

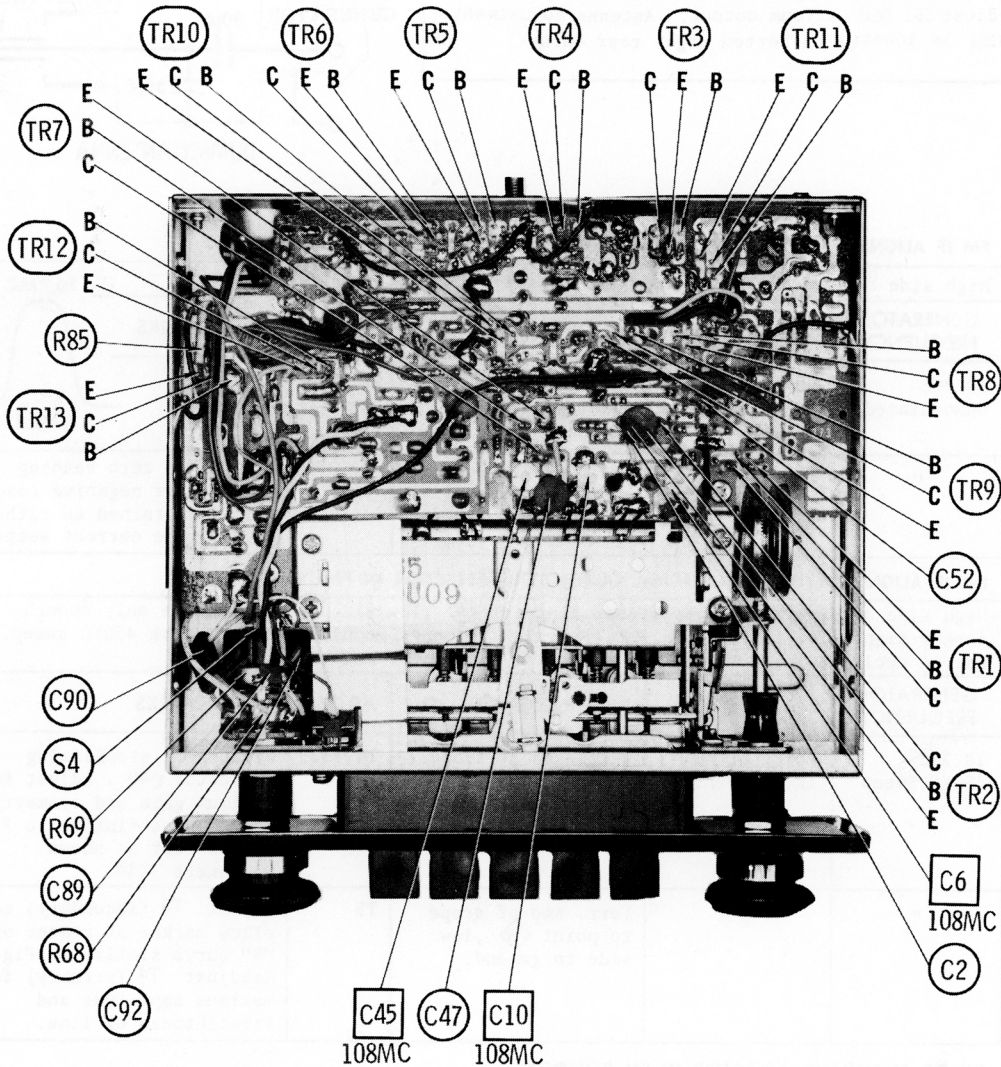
PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index



MODEL KM-1520H



HITACHI MODEL KM-1520H

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

© 1972 Howard W. Sams & Co., Inc.

Printed in U. S. of America

2AK244

ALIGNMENT INSTRUCTIONS

Check for specified source voltage
Use only enough generator output
to provide a usable indication.

Suggested Alignment Tools:

T1 thru T5, T10 thru T13,
L14, L20, C10, C45, C51, C60, C86

GC ELECTRONICS

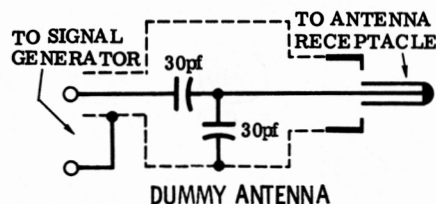
9440

PUSH-BUTTON ADJUSTMENT

- 1 Pull button out
- 2 Tune manually to desired station
- 3 Press button in firmly
- 4 Repeat for remaining buttons

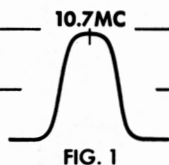
	GENERATOR COUPLING	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1	High side thru 1mfd to point $\diamond$, low side to ground	455KC 400 cycle modulation	High freq end stop	Output meter across voice coil	T13,T12, T11,T10	Adjust for maximum
2	Thru dummy antenna to antenna input	1615KC	"	"	C86,C60, C51	"
3	Thru dummy antenna to antenna input	600KC	Tune to signal	Output meter across voice coil	L20,L14	Adjust for maximum Repeat Steps 2 and 3 until no further improvement is noted

With radio installed in car and antenna extended 31", tune in a weak station near 1400KC and adjust C51 for maximum output Antenna adjustment C51 is located on bottom right rear corner



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

High side of generator thru 001mfd to point $\diamond$, low side to ground					
	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
4	10 7MC Unmodulated	Point of non-interference	DC probe of VTVM to point $\diamond$, common to ground	T4,T3, T2,T1	Adjust for maximum
5	"	"	DC probe of VTVM to point $\diamond$, common to ground	T5	Adjust for zero reading A positive or negative reading will be obtained on either side of the correct setting

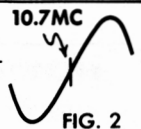


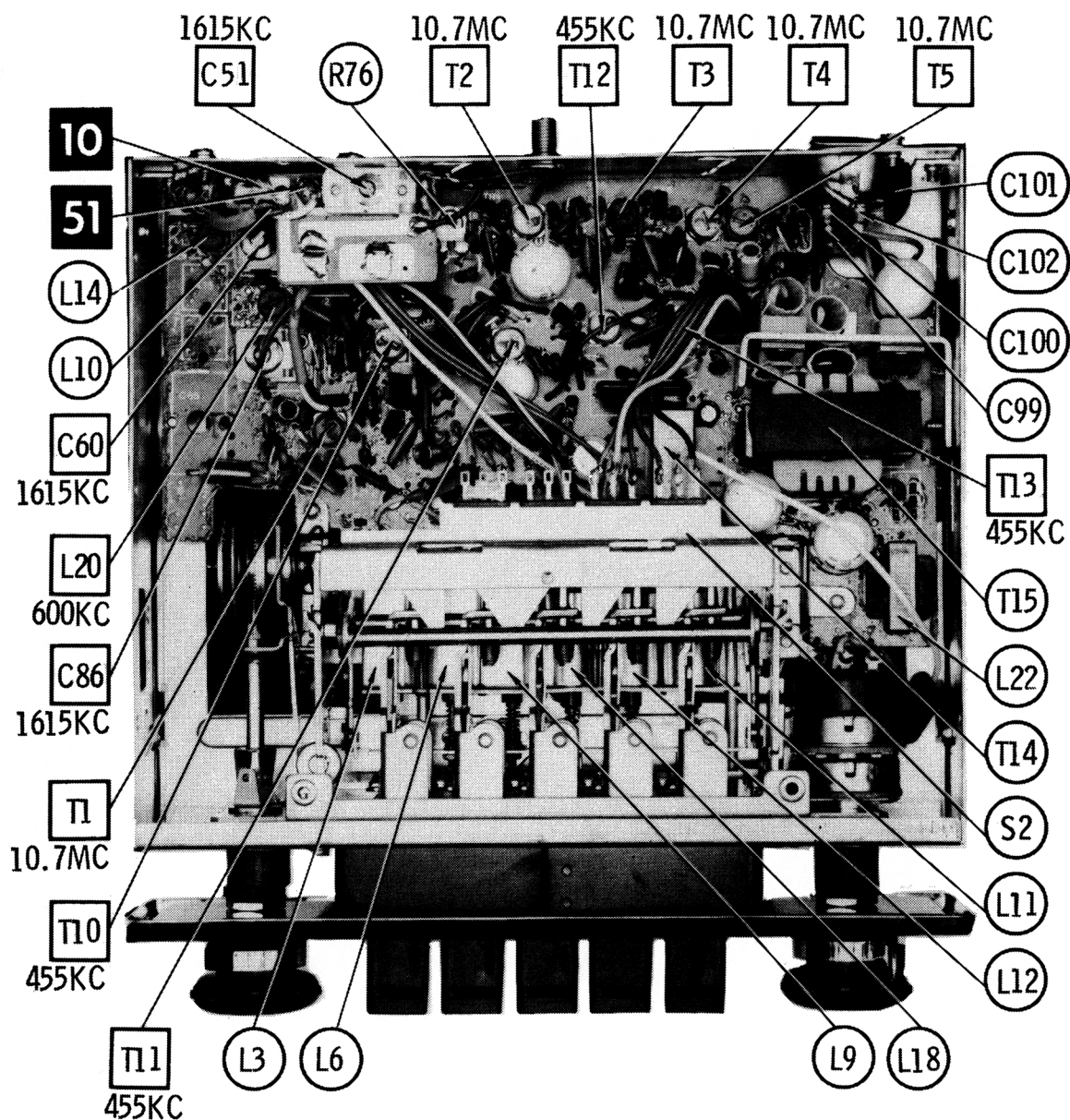
FM IF ALIGNMENT USING FM SIGNAL GENERATOR—SELECTOR IN FM POSITION

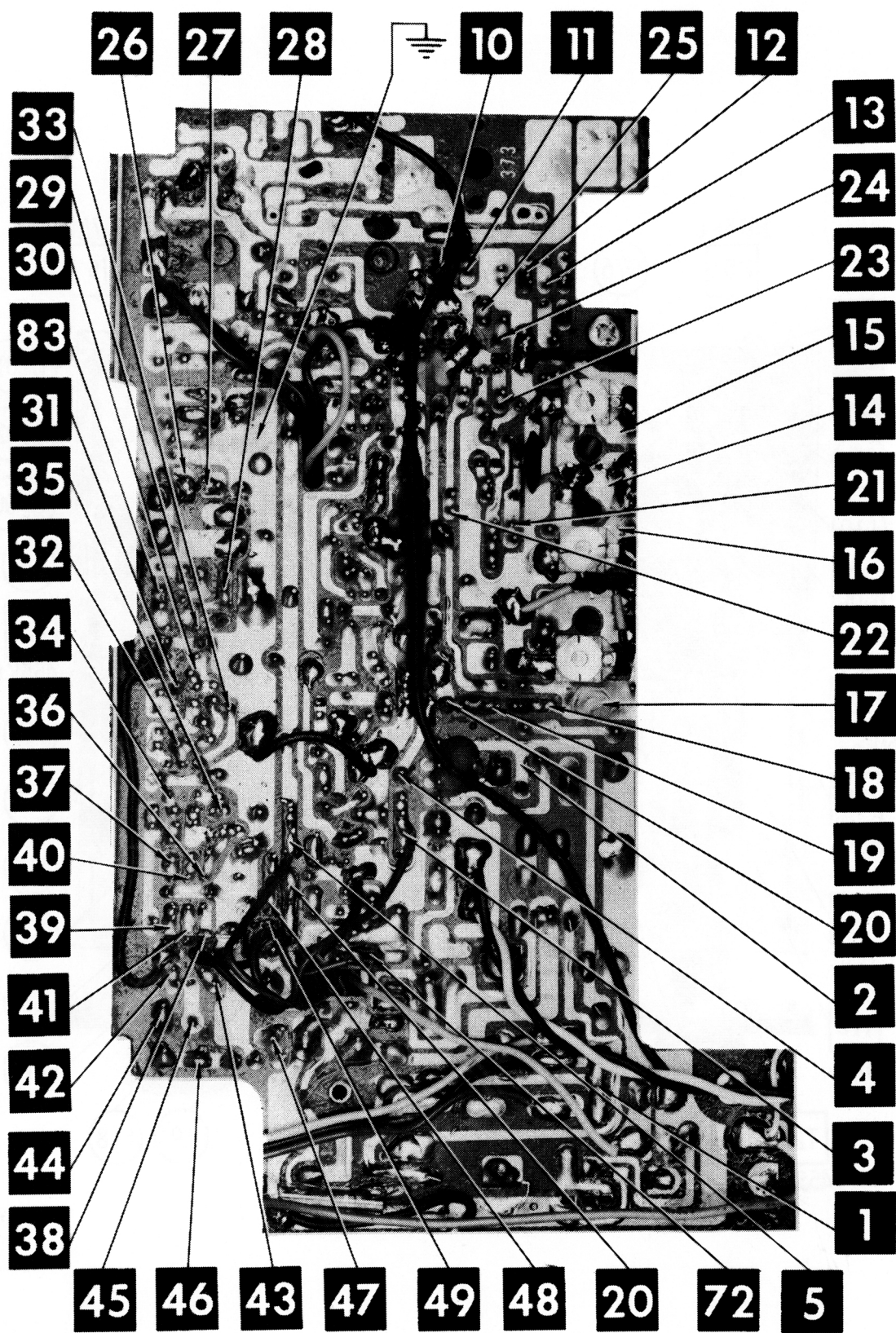
High side of generator thru 001mfd to point $\diamond$, low side to ground Use only enough marker signal for indication Use 60 cycle frequency modulated signal with 450KC sweep Use 60 cycle sawtooth voltage in scope for horizontal deflection					
	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
4	10 7MC 450KC Sweep	Point of non-interference	Vert amp of scope to point $\diamond$, low side to ground	T4,T3, T2,T1	Disconnect stabilizing capacitor C40 Adjust for maximum gain and symmetry of response similar to Fig 1 with marker as shown Reconnect C40
5	"	"	Vert amp of scope to point $\diamond$, low side to ground	T5	Adjust T5 (secondary) to place marker at center of "S" curve similar to Fig 2 Readjust T4 (primary) for maximum amplitude and straightness of line

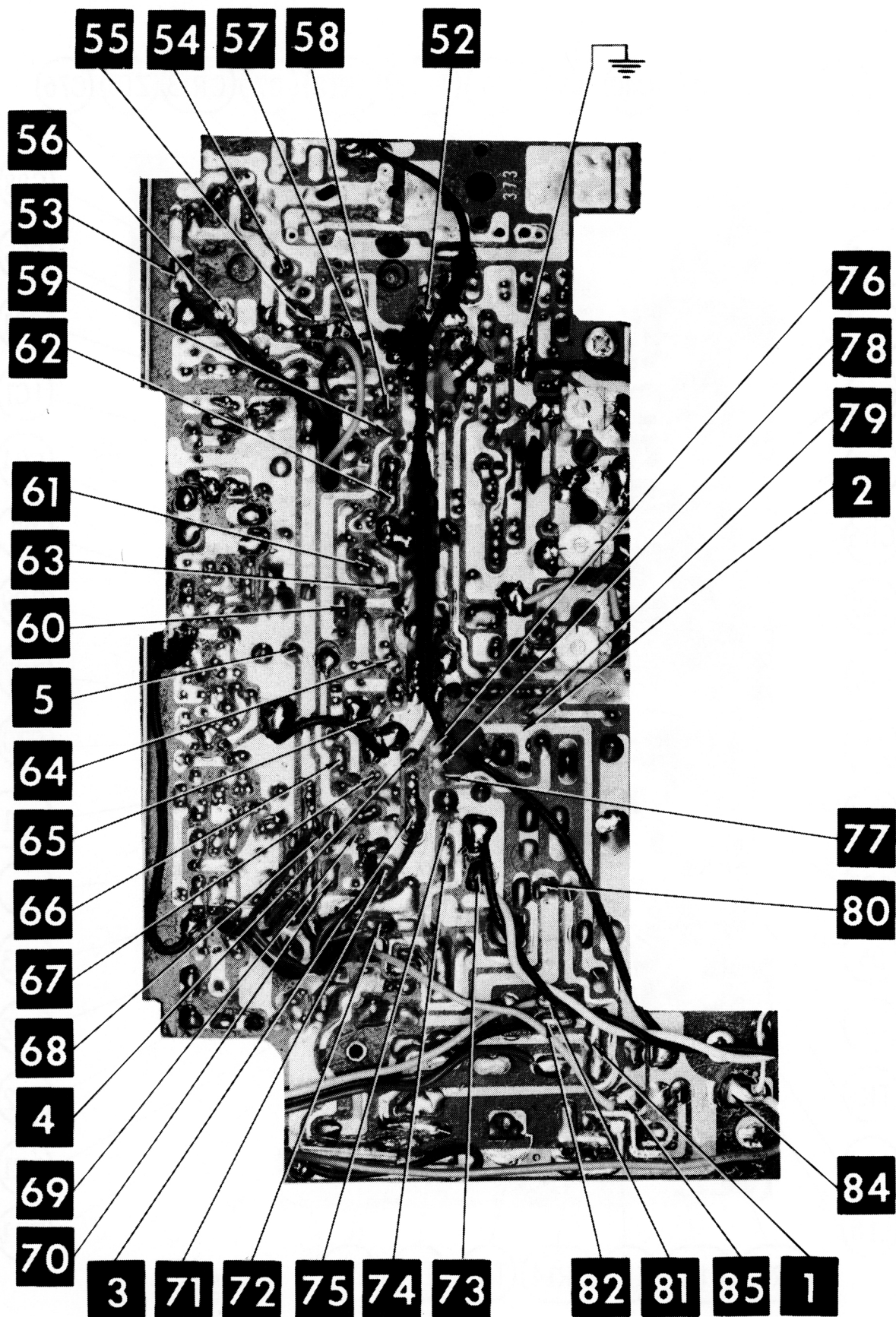
FM RF ALIGNMENT—SELECTOR IN FM POSITION

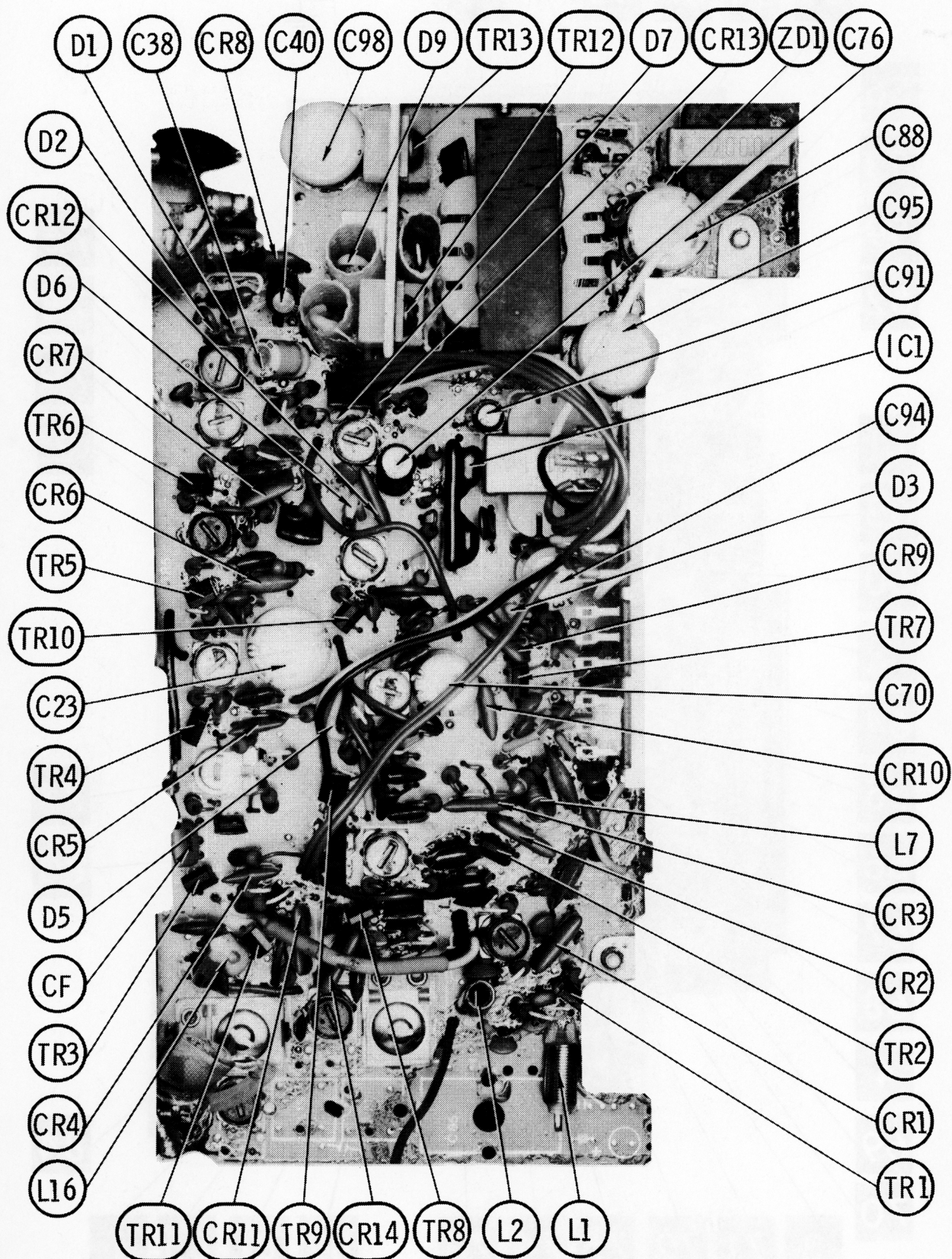
Connect generator across antenna terminals with 120-ohm carbon resistor in series with each lead					
	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
6.	108MC	High freq end	DC probe of VTVM to point $\diamond$, common to ground	C45,C10	Adjust for maximum

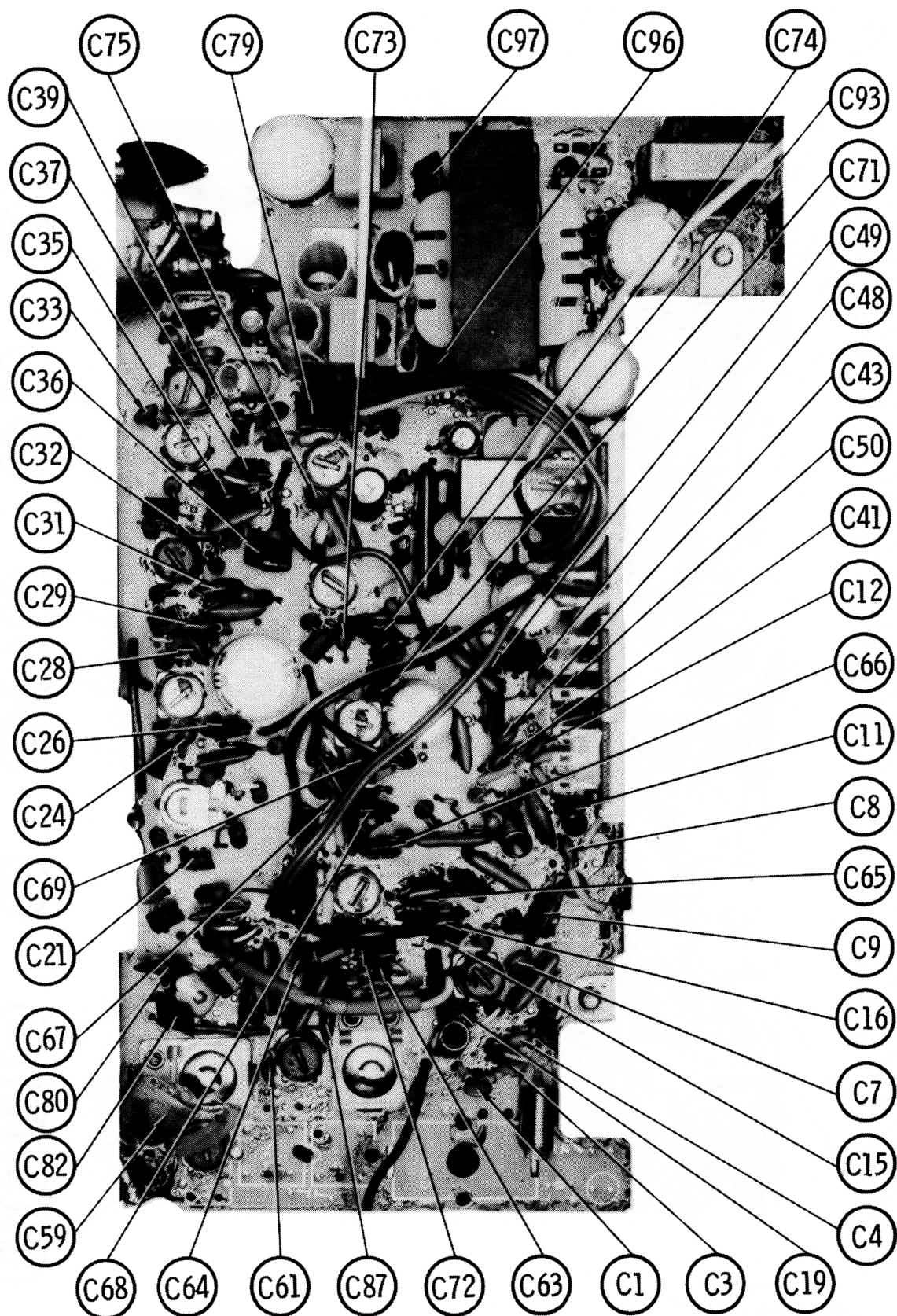


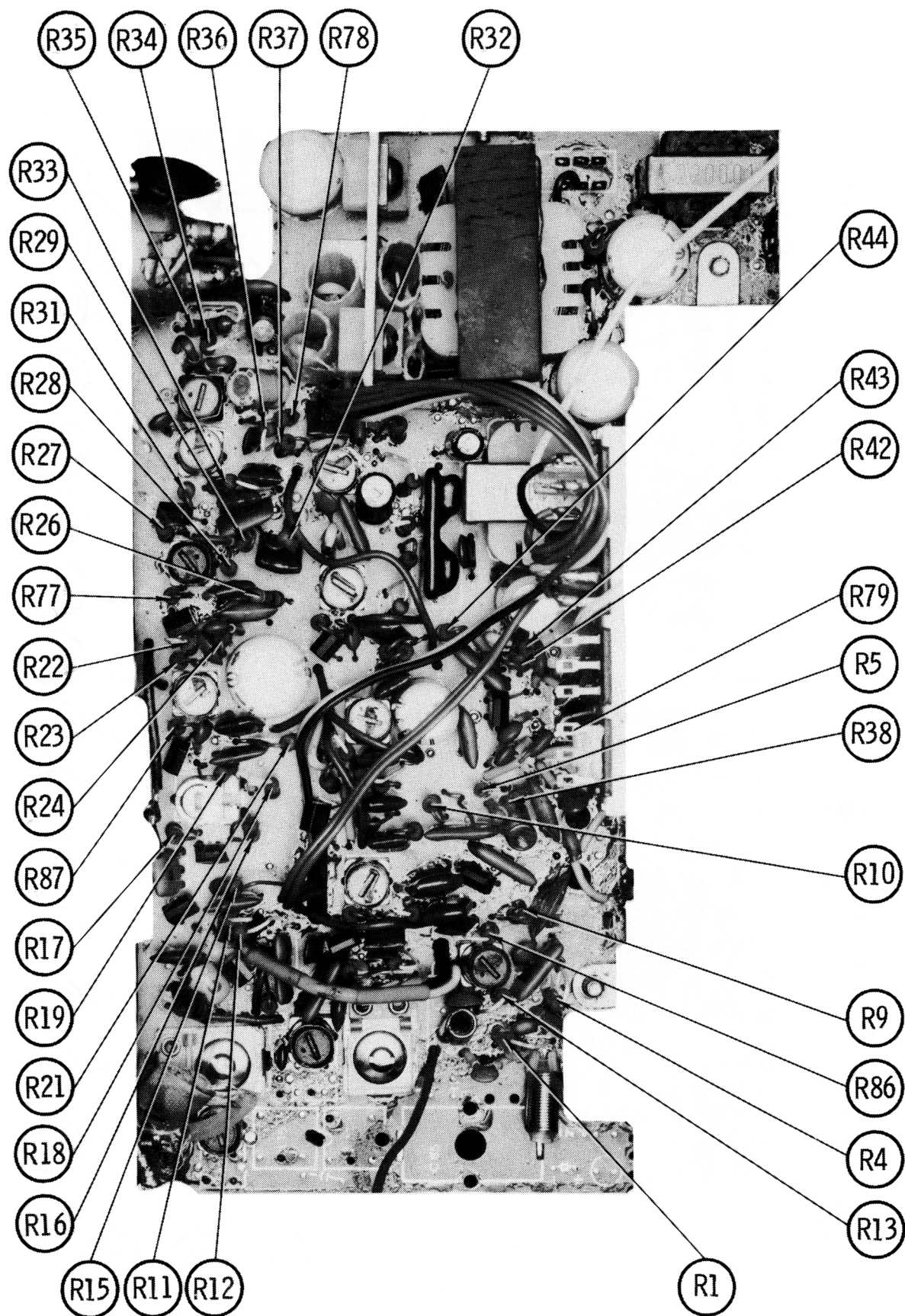


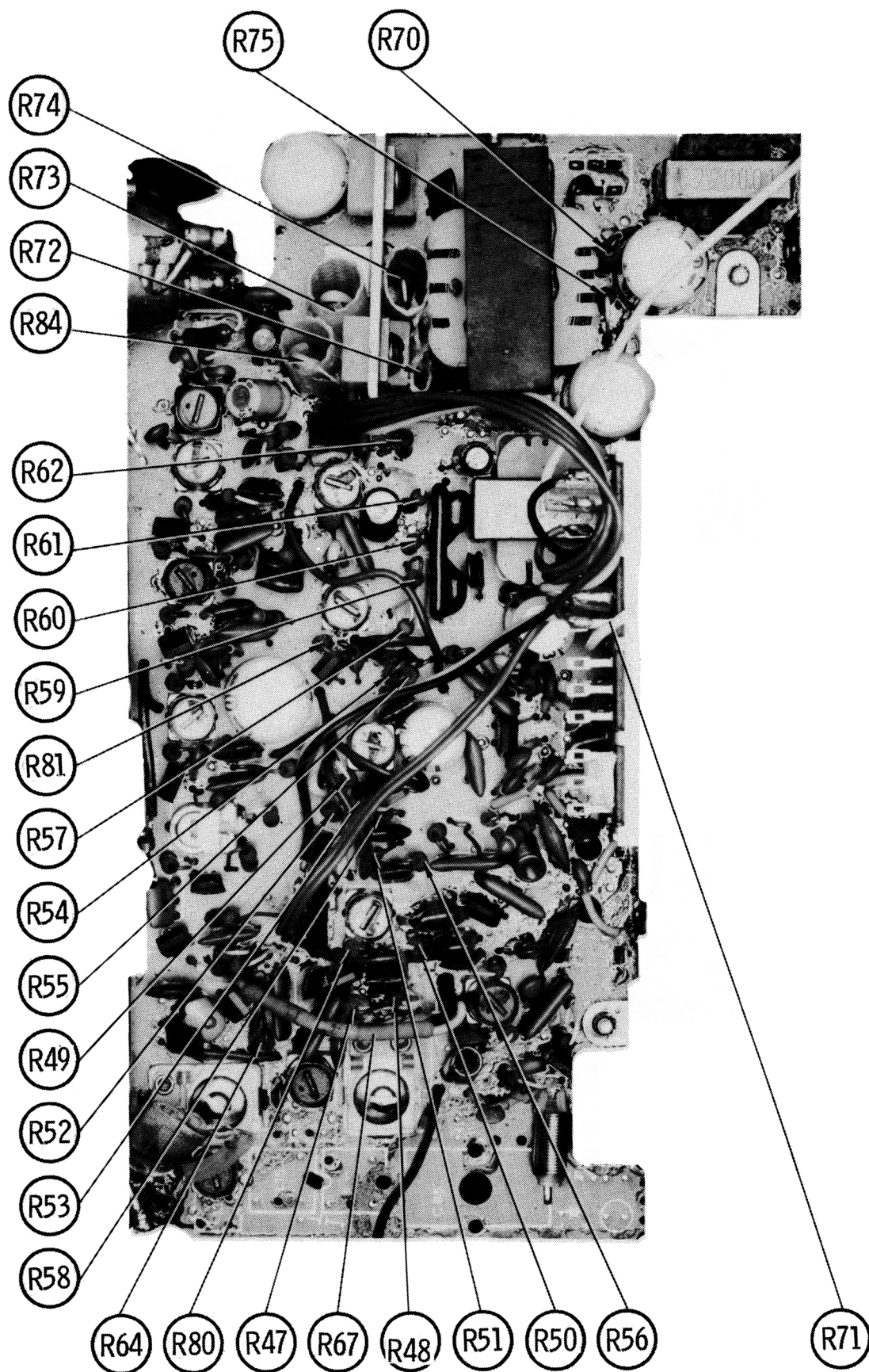


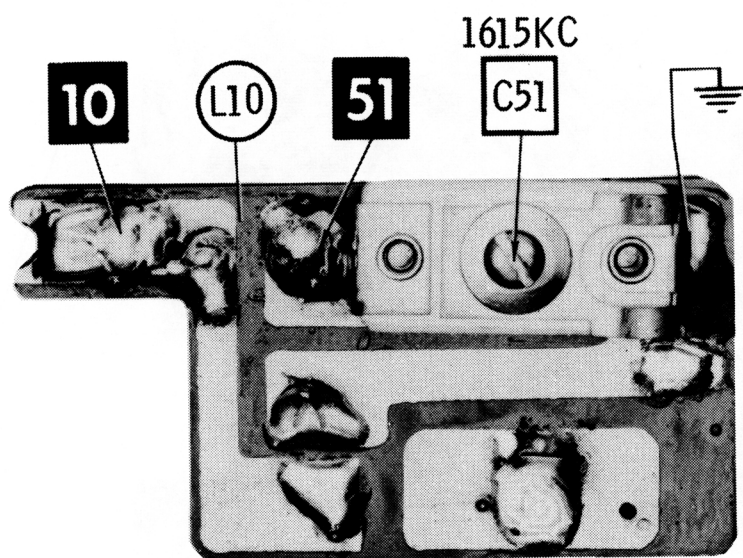
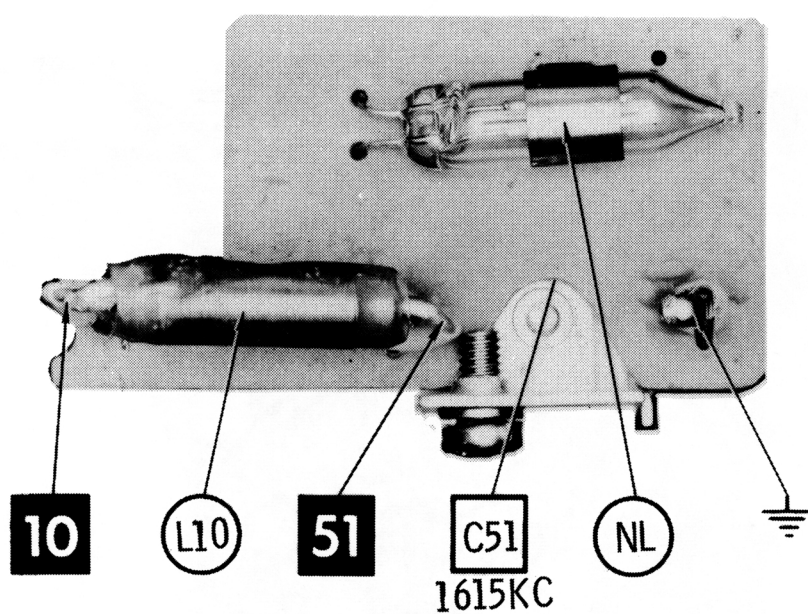












PARTS LIST AND DESCRIPTION

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

Replacement parts shown may be superseded by the availability of newly introduced replacements.

Have your local distributor check Sams COUNTER FACTS® for the most up-to-date replacement.

WIRING DATA

General-use Unshielded Hook-up Wire ..	Use BELDEN No. 8530 (Solid) Available in 12 Colors
	8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable	Use BELDEN No. 8782 (Stranded Coded Parallel Leads)
Bonding Strap ..	Use BELDEN No. 8661 (3/8 In) or 8670 (3/4 In)

SEMICONDUCTORS

ITEM No.	TYPE / MFR. No. / PART No.	REPLACEMENT DATA						
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.	MOTOROLA PART No.
D1	1N60P/0575019	1N60 (7)	1N60 (7)	PTC206 (7)	SK3088 (7)		ECG 110 (6)	
D2	1N60P/0575019							
D3	1S85/0575024	GE-90 (8)	D201 (8)					
D5	1N60/0575005	1N60	1N60	PTC206	SK3088		ECG 109	
D6	1N60/0575005	1N60	1N60	PTC206	SK3088		ECG 109	
D7	1N60/0575005	1N60	1N60	PTC206	SK3088		ECG 109	
D9	1S2076/5330131	GE-504A	8D4 or 5A4D	PTC201 or PTC202	SK3030 or SK3031	RT213 or RT214	ECG 116 or ECG 117	
IC1	FA6007(T)/5353021							
TR1	2SC535(B)/0573510	GE-20	TR-21	PTC115	SK3018	RT107	ECG 108	HEP720
TR2	2SC460(B)/0573486	GE-20	TR-21	PTC123	SK3122	RT107	ECG 108	HEP53
TR3	2SC460(B)/0573486	GE-20	TR-21	PTC123	SK3122	RT107	ECG 108	HEP53
TR4	2SC460(B)/0573486	GE-20	TR-21	PTC123	SK3122	RT107	ECG 108	HEP53
TR5	2SC460(B)/0573486	GE-20	TR-21	PTC123	SK3122	RT107	ECG 108	HEP53
TR6	2SC460(B)/0573486	GE-20	TR-21	PTC123	SK3122	RT107	ECG 108	HEP53
TR7	2SC461(B)/0573507	GE-20	TR-21	PTC115	SK3018	RT107	ECG 108	HEP720
TR8	2SC460(B)/0573486	GE-20	TR-21	PTC123	SK3122	RT100	ECG 108	HEP54
TR9	2SC454(D)/5320651	GE-20	TR-21	PTC123	SK3122	RT100	ECG 123A	HEP54
TR10	2SC454(D)/5320651	GE-20	TR-21	PTC123	SK3122	RT100	ECG 123A	HEP54
TR11	2SC460(B)/0573486	GE-20	TR-21	PTC123	SK3122	RT100	ECG 108	HEP54
TR12	2WC1061BT/5320671	GE-28	IRTR-55	PTC110	SK3054	RT154	ECG 152	HEP245
TR13	2SC1061BT/5320671	GE-28	IRTR-55	PTC110	SK3054	RT154	ECG 152	HEP245
ZD1	HZ-7(B)/5330312			Z1106			ECG 5071	

(6) Matched Pair

(7) Two required - select matched pair.

(8) Varactor

HITACHI MODEL KM-1520H

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		MFR. PART No.	ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C23	470 10V	0252335	RME-K-D-500	EA15-500	WBR500-16	QT1-30A	MTV500DN15	EV-1150
C38	10 25V	0252621	RME-B-G-010	EP30-10	WBR10-25	MT1-5	MTV10CB50	EV-1322
C40	1 50V	0252811	RME-A-J-001	EP50-2	WBR1-50	MT1 1	MTV1CB50	EV-1615
C70	33 16V	0251080	ME-3-E-035	EP15-25	WBR35-50	MT1 13 5	MTV30CB25	EV-1325
C76	22 16V	0252322	ME-2-E-020	EP15-25	WBR25-25	MT1-11	MTV20CB50	EV-1224
C88	470 10V	0252335	RME-K-D-500	EA15-500	WBR500-16	QT1-30A	MTV500DN15	EV-1150
C91	3.3 25V	0252613	RME-A-H-003	EP30-5	WBR5-50	MT1-3	MTV3CB50	EV-1618
C94	220 6.3V	0252232	ME-6-B-200	EA6-250	WBR250-16	MT1-23	MTV200DB10	EV-1140
C95	470 16V	0252535	RME-L-E-500	EA15-500	WBR500-16	QT1-30A	MTV500DN15	EV-1250
C98	470 16V	0252535	RME-L-E-500	EA15-500	WBR500-16	QT1-30A	MTV500DN15	EV-1250

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA				
			ARCO/ELMENC0 PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	6						10TCC-V56
C2	04						
C3	22		CCT0-200	DD-403	NP020	GP140	10TCC-Q20
C4	5			DTZ-20	NP05	CN0420	10TCC-V50
C6		#0283113					
C7	12		CCT0-120		NP012	CN0412	10TCC-Q12
C8	5				NP05		10TCC-V50
C9	04			DD-403		GP140	
C10	8	#0283113					
C11	10		CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10

(CONTINUED ON PAGE 74)

PARTS LIST AND DESCRIPTION (CONTINUED)

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

Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS® for the most up-to-date replacement.

CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA				
			ARCO/ELMENCOPART No.	CENTRALABPART No.	CORNELL-DUBILIERPART No.	MALLORYPART No.	SPRAGUEPART No.
C12	4		CCD-103	CK-103	NP03P9		10TCC-V39
C15	01		CCD-503	CK-503	MGP01	TA110	TG-S10
C16	047		CCD-103	CK-103	MGP05	TA150	TG-S50
C19	01		CCD-103	CK-103	MGP01	TA110	TG-S10
C21	01		CCD-103	CK-103	MGP01	TA110	TG-S10
C24	1					CN0510	10TCC-V10
C26	022		CCD-203	CK-203	MGP02	TA120	TG-S20
C28	01		CCD-103	CK-103	MGP01	TA110	TG-S10
C29	1					CN0510	10TCC-V10
C31	022		CCD-203	DD-203		GP120	10TS-S20
C32	01		CCD-103	CK-103	MGP01	TA110	TG-S10
C33	1					CN0510	10TCC-V10
C35	022		CCD-203	DD-203		GP120	10TS-S20
C36	047		CCD-503	CK-503	MGP05	TA150	TG-S50
C37	022		CCD-203	DD-203		GP120	10TS-S20
C39	0047		CCD-472	DD-472G	GP4700	JF247	10TS-D47
C41	1					CN0510	10TCC-V10
C43	6	N750			N6P8	CN7568	10TCU-V68
C45	8						
C47	01	#0283113	CCD-103	CK-103	MGP01	TA110	TG-S10
C48	7	N2200					
C49	.001	#0241854	CCD-102	DM-102	GP1000	SM210	2SS-D10
C50	.01		CCD-103	CK-103	MGP01	TA110	TG-S10
C51	100	#0283572					
C52	0033		CCD-332	DD-332	GP3300	JF233	2SS-D33
C59	150		CCD-151	DD-151	GP150	GP315	10TS-T15
C60	50	#0283082					
C61	.001		CCD-102	DM-102	GP1000	SM210	2SS-D10
C63	01		CCD-103	CK-103	MGP01	TA110	TG-S10
C64	0047		CCD-472	DD-472G	GP4700	JF247	10TS-D47
C65	047		CCD-503	CK-503	MGP05	TA150	TG-S50
C66	022		CCD-203	DD-203		GP120	10TS-S20
C67	5				NP05		10TCC-V50
C68	022		CCD-203	DD-203		GP120	10TS-S20
C69	.022		CCD-203	DD-203		GP120	10TS-S20
C71	022		CCD-203	DD-203		GP120	10TS-S20
C72	022		CCD-203	DD-203		GP120	10TS-S20
C73	4				NP03P9		10TCC-V39
C74	022		CCD-203	DD-203		GP120	10TS-S20
C75	30		CCT0-300				10TCC-Q30
C79	022		CCD-203	DD-203		GP120	10TS-S20
C80	200	N750	CCTN-201	DTN-200		CN7320	10TCU-T20
C82	01		CCD-103	CK-103	MGP01	TA110	TG-S10
C86	50	#0283082					
C87	022		CCD-203	DD-203		GP120	10TS-S20
C89	01		CCD-103	CK-103	MGP01	TA110	TG-S10
C90	15		1MDF-3-154	UK25-154		MAG25015	
C92	0068		CCD-682	DD-682		JF268	10TS-D68
C93	01		CCD-103	CK-103	MGP01	TA110	TG-S10
C96	022		CCD-203	DD-203		GP120	10TS-S20
C97	022		CCD-203	DD-203		GP120	10TS-S20
C99	001	#0239913 (1)					
C100	001	(1)					
C101	1			CK-104		TA010	TG-P10
C102	001	(1)					

(1) Feedthru Assembly

Hitachi Part Number

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

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA			
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.
R68 R69 R70	Tone Volume/Switch IF Gain	10K 5000 1000	0151806	TSV-5K (1) or T-5000 (1)		X201R502B (1)
						MTC53L1 (1)

(1) For horizontal mounting, bend the two outside terminals to fit PC board. Use jumper to connect center terminal to PC board

PARTS LIST AND DESCRIPTION (CONTINUED)

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

Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS® for the most up-to-date replacement.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.
R84	5	WS 47	0172001

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.
R85	5	WS 47	0172001

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Choke (5uh)	0324003	19-2018	4624	T862
L2	RF Choke (5uh)	0324003			
L3	FM RF	(1)			
L6	FM RF	(1)			
L7	10.7MC Trap	0324003			
L9	FM Oscillator	(1)			
L10	AM Antenna (14uh)				
L11	AM RF	(1)			
L12	AM RF	(1)			
L14	455KC Trap	5120272			
L16	RF Choke (3.9uh)	5152008			
L18	AM Oscillator Tuning	(1)			
L20	AM Oscillator	5120271			
L23	RF Choke (4.7uh)				
T1	FM Input IF	5140017			
T2	FM Interstage IF	5140021			
T3	FM Interstage IF	5140019			
T4	Ratio Detector (Pri)	5148033			
T5	Ratio Detector (Sec)	5148034			
T10	AM Input IF	5130031			
T11	AM Interstage IF	5130031			
T12	AM Interstage IF	5130032			
T13	AM Output IF	5130032			

(1) Part of M1

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.	
L22	205ma	3	1 5mh	5220001			

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	
T14	1 5	1		0441114			

HITACHI MODEL KM-1520H

PARTS LIST AND DESCRIPTION (CONTINUED)

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

Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS* for the most up-to-date replacement.

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA				NOTES
			MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T15	27 4 (1)	8 (2)	5250052				(1) Using 8-ohm Speaker (2) Tapped at 4.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
	2 ohm to 4 ohm PM or 4 ohm to 8 ohm PM			

FUSE DEVICES

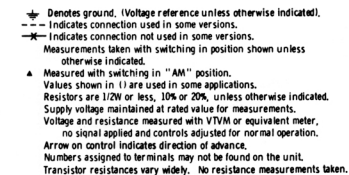
ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	2 Amp, Quick Acting	0591138	5741611	AGC 2	HDJ	312002	150145	

MISCELLANEOUS

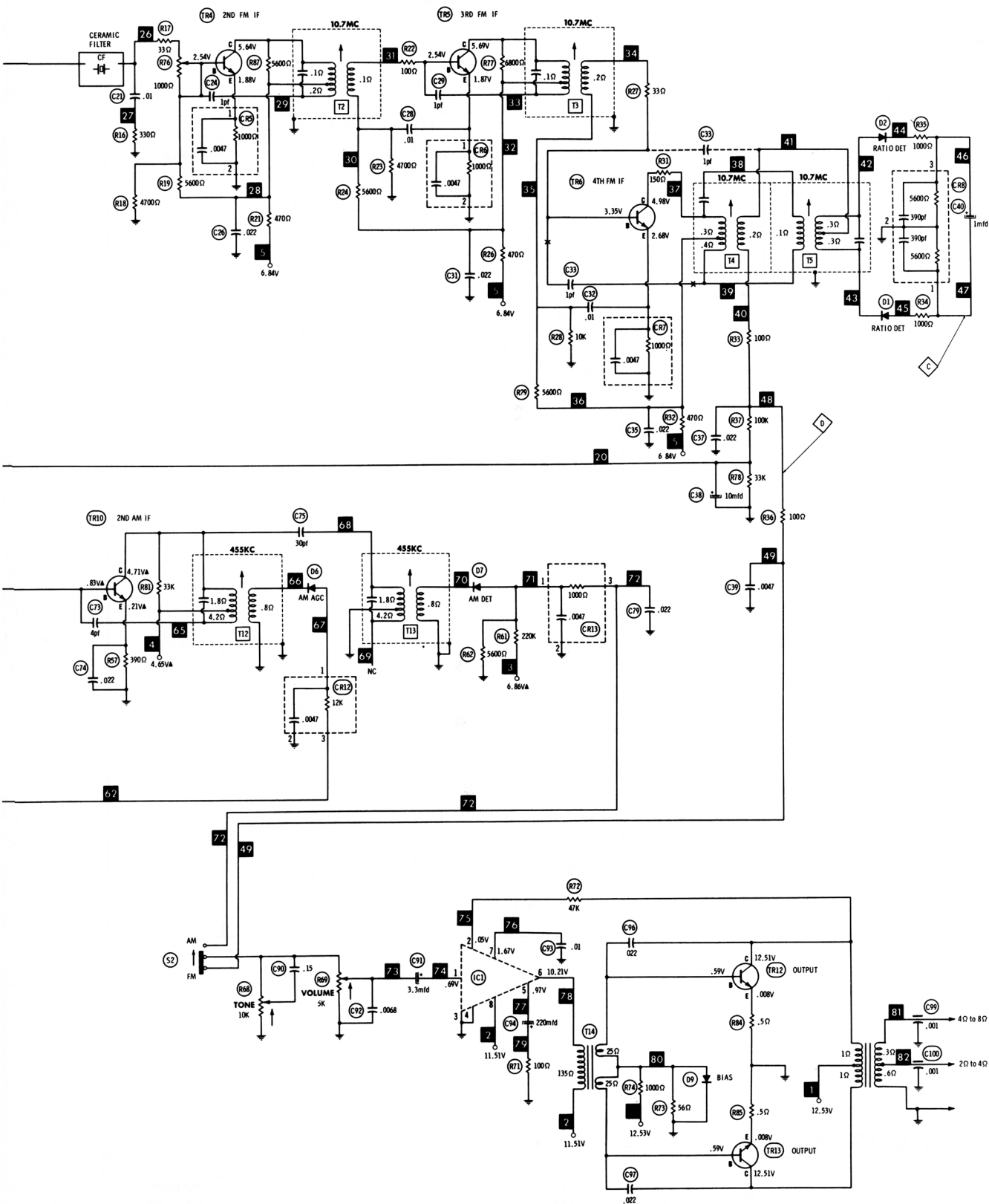
ITEM No.	PART NAME	PART No.	NOTES
CF	Ceramic Filter	5160211	Part of M1
M1	Tuner	5580365	
PC1	Base Bias	0186431	
PC2	Emitter Bias	0186432	
PC3	Base Bias	0186413	
PC4	Emitter Bias	0186392	
PC5	Emitter Bias	0186392	
PC6	Emitter Bias	0186392	
PC7	Emitter Bias	0186392	
PC8	Ratio Detector Network	0186357	
PC9	Base Bias	0186434	
PC10	Emitter Bias	0186391	
PC11	Base Bias	0186411	
PC12	AM AGC Filter	0186412	
PC13	Audio Network	0186411	
PC14	Base Bias	0186433	
S2	Switch, Selector		
S4	Switch, On-Off		

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

ITEM	PART No.	ITEM	PART No.
Main Case	6186432	Knob, Tone	6266261
Cabinet Top	6168453	Button, AM	6264931
Cabinet Bottom	6168443	Button, FM	6264932
Trim Plate, Front	6602504	Dial Bracket	6602511
Knob, Tuning, Volume	6266211	Dial Scale	6461862
Knob, Tuning Trim Ring	6266271		



© Howard W. Sams & Co., Inc. 1972



HITACHI MODEL KM-1520H

Combined schematic for screen use

