

AIRCATTLE
MODEL 20XUT

TRADE NAME	Aircastle Model 472.20XUT		
SUPPLIER	Spiegel Inc., 1081 W. 35th. St. , Chicago 9, Ill.		
TYPE SET	Television Receiver		
TUBES	Twenty		
POWER SUPPLY	110-120 Volts AC-60 Cycle	RATING	1.7 Amp @ 117 Volts AC
TUNING RANGE	Channels 2 thru 13		
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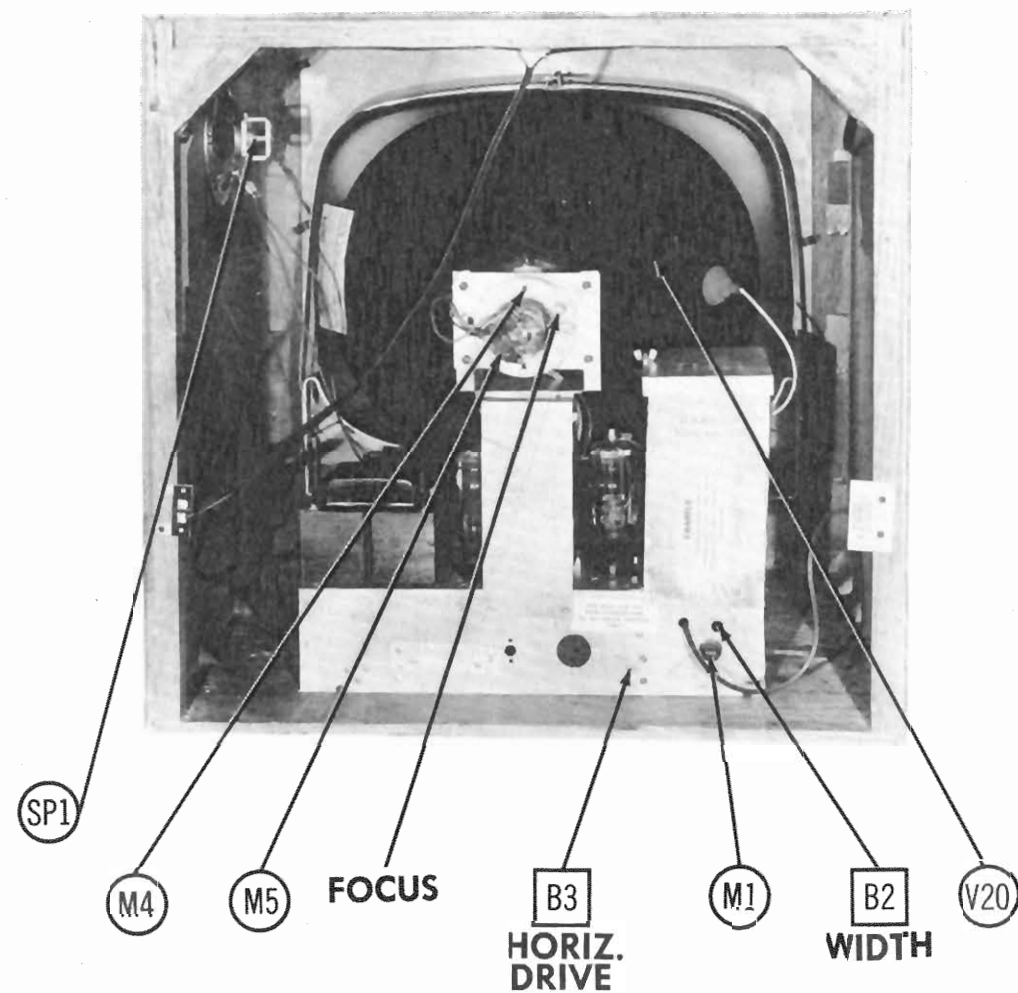
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DATE 11-52

SET 185

FOLDER 3



CABINET-REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station, preferably at test pattern.

Adjust the horizontal hold (B1) until the picture synchronizes horizontally.

Turn the width control slug (B2) fully clockwise.

Adjust the horizontal drive trimmer (B3) for best compromise between maximum brightness and horizontal linearity.

Adjust B2 for a picture slightly wider than necessary to fill the picture mask horizontally.

DISASSEMBLY INSTRUCTIONS

1. Remove 4 push on type control knobs from front panel.
2. Remove 8 wood screws. Remove rear cover.
3. Disconnect built-in antenna & speaker.
4. Loosen 2 wood screws. Remove antenna bracket.
5. Remove 2 wood screws. Remove AC interlock.
6. Remove 2 wood screws and 4 chassis bolts. Remove chassis.
7. Remove 2 speaker nuts. Remove speaker.

NOTE: FOR PICTURE TUBE REMOVAL, IT IS NECESSARY TO REMOVE CHASSIS AS OUTLINED ABOVE.

VOLUME
CONTROL

CONTRAST
CONTROL
ON-OFF
SWITCH

VERT.
HOLD
CONTROL

TRADE NAME
SUPPLIER
TYPE SET
TUBES

POWER SUPPLY
TUNING RANGE

Alignment Instructions

Disassembly Instructions

Horizontal Sweep Control

Parts List and Diagrams

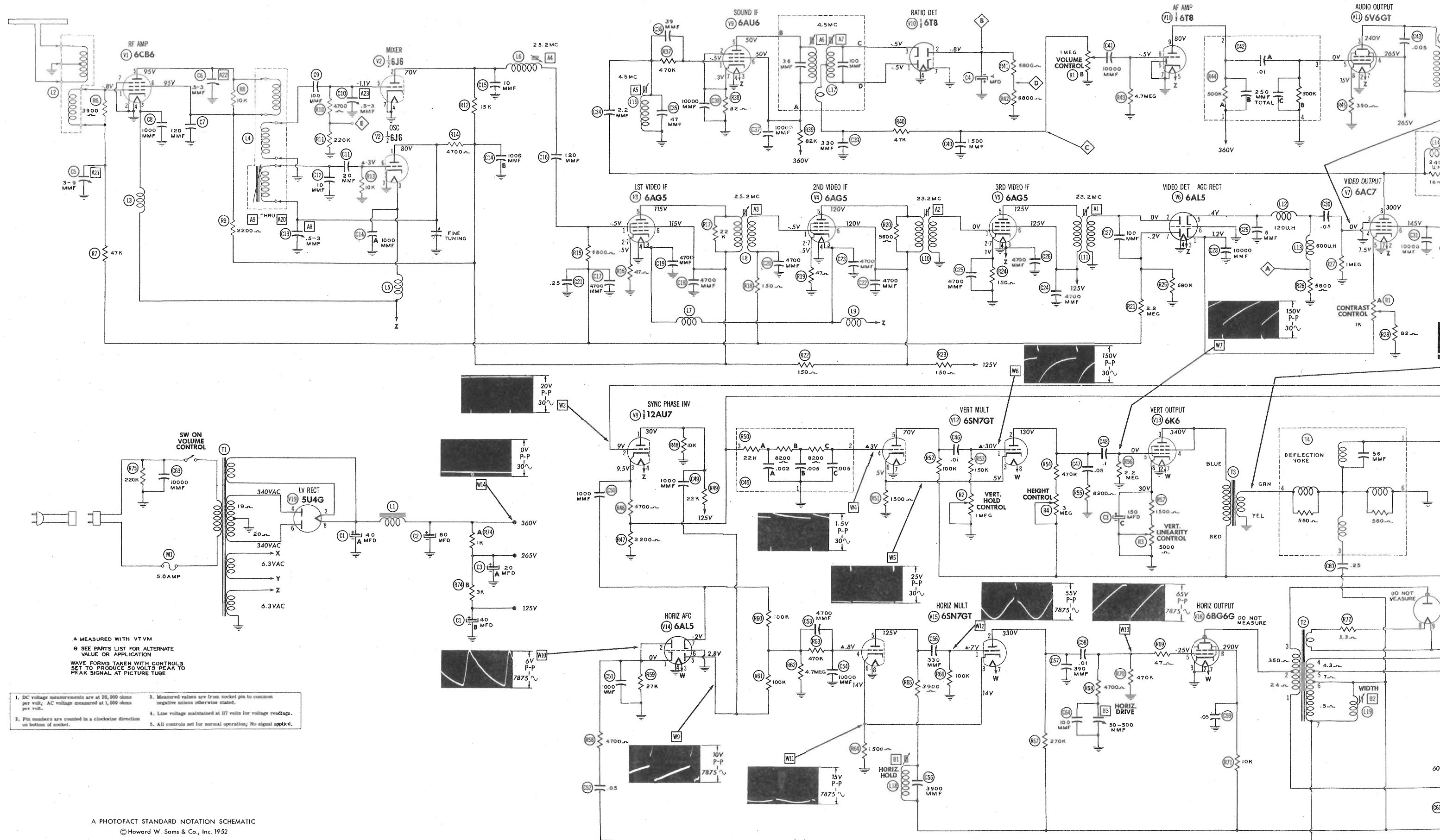
Photographs

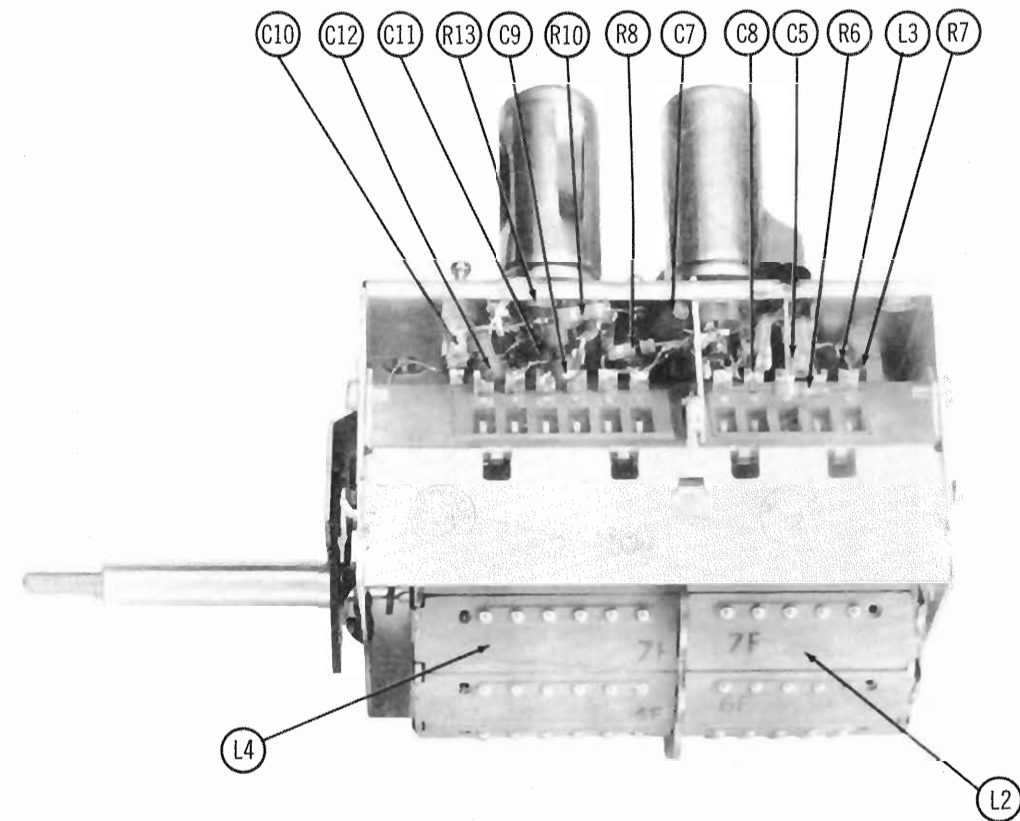
Cabinet - Rear

Capacitor and Resistor

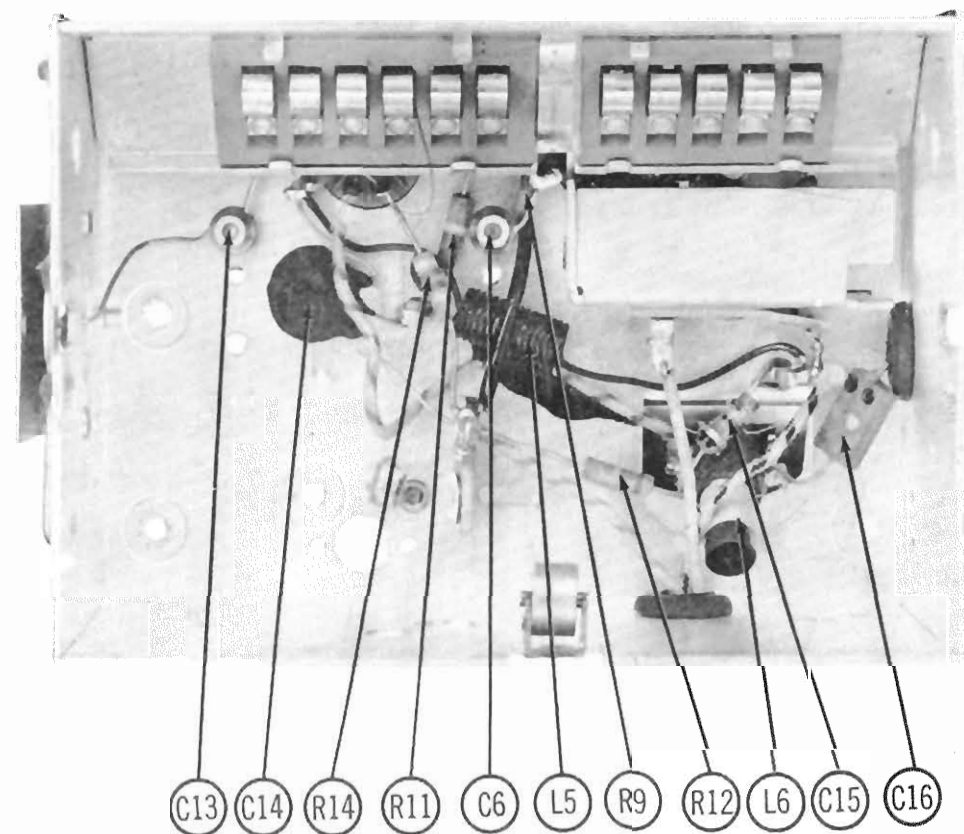
Chassis - Top

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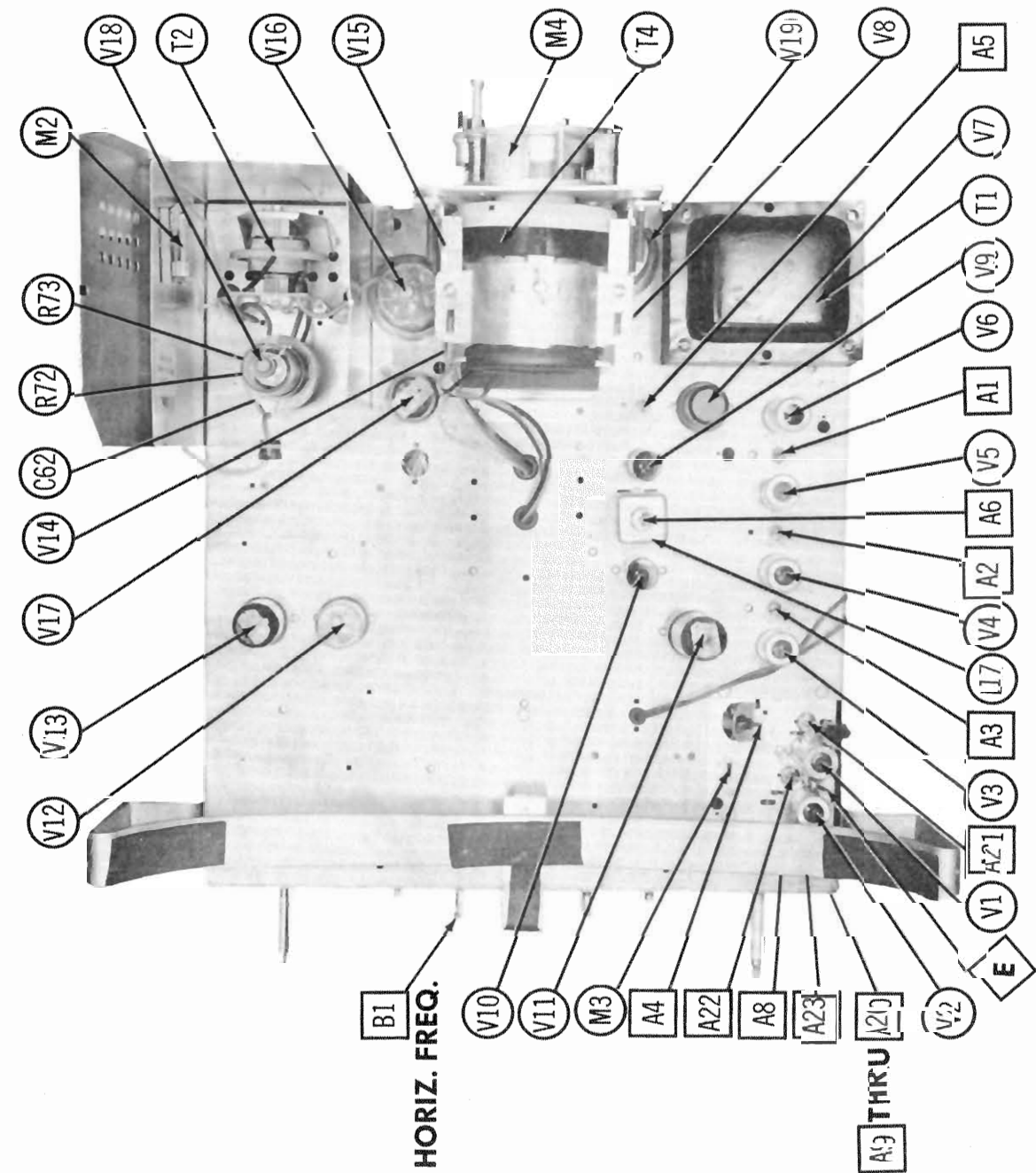




RF TUNER-RIGHT SIDE

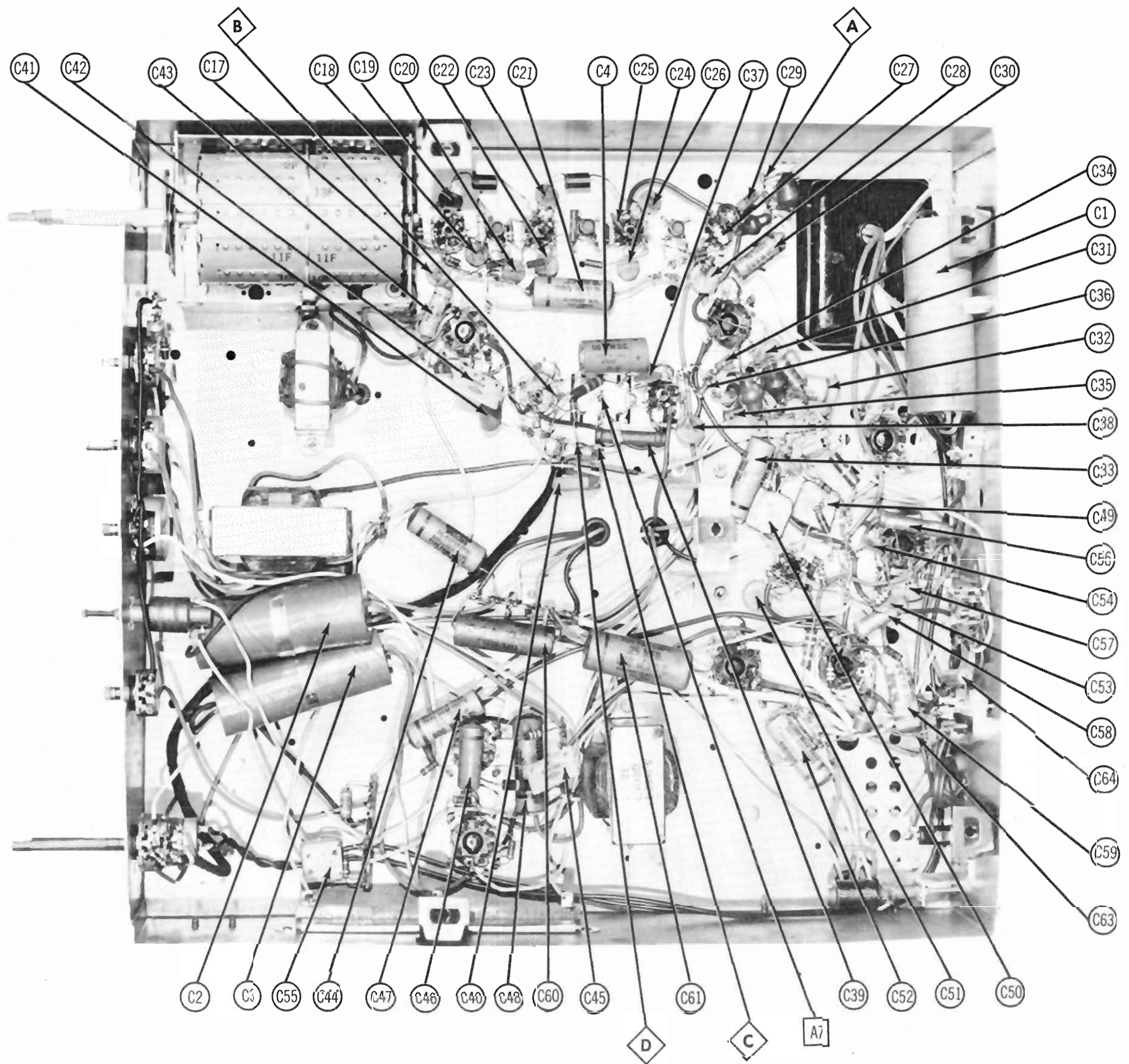


RF TUNER-BOTTOM VIEW



CHASSIS TOP VIEW

**AIRCRAFT
MODEL 20XUT**

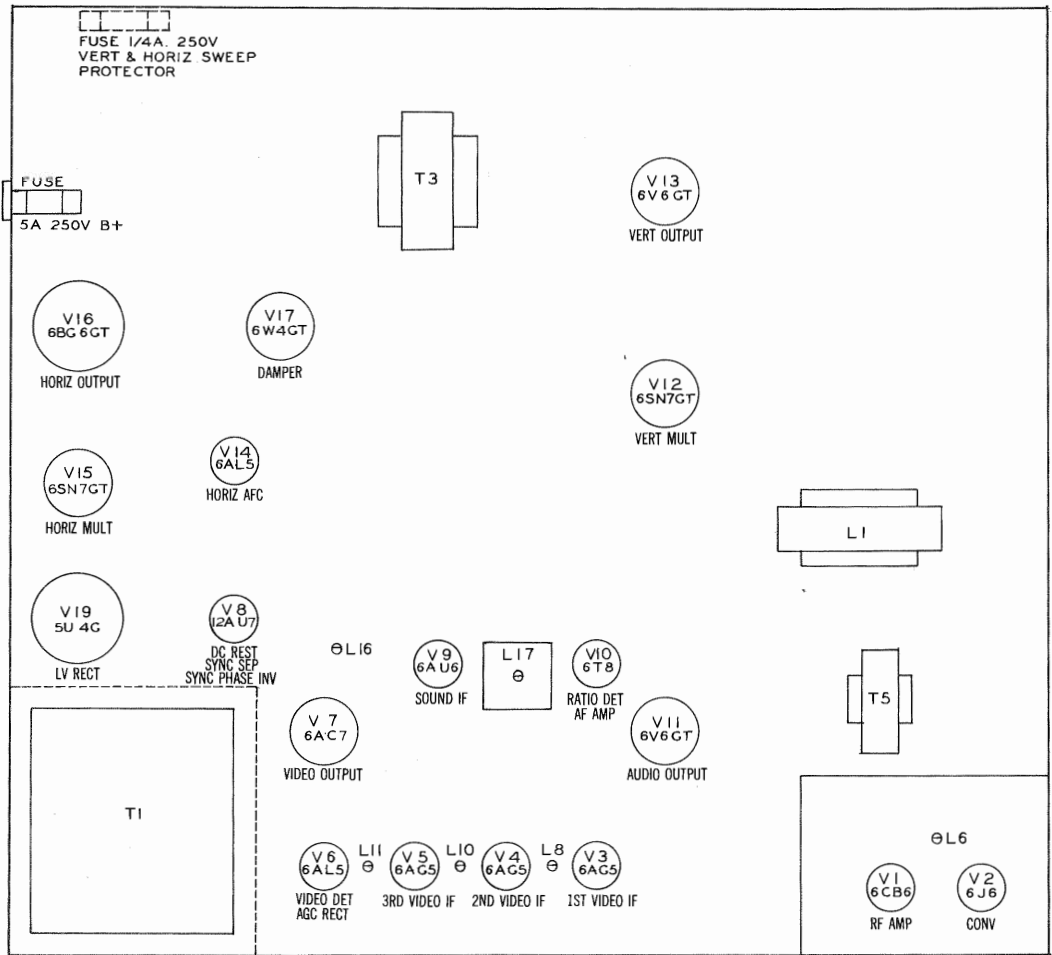


CHASSIS BOTTOM VIEW-CAPACITOR AND ALIGNMENT IDENTIFICATION

RESISTANCE MEASUREMENTS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6CB6	2.9Meg	0Ω	.1Ω	0Ω	†6.5KΩ	†6.5KΩ	0Ω		
V 2	6J6	†9KΩ	†19KΩ	.1Ω	0Ω	225KΩ	10KΩ	0Ω		
V 3	6AG5	2.8Meg	47Ω	.1Ω	0Ω	†4.3KΩ	†4.3KΩ	47Ω		
V 4	6AG5	2.8Meg	47Ω	.1Ω	0Ω	†4.2KΩ	†4.2KΩ	47Ω		
V 5	6AG5	.4Ω	150Ω	.1Ω	0Ω	†4KΩ	†4KΩ	150Ω		
V 6	6AL5	980Ω	.4Ω	.1Ω	0Ω	5.6KΩ	0Ω	680KΩ		
V 7	6AC7	0Ω	.1Ω	0Ω	1Meg	110Ω	†82KΩ	0Ω	†5.6KΩ	
V 8	12AU7	6.5KΩ	†1Meg	6.9KΩ	.1Ω	.1Ω	†1 Meg	0Ω	230KΩ	0Ω
V 9	6AU6	470KΩ	82Ω	.1Ω	0Ω	†82KΩ	†82KΩ	82Ω		
V 10	6T8	1 Meg	13KΩ	1 Meg	0Ω	.1Ω	0Ω	0Ω	4.7Meg	†500KΩ
V 11	6V6GT	INF	0Ω	†1.6KΩ	†1KΩ	500KΩ	INF	.1Ω	390Ω	
V 12	6SN7GT	800KΩ	†1Meg	1.5KΩ	40KΩ	†100KΩ	1.5KΩ	0Ω	.1Ω	
V 13	6K6GT	†82KΩ	0Ω	†855Ω	†855Ω	2.2 Meg	300Ω	.1Ω	1.8KΩ	
V 14	6AL5	27KΩ	27KΩ	.1Ω	0Ω	4.8Meg	0Ω	4.8Meg		
V 15	6SN7GT	100KΩ	†270KΩ	1.5KΩ	5.1Meg	†4KΩ	1.5KΩ	.1Ω	0Ω	
V 16	6BG6G	INF	0Ω	0Ω	INF	470KΩ	470KΩ	.1Ω	†10KΩ	Top Cap #24Ω
V 17	6W4GT	INF	INF	INF	INF	†66Ω	INF	†0Ω	†.1Ω	Top Cap #374Ω
V 18	1B3GT		PINS 1 - 8 HAVE INF RESISTANCE							
V 19	5U4G	INF	25KΩ	INF	195Ω	INF	20Ω	INF	25KΩ	
V 20	20CP4	0Ω	82KΩ	†55Ω	†55Ω	†55Ω	.1Ω			

ALL CONTROLS SET FOR NORMAL OPERATION, NO SIGNAL APPLIED
† MEASURED FROM PIN 8 OF V19
MEASURED FROM PIN 3 OF V17
‡ MEASURED FROM PIN 7 OF V17



ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

The high voltage lead should be securely taped and kept away from the chassis. Do not remove the horizontal multivibrator tube to disable the high voltage.

VIDEO IF ALIGNMENT

Remove the converter tube V2 and replace with a 6J6 which has pin 1 removed. This will disable the local oscillator and reduce the possibility of erroneous indications.

Connect the negative lead of a 1.5 volt battery to the ungrounded side of C21. Connect the positive lead to chassis.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1. Direct	High side to an ungrounded tube shield floating over dummy converter tube. Low side to chassis.	23.2MC (Unmod)	Any	DC probe to point A Common to chassis.	A1, A2	Adjust for maximum deflection.
2. "	"	25.2MC	"	"	A3, A4	"

OVERALL VIDEO IF RESPONSE CHECK

Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscilloscope for horizontal deflection.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
3. Direct	High side to an ungrounded tube shield floating over dummy converter tube. Low side to chassis.	24MC (10MC Swp)	21.25MC 22.0MC 24.3MC 25.75MC	Any	Vert Amp to point A Low side to chassis.		Check for response curve similar to fig. 1. If necessary retouch A1 thru A4. for desired response.

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

Set the contrast control to maximum.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
4. .001MFD	High side to pin 4 (grid) of 6AC7 (V7). Low side to chassis.	4.5MC (Unmod)	Any	DC probe to point B Common to chassis.	A5, A6	Adjust for maximum deflection.
5. "	"	"	"	DC probe to point C Common to chassis.	A7	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

SOUND IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Set the contrast control to maximum.

Use frequency modulated signal with 80% modulation and 450KC sweep. Use 120V sawtooth voltage in scope for horizontal deflection.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
4. .001MFD	High side to pin 4 (grid) of 6AC7 (V7) Low side to chassis.	4.5MC (450KC Swp)	4.5MC	Any	Vert. amp to point B Low side to chassis.	A5, A6	Disconnect stabilizer capacitor C4. Adjust for curve of maximum amplitude and symmetry as in fig. 2.
5. "	"	"	"	"	Vert. amp to point C Low side to chassis.	A7	Reconnect capacitor C4. Adjust so that 4.5MC occurs at center of crossover lines as in fig. 3. SLIGHTLY retouch A6 for maximum amplitude and straightness of crossover lines.

OSCILLATOR ALIGNMENT

Remove the dummy converter tube and replace the original 6J6 in its socket.

Complete oscillator alignment may not be necessary.

If the oscillator seems to be off frequency approximately the same amount for a majority of the channels it may be possible to correct them in one step using A8. It should be noted that this is an all channel oscillator circuit adjustment and should not be used to correct any individual channel. If adjustment of A8 will not bring all channels well within the range of the fine tuning control it will be necessary to adjust the channel strip adjustment for each channel that is off frequency. The channel adjustment screws are reached through a hole just to the right of the channel switch shaft.

The correct adjustment screw is accessible through this hole as the channel switch is turned to each channel.


Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscilloscope for horizontal deflection.

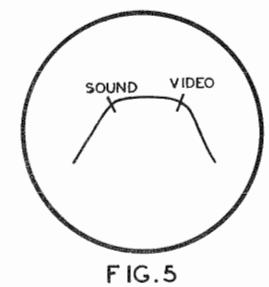
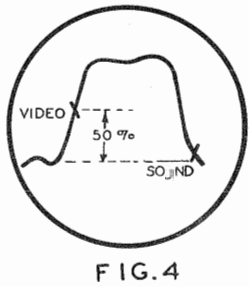
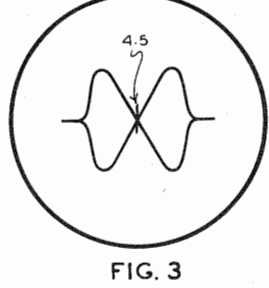
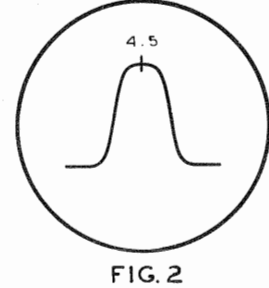
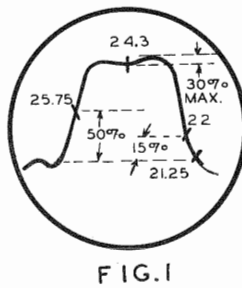
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

Set the fine tuning control to the mid-position of its range.

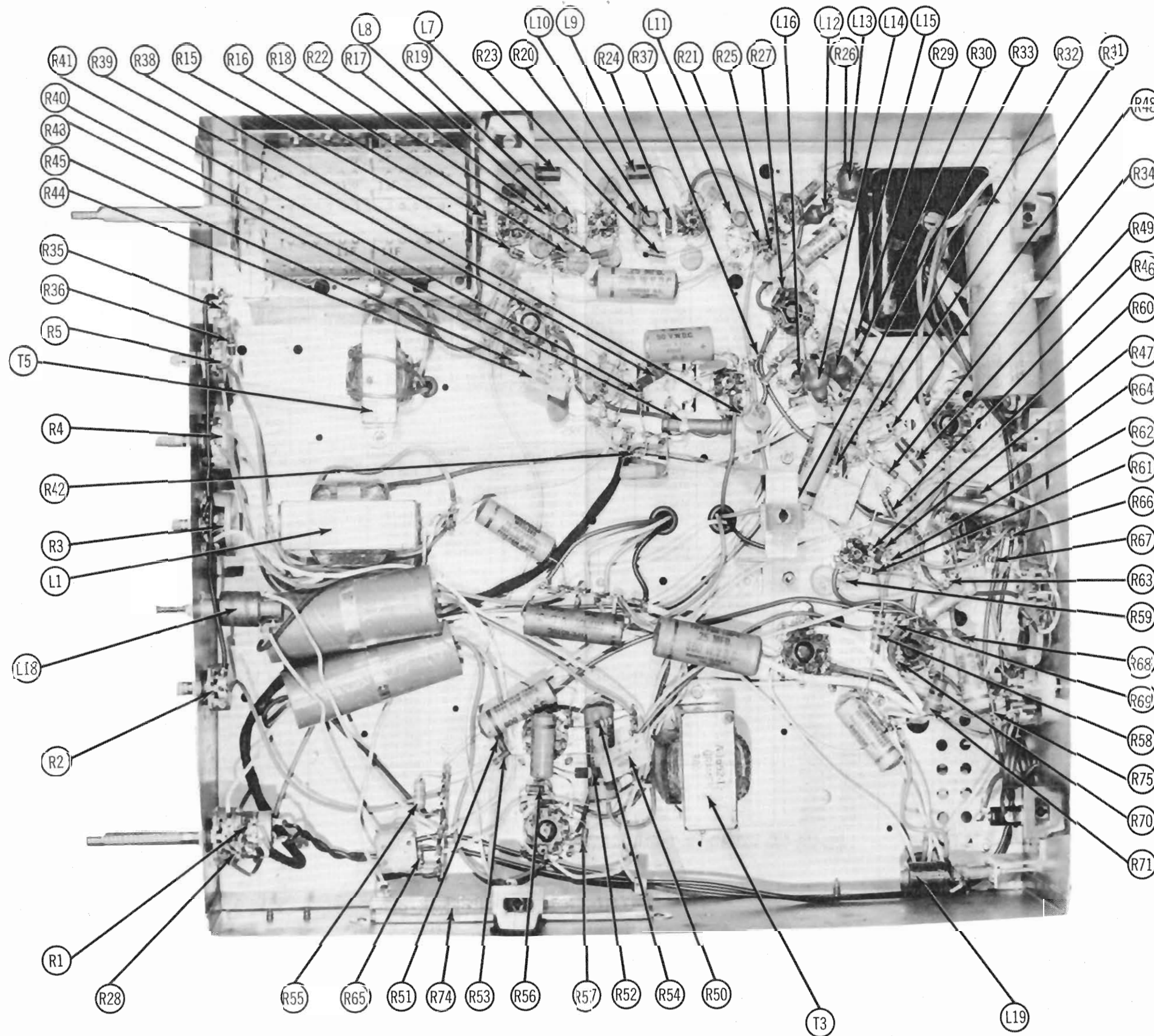
DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
6. Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	213MC (10MC Swp)	211.25MC	13	Vert. amp. to point A Low side to chassis.	A9	Adjust to place video marker at 50% on response curve as in fig. 4. Sound marker should be at 5% or less.
		207MC (10MC Swp)	205.25MC	12		A10	
		201MC (10MC Swp)	199.25MC	11		A11	
		195MC (10MC Swp)	193.25MC	10		A12	
		189MC (10MC Swp)	187.25MC	9		A13	
		183MC (10MC Swp)	181.25MC	8		A14	
		177MC (10MC Swp)	175.25MC	7		A15	
		171MC (10MC Swp)	169.25MC	6		A16	
		165MC (10MC Swp)	163.25MC	5		A17	
		159MC (10MC Swp)	157.25MC	4		A18	
		153MC (10MC Swp)	151.25MC	3		A19	
		147MC (10MC Swp)	145.25MC	2		A20	
		141MC (10MC Swp)	139.25MC				
		135MC (10MC Swp)	133.25MC				
		129MC (10MC Swp)	127.25MC				
		123MC (10MC Swp)	121.25MC				
		117MC (10MC Swp)	115.25MC				
		111MC (10MC Swp)	109.25MC				
		105MC (10MC Swp)	103.25MC				

ALIGNMENT INSTRUCTIONS (CONT.)

RF AND MIXER ALIGNMENT							
Remove the 1.5 volt bias battery. Connect the synchronized sweep voltage from the signal 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.							
DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
7. Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	207MC (10MC Swp)	205.25MC 209.75MC	12	Vert. amp. thru 10KΩ to point  . Low side to chassis.	A21, A22 A23	Adjust for response similar to fig. 5, with markers as shown.
8. "	"	213MC (10MC Swp) 201MC (10MC Swp) 195MC (10MC Swp) 189MC (10MC Swp) 183MC (10MC Swp) 177MC (10MC Swp) 171MC (10MC Swp) 165MC (10MC Swp) 159MC (10MC Swp) 153MC (10MC Swp) 147MC (10MC Swp) 141MC (10MC Swp) 135MC (10MC Swp) 129MC (10MC Swp) 123MC (10MC Swp) 117MC (10MC Swp) 111MC (10MC Swp) 105MC (10MC Swp) 99MC (10MC Swp)	211.25MC 205.25MC 199.25MC 193.25MC 187.25MC 181.25MC 175.25MC 169.25MC 163.25MC 157.25MC 151.25MC 145.25MC 139.25MC 133.25MC 127.25MC 121.25MC 115.25MC 109.25MC 103.25MC 97.25MC	13 11 10 9 8 7 6 5 4 3 2	"		Check for response similar to fig. 5. If markers fall below 70% on any channel make compromise adjustments of A21, A22 and A23 with channel switch set to that channel, then check all other channels to see that they have not been seriously affected.



AIRCRAFT
MODEL 20XUT



CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION

AIRCRAFT
MODEL 20XUT

PARTS LIST AND DESCRIPTIONS

CAPACITORS (CONT.)

ITEM No.	RATING CAP. VOLT	REPLACEMENT DATA							NOTES
		AIRCASLE PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL- DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C51	10000	CD205103Y	BPD-01	DD-103	TM5S1	821-01	DC-511	5HK-51	
C52	.05	CP206503M	P688-05	DD-503	PTE6S5		PT615	6TM-55	
C53	4700	CD205502Y	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D47	
C54	10000	CD205103Y	BPD-01	DD-103	TM5S1	821-01	DC-511	5HK-51	
C55	3900	CM05332K	1464-004		DR5D4		MCB463	MS-24	
C56	330	CMA05331K	1469-00035						
C57	390	CMA05331K	1469-0004				MCB243	MS-34	
C58	.01	CP20103M	P688-01	D6-103	PTE6S1	GP2-333-103	PT611	6TM-S1	
C59	.05	CP206503M	P688-05	Df-503	PTE6S5		PT615	6TM-S5	
C60	.25	CP20254M	P488-25		PJ2P25		PT4025	2TM-P25	
C61	.25	CP206254M	684-25		PTE6P25		PT8025	6TM-P25	
C62	500	CD20K501	HY20C	TV3-501	MMC-20T5	413-501		20DK-T5	
C63	10000	CD205103Y	BPD-01	DD-103	TM5S1	821-01	DC-511	5HK-51	
C64	100					N330L-101			

* Items C45A, C45B, C45C, R50A, R50B, R50C are combined in one unit.

† Items C42A, C42B, C42C, R44A, R44B, are combined in one unit.

When replacing items separately C42B and C42C should total 250MMF.

CONTROLS

ITEM No.	RATING RESIST- ANCE WATTS	REPLACEMENT DATA					INSTALLATION NOTES
		AIRCASLE PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	MALLORY PART No.	
R1A	10000	RVM-100S	QJ-258 *				Contrast-Panel
B	1 Meg					UF13L	Volume-Rear
C	Switch					UR16A	Attach to R1B
R2A	1 Meg	RVC-101N	QU-137	AG-61-5	AB-69	US-26	Vert. Hold
B	Shaft	Not Req.	FKS-1/4	AK-1		Not Req.	Attach to R2A
R3A	50000	RVC-103N	W-5000	A43-5000	VK-135	R5000L	Vert. Linearity-Wire Wound
B	Shaft	Not Req.	FKS-1/4	Not Req.		Not Req.	Attach to R3A
R4A	3 Meg	CM3350	QU-140	AG-85-8	B-84	U-59	Height
B	Shaft	Not Req.	QU-130	RS-2	Not Req.	Not Req.	Attach to R4A
R5A	250K	RVC-100N	QU-130	AG-55-8	AB-50	SU-46	Brightness
B	Shaft	Not Req.	Not Req.	FKS-1/4	AK-1	Not Req.	Attach to R5A

* CONCENTRIK EQUIVALENT-KIT K-2, BASE ELEMENTS & SHAFTS BU-108 & PI-204 (Panel)

BU-137 & R2-216 (Rear) & SWITCH 76-1.

RESISTORS

ITEM No.	RATING OHMS WATT	REPLACEMENT DATA		NOTES	ITEM No.	RATING OHMS WATT	REPLACEMENT DATA		NOTES
		AIRCASLE PART No.	IRC PART No.				AIRCASLE PART No.	IRC PART No.	
R6	39000	RCC392K	BTS-3900		R44A	500K	RCC475M	BTS-4.7Meg	
R7	47K	RCC473M			B	500K	†A-1376-6F		
R8	10K	RCC103K	BTS-10K		R45	3900	RCC391M	BTA-390	
R9	22000	RCC222M	BTS-2200		R46	47000	RCC472K	BTS-4700	
R10	47000	RCC472M	BTS-4700		R47	22000	RCC222M	BTS-2200	
R11	220K	RCC224M			R48	10K	RCC103K	BTS-10K	
R12	15K	RCC153M	BTS-15K		R49	22K	RCC223K	BTA-22K	
R13	10K	RCC103K	BTS-10K		R50A	22K		BTS-22K	
R14	47000	RCC472M	BTS-4700		B	82000	†A-1375-6F	BTS-8200	
R15	68000	RCC682M			C	82000		BTS-8200	
R16	470	RCC470M			R51	15000	RCC152M	BTS-1500	
R17	22K-5%		BTS-22K-5%		R52	100K	RCC104M	BTA-100K	
R18	1500	RCC151M	BTS-150		R53	150K	RCC154M	BTS-150K	
R19	470	RCC470M			R54	470K	RCC474M	BTS-470K	
R20	56000	RCC562M			R55	82000	RCC822M	BTS-8200	
R21	2.2Meg	RCC225M	BTS-2.2Meg		R56	2.2Meg	RCC225M	BTS-2.2Meg	
R22	1500	RCC151M	BTS-150		R57	15000	RCC152M	BTS-1500	
R23	1500	RCC151M	BTS-150		R58	47000	RCC472K	BTA-4700	
R24	1500	RCC151M	BTS-150		R59	27K	RCC273K	BTS-27K	
R25	680K	RCC684M	BTS-680K		R60	100K	RCC104K	BTS-100K	
R26	56000	RCC562M	BTS-5600		R61	100K	RCC104K	BTS-100K	
R27	1 Meg	RCC105M	BTS-1 Meg		R62	4.7Meg	RCC475M	BTS-4.7Meg	
R28	820	RCC820M	BTS-82		R63	470K	RCC474M	BTS-470K	
R29	82K	RCC823K	BTA-82K		R64	15000	RCC152K	BTS-1500	
R30	56000	RCC562K	BTS-5600		R65	39000	RCC392K	BTS-3900	
R31	22000	RCC222M	BTS-2200		R66	100K	RCC104K	BTS-100K	
R32	150K	RCC154M	BTS-150K		R67	270K	RCC274K	BTS-270K	
R33	82K	RCC823K	BTA-82K		R68	47000	RCC472K	BTS-4700	
R34	1 Meg	RCC105M	BTS-1 Meg		R69	470	RCC470M		
R35	47K	RCC473M	BTS-47K		R70	470K	RCC474M	BTS-470K	
R36	220K	RCC224M	BTS-220K		R71	10K	RCC103M	BTS-10K	
R37	470K	RCC474M			R72	3.30	RCC333K		
R38	820	RCC820M	BTS-82		R73	680K	RCC684M		
R39	82K	RCC823M	BTA-82K		R74A	10000			
R40	47K	RCC473M	BTS-47K		B	39000	RWT402K		
R41	68000	RCC682K	BTS-6800		R75	220K	RCC224K	BTS-220K	
R42	68000	RCC682K	BTS-6800						

† Items R44A, R44B, C42A, C42B, C42C are combined in one unit.

* Items R50A, R50B, R50C, C45A, C45B, C45C are combined in one unit.

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA				
	PRI	SEC. 1	SEC. 2	SEC. 3	AIRCASLE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	TRIAD PART No.
T1	117VAC ② 1.7A	680VCT ② .200ADC	5VAC ② 3A	6.3VAC ② 1.2A SEC 4 ② 6.3VAC ② 7.1A	B-1650-13	P-8183 ①	P-3070	TP-370	R-35BC

① Drill new mtg. holes.

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING DC RESISTANCE PRI. SEC.	REPLACEMENT DATA					NOTES
		AIRCASLE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	TRIAD PART No.	
T2	3740Tap ② 240	11.80Tap ② .50, 750	B-1675-13A	A-8130 ① ②	HVO-7 ③ ④	TFB-5 ⑤ ⑥	Horiz. Output Trans.
T3	8000 100 520	A-1652-13 B-1452-9	A-8112 DY-8A	A-3036 MDF-70	TSO-5 ② TY-2	A-99X ② Y-12	Vert. Output Trans Horiz. Deflection Coils Vert. Deflection Coils

① Use with width coil WC-5.

② Drill one new mtg. hole.

③ Use with width coil MWC-1.

④ Drill new mounting holes.

⑤ Use width coil (with AGC winding) with approx. range of 4 to 29 Millihenry.

⑥ Use with width coil WC-11.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING IMPEDANCE PRI. SEC.	DC RES. PRI. SEC.	REPLACEMENT DATA					NOTES
			AIRCASLE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	TRIAD PART No.	
T5	5.2K	3.40	5500 .50	A-1654-13	A-3823	A-3019	RO-303	S-5X

SPEAKER

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	SIZE	FIELD	V. C. IMP.	AIRCASLE PART No.	JENSEN PART No.	QUAM PART No.	
SPI	5"	PM	3.40	B-4602-15	ST-105 Mod. P5-X	5A07	

FILTER CHOKE

ITEM No.	TOTAL DIRECT CURRENT	RATINGS		REPLACEMENT DATA				
		D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 °C)	AIRCASLE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	TRIAD PART No.
L1	.200ADC	550	2.2HY	A-1651-13	C-2325	C-2974 ①	TR-4200 ①	C-23X

① Drill one new mtg. hole.

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	AIRCASLE PART No.	MERIT PART No.	
L2	Ant. Coils	00				
L3	RF. Choke	00				
L4	RF. Mixer Grid & Osc. Coils	00				
L5	File. Choke	00				
L6	1st. Video IF	1.10				
L7	File. Choke	00		A-1481-10		
L8	2nd. Video IF	.40				
L9	File. Choke	00		A-1481-10		
L10	3rd. Video IF	.40		A-1476-10		
L11	4th. Video IF	.40		A-1476-10		
L12	Series Peaking Coil	4.80		A-1482-10		
L13	Shunt Peaking Coil	14.50		A-1485-10	TV-188	120 Microhenries 600 Microhenries
L14	Series Peaking Coil	170		A-1483-10	TV-185 *	240 Microhenries, wound on 18K resistor
L15	Shunt Peaking Coil	100		A-1484-10	TV-188	380 Microhenries
L16	Sound IF	2.50		A-1477-10		
L17	Ratio Det.	4.20	.20 CT	A-1478-10	TV-110	Tertiary Winding - .50
L18	Horiz. Osc.	500		A-1479-10	TV-163	
L19	Width Coil	.250		A-1486-10	MWC-2	

* Parallel with a 18K resistor.

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA			
			AIRCASLE PART No.	LITTELFUSE PART No.	BUSS PART No.	
M1	MTH	5A 250V	A-3751-30	312005	342001	MTH5
M2	AGC	1/4A 250V	A-3750-30	312.250	357001	AGC -1/4

MISCELLANEOUS

ITEM No.	PART NAME	AIRCASLE PART No.	NOTES
M3	RF Tuner	B-4100-33	
M4	Focus Magnet	B-4101-33	
M5	Ion Trap	A-4102-33	
B3	Trimmer	CVM501ST	Horiz. Drive (50-500MMF)

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		AIRCASLE PART No.	STANDARD REPLACEMENT		
V1	RF Amplifier	6CB6	6CB6	7CM	
V2	Converter	6J6	6J6	7BF	
V3	1st. Video IF Amp.	6AG5	6AG5	7BD	
V4	2nd. Video IF Amp.	6AG5	6AG5	7BD	
V5	3rd. Video IF Amp.	6AG5	6AG5	7BD	
V6	Video Detector- AGC Rectifier	6AL5	6AL5	6BT	
V7	Video Output	6AC7	6AC7	8N	
V8	DC Restorer- Sync Separator - Sync Phase Inv.	12AU7	12AU7	9A	
V9	Sound IF Amp.	6AU6	6AU6	7BK	
V10	Ratio Detector- AF Amplifier	6T8	6T8	9E	
V11	Audio Output	6V6GT	6V6GT	7AC	
V12	Vert. Mult.	6SN7GT	6SN7GT	8BD	
V13	Vert. Output	6K6GT	6K6GT	7S	
V14	Horiz. AFC	6AL5	6AL5	6BT	
V15	Horiz. Mult.	6SN7GT	6SN7GT	8BD	
V16	Horiz. Output	6BG6G	6BG6G	5BT	
V17	Damper	6W4GT	6W4GT	4CG	
V18	HV Rectifier	1B3GT	1B3GT	3C	
V19	LV Rectifier	5U4G	5U4G	5T	

CATHODE-RAY TUBE

ITEM No.	REPLACEMENT DATA			RTMA BASE TYPE	NOTES
	AIRCASLE PART No.	SYLVANIA PART No.			
V20	20CP4	20CP4 ① 20DP4A ① 20DP4		12D	① Circuit changes necessary

CAPACITORS

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

ITEM No.	RATING		REPLACEMENT DATA								NOTES
	CAP.	VOLT	AIRCATTLE PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.		
C1A	40	450	CED4445	PR5450/40-40		UP74445		2N537	TVA-2740	Red	
B	40	450								Red	
C2	80	450	CES8045	PR5450/40-40		BR8045		ST845	TVA-1716	Red	
C3A	20	450	CET21C45	AFH4-62		EDL2245		4N723	TVA-2730	Red	
B	10	450				BR5015			TVA-1311	Blue	
C4	150	50								Green	
C5	4	50	CES0405	PRS150/4		BR550		TC30	TVA-1303		
C4	3-9				829-10						
C6	-5-3		CVC030ST		829-3			CT565A			
C7	120		CCU05121K	SI120	D6-121	TM5T12	GP2K-121	UC-5312	5GA-T12		
C8	1000		CDZ055102Y	BPD-001	DD-102	TM5D1	801-001	DC-521	5HK-D1		
C9	100		CCU05101K	SI100	D6-101	TM5T1	GPIK-101	UC-531	5GA-T1		
C10	-5-3		CVC030ST		829-3			CT565A			
C11	20		CCO05200K	SI20NP0	TCZ-20		NP0K-200	ZT-542	5TCC-Q2		
C12	100		CCU05100K	SI10N750	TCN-10		N750K-100	NT-541	5TCU-Q1		
C13	-5-3		CVC030ST		829-3			CT565A			
C14A	1000			BPD-2X001	DD-2-102	TM5DD1	812-001	DGD-521	5HK-2D1		
B	1000										
C15	10		CCO05100K	SI10NP0	TCZ-10		NP0K-100	ZT-541	5TCC-Q1		
C16	120		CCU05121K	SI120	D6-121	TM5T12	GP2K-121	UC-5312	5GA-T12		
C17	4700		CDZ05502Y	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D47		
C18	4700		CDZ05502Y	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D47		
C19	4700		CDZ05502Y	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D47		
C20	4700		CDZ05502Y	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D47		
C21	.25	200	CPZ02254M	P488-25	PJ2P25			PT4025	2TM-P25		
C22	4700		CDZ05502Y	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D47		
C23	4700		CDZ05502Y	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D47		
C24	4700		CDZ05502Y	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D47		
C25	4700		CDZ05502Y	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D47		
C26	4700		CDZ05502Y	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D47		
C27	100		CCU05101K	SI100N750	TCN-100		N750L-101	NT-531	5TCU-T1		
C28	10000		CDZ05103Y	BPD-01	DD-103	TM5S1	821-01	DC-511	5HK-S1		
C29	5		CCG05050M	SI5NP0	TCZ-4,7		NP0K-050	ZT-555	5TCCB-V47		
C30	.05	200	CPZ02503M	P288-05	DF-503	PJ285		PT405	2TM-S5		
C31	10000		CDZ05103Y	BPD-01	DD-103	TM5S1	821-01	DC-511	5HK-S1		
C32	.05	600	CPZ05603M	P688-05	DF-503	PTE685		PT615	6TM-S5		
C33	.1	400	CPZ04104M	P488-1	DF-104	PTE4P1		PT401	4TM-P1		
C34	2.2		CCG05022D		TCZ-2,2		NP0K-2R2		5TCCB-V22		
C35	47		CCU05470K	SI47N750	TCN-47		N750K-470	NT-5447	5TCU-C47		
C36	33		CCG05390M	SI39	D6-390	5W5G4	GPIK-390	UC-5439	5GA-Q39		
C37	10000		CDZ05103Y	BPD-01	DD-103	TM5S1	821-01	DC-511	5HK-S1		
C38	10000		CDZ05103Y	BPD-01	DD-103	TM5S1	821-01	DC-511	5HK-S1		
C39	330		CMA05331M	SI330	D6-331		GP2K-331	UC-5333	5GA-T33		
C40	1500	500	CMA05152M	1467-0015	D6-152	1W5D1	GP2L-152	MC256	1FM-215		
C41	10000		CDZ05103Y	BPD-01	DD-103	TM5S1	821-01	DC-511	5HK-S1		
C42A	.01										
B	250		TA-1376-6F		TPC-80		TA1404-01		TA102C1		
C43	.005	600	CWZ06502M	P688-005	D6-502	PTE6D5	GP2-333-502	PT625	6TM-D5		
C44	.1	400	CPZ04104M	P488-1	DF-104	PTE4P1		PT401	4TM-P1		
C45A	.002			P688-002		PTE6D2		PT622			
B	.005		TA-1375-6F	P688-005	TPC-100	PTE6D5	TA1405-01	PT625	TA101C1		
C	.005			P688-005		PTE6D5		PT625			
C46	.01	600	CPZ06106M	P688-01	D6-103	PTE6S1	GP2-333-103	PT611	6TM-S1		
C47	.05	600	CPZ06053M	P688-05	DF-503	PTE8S5		PT615	6TM-S5		
C48	.1	600	CPZ06104M	P688-01	DF-104	PTE6P1		PT601	6TM-P1		
C49	1000	500	CMA05102K	1468-001	D6-152	1W5D1	GP2L-102	MC255	1FM-21		
C50	1000	500	CMA05102K	1468-001	D6-152	1W5D1	GP2L-102	MC255	1FM-21		