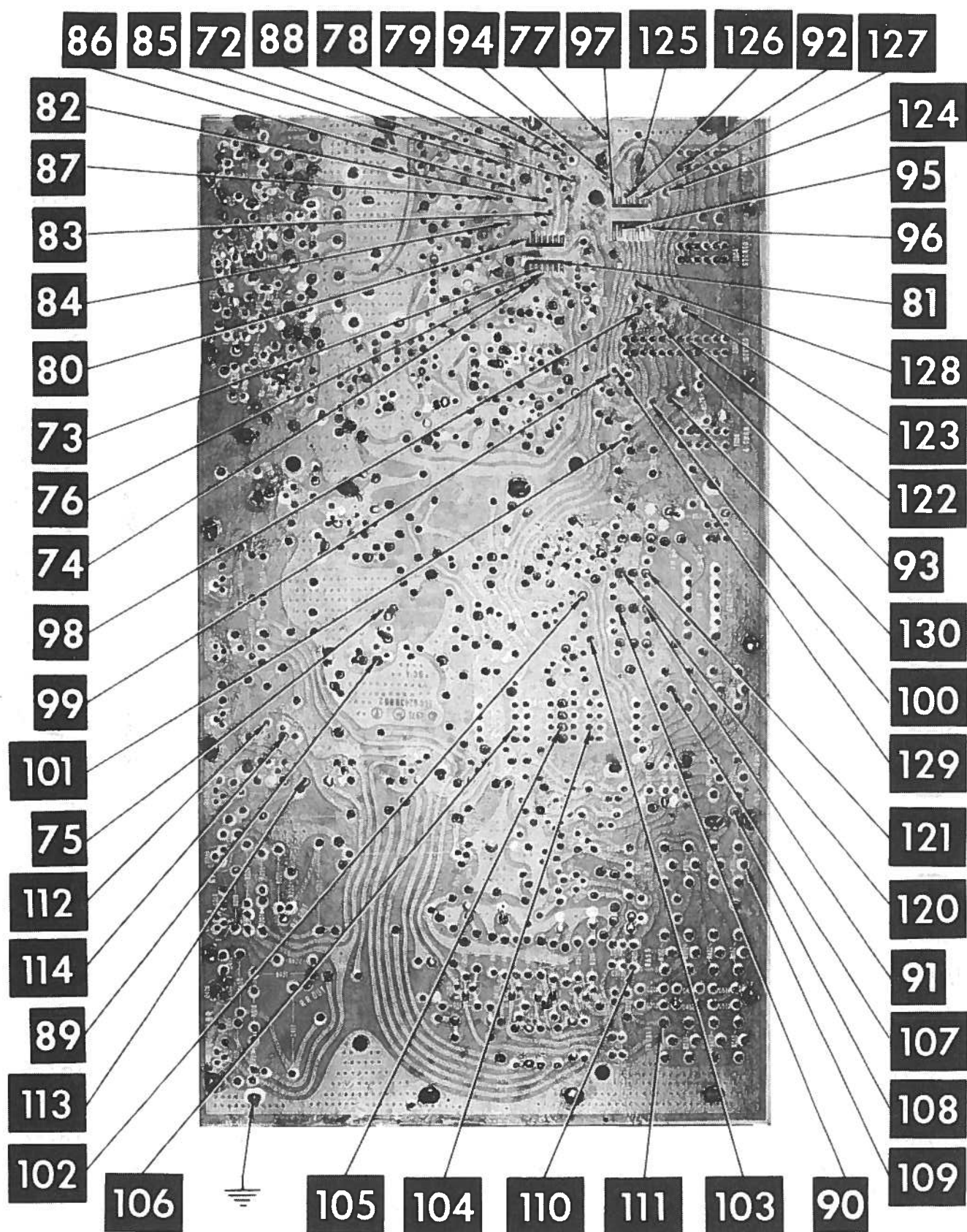


▲ Measured in AM position

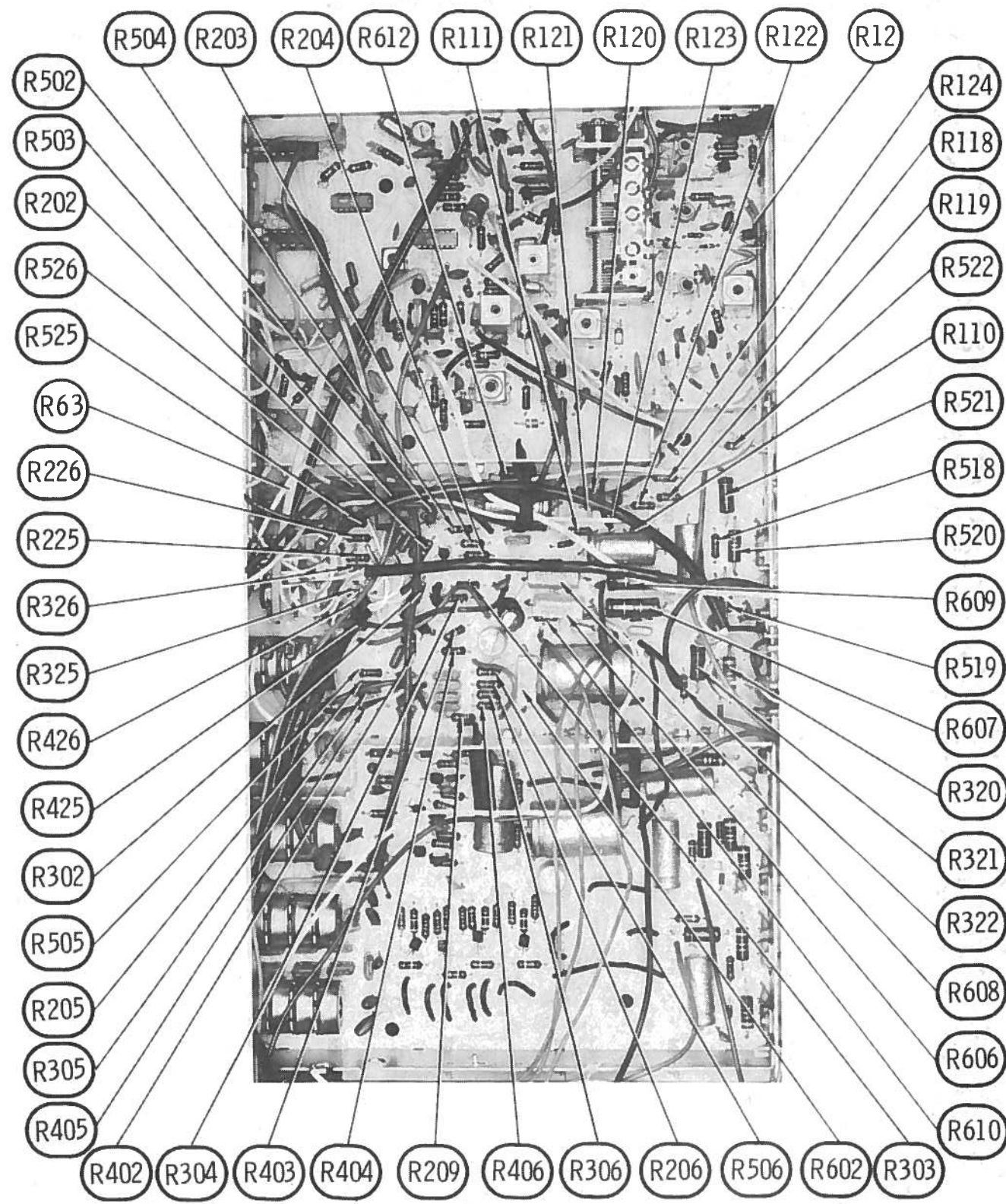
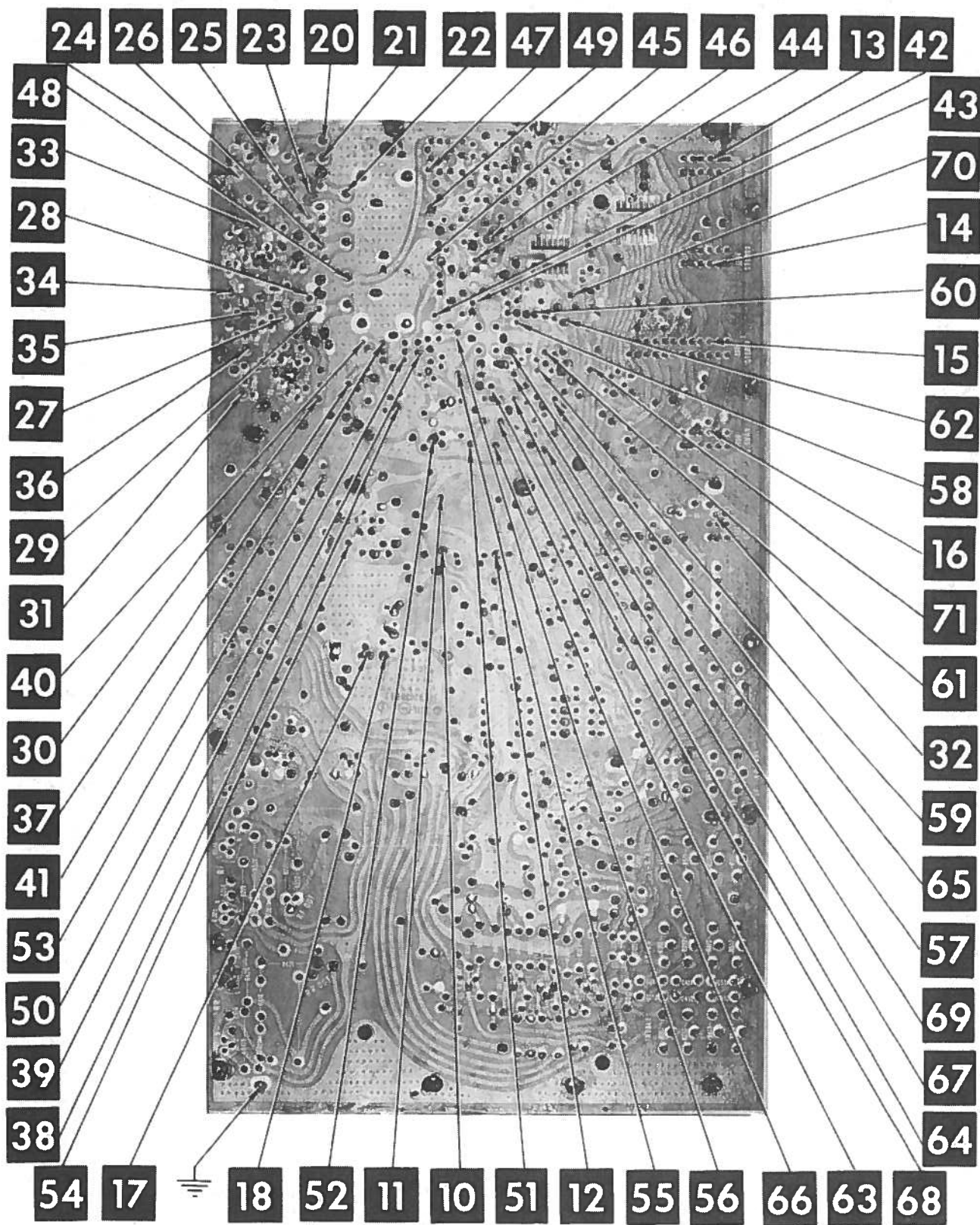
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## CLEANING

Clean all tape contact surfaces with a soft, lint-free material and head cleaner or methyl alcohol. Use alcohol to remove oil and grease from all driving surfaces.

CAUTION: Avoid getting head cleaner on any plastic surface.

## LUBRICATING

Bearings are oil-less type and do not need lubrication. Lubricate bushings lightly with #20 machine oil. Use a light film of nonhardening grease on cam surfaces.

## HEAD DEMAGNETIZING

Demagnetize head when unit is serviced. Avoid using magnetic materials near head.

## 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.
Indexing Solenoid	Press program selector to continuously cycle indexing mechanism, turn Screw B4 clockwise until cycling stops, and then turn screw counter-clockwise 1/4 turn past restart of cycling.
Hum Reduction	Rotate motor for MINIMUM hum and position Shield (9) for MINIMUM hum.

## 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.	Switch (E104) dirty. Cam (3) binding or worn. Pawls (4) and (5) worn. Arms (7) and (8) binding. Solenoid (E103) 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.
Tape is pulled from cartridge.	Cartridge defective. Capstan dirty or scored. Arm (14) bent.

## MECHANICAL PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1 *	42B41045G01	Flywheel Belt	15	4C40104A12	Spring
2	49B41393G01	Flywheel and Shaft Assembly	16	(1)	Pawl Spring
3	45C41357G01	Track Changing Cam	17	22A40711B01	Transfer Pin
4	(1)	Push Pawl	18	46B41660G01	Head Block
5	(1)	Pull Pawl	19	41A40713B01	Spring Retainer
6	41A41282B01	Head Tension Spring	20	1V41220G38	Manual Ejector Assembly
7	45B40708B01	Radius Arm (Lower)	21	41A40710B01	Azimuth Adjust Spring
8	45B40708B02	Radius Arm (Upper, 2 used)	22	41B42071B01	Eject Lever Spring
9	26A41130G01	Magnetic Shield	23		Guide Rollers
10	1V40952G97	Capstan Block Assembly	24	3T43787A03	Azimuth Adjust Screw
11	43A40674G04	Spacer	25	1V40952G95	Cam and Shaft Assembly
12	(1)	Solenoid Plunger	26	47B41716G01	Eject Rod
13	41A40445B02	Solenoid Spring	27		Eject Rod Spring
14	45B40480B01	Actuating Arm	28	45B41845G01	Switch Actuator Arm

(1) Part of Cam and Shaft Assembly (25).

\* Flywheel Belt - E-V/GAME Replacement Number 1407-33.  
WALSCO Replacement Number 1424-18.

## PHOTOFACT® Folder

with CIRCUITRACE

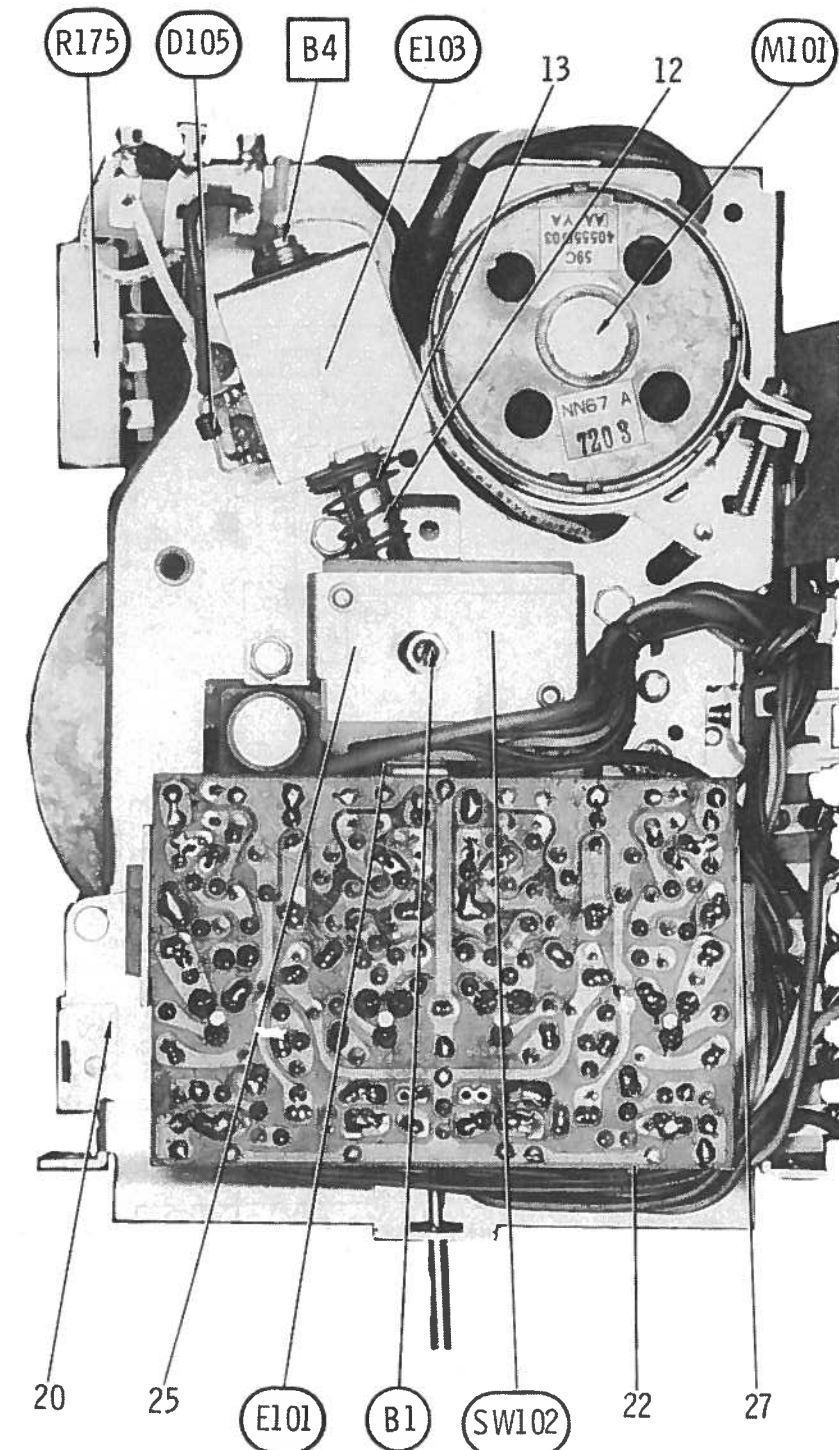
## MOTOROLA TAPE PLAYER GA148JU, YGA148JU

### IMPORTANT FILING NOTICE

This PHOTOFACT Folder covers equipment used with the chassis covered in PHOTOFACT SET 1387 FOLDER 4.

SET 1387 FOLDER 4-A

MOTOROLA TAPE PLAYER  
GA148JU, YGA148JU



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

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed.

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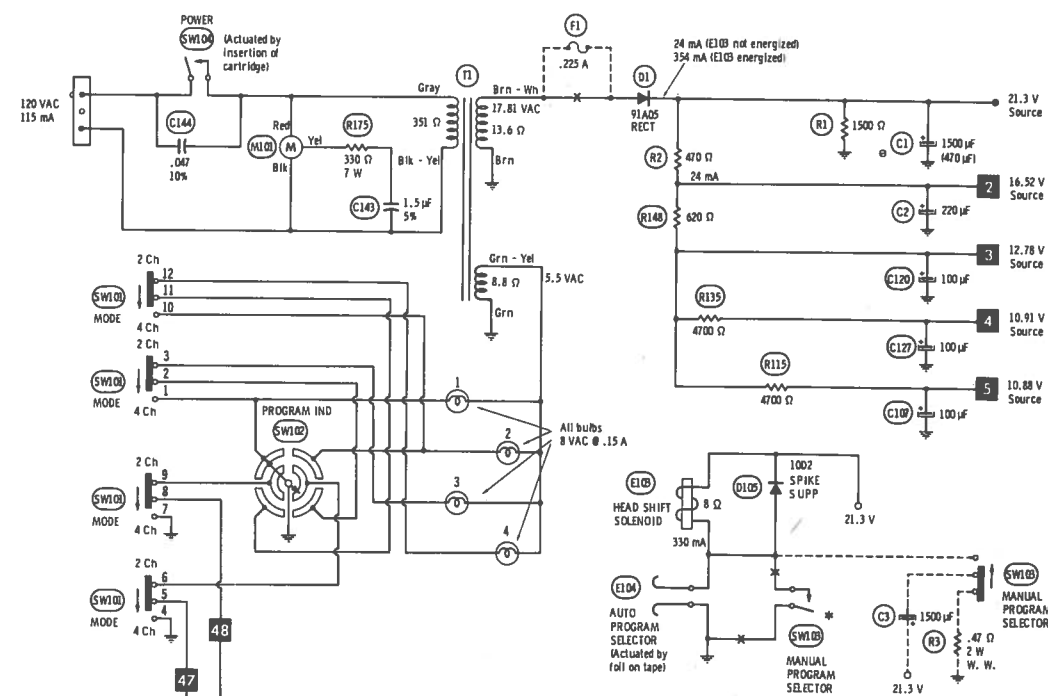
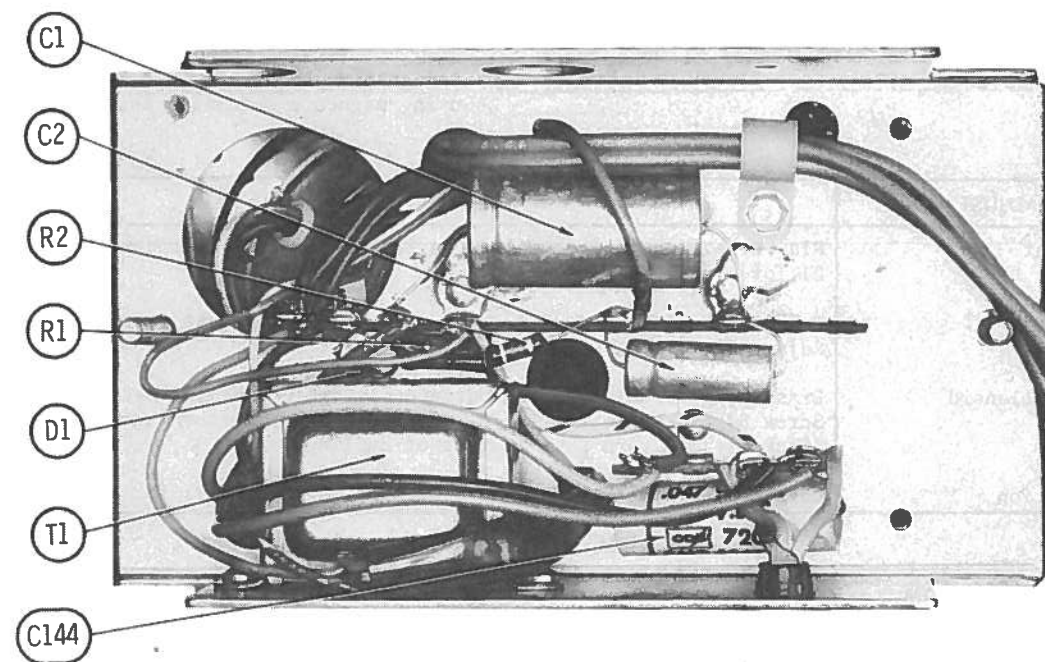
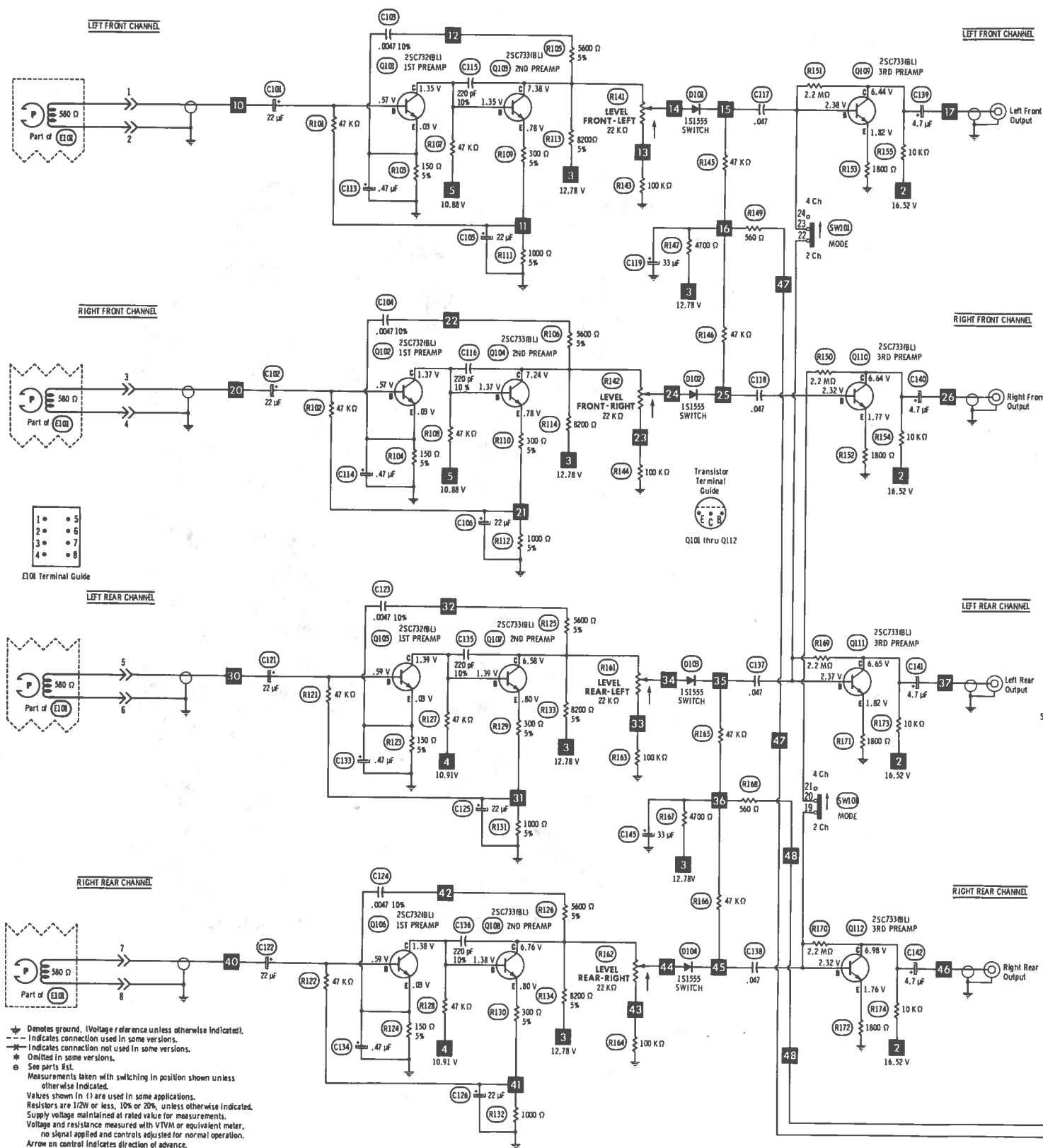
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SET 1387 FOLDER 4-A

MOTOROLA TAPE PLAYER  
GA148JU, YGA148JU

SET 1387 FOLDER 4-A

**NOTE: DEMAGNETIZE HEADS AFTER SERVICING**

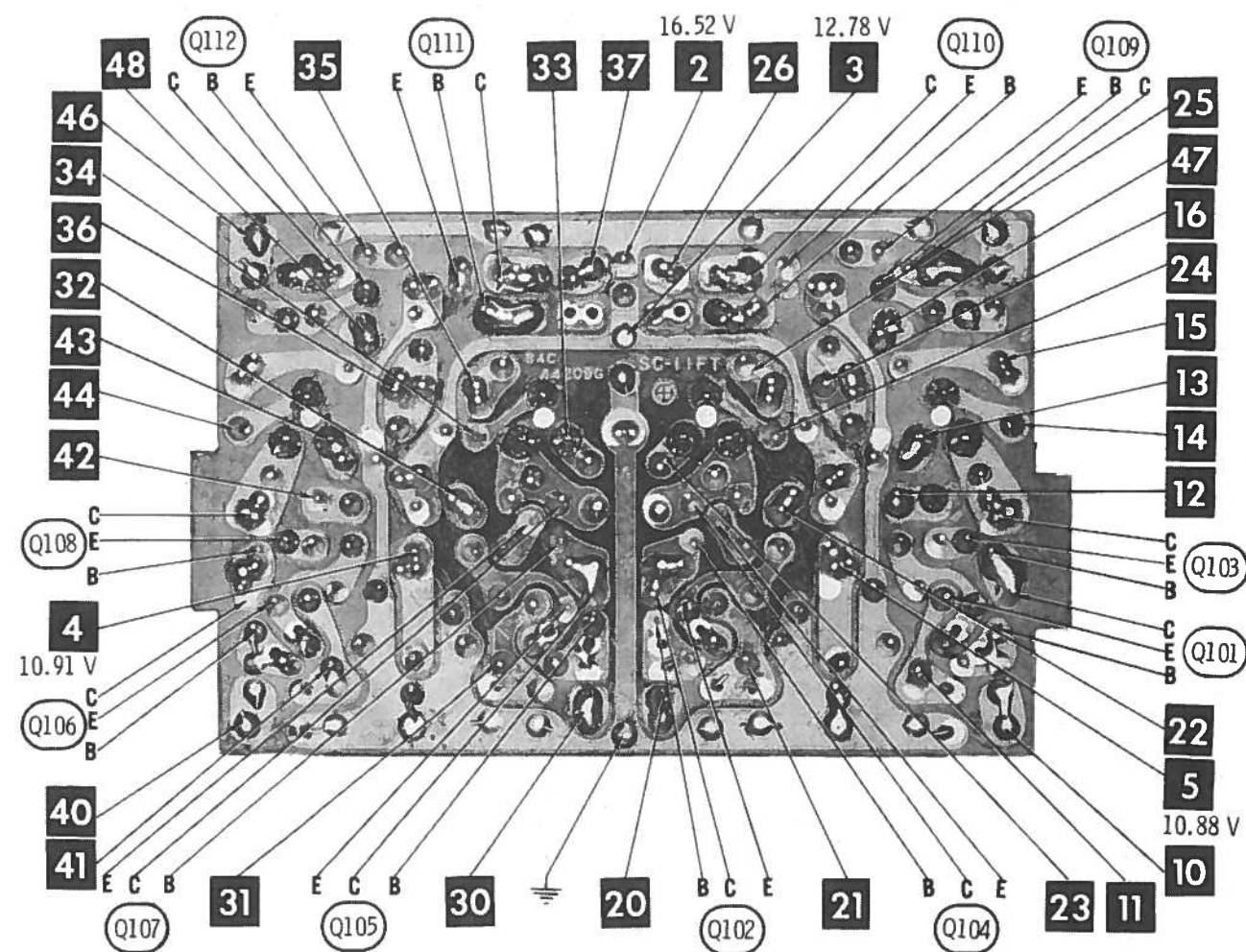
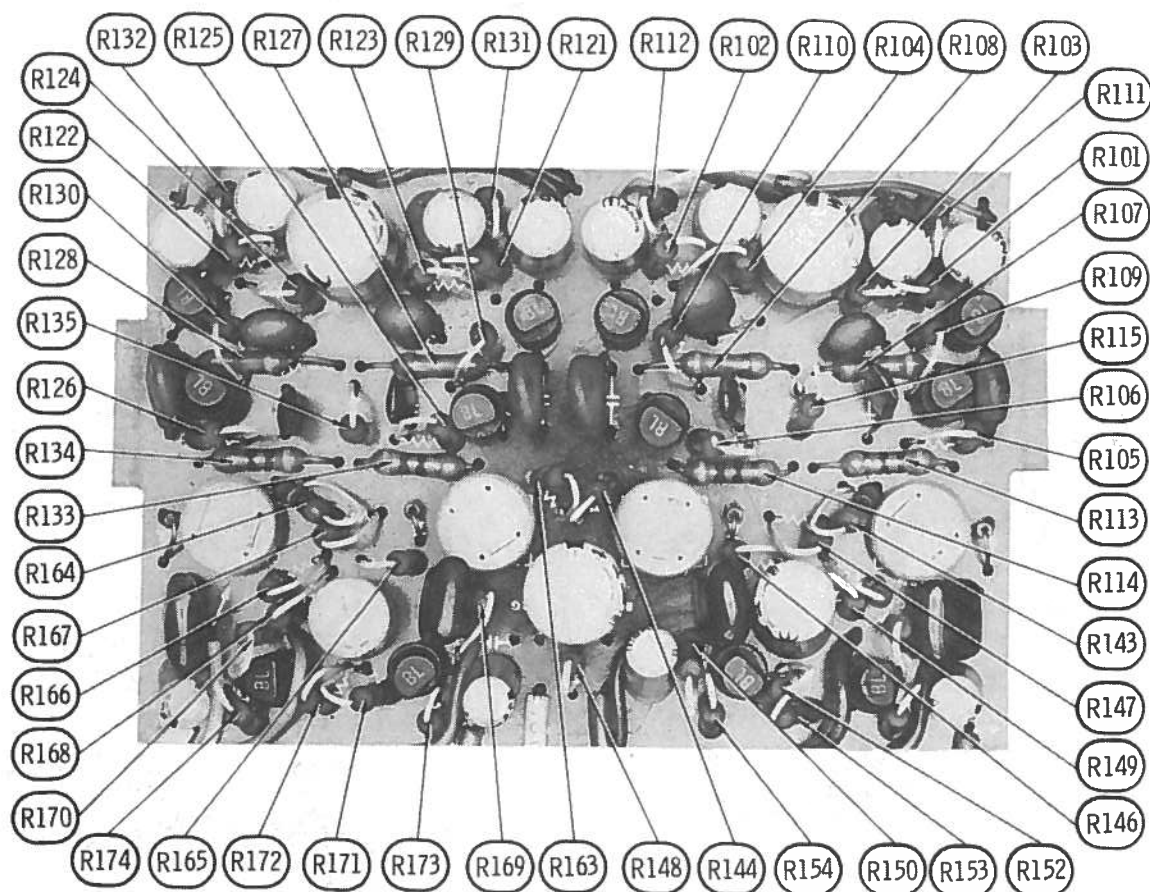
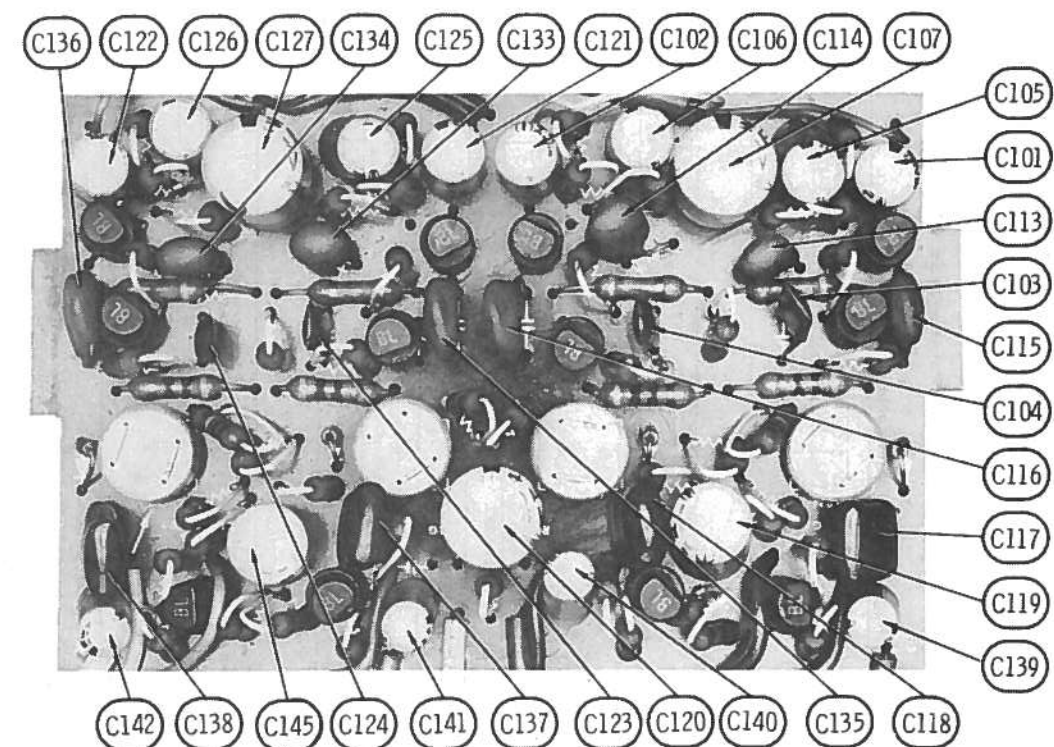
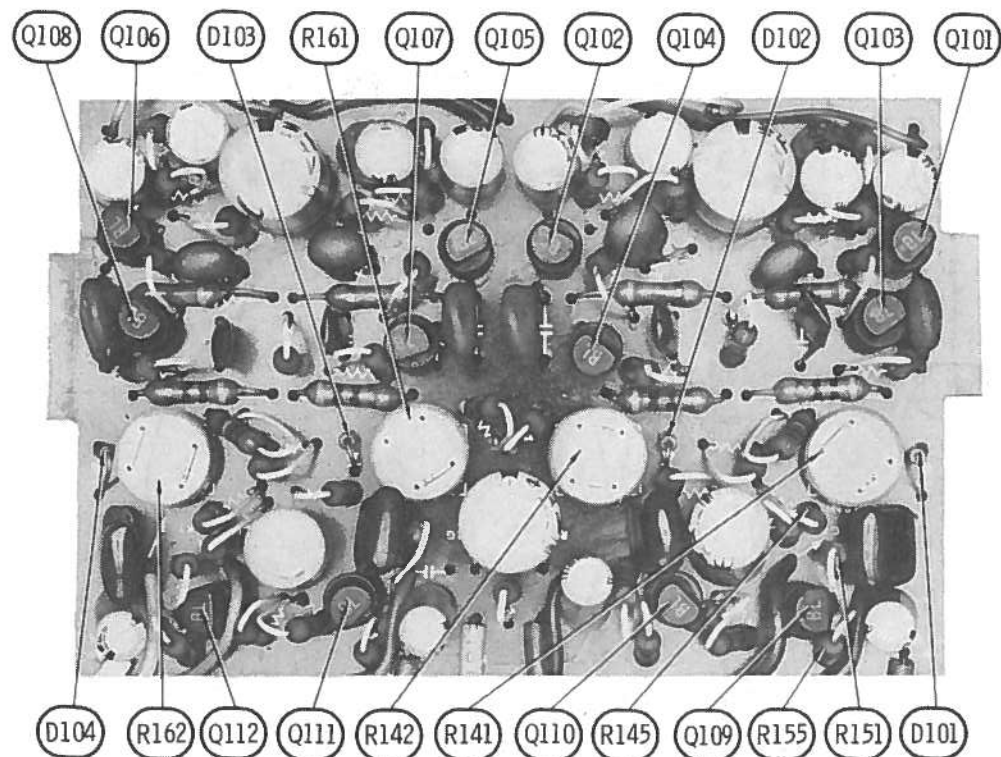


**MOTOROLA TAPE PLAYER**  
GA148U, XC6148U

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**MOTOROLA TAPE PLAYER**  
**GAI48JU, YGAI48JU**

**FOLDER 4-A**



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4 TAPE PLAYER 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
Low-loss Shielded Lead (Interconnecting)	Use BELDEN No. 8524 (Stranded) Available in 12 Colors
Photo Pick-up Arm Cable	Use BELDEN No. 8430 (Two Conductor-Insulated)
	8419 (Three Conductor-Shielded)

SEMICONDUCTORS

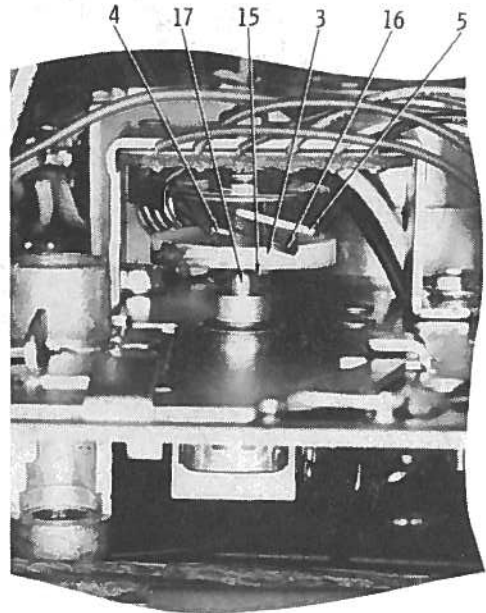
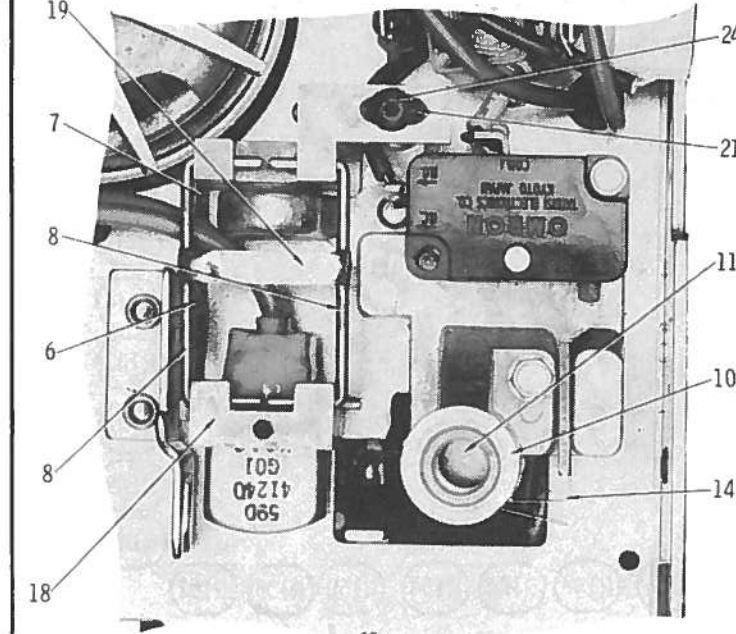
ITEM No.	TYPE / MFR. No. / PART No.	REPLACEMENT DATA				
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	SPRAGUE PART No.
D1	91A05/48S19A05 (1)	GE-500A	804 or 5440	PTC201 or PTC202	SK2030 or SK2031	EGG 116 or EGG 117
D101	1S1555/48S134816	GE-300	D200	PTC214	HEPR0602	EGG 118
D102	1S1555/48S134816	GE-300	D200	PTC214	HEPR0602	EGG 118
D103	1S1555/48S134816	GE-300	D200	PTC214	HEPR0602	EGG 118
D104	1S1555/48S134816	GE-300	D200	PTC214	HEPR0602	EGG 118
D105	100Z/48A02J5062	GE-500A	804 or 5440	PTC202 or PTC201	SK2030 or SK2031	EGG 116 or EGG 117
Q101	25C732(BL)/	GE-20	TR-21	PTC139	HEP730	EGG 199
Q102	25C732(BL)/	GE-20	TR-21	PTC139	HEP730	EGG 199
Q103	25C732(BL)/	GE-20	TR-24	PTC139	HEP729	EGG 199
Q104	25C732(BL)/	GE-20	TR-24	PTC139	HEP729	EGG 199
Q105	25C732(BL)/	GE-20	TR-21	PTC139	HEP730	EGG 199
Q106	25C732(BL)/	GE-20	TR-21	PTC139	HEP730	EGG 199
Q107	25C732(BL)/	GE-20	TR-21	PTC139	HEP730	EGG 199
Q108	25C732(BL)/	GE-20	TR-21	PTC139	HEP730	EGG 199
Q109	25C732(BL)/	GE-20	TR-24	PTC139	HEP729	EGG 199
Q110	25C732(BL)/	GE-20	TR-24	PTC139	HEP729	EGG 199
Q111	25C732(BL)/	GE-20	TR-24	PTC139	HEP729	EGG 199
Q112	25C732(BL)/	GE-20	TR-24	PTC139	HEP729	EGG 199

(1) Manufacturer recommends part number 48S19J02 for replacement.  
(2) Manufacturer recommends part number 48S134823 for replacement.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFR. PART No.	ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	SPRAGUE PART No.
C1	1500 30V	23S1025A30	NE-6200	EA30-250	WBR1500-50	TVA-1318
C2	220 25V	23S1025A31	NE-6-E-200	EA15-250	WBR250-16	TVA-1160.6
C3	1500 30V	23S1025A30 (1)	NE-2-E-020	EP15-25	PC20-50	TVA-1160.6
C101	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C102	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C103	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C104	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C105	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C106	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C107	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C108	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C109	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C110	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C111	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C112	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C113	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C114	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C115	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C116	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C117	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C118	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C119	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C120	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C121	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C122	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C123	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C124	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C125	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C126	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C127	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C128	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C129	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C130	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C131	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C132	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C133	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C134	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C135	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C136	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C137	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C138	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C139	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C140	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C141	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C142	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C143	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C144	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224
C145	22 16V	23C40134633	NE-2-E-020	EP15-25	PC20-50	EV-1224

(1) Used in Model 1 YG4148JU only.



CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA			
			ARCO/ELMENCOR PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	SPRAGUE PART No.
C103	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C104	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C105	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C106	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C107	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C108	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C109	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C110	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C111	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C112	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C113	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C114	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C115	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C116	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C117	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C118	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C119	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C120	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C121	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C122	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C123	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C124	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C125	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C126	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C127	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C128	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C129	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C130	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C131	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C132	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C133	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C134	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C135	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C136	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C137	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C138	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C139	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C140	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C141	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C142	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C143	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C144	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047
C145	.0047 50V	10X	60P-1-472	DPMS047	EMF6247	6PS-047

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

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA			
			MFR. PART No.	CENTRALAB PART No.	CTS-IRC PART No.	MALLORY PART No.
R141	Level (Left Front)	22K	18C41732608			
R142	Level (Right Front)	22K	18C41732608			
R143	Level (Left Rear)	22K	18C41732608			
R144	Level (Right Rear)	22K	18C41732608			

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.
R175	330 7W 1M		17840207601				

TRANSFORMER (Power)

ITEM No.	RATING	REPLACEMENT DATA				NOTES
		MFR. PART No.	STANCOR PART No.	THORNDARSON PART No.	TRIAD PART No.	
T1	120VAC @ 17.81VAC 5.5VAC @ .115AAC @ .354AAC .15AAC	25C61379802				

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA				WORKMAN PART No.
		DEVICES	HOLDER	DEVICES	HOLDER	
F1	225A @ 125V Chemical	65S1040A17(11)				W225-1

(1) Used in Model 1 YG4148JU only.

TAPE HEADS

ITEM No.	INDUCTANCE	BIAS VOLTS (RMS)	MFR. PART No.	NORTONICS PART No.	DESCRIPTION
E101	370 mH		59041240601	5832 (1)	8-Track, 4-Channel Quadrasonic.

(1) Use original mounting.

MISCELLANEOUS

ITEM No.	PART NAME	PART No.
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## PHOTOFACT® Folder

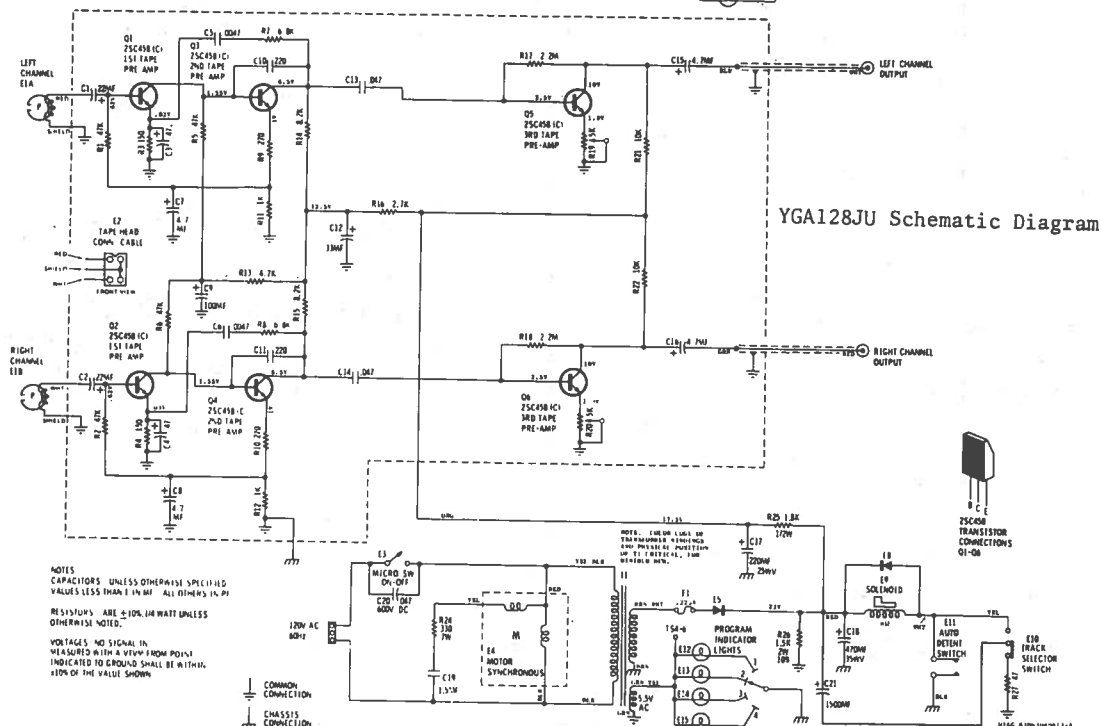
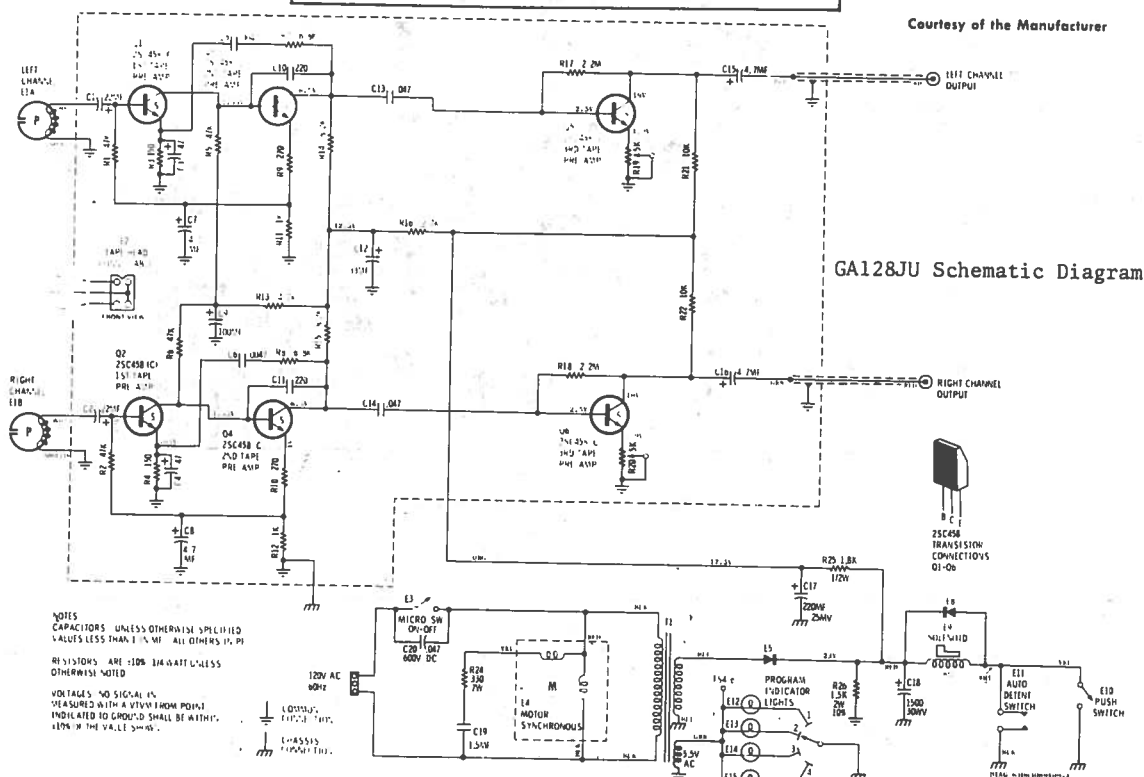


## IMPORTANT FILING NOTICE

This PHOTOFACT Folder covers equipment used with the chassis covered in PHOTOFACT SET 1387 FOLDER 4.

MOTOROLA TAPE PLAYER  
GA128JU, YGA128JU

Courtesy of the Manufacturer

MOTOROLA TAPE PLAYER  
GA128JU, YGA128JU

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

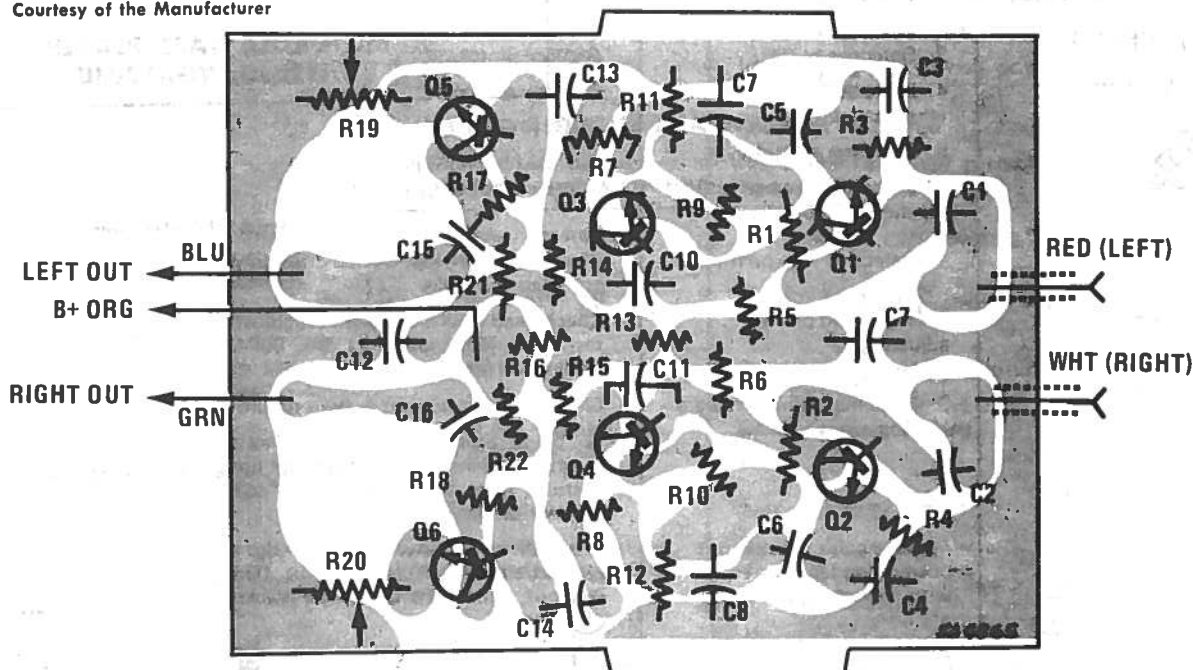


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Courtesy of the Manufacturer



Tape Pre-Amp -- Bottom View

## REPLACEMENT PARTS LIST

Ref. No.	Part Number	Description	Ref. No.	Part Number	Description
ELECTRICAL PARTS					
CAPACITORS					
C-1	23C40134G33	22 mfd 16V lytic	E-13	65S125595	BULB, channel indicator: .15A-8V
C-2	23C40134G33	22 mfd 16V lytic	E-14	65S125595	BULB, channel indicator: .15A-8V
C-3	23A40528G03	.47 mfd +20-0% 10V lytic	E-15	65S125595	BULB, channel indicator: .15A-8V
C-4	23A40528G03	.47 mfd +20-0% 10V lytic	RESISTORS		
C-5	8C40135G03	.0047 mfd ±10% 10V film	R-19	18C40957G02	VARIABLE RES: 5K
C-6	8C40135G03	.0047 mfd ±10% 10V film	R-20	18C40957G02	VARIABLE RES: 5K
C-7	23C40134G20	4.7 mfd 35V lytic	TRANSFORMER		
C-8	23C40134G20	4.7 mfd 35V lytic	T-1	25C61379B02	TRANSFORMER, power
C-9	23C40134G25	100 mfd 16V lytic	TRANSISTORS		
C-10	21D43538A03	220 pf ±10% 100V cer disc	Q-1	48S44166G01	1ST TAPE PRE-AMP: 2SC1335 (D)
C-11	21D43538A03	220 pf ±10% 100V cer disc	Q-2	48S44166G01	1ST TAPE PRE-AMP: 2SC1335 (D)
C-12	23C40134G21	33 mfd 16V lytic	Q-3	48S41205G01	2ND TAPE PRE-AMP: 2SC458 (C)
C-13	8C40135G02	.047 mfd ±20% 50V film	Q-4	48S41205G01	2ND TAPE PRE-AMP: 2SC458 (C)
C-14	8C40135G02	.047 mfd ±20% 50V film	Q-5	48S41205G01	3RD TAPE PRE-AMP: 2SC458 (C)
C-15	23C40134G20	4.7 mfd 35V lytic	Q-6	48S41205G01	3RD TAPE PRE-AMP: 2SC458 (C)
C-16	23C40134G20	4.7 mfd 35V lytic	DECORATIVE & MISCELLANEOUS MECHANICAL PARTS		
C-17	23S10255A47	220 mfd 25V lytic	38P63086A80	PUSHBUTTON: incls insert ("door")	
C-18	23S10255A30	1500 mfd 30V lytic	38P63086A78	PUSHBUTTON: incls insert ("eject")	
C-19	8C40694B01	1.5 mfd ±15-5% 250V mylar	38P63086A79	PUSHBUTTON: incls insert ("selector")	
C-20	8S10333A01	.047 mfd ±10% 600V mylar	15E62517B01	TRAY, cartridge storage: (not in all sets)	
MISCELLANEOUS ELECTRICAL PARTS			TAPE DECK MECHANICAL PARTS (TD232J)		
E-1	59B40481G01	HEAD, stereo tape	1	42B41045C01	BELT, drive
E-2	30C40932G01	CABLE, tape head	2	49B41393G01	FLYWHEEL & SHAFT
E-3	40B40160G04	SWITCH, micro (USE 40B41018B02)			
E-4	1V40952G32	MOTOR, w fan & pulley			
E-5	48S191A05	RECTIFIER, silicon: 91A05 (USE 48S191A07)			
E-8	48C40235G02	RECTIFIER, silicon: 10D2			
E-9	24B40638G01	COIL, solenoid			
E-10	40B61452B01	SWITCH, push			
E-11	40B41236G01	SWITCH CONTACT: auto detent			
E-12	65S125595	BULB, channel indicator: .15A-8V			

## UNIQUE REPLACEMENT PARTS LIST FOR MODEL YGA128JU

REF. NO.	PART NUMBER	DESCRIPTION
C-18	23S10255A31	470mfd 35V Lytic
C-21	23S10255A30	1500mf 30V Lytic
R-27	17S488266	.47 10% 2W W.W.
E-4	59C40555B07	Motor W/Fan & Pulley
E-10	40B61452B02	Switch, Channel Select
F-1	65S10404A17	Fuse, Chemical .225A 125V