



MOTOROLA MODELS Y2IK7OB, Y2IK7OM, 2IK7OB, 2IK7OM, 2IT37B, 2IT37M (Ch. TS-542, Y)

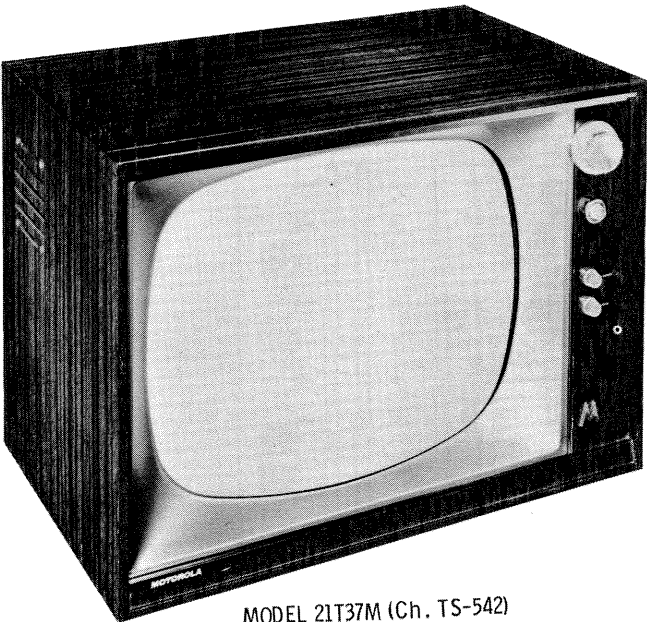
DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

- 1. Remove 6 push-on type knobs from the front.
- 2. Remove 6 wood screws holding the rear cover. Remove the rear cover.
- 3. Remove 4 wood screws holding control panel.
- 4. Remove speaker leads.
- 5. Remove 2 wood screws from the tuner support bracket.
- 6. Remove 4 chassis bolts from the bottom.
- 7. Remove the chassis.

CAUTION NOTE

ONE SIDE OF AC LINE CONNECTED TO CHASSIS  
Care should be exercised when connecting test equipment or physically contacting the chassis.



MODEL 2IT37M (Ch. TS-542)

TRADE NAME	Motorola	MODELS	CHASSIS
		Y2IK7OB, Y2IK7OM, Y2IT37B, Y2IT37M . . . . .	TS-542Y
		2IK7OB, 2IK7OM, 2IT37B, 2IT37M . . . . .	TS-542
MANUFACTURER	Motorola Inc., 4545 W. Augusta Blvd., Chicago 51, Illinois		
TYPE SET	Television Receiver		
TUBES	Eighteen		
POWER SUPPLY	110-120 Volts AC, 60 Cycle		
TUNING RANGE	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)		

SERVICING IN THE FIELD

TUNER OSCILLATOR ADJUSTMENTS

Touch-up adjustment of the VHF oscillator is possible by removing the channel selector and fine tuning knobs. Set the fine tuning at the center of its range. The adjustments (located in a circle around the shaft) should be made in sequence from the highest to the lowest channel in the area. Channel 12 adjustment is located at 9 o'clock, proceed in a counter clockwise direction adjusting for best picture and sound.

PICTURE TUBE SAFETY GLASS CLEANING

Remove 5 wood screws from the trim at the top. Tilt safety glass out and lift to remove.

SPECIAL ADJUSTMENTS

- A. Focus  
The focus may be varied by the position of a strap on the base of the picture tube. The strap can be connected between pins 6 and 1, or 6 and 10. Readjust the ion trap for the best focus consistent with maximum brightness.
- B. Width  
The width may be varied by means of a metallic sleeve located between the yoke and the picture tube neck. Adjust sleeve in or out of the yoke for a picture SLIGHTLY larger than necessary to fill the screen.

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

For adjustment of the horizontal oscillator, it is necessary to remove the rear cover and supply power to set. Set the horizontal hold at the center of its range and adjust the horizontal frequency slug (B1) until the picture synchronizes horizontally. (For location, see tube placement chart).

FUSES

One fuse is used for LV power supply protection. (For location, see tube placement chart).

CENTERING

Centering is accomplished mechanically by adjusting two magnetic rings around the neck of the picture tube. Rotate the two rings around the neck of the tube until the picture is properly centered.

ANTI-PIN CUSHION CORRECTION

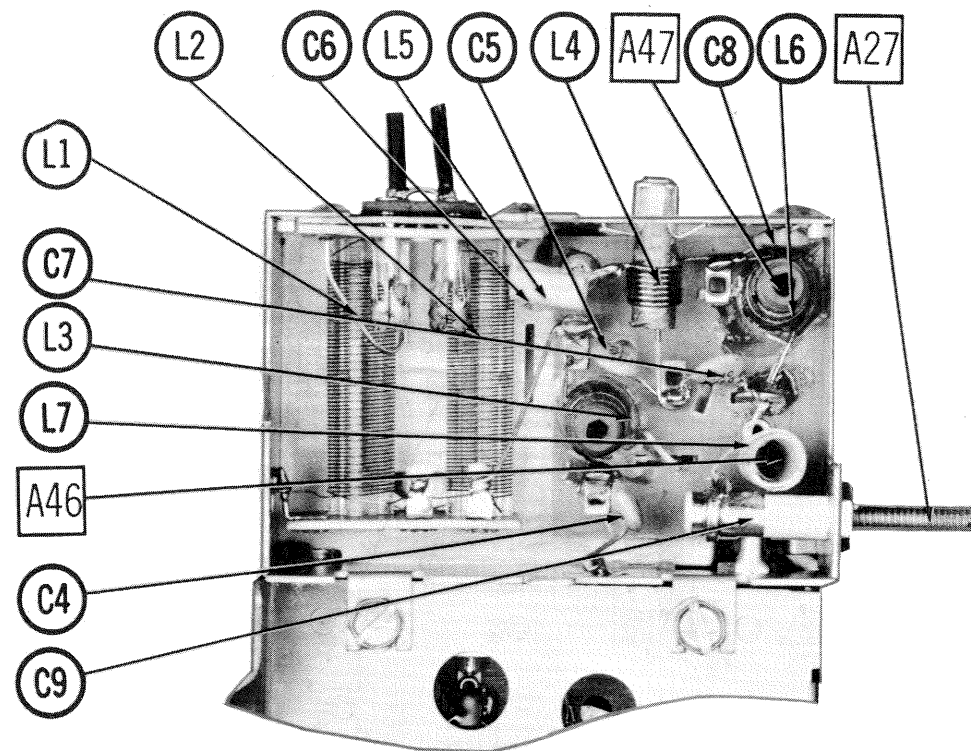
Reduce the picture size so that the sides of the raster are visible. Position the 2 magnets so that all sides are straight.

HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana

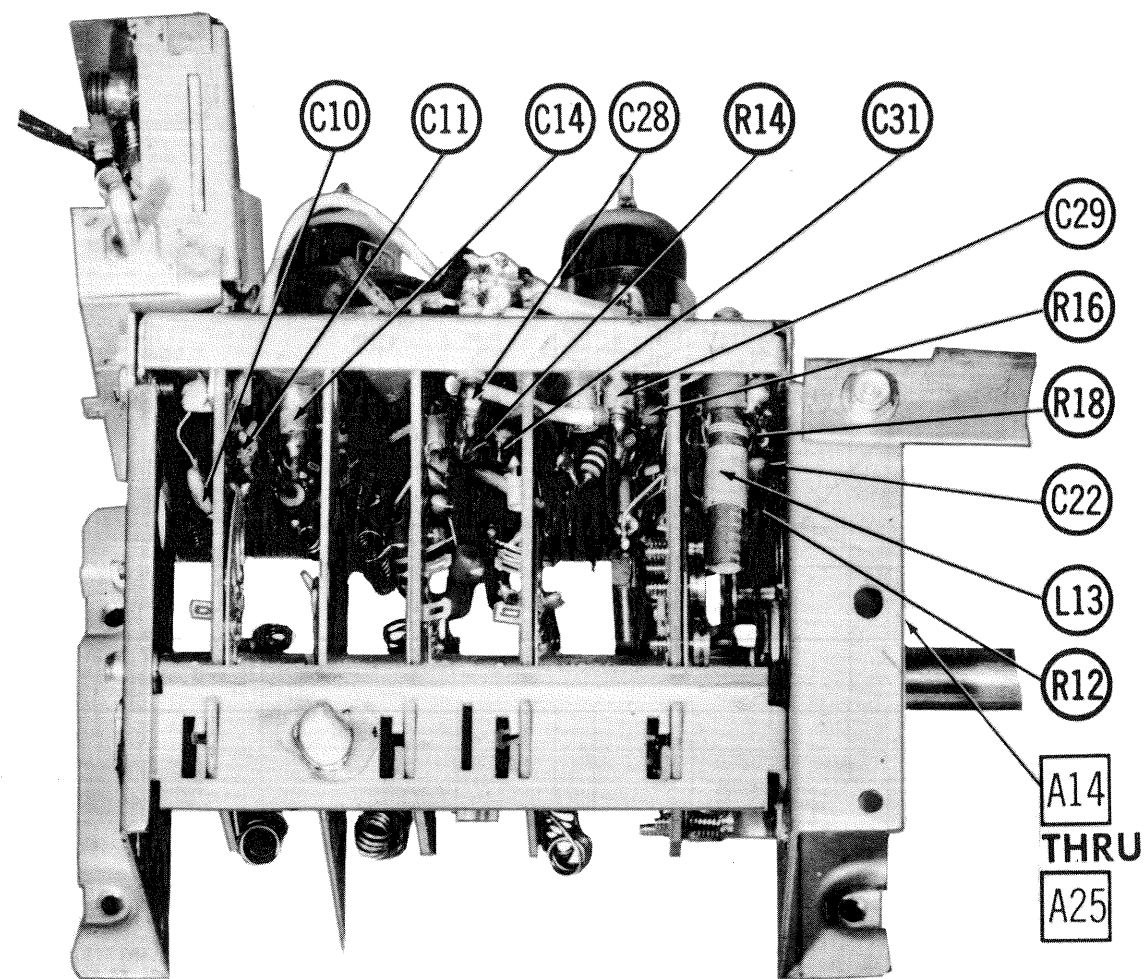
The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of H184

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MOTOROLA MODELS Y2IK7OB, Y2IK7OM, Y2IT37B, Y2IT37M, 2IK7OB, 2IK7OM, 2IT37B, 2IT37M (Ch. TS-542, Y)



RF TUNER-REAR VIEW



RF TUNER-RIGHT SIDE

FOLDER 1

FOLDER 1

PHOTOFACT

DISA  
INSTR

CHASSIS REMOVAL

1. Remove 6 push-on
2. Remove 6 wood screws  
Remove the rear cover
3. Remove 4 wood screws
4. Remove speaker
5. Remove 2 wood screws  
bracket.
6. Remove 4 chassis
7. Remove the chassis

CAL

ONE SIDE OF AC LINE  
Care should be exercised  
equipment or physical

TRADE NAME

MANUFACTURER  
TYPE SET  
TUBES  
POWER SUPPLY  
TUNING RANGE

TUNER OSCILLATOR

Touch-up adjustment  
removing the channel  
the fine tuning at the  
(located in a circle at  
sequence from the high  
Channel 12 adjustment  
a counter clockwise  
sound.

PICTURE TUBE SAFETY

Remove 5 wood screws  
safety glass out and l

SPECIAL ADJUSTMENT

A. Focus  
The focus may be varied  
base of the picture tube  
between pins 6 and 1,  
for the best focus con

B. Width  
The width may be varied  
located between the yoke  
sleeve in or out of the  
than necessary to fill

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The listing of any available  
not constitute in any way a  
guaranty by Howard W. Sams &  
and suitability of such  
these parts have been  
to Howard W. Sams &  
H184





ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	4BC8	† 2000Ω	1N	1N	0Ω	1Ω	1N	3.5Meg	0Ω	0Ω
V2	5U8	† 13K	44K	† 270K	1Ω	2.5Ω	† 17K	0Ω	0Ω	15K
V3	3BZ6	600K	47Ω	15Ω	14Ω	† 8200Ω	† 8200Ω	0Ω		
V4	3BZ6	600K	47Ω	14Ω	13Ω	† 8200Ω	† 8200Ω	0Ω		
V5	3CB6	1000Ω	120Ω	13Ω	12.5Ω	† 8200Ω	† 8200Ω	0Ω		
V6	12BY7A	• 60Ω	72K	0Ω	12.5Ω	12.5Ω	11.5Ω	† 5600Ω	† 10K	0Ω
V7	3BU8	† 3900Ω	† 47K	2.4Meg	5Ω	4Ω	† 39K	† 860K	† 2.2Meg	† 3.8Meg
V8	3CB6	4700Ω	150Ω	9Ω	8Ω	† 11K	† 70K	0Ω		
V9	3DT6	7.5Ω	560Ω	3Ω	4Ω	† 1.4Meg	† 23K	560K		
V10	5AQ5	0Ω	330Ω	16Ω	15Ω	† 880Ω	† 570Ω	0Ω		
V11	6CG7	• † 2.4Meg	1.5Meg	0Ω	10.5Ω	9Ω	† 32K	45K	2200Ω	0Ω
V12	5AQ5	• 1.1Meg	0Ω	10.5Ω	11.5Ω	† 640Ω	† 150Ω	• 1.1Meg		
V13	3AL5	12Ω	12Ω	2.5Ω	3Ω	5.2Meg	NC	5.2Meg		
V14	6CG7	† 60K	• 100K	1000Ω	6.5Ω	8Ω	† 8600Ω	9.4Meg	1000Ω	NC
V15	12DQ6	TP	19Ω	NC	† 8200Ω	1Meg	TP	16Ω	12Ω	TOP CAP † 18Ω
V16	19AU4	NC	TP	9	NC	† 5Ω	TP	23Ω	19Ω	
V17	3A3	PINS 1 THRU 8 HAVE INFINITE RESISTANCE								TOP CAP † 278Ω
V18	21CB4A	5Ω	78K	PIN 6 † 360K	PIN 10 † 360K	PIN 11 • 240K	PIN 12 6.5Ω			

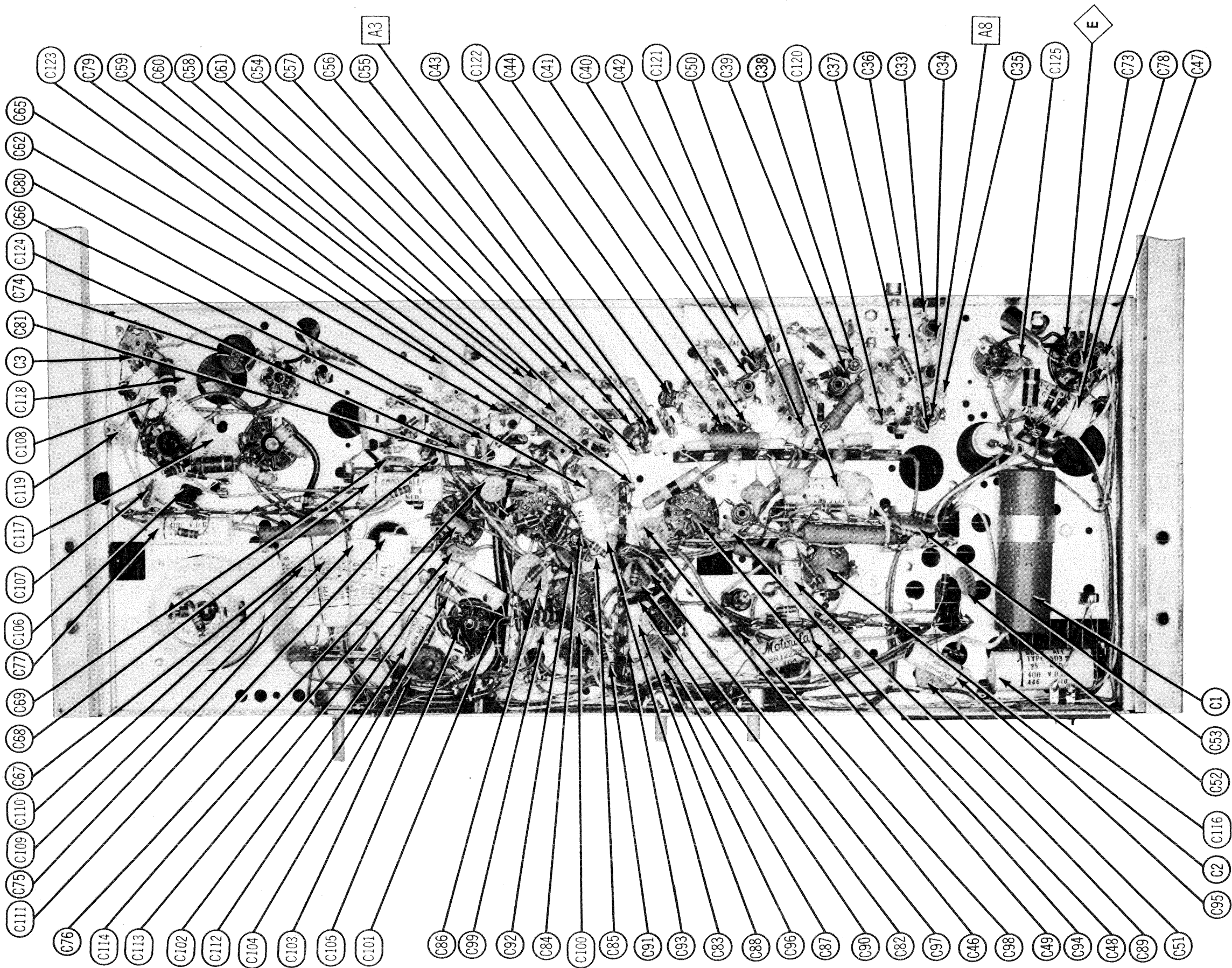
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**FOLDER 1**



MOTOROLA MODELS Y21K70B, Y21K70M, Y21I37B, Y21I37M,  
21K70B, 21K70M, 21I37B, 21I37M (Ch. TS-542, Y)  
NOTIFICATION INVENTION AND ALIGNMENT VIEW WOLLOB SSSVCH



FOLDER 1



ALIGNMENT INSTRUCTIONS (cont)

UHF IF ALIGNMENT

Unplug the UHF cable from the VHF tuner.  
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.  
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.  
Use only enough sweep generator output to provide a usable pattern on scope.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
26. Fig. 7	High side to point  . Low side to chassis.	44.0MC (10MC Swp)	41.25MC 45.75MC	UHF	Vert. Amp. thru 47K to point  . Low side to chassis.	A68, A69	Adjust for maximum gain and symmetry of response similar to Fig. 8 with markers as shown.

UHF TUNER ALIGNMENT

This portion of the receiver has been properly aligned at the factory and is very stable. Alignment of this portion should not be required in the field.

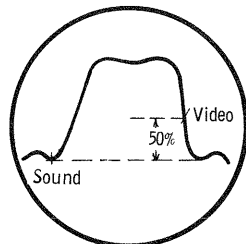


FIG. 4

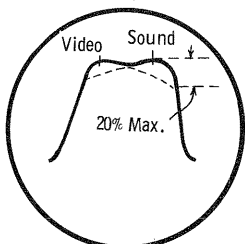


FIG. 5

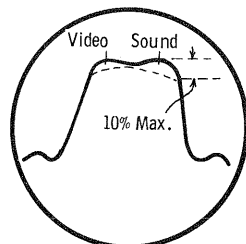


FIG. 6

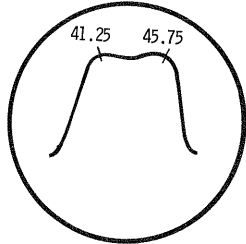


FIG. 8

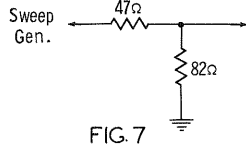
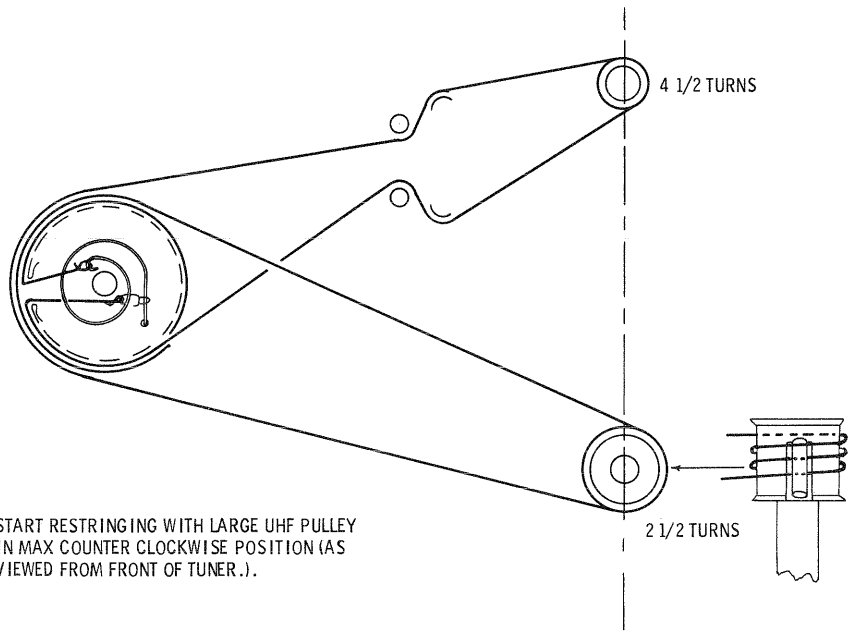
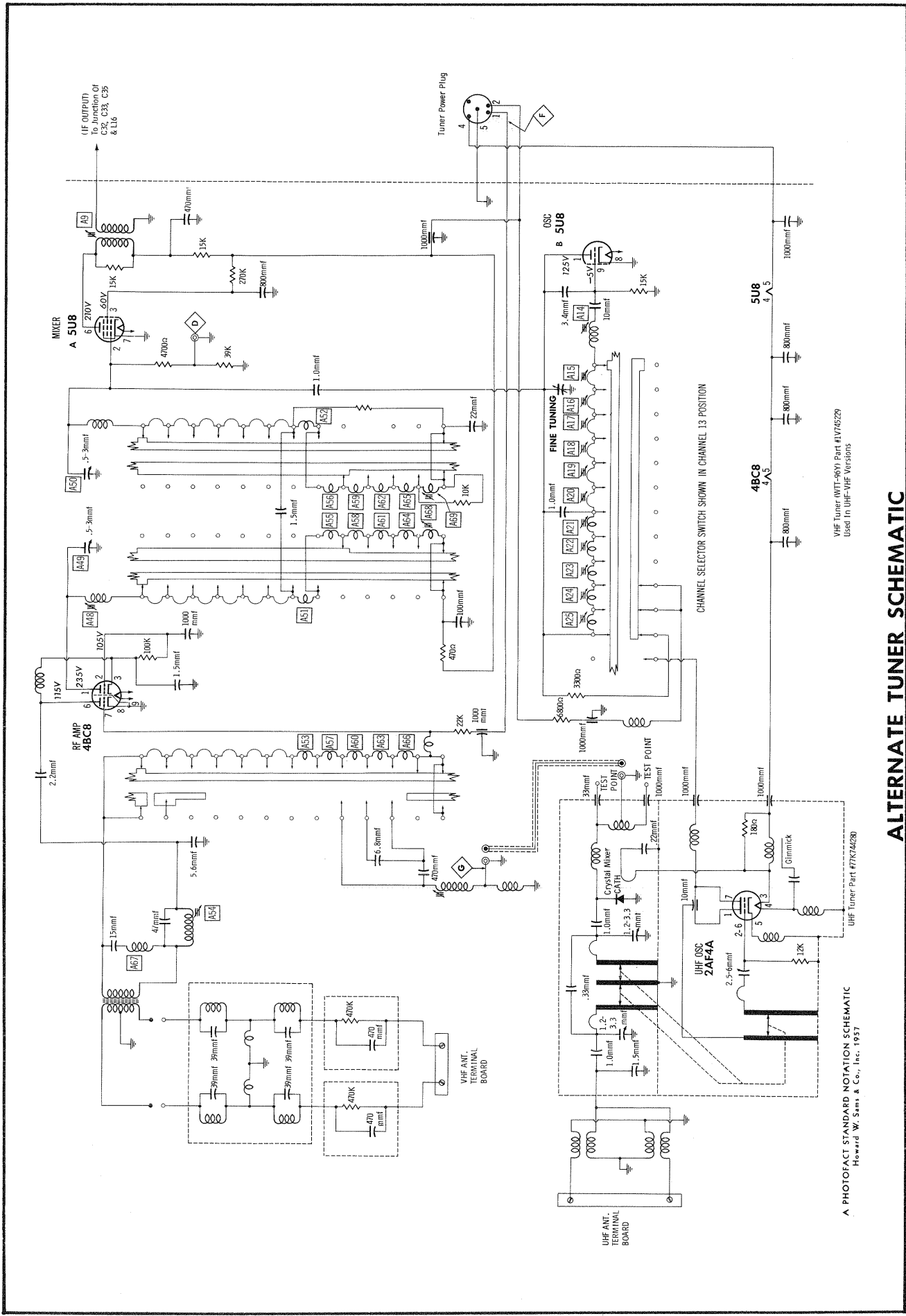


FIG. 7



UHF DRIVE CORD STRINGING



MOTOROLA MODELS Y21K70B, Y21K70M, Y21T37B, Y21T37M,  
21K70B, 21K70M, 21T37B, 21T37M (Ch. TS-542, Y)  
C11W4HCS RENUL 31ANR311V

FOLDER 1

ALIGNMENT INSTRUCTIONS

PRE-ALIGNMENT INSTRUCTIONS

USE AN ISOLATION TRANSFORMER TO PROTECT THE TEST EQUIPMENT.  
Allow a 20 minute warm-up period for the receiver and test equipment.

VIDEO IF ALIGNMENT

Remove the deflection yoke plug and connect a 2000Ω, 50 watt resistor from TP-5 to TP-7 of the Service Test Receptacle. Disable the local oscillator by shorting pin 9 (grid) of the mixer-osc. tube (V2) to chassis. Connect the negative lead of a 6 volt bias supply to point ⬡. Positive to chassis. Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. Use only enough sweep generator output to provide a usable pattern on scope. All slugs should be tuned away from the chassis except A3, A4 and A5 which are tuned toward chassis.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1. .001MFD	High side to point ⬡. Low side to chassis.	44MC (10MC Swp)	42.25MC 45.75MC	13	Vert. Amp. thru 47K to point ⬡. Low side to chassis.	A1, A2, A3	Adjust A1 to place 42.25MC at 70%, A2 to place 45.75MC at 80% and A3 for flat-topped response curve. (See Fig. 1).
2. "	High side to point ⬡. Low side to chassis.	"	40.0MC 42.25MC 45.75MC 47.25MC	"	"	A4, A5, A6, A7, A8	Preset A9 fully counter clockwise. Adjust for response similar to Fig. 2. Adjust A4 to place 47.25MC marker in trap notch, A5 to place 40.0MC in trap notch. (It may be necessary to remove bias.) Adjust A6, A7 and A8 alternately for correct curve and marker positions.
3. "	"	"	42.25MC 45.75MC	"	"	A9	Adjust for maximum gain and symmetry of response similar to Fig. 3 with markers as shown. Remove 2000Ω resistor and plug yoke in.

SOUND IF ALIGNMENT

Tune in a strong TV signal and adjust controls for normal picture and sound. Connect the DC probe of a VTVM to point ⬡. Common to chassis. Adjust A10 for maximum deflection. Remove the VTVM and retouch A10 for maximum undistorted sound. Reduce the signal strength by either disconnecting the antenna lead or connecting an attenuator in series with the antenna lead until a hiss similar to super-regeneration is heard in the sound. Adjust A11 and A12 for maximum undistorted sound. If necessary, repeat entire procedure.

4.5MC TRAP ALIGNMENT

Tune in a local TV signal and adjust fine tuning until the 4.5MC beat interference is prominent in the picture with the contrast control advanced. Starting with A13 fully counter clockwise, rotate slug clockwise past first point of strongest beat pattern. Adjust for MINIMUM beat pattern between first and second point of strong beat.

VHF OSCILLATOR ALIGNMENT

The tuner cover must be in place. Set the fine tuning to the center of its range by turning so that both channels 2 and 13 are accessible simultaneously thru the two holes in the fine tuning drive wheel. Connect bias as under "Video IF Alignment". Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms. Use only enough sweep generator output to provide a usable pattern on scope. Use 10MC sweep unless otherwise noted.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
4. Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	213MC	211.25MC 215.75MC	13	Vert. Amp. thru 47K to point ⬡. Low side to chassis.	A14	Adjust to place sound marker in trap notch as in Fig. 4. Video marker should fall at 50%.
		207MC	205.25MC 209.75MC	12		A15	
		201MC	199.25MC 203.75MC	11		A16	
		195MC	193.25MC 197.75MC	10		A17	
		189MC	187.25MC 191.75MC	9		A18	
		183MC	181.25MC 185.75MC	8		A19	
		177MC	175.25MC 179.75MC	7		A20	
		85MC	83.25MC 87.75MC	6		A21	
		79MC	77.25MC 81.75MC	5		A22	
		69MC	67.25MC 71.75MC	4		A23	
		63MC	61.25MC 65.75MC	3		A24	
		57MC	55.25MC 59.75MC	2		A25	

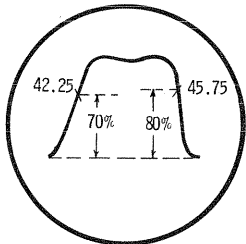


FIG. 1

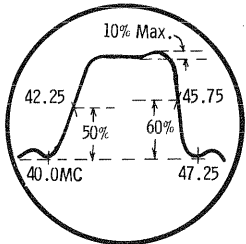


FIG. 2

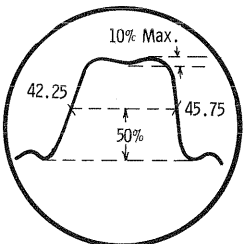


FIG. 3

ALIGNMENT INSTRUCTIONS (cont)

VHF RF AND MIXER ALIGNMENT FOR TUNER #TT-96

Short tuner AGC to ground by connecting a clip lead from point ⬡ to chassis. Remove the tuner cover. Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms. Use only enough sweep generator output to provide a usable pattern on scope. Use 10MC sweep unless otherwise noted. Coils not containing adjustable cores are adjusted by expanding or compressing coil turns.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
5. Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	Not used	159.0MC (400% 30% AM Mod)	7	Vert. Amp. thru 47K to point ⬡. Low side to chassis.	A26	Adjust for MINIMUM 400% indication on scope.
6. "	"	"	112MC (400% 30% AM Mod)	6	"	A27	"
7. "	"	213MC	211.25MC 215.75MC	13	Vert. Amp. thru 47K to point ⬡. Low side to chassis.	A28	Detune A46 and A47 by turning slugs well into coils. Preset A29 and A30 at center of their range. Adjust A28 for maximum gain and response similar to Fig. 5.
8. "	"	"	"	"	"	A29, A30	Adjust for maximum gain and symmetry of response similar to Fig. 5 with markers as shown. Repeat step 7, if necessary.
9. "	"	85MC	83.25MC 87.75MC	6	"	A31, A32, A33	Adjust in numerical order. First 2 adjustments are to place markers correctly. Last adjustment for maximum gain and symmetry. (See Fig. 6).
10. "	"	"	"	"	"	A27	Adjust SLIGHTLY above point where it begins to effect channel 6 response curve sound marker.
11. "	"	79MC	77.25MC 81.75MC	5	"	A34, A35, A36	Adjust in numerical order. First 2 adjustments are to place markers correctly. Last adjustment for maximum gain and symmetry. (See Fig. 6).
12. "	"	69MC	67.25MC 71.75MC	4	"	A37, A38, A39	"
13. "	"	63MC	61.25MC 65.75MC	3	"	A40, A41, A42	"
14. "	"	57MC	55.25MC 59.75MC	2	"	A43, A44, A45	"
15. "	"	Not used	42.5MC (400% 30% AM Mod.)	"	Vert. Amp. thru 47K to point ⬡. Low side to chassis.	A46	Adjust for MINIMUM 400% indication on scope.
16. "	"	"	45.5MC (400% 30% AM Mod)	"	"	A47	"

VHF RF AND MIXER ALIGNMENT FOR TUNER #WTT-96Y

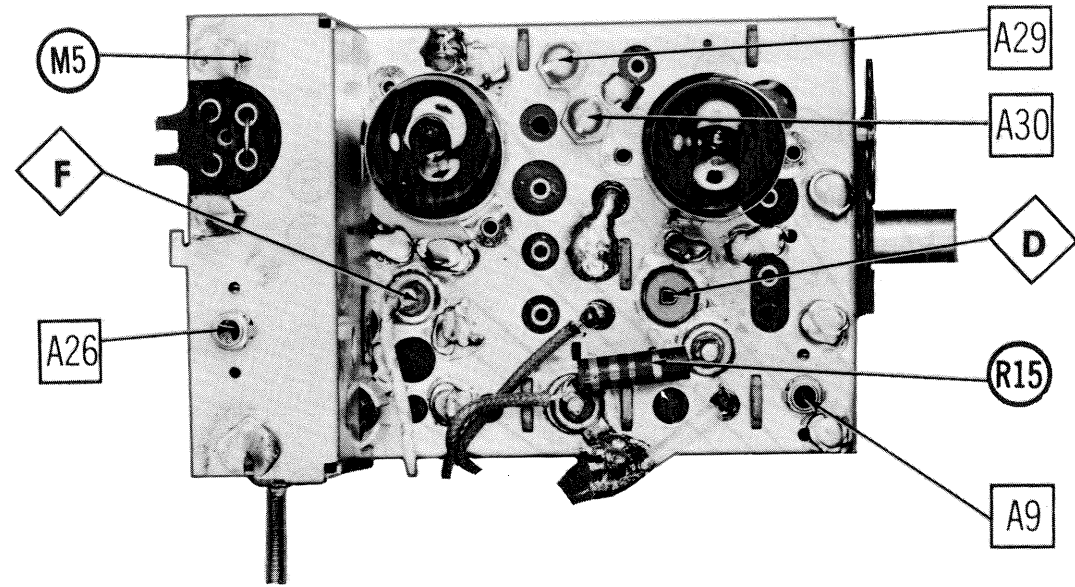
Short tuner AGC line to ground by connecting a clip lead from point ⬡ to chassis. Remove tuner cover. Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms. Use only enough sweep generator output to provide a usable pattern on scope. Use 10MC sweep unless otherwise noted. Coils not containing adjustable cores are adjusted by expanding or compressing coil turns.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
17. Two 120Ω Carbon Resistors	Across VHF antenna terminals with 120Ω in each lead.	213MC	211.25MC 215.75MC	13	Vert. Amp. thru 47K to point ⬡. Low side to chassis.	A48	Preset A49 and A50 to mid-range. Adjust A48 for maximum gain of response curve similar to Fig. 5.
18. "	"	183MC	181.25MC 185.75MC	7	"	A49, A50	Adjust for maximum gain and symmetry of response similar to Fig. 5 with markers as shown.
19. "	"	85MC	83.25MC 87.75MC	6	"	A51, A52, A53	Adjust in numerical order for response similar to Fig. 6. First 2 adjustments are for proper placing of markers. The third adjustment for maximum gain and symmetry.
20. "	"	"	87.75MC	"	"	A54	Adjust until it just starts to pull down the marker on the sound side of curve.
21. "	"	79MC	77.25MC 81.75MC	5	"	A55, A56, A57	Same as Step 19.
22. "	"	69MC	67.25MC 71.75MC	4	"	A58, A59, A60	"
23. "	"	63MC	61.25MC 65.75MC	3	"	A61, A62, A63	"
24. "	"	57MC	55.25MC 59.75MC	2	"	A64, A65, A66	"
25. "	"	"	"	"	"	A67	Adjust until its affect is below channel 2 (or at interference frequency).

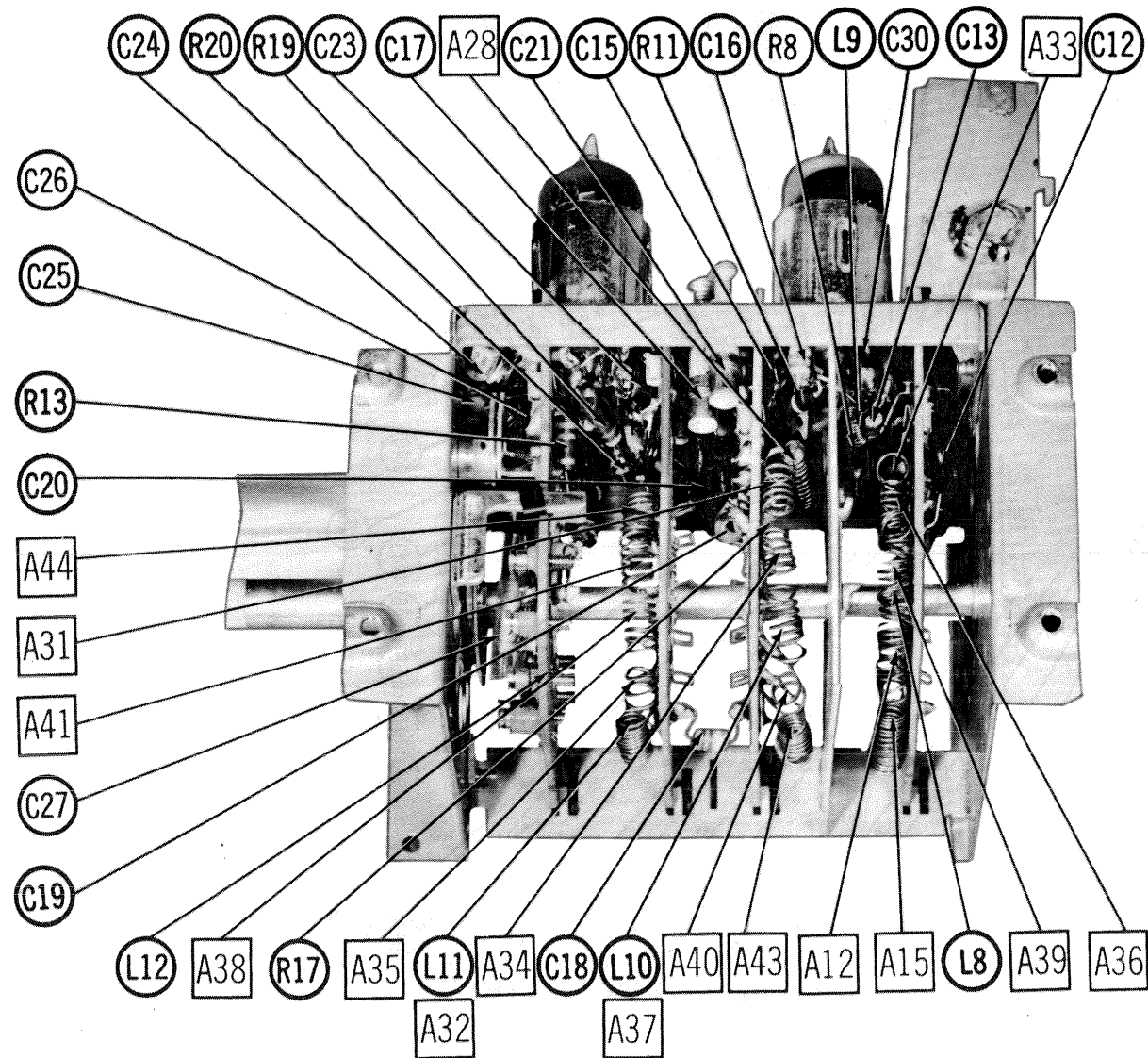
MOTOROLA MODELS Y21K70B, Y21K70M, Y21T37B, Y21T37M, 21K70B, 21K70M, 21T37B, 21T37M (Ch. TS-542, Y)

FOLDER 1

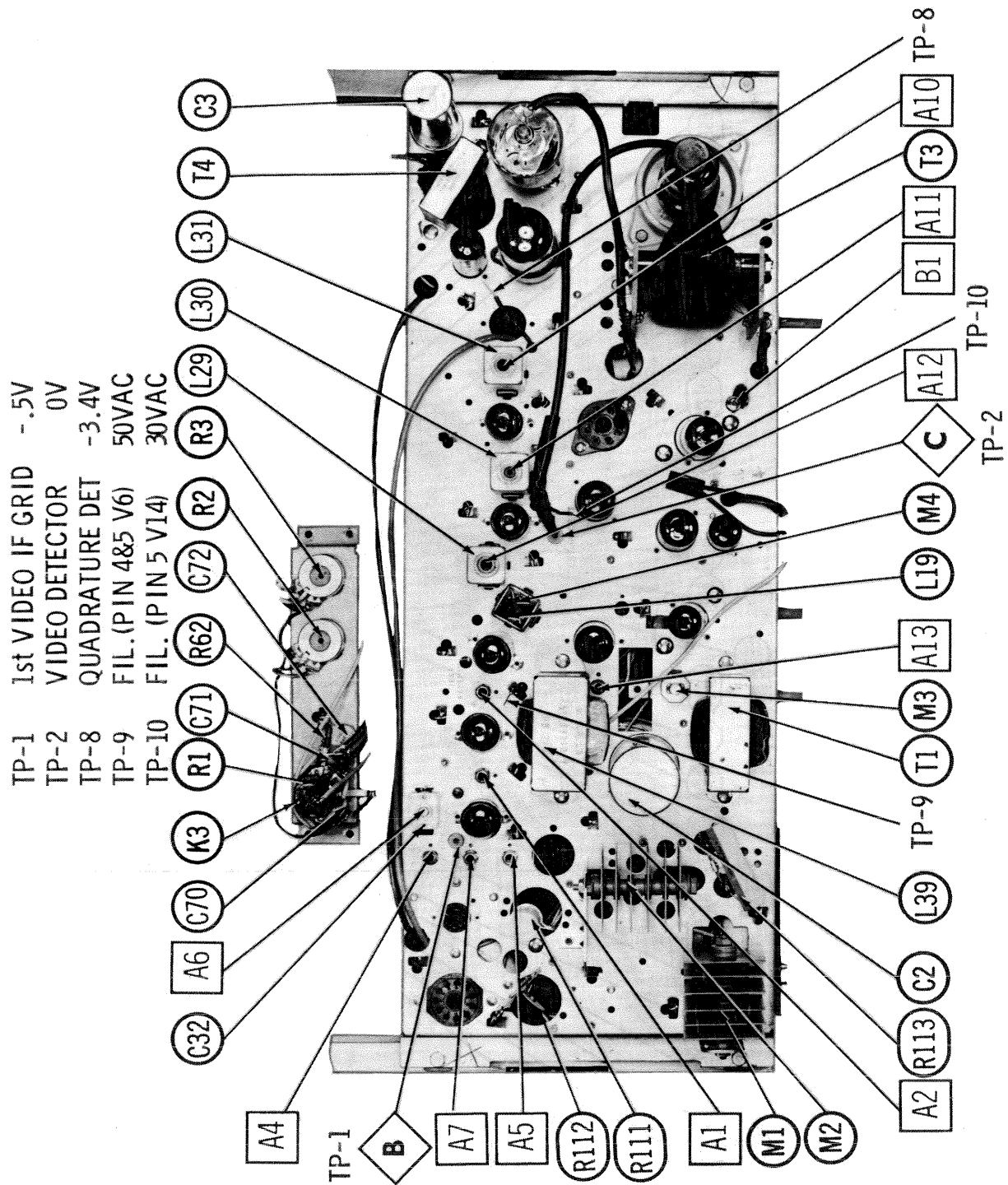




RF TUNER-TOP VIEW



RF TUNER-LEFT SIDE

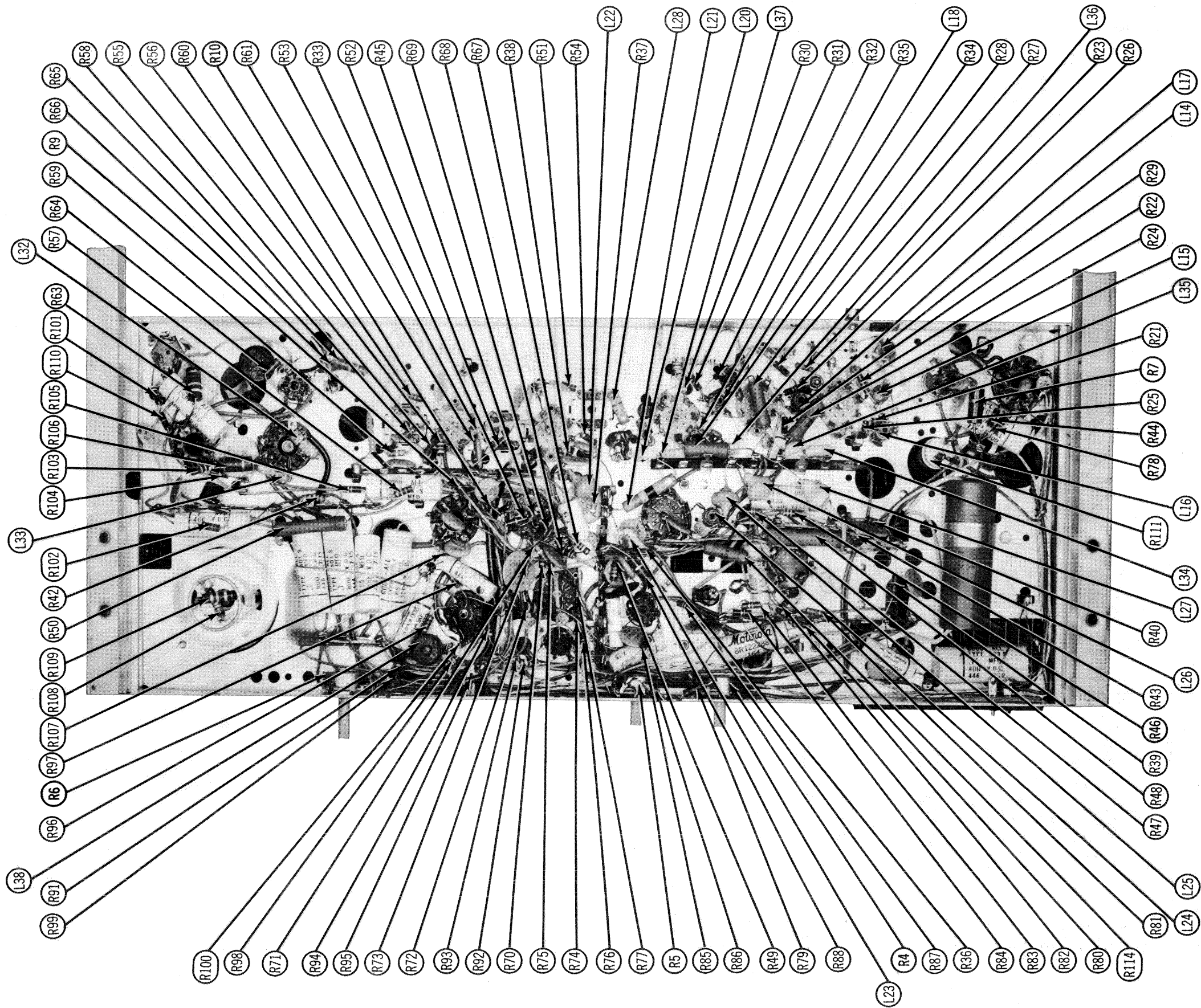


SET 382 FOLDER 1

MOTOROLA MODELS Y21K70B, Y21K70M, Y21T37B, Y21T37M,  
21K70B, 21K70M, 21T37B, 21T37M (Ch. TS-342, Y)  
MAIN DO1 SSSVHC

MOTOROLA MODELS Y21K70B, Y21K70M, Y21T37B, Y21T37M,  
21K70B, 21K70M, 21T37B, 21T37M (Ch. TS-542, Y)  
NOTIFICATION OF CHANGES AND REVISIONS

FOLDER 1





PARTS LIST AND DESCRIPTIONS (Continued)

COILS (cont)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		MOTOROLA PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L34	Fl. Choke	24K743875	19-1001	BC-562	4604	1.5 Microhenries
L35	Fl. Choke	24K743875	19-1001	BC-562	4604	1.5 Microhenries
L36	Fl. Choke	24K743875	19-1001	BC-562	4604	1.5 Microhenries
L37	Fl. Choke	24K743875	19-1001	BC-562	4604	1.5 Microhenries

\* Parallel 5600Ω resistor.  
▲ Parallel 12K resistor.

▲ C62 (Shunting Secondary Coil) may have to be removed.

TRANSFORMER (HORIZ. OSC.)

ITEM No.	DC RES.		REPLACEMENT DATA						NOTES
	PRI.	SEC.	MOTOROLA PART No.	Meissner PART No.	Merit PART No.	Miller PART No.	Ram PART No.	Thordarson PART No.	
L38	35Ω		24B743426	19-1576 ♦	1V-163 ♦	6210 ♦		HS-5 ♦	12-45 Millihenries ♦ Fabricate mounting.

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 Hz)	MOTOROLA PART No.	Haldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
L39	.280A	46Ω	1.5 HY.	25K743212-Y ①	C5037 ②	C-2974	C-2326 ②	26C43	C-23X

① Alternate part #24K743212.  
② Drill new mounting holes.

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	MOTOROLA PART No.	REPLACEMENT DATA
K1	Antenna Isolation	470MMF @ 1500V, .3-1Meg	51B740235	Centralab RC-47I
K2	Antenna Isolation	470MMF @ 1500V, .3-1Meg	51B740235	Centralab RC-47I
K3	Tone Compensation	3300MMF, 68K	51K744910 ①	

① Some versions may use individual components in this application.

RECTIFIERS

ITEM No.	RATING	REPLACEMENT DATA					NOTES
	CURRENT (Measured)	MOTOROLA PART No.	FEDERAL PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL PART No.	SARKES TAZIAN PART No.	
M1	.270A	48K122479 ①②	1023A ①	1N1007 ③	RS350SL ①	350A ①	① Selenium type.
M2	.270A	48K122479 ①②	1023A ①	1N1007 ③	RS350SL ①	350A ①	② Alternate part #48K125651. ③ Germanium type.

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			MOTOROLA PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M3	N	1 6/10A 125V S/B	65K744238	9K744239	3301.6 (N 1 6/10A 125V S/B)	346016	N 1 6/10	HN 1 3/10 to 1 3/4

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		MOTOROLA PART No.	CBS PART No.	SYLVANIA PART No.	
M4		48C739300	1N60		Video Detector (Clip-in)

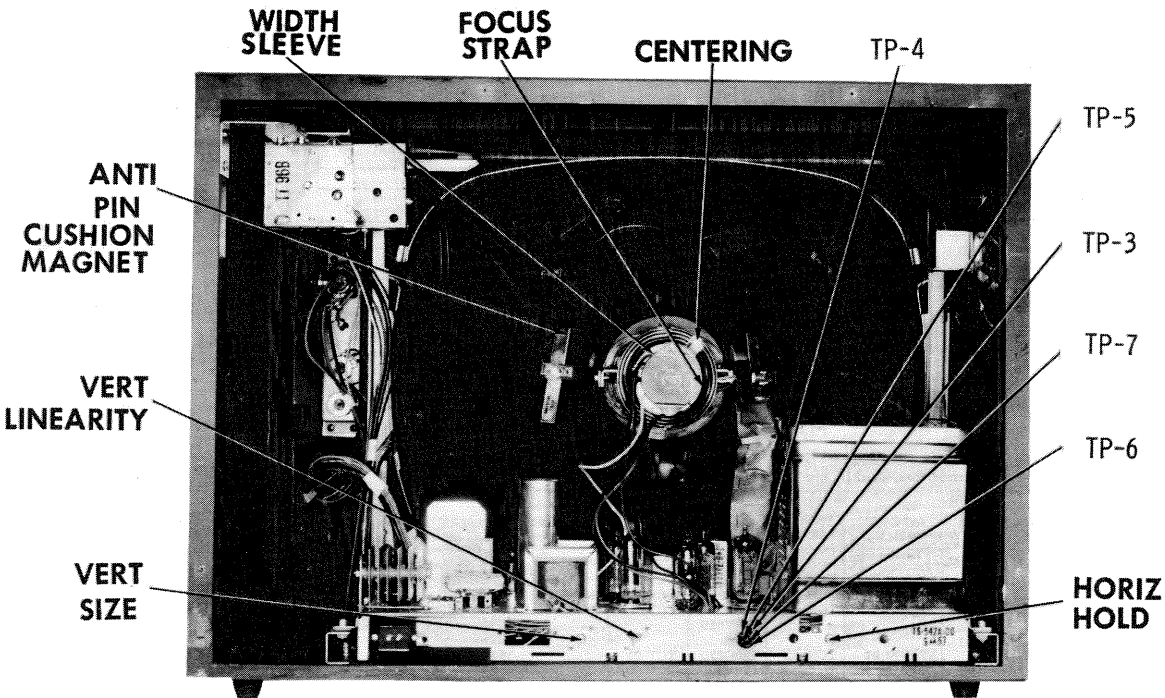
MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M5	Tuner	1V745228	VHF (TT-96) Chassis TS-542
	Tuner	1V745229	VHF (WTT-96Y) Chassis TS-542Y
	Tuner	77K744280	UHF Chassis TS-542Y
M6	Width Sleeve	14A743974	
M7	Centering Device	48A743407	Includes yoke rear cover
M8	Magnet	48B737365	Anti-Pin Cushion (2 used)

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Safety Glass	61C743966	
Bezel	13K743958	
Knob	36K741110	VHF Channel Selector - VHF Models
Knob	38C738681	VHF Channel Selector - UHF-VHF Models
Knob	36C738680	Fine Tuning
Knob	36B743434	On-off-volume
Knob	36B743435	Contrast
Knob	36K740614	Brightness and vertical hold
UHF Dial	34K744101	
Cabinet	16E743770	Models 21T37M, Y21T37M
Cabinet	16K743771	Models 21T37B, Y21T37B
Cabinet	16K743774	Models 21K70B, Y21K70B
Cabinet	16E743773	Models 21K70M, Y21K70M
Cabinet Leg	16K743778	Models 21K70B, Y21K70B
Cabinet Leg	16C743777	Models 21K70M, Y21K70M



TP-3	IF AGC	-.4V
TP-4	HORIZ OSC	225V
TP-5	GROUND	0V
TP-6	HORIZ AFC	-.2V
TP-7	B+	245V

CABINET-REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Tune in a TV station and adjust controls for normal picture.

Connect a jumper from TP-6 to TP-5 of the service test receptacle.

Connect a .1MFD 400 volt capacitor from TP-4 to TP-6 of the service test receptacle.

Adjust the horizontal hold control to the point where the picture almost remains stationary.

Remove the capacitor from the service test receptacle and adjust the horizontal frequency slug (B1) to the center of the range in which the picture is almost synchronized horizontally.

Remove the jumper wire from the service test receptacle and adjust the horizontal hold control so that no fold-over appears on either side of the screen.

SET 382 FOLDER 1

MOTOROLA MODELS Y21K70B, Y21K70M, Y21T37B, Y21T37M, 21K70B, 21K70M, 21T37B, 21T37M (Ch. TS-542, Y)

FOLDER 1

## PARTS LIST AND DESCRIPTIONS

## TUBES ( GENERAL ELECTRIC, SYLVANIA )

ITEM No.	USE	TYPE	NOTES	ITEM No.	USE	TYPE	NOTES
V1	RF Amplifier	4BC8		V9	Audio Detector	3DT6	
V2	Mixer-Oscillator	5U8		V10	Audio Output	5AQ5	
V3	1st. Video IF Amp.	3BZ6		V11	Sync Phase Inv. - Vert. Mult.		
V4	2nd. Video IF Amp.	3BZ6		V12	Vert. Mult. - Vert. Output	6CG7	
V5	3rd. Video IF Amp.	3CB6		V13	Horiz. AFC	5AQ5	
V6	Video Output	12BY7A		V14	Horiz. Mult.	6CG7	
V7	AGC Keying-Noise Limiter-Sync Separator	3BU8		V15	Horiz. Output	12DQ6	
V8	Sound IF Amp.	3CB6		V16	Damper	19AU4GT	
				V17	HV Rectifier	3A3	

## PICTURE TUBE

ITEM No.	MOTOROLA PART No.	GENERAL ELECTRIC PART No.	SYLVANIA PART No.	NOTES
V18	21CBP4A		21CBP4A	① Silver screen "85"

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP. VOLT.	MOTOROLA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.	NOTES
C1	140	150	23B737620	PR5150V150	BR15015	TC495	TD-150-150	MT-15150	TVA-1422
C2A	150	300	23B738749	AFH4-02-75	D0025	FP419.55			R2466 *
C2B	100	300							
C2C	100	300							
C3	100	300							
C4	100	300							
C5A	100	300	23B738750	AFH3-108	C0810	FP330.7	TMT-93	T-475	TVL-3635.5
C5B	100	300							
C5C	100	300							
C6	100	300							
C7	100	300							
C8	100	300							
C9	100	300							
C10	100	300							
C11	100	300							
C12	100	300							
C13	100	300							
C14	100	300							
C15	100	300							
C16	100	300							
C17	100	300							
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C67	100	300							
C68	100	300							
C69	100	300							
C70	100	300							
C71	100	300							
C72	100	300							
C73	100	300							
C74	100	300							
C75	100	300							
C76	100	300							

\* Non-catalog item.

## FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP. VOLT.	MOTOROLA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C4	8.2	21R125856		C10V92U				N750
C5	15	21R125828		C10V15U				N750
C6	5.0	21R125828		C10V15U				N750
C7	15	21R125828		C10V15U				N750
C8	8.2	21R125856		C10V92U				N750
C9	5-8	20A743920						
C10	22	21R124554		C10Q22U				N750
C11	8.2	21R125856		C10V92U				N750
C12	1000	21R115386		BPD-001	DD-103	DC521	5HK-DI	
C13	2.7	21R115950						
C14	1000	21A739920		EF-001	MFT-1000			
C15	1000	21R115386		BPD-001	DD-102	DC521	5HK-DI	
C16	1.5	21R115959		NPO-SI 1.5	TCZ-1R5			
C17	1.5	21R115959		NPO-SI 1.5	TCZ-1R5			
C18	100	21R120577		SI 100	D6-101	UC-531		
C19	100	21R124554		NPO-SI 22	TCO-22	CT565A	5TCCB-VI5	
C20	22	21R125856		BPD-001	DD-102	DC521	5HK-DI	
C21	5-3	21R125856		BPD-00047	DD-471	UC-5347	5GA-T47	
C22	470	21R14554		BPD-0008	DD-801			
C23A	800	21R400943		BPD-0008	DD-801			
C23B	800			NPO-SI 1.0	TCZ-1			
C24	1.0	21R114071						
C25	3.4	21R124489						
C26	10	21R124710						
C27	1.0	21R124552						
C28	1000	21A739920		EF-001	MFT-1000			
C29	1000	21A739920		EF-001	MFT-1000			
C30	1000	21R115386		BPD-001	DD-102	DC521	5HK-DI	
C31	1000	21R115386		BPD-001	DD-102	DC521	5HK-DI	
C32	20-140	20A736287						
C33	5.6	21R120156						
C34	18	21R120578						
C35	4.7	21R115954		NPO-SI 4.7	TCZ-4R7	C10V47C	TCO-4.7	N150 10%
C36	18	21R120578						
C37	470	21R114554		BPD-00047	DD-471	UC-5347	5GA-T47	N150 10%
C38	1000	21A737426		EF-001	MFT-1000			
C39	1000	21R115386		BPD-001	DD-102	DC521	5HK-DI	
C40	500	21R120096		BPD-00056	DD-561	UC-5356	5GA-T56	
C41	1000	21R115386		BPD-001	DD-102	DC521	5HK-DI	
C42	25	8K122045		P288N-25	CUB2P25	GEM-2025	2TM-P25	
C43	560	21R120936		BPD-00056	DD-561	UC-5356	5GA-T56	
C44	1000	21R115386		BPD-001	DD-102	DC521	5HK-DI	
C45	5.6	21R124490						
C46	5000	21A738298		BPD-005	DD-502	DC525	5HK-D5	
C47	47	21R114207		N750-SI 47	TCN-47	NT-5447	5TCU-Q47	N750
C48	27	21R119896						
C49	5000	21A738298		BPD-005	DD-502	DC525	5HK-D5	N150 10%
C50	1	8R121006		P488N-1	DF-104	GEM-401	6TM-P1	
C51	5000	21R120093		HVC20D15	DD30-502			
C52	10000	21R482726		BPD-01	DD-103	DC511	5HK-SI	
C53	10000	21R124832		DAC-27				
C54	3.9	21R115953						
C55	10	21R121114		N750-SI 10	TC7-10	C10QU	TC7-10	N750
C56	18	21R120578						
C57	1500	21R122498						
C58	5000	21A738298		BPD-005	DD-502	DC525	5HK-D5	10%
C59	.75	21K735623						
C60	5000	21A738298		BPD-005	DD-502	DC525	5HK-D5	
C61	5000	21A738298		BPD-005	DD-502	DC525	5HK-D5	
C62	18	21K120578						
C63	18	21K120578						
C64	10000	21K738700		BPD-01	DD-103	DC511	5HK-SI	
C65	5000	21R115312		BPD-005	DD-502	DC525	5HK-D5	
C66	10000	21R482726		BPD-01	DD-103	DC511	5HK-SI	
C67	150	21R410112		BPD-00015	DD-151	UC-5315	5GA-T15	
C68	.05	8R122288		P688N-05	DF-503	CUB6S5	6TM-S5	
C69	10000	21R482726		BPD-01	DD-103	DC511	5HK-SI	
C70	220	21R410115		BPD-00022	DD-221	UC-5322	5GA-T22	
C71	5000	21R115312		BPD-005	DD-502	DC525	5HK-D5	
C72	1500	21R124121						
C73	470	21R124154						
C74	5000	21R120093		BPD-00047	DD-471	UC-5347	5GA-T47	
C75	.05	8R122185		P688N-05	DF-503	CUB6S5	6TM-S5	
C76	470	21R121478		BPD-00047	DD-471	UC-5347	5GA-T47	

## CAPACITORS (cont)

ITEM No.	RATING		REPLACEMENT DATA						NOTES	
	CAP.	VOLT	MOTOROLA PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.		SPRAGUE PART No.
C77	.1	400	8R121006	P488N-1	DF-104	CUB4P1		GEM-401	4TM-P1	NPO
C78	.25	100	8K122045	P288N-25		CUB2P25		GEM-2025	2TM-P25	
C79	3.9		21R115953							
C80	20000		21B741862	BPD-02	DD-203	BYB6S2	ED-02		5HK-S2	
C81	2.7		21R125699							
C82	2000		21R121106	BPD-002	DD-202	BYA10D2	ED-002	DC522	5HK-D2	
C83	220		21R410115	BPD-00022	DD-221	L10722	ED-220	UC-5322	5GA-T22	
C84	27		21R119896							
C85	.02	600	8R122079	P688N-02	DF-203	CUB6S2		GEM-612	6TM-S2	
C86	4700		21R120149	BPD-0047	DD-472	BYA10D47	ED-0047	DC5247	5HK-D47	
C87	2000		21R121106	BPD-002	DD-202	BYA10D2	ED-002	DC522	5HK-D2	
C88	.002	600	8R121568	P688N-002	DD-202	CUB6D2	GP-2000	GEM-622	6TM-D2	
C89	.015	400	8K737422	P488N-015	DD16-153	CUB6S15		GEM-615	6TM-S15	
C90	3300		21R120422	BPD-0033	DD-332	BYA10D33	ED-0033	UC-5233	5GA-S33	
C91	.007	200	8K741231	P288-007	DD16-702	CUB16D7		GEM-1627	6TM-S7	
C92	1000		21K738700	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-D1	
C93	.01		8R122285	P688N-01	DD-103	CUB6S1	GP-10000	GEM-611	6TM-S1	
C94	.05	600	8R122185	P688N-05	DF-503	CUB6S5		GEM-615	6TM-S5	
C95	.05	200	8R121005	P288N-05	DF-503	CUB2S5		GEM-215	2TM-S5	
C96	.02	600	8R122079	P688N-02	DD-203	CUB6S2	ED-02	GEM-612	6TM-S2	
C97	1000	2000	21R124456	HVD-30-1000	DD30-102	HVB20D1	HD3-1000	DC3021	20HKB-D1	
C98	20000		21B741862	BPD-02	DD-203	BYB6S2	ED-02		5HK-S2	
C99	220		21R125999	BPD-00022	DD-221	L10722	ED-220	UC-5322	5GA-T22	
C100	220		21R135999	BPD-00022	DD-221	L10722	ED-220	UC-5322	5GA-T22	
C101	3300		21R120422	BPD-0033	DD-332	BYA10D33	ED-0033	UC-5233	5GA-D33	
C102	.039	200	8R125942	P288N-02	DD-203	CUB2S2	ED-02	GEM-412	2TM-S2	
C103	.039	400	8K125042	P488N-004	DD-392	CUB6D4		GEM-624	6TM-D4	
C104	150		21R121223	N750-S1 150	TCN-150	C10T1U	TC7-150	5TCU-T15	N750 10%	
C105	680		21K736046	1464-00068		1R5T68		MS-368	10%	
C106	390		21B735757	1469-00039		5R5T39		MS-339	10%	
C107	5000		21A738298	BPD-005	DD-502	BYA10D5	ED-005	DC525	5HK-D5	
C108	.1	400	8R121006	P488N-1	DF-104	CUB4P1		GEM-401	4TM-P1	
C109	.1	600	8R121006	P488N-1	DF-104	CUB4P1		GEM-401	4TM-P1	
C110	.1	400	8R121869	P688N-1	DF-104	CUB6P1		GEM-601	6TM-P1	
C111	.05	1000	8R121870	P1088N-05		CUB10S5		GEM-1015	10TM-S5	
C112	.05	200	8R121005	P288N-05	DF-503	CUB2S5		GEM-215	2TM-S5	
C113	56	3000	21R127008							
C114	56	3000	21R127008							
C115	82	2000	21R120150							
C116	.25	400	8R121788	P488N-25		CUB4P25		GEM-4025	4TM-P25	
C117	10000	1400	21R124832	DAC-27	DD16-103	CUB16S1			BL-S10	
C118	10000	1400	21R124832	DAC-27	DD16-103	CUB16S1			BL-S10	
C119	10000		21R482726	BPD-01	DD-103	BYA6S1	ED-01	DC-511	5HK-S1	
C120	470		21R14554	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C121	470		21R14544	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C122A	800		21R400943	BPD-0008	DD-801	L1078	ED-0008			
B 8000				BPD-0008	DD-801	L1078	ED-0008			
C123	5000		21A739299	BPD-005	DD-502	BYA10D5	ED-005	DC525	5HK-D5	
C124	8000		21A739298	BPD-005	DD-502	BYA10D5	ED-005	DC525	5HK-D5	
C125A	1000			BPD-2X001	DD2-102	BYC6DD1	ED2-001	DCD521	5HK-2D1	
B 1000										