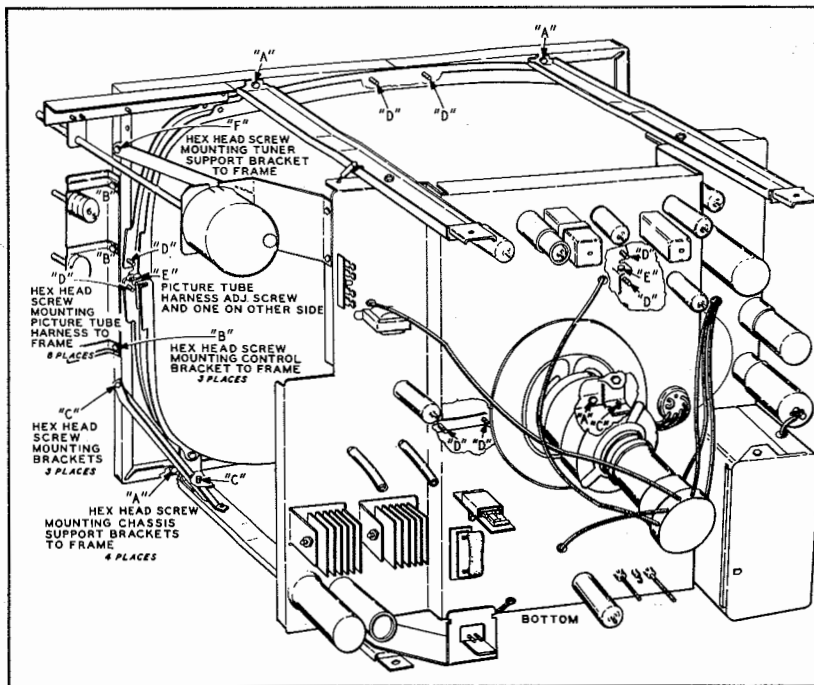


CABINET-REAR VIEW

DISASSEMBLY INSTRUCTIONS



PICTURE TUBE REMOVAL

1. Remove 4 screws marked "A".
2. Remove 3 screws marked "B" and 1 screw marked "F".
3. Remove 3 screws marked "C" and lift chassis from picture tube frame assembly.
4. Loosen 8 screws marked "D" and 2 screws marked "E".
5. Remove old picture tube and install new tube reversing the steps outlined, keeping the following in mind:
 - a. There is a mold match line on the picture tube. Assemble the harness to the picture tube, centering the harness over the mold match line on picture tube. Holes are provided in harness to check the centering. Then tighten the screws marked "E" until the picture tube is firmly in place on harness.

NOTE: If the above is not observed, difficulty may be encountered in replacing the entire assembly in the cabinet.

FOLDER 1
SET 441

AIRLINE MODELS WG-5060A, B, WG-5061A, B, WG-5062A, B, WG-5067A, B, WG-5071A, B, WG-5072A, B, WG-5077A, B, WG-5160A, B, WG-5162A, B, WG-5172A, B

PHOTOFACT* Folder



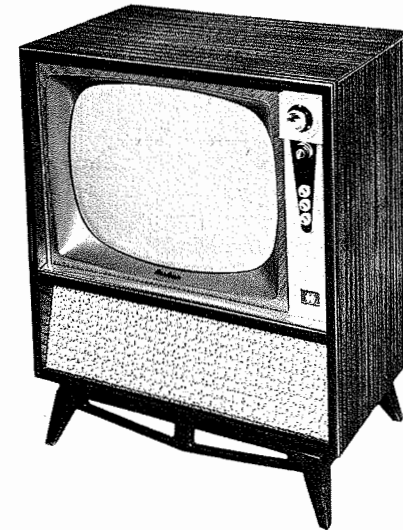
AIRLINE MODELS WG-5060A, B, WG-5061A, B, WG-5062A, B, WG-5067A, B, WG-5071A, B, WG-5072A, B, WG-5077A, B, WG-5160A, B, WG-5162A, B, WG-5172A, B

DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

1. Remove 7 push-on type knobs.
2. Remove 6 wood screws holding rear cover. Remove the rear cover.
3. Remove speaker leads.
4. Remove 2 screws holding antenna terminal board.
5. Remove 2 wood screws holding top chassis braces.
6. On models having side mounted controls, remove 1 hex screw holding bracket to cabinet and hex screw painted red near Vertical Output transformer holding control panel. Swing control panel back into cabinet to clear shafts.
7. Remove 4 bottom chassis bolts.
8. Remove chassis.

SEE PICTURE TUBE REMOVAL PAGE 16



MODEL WG-5062A

CAUTION

ONE SIDE OF AC LINE CONNECTED TO CHASSIS.

Care should be exercised when connecting test equipment or physically contacting chassis. Isolation devices employed by manufacturer should be checked and properly connected before returning receiver to owner.

TRADE NAME	Airline	MODELS	WG-5060A, B, WG-5061A, B, WG-5062A, B, WG-5067A, B, WG-5071A, B, WG-5072A, B, WG-5077A, B, WG-5160A, B, WG-5162A, B, WG-5172A, B.
SUPPLIER	Montgomery Ward & Co., 619 Chicago Avenue, Chicago, Illinois		
TYPE SET	Television Receiver		
TUBES	VHF-Fourteen, UHF-Fifteen		
POWER SUPPLY	110-120 Volts AC, 60 Cycle	RATING	160 Watts, 1.45 Amp. @ 117 Volts AC
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 ADJUSTMENT

For touch-up adjustment of the VHF Oscillator, it is necessary to remove the rear cover and supply power to set. (See disassembly instructions.)

SAFETY GLASS REMOVAL

Remove 5 wood screws holding metal trim strip at top of safety glass. Tilt top of glass out and lift up to remove.

RANGE CONTROL

Observe the picture and advance the Range control to a point where the picture distorts or a buzz is heard in the sound. Back off from this setting until the picture becomes stable with no noise in the sound.

FOCUS

No provision is made to vary the focus on this receiver. (Some sets may be equipped with a Beam Alignment Magnet which may be adjusted for best focus.)

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.)

SOUND IF DETECTOR BUZZ ADJUSTMENT

To eliminate intercarrier buzz, adjust the Buzz control for MINIMUM buzz and maximum sound. (For location, see tube placement chart.)

FUSE DEVICE

A 7.5Ω fusible resistor (R64) is used for low voltage 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.

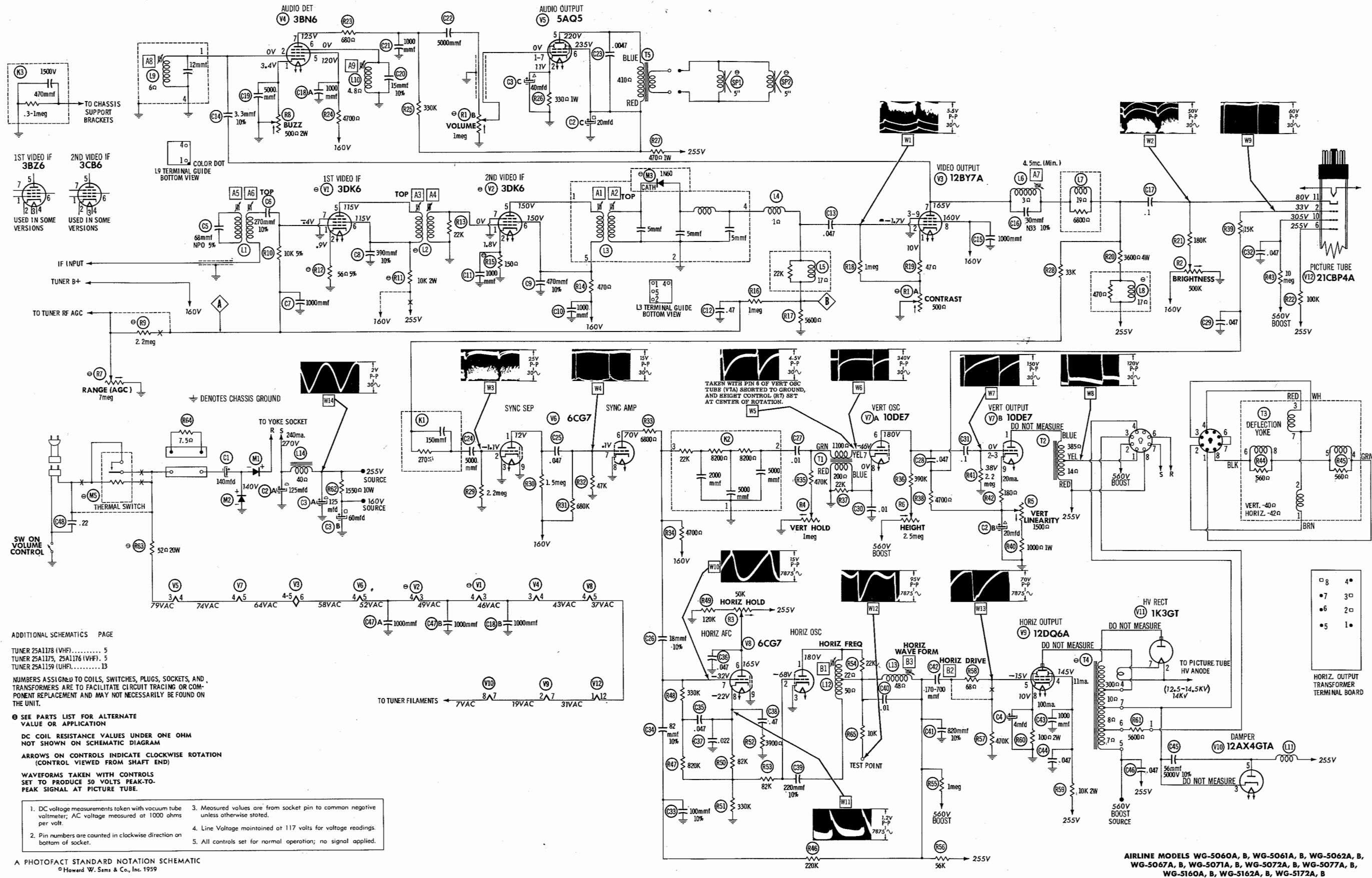
HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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 J109

the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1959 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America

AIRLINE MODELS WG-5060A, B, WG-5061A, B, WG-5062A, B, WG-5067A, B, WG-5071A, B, WG-5072A, B, WG-5077A, B, WG-5160A, B, WG-5162A, B, WG-5172A, B

SET 441 FOLDER 1



AIRLINE MODELS WG-5060A, B, WG-5061A, B, WG-5062A, B, WG-5067A, B, WG-5071A, B, WG-5072A, B, WG-5077A, B, WG-5160A, B, WG-5162A, B, WG-5172A, B

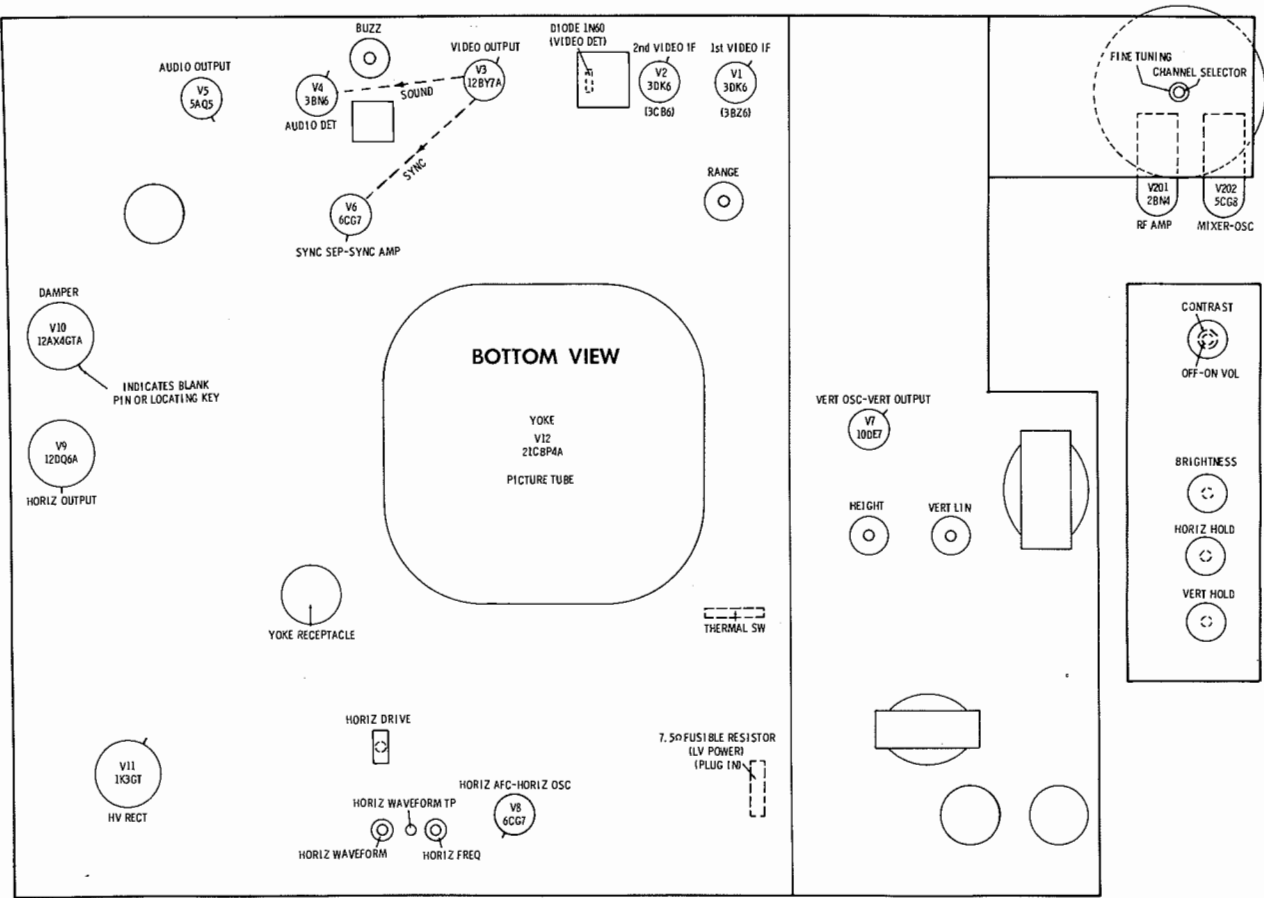
FOLDER 1

RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	3DK6	750K	56Ω	9Ω	10Ω	†10K	†10K	0Ω		
V2	3DK6	.1Ω	150Ω	10Ω	11Ω	†2000Ω	†2000Ω	0Ω		
V3	12BY7A	●300Ω	1meg	0Ω	13Ω	13Ω	12Ω	†3600Ω	†1550Ω	0Ω
V4	3BN6	●320Ω	6Ω	9Ω	8.5Ω	†6200Ω	4.8Ω	†330K		
V5	5A05	0Ω	330Ω	16Ω	15Ω	†900Ω	†470Ω	0Ω		
V6	6CG7	†1.5meg	2.2meg	0Ω	12Ω	11Ω	†13K	47K	0Ω	0Ω
V7	10DE7	†400Ω	2.2meg	2.2meg	15Ω	13Ω	●†1.6meg	●900K	200Ω	●1800Ω
V8	6CG7	†56K	410K	0Ω	8.5Ω	7.5Ω	●†38K	1.5meg	410K	0Ω
V9	12DQ6A	TP	4Ω	NC	†10K	470K	NC	6Ω	100Ω	TOP CAP †10Ω
V10	12AX4GTA	NC	NC	†1.2meg	NC	†.1Ω	NC	4Ω	2Ω	
V11	1K3GT	PINS 1 THRU 8 HAVE INFINITE RESISTANCE								TOP CAP †310Ω
V12	21CBP4A	6Ω	●20K	Pin 6 †100K	Pin 10 †10meg	Pin 11 ●250K	Pin 12 7.5Ω			
V201	2B4	0Ω	5000Ω	0Ω	.5Ω	†2500Ω	0Ω	5000Ω		
V202	5CG8	10K	†7100Ω	0Ω	2Ω	.5Ω	†2500Ω	†11K	0Ω	320K

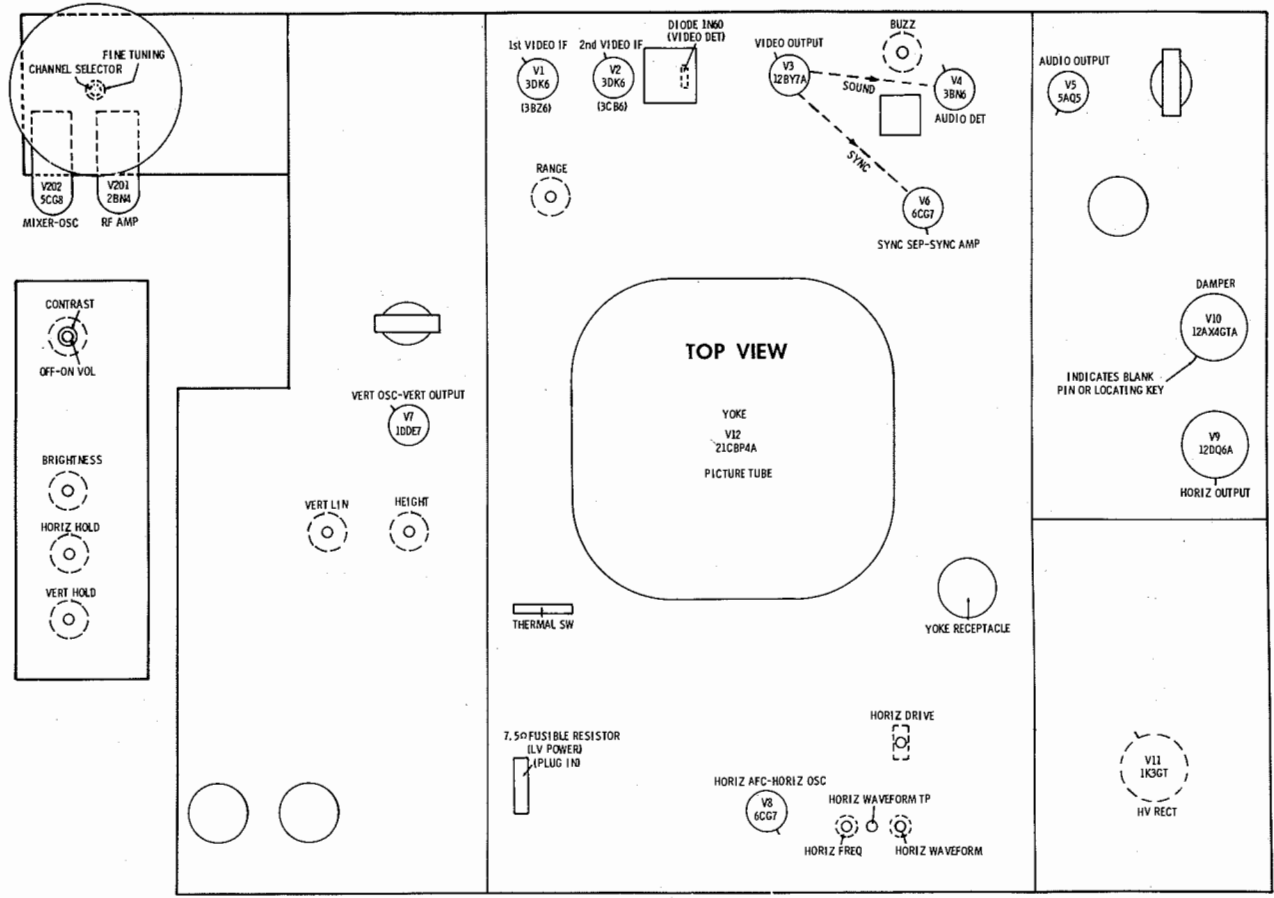
† THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
● THIS READING WILL VARY. CONTROL SET FOR NORMAL OPERATION.
† MEASURED FROM 255V SOURCE.
† MEASURED FROM PIN 3 OF V10.

NC NO CONNECTION
TP TIE POINT



TUBE PLACEMENT CHART

TUBE PLACEMENT CHART



TUBE FAILURE CHECK CHART

The following chart lists tubes whose failures are most likely to produce indicated symptoms. Refer to tube placement chart for location and type of tube.

POWER SUPPLY FAILURE No raster, no sound Fusible Resistor (7.5Ω), Rectifier (B+)	LOSS OF PICTURE OR SOUND No pic, no sound, has raster V1, V2, Diode (Video Det), V3 No pic, no sound, has snow V201, V202 No pic, has sound, has raster V3, V12 Has pic, no sound V4, V5
SWEEP FAILURE No raster, has sound V8, V9, V10, V11, V12, Rectifier (B+) No vertical deflection V7 Poor vert. linearity or foldover V7 Poor horiz. linearity or foldover V8, V9, V10 Narrow picture V8, V9, V10, Rectifier (B+) Vert. off freq. V7 Horiz. off freq. V8	SYNC FAILURE No vert. sync V8 No horiz. sync V8, V9 No vert. or horiz. sync V8

This receiver employs tubes used in a series filament network, an open filament in any tube will cause the set to be inoperative. (See circuit below.)

AIRLINE MODELS WG-5060A, B, WG-5061A, B, WG-5062A, B, WG-5067A, B, WG-5071A, B, WG-5072A, B, WG-5077A, B, WG-5160A, B, WG-5162A, B, WG-5172A, B

FOLDER 1

ALIGNMENT INSTRUCTIONS

PRE-ALIGNMENT INSTRUCTIONS

Use an ISOLATION TRANSFORMER TO PROTECT the Test Equipment.
The high voltage lead should be securely taped and kept away from the chassis.
Allow a 20 minute warm-up period for the receiver and test equipment.
Suggested Alignment Tools: GENERAL CEMENT #8606, 8606L, 8282, 9295
WALSCO #2526, 2543, 2544, 2545

VIDEO IF ALIGNMENT

Connect the negative lead of a 7 volt bias supply to point A. Positive to chassis.
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.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1. .01mfd	High side to pin 1 (grid) of 2nd Video IF. Low side to chassis. Adjust output for 4VP-P on scope.	44.0MC (10MC Swp)	42.4MC 45.75MC	Any non-interfering channel	Vert. Amp. thru 47K to point B. Low side to chassis. (Across Video Det. load)	A1, A2	Adjust for maximum gain and symmetry of response similar to Fig. 1 with markers as shown. A1 controls marker position and A2 controls gain and symmetry.
2. "	High side to pin 1 (grid) of 1st Video IF. Low side to chassis. Adjust for 4VP-P on scope.	"	42.4MC 43.5MC 44.5MC 45.75MC	"	"	A3, A4	Adjust for maximum gain and symmetry of response similar to Fig. 2 with markers as shown. A3 controls marker position and A4 controls gain and symmetry.
3. Direct	Place a thin insulated metal strip between the Mixer-Osc. tube (V202), and tube shield. Connect the high side of sweep generator to the metal strip. Low side to chassis.	"	41.25MC 42.4MC 43.5MC 44.5MC 45.75MC	"	"	A5, A6, Mixer Plate Coil	Adjust for maximum gain and symmetry of response similar to Fig. 3 with markers as shown. Adjust A5 to place 41.25MC marker in trap notch.

4.5MC TRAP ALIGNMENT

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
4. .01mfd	High side to pin 2 (grid) of Video Output. Low side to chassis.	4.5MC (Unmod)	Any non-interfering channel	AC probe to pin 11 (cathode) of picture tube. Common to chassis. Use 0-10V AC scale.	A7	Adjust for MINIMUM deflection.

SOUND IF ALIGNMENT

Tune in a TV station and reduce the signal strength at the antenna terminals until a hiss is heard in the sound similar to super-regeneration.
Adjust A8, A9 and the Buzz control (R8) for maximum undistorted sound with MINIMUM buzz.
If the hiss disappears during adjusting, further reduce the signal strength.

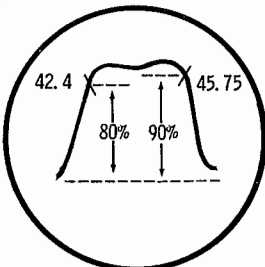


FIG. 1

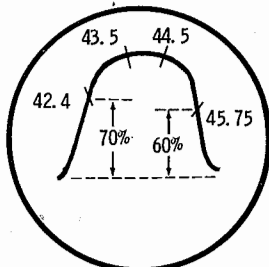


FIG. 2

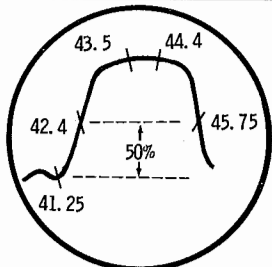


FIG. 3

TUNER ALIGNMENT INSTRUCTIONS LOCATED ON PAGE 6

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Suggested Alignment Tools:

B1, B3.... GENERAL CEMENT #8271, 8279
WALSCO #2524, 2527
B2 1/4" Nut Driver

Turn the Horizontal Hold fully clockwise. Tune in a station and adjust the Horizontal Frequency slug (B1) until the picture is just about to tear out of sync as can be seen at the top of the picture.

Turn the Contrast fully counterclockwise and the Brightness clockwise so that the picture appears washed out. Turn the Horizontal Drive trimmer (B2) clockwise until white vertical bars (drive lines) appear in the left center portion of the raster, then counterclockwise until the white bars just disappear.

Connect the vertical amplifier of a scope to point C. Low side to chassis. Adjust the Horizontal Waveform slug (B3) until the round and sharp peaks of the waveform are equal in amplitude. See Fig. 4. Keep the picture in sync during this adjustment.

ADJUST FOR EQUAL PEAKS

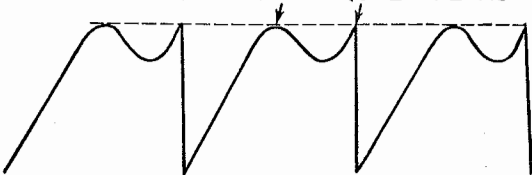
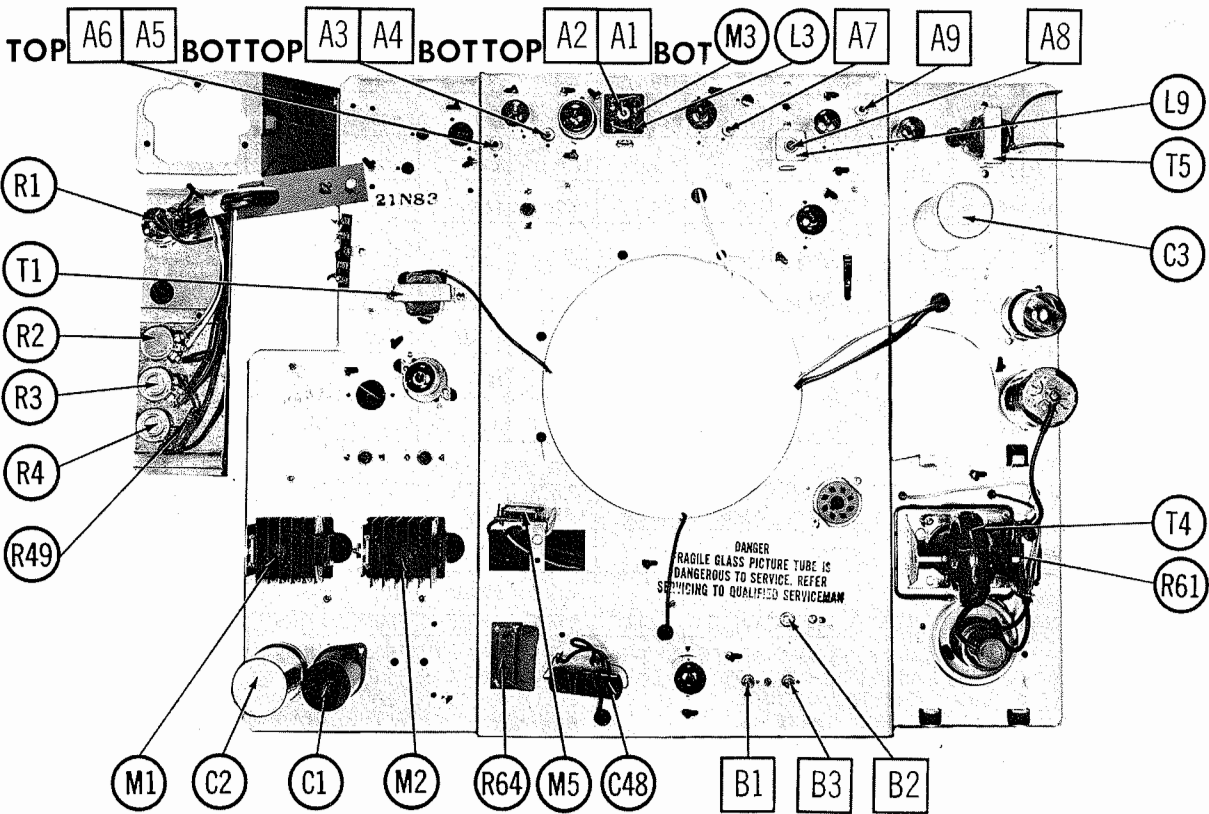
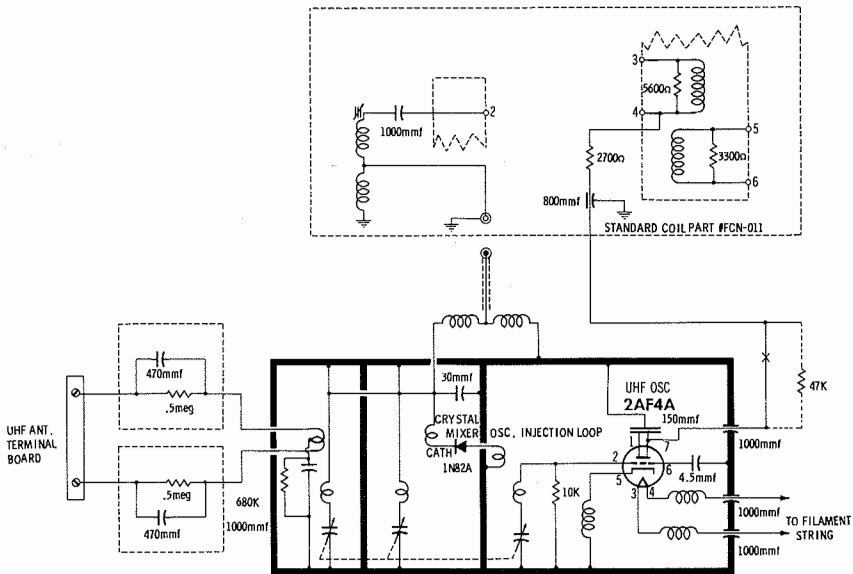


FIG. 4



CHASSIS - TOP VIEW

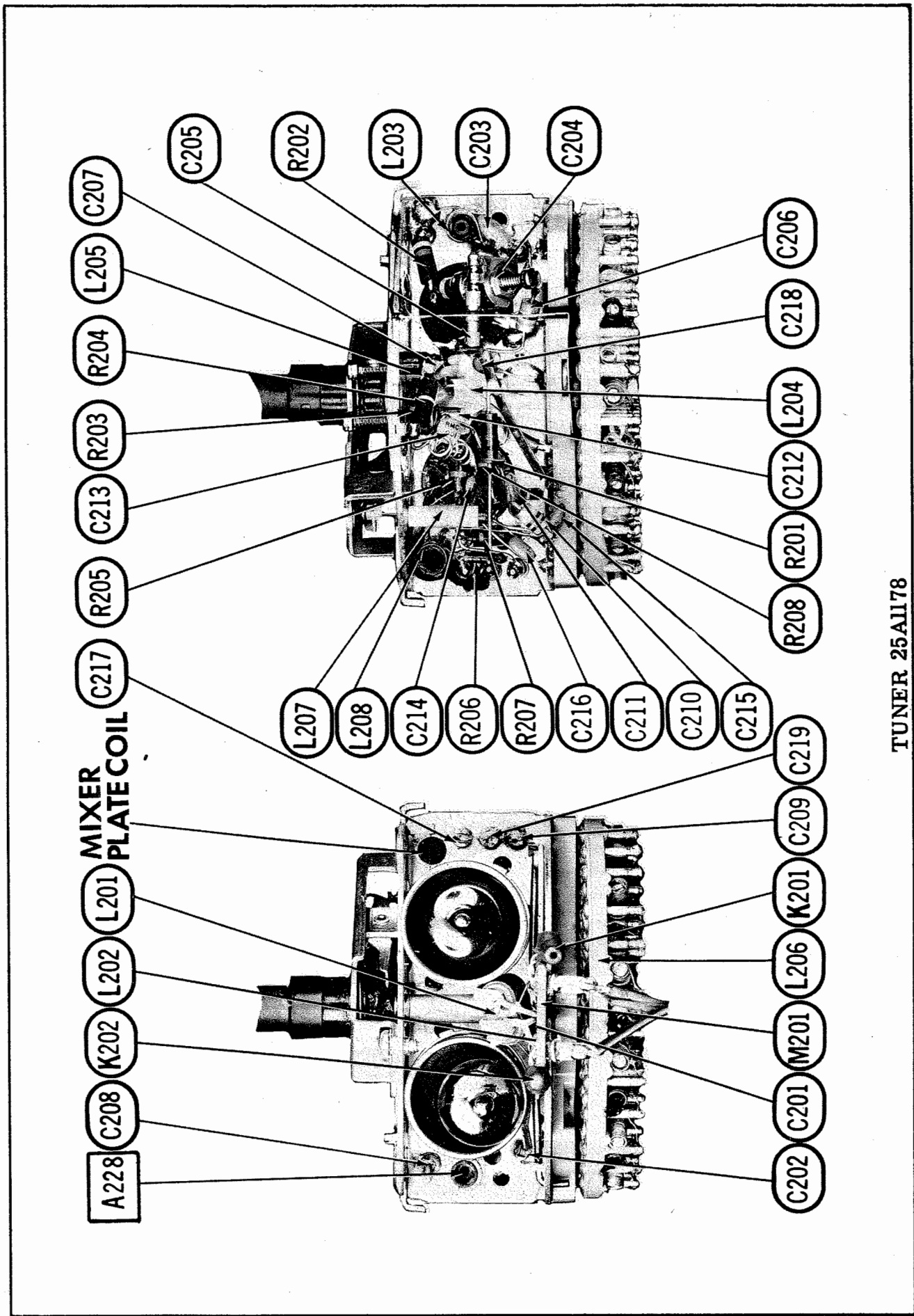


A PHOTOFAC STANDARD NOTATION SCHEMATIC
© Howard W. Sams & Co., Inc. 1959

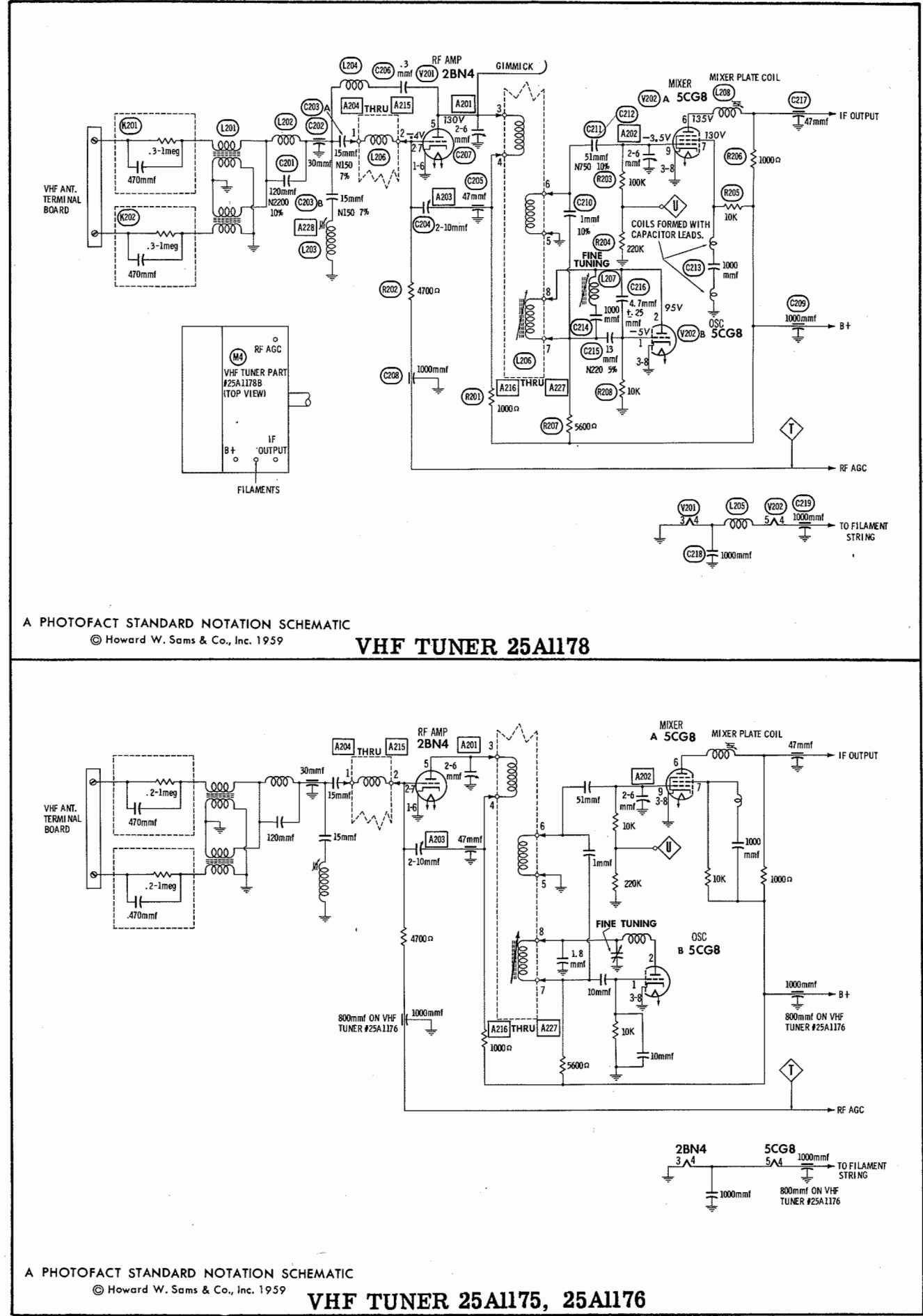
UHF TUNER 25A1159

AIRLINE MODELS WG-5060A, B, WG-5061A, B, WG-5062A, B, WG-5067A, B, WG-5071A, B, WG-5072A, B, WG-5077A, B, WG-5160A, B, WG-5162A, B, WG-5172A, B

FOLDER 1



TUNER 25A1178



AIRLINE MODELS WG-5060A, B, WG-5061A, B, WG-5062A, B, WG-5067A, B, WG-5071A, B, WG-5072A, B, WG-5077A, B, WG-5160A, B, WG-5162A, B, WG-5172A, B

TUNER ALIGNMENT INSTRUCTIONS

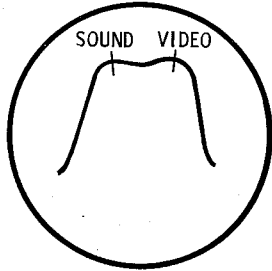
PRE-ALIGNMENT INSTRUCTIONS

Use an ISOLATION TRANSFORMER to PROTECT the Test Equipment.
The high voltage lead should be securely taped and kept away from the chassis.
Allow a 20 minute warm-up period for the receiver and test equipment.
Suggested Alignment Tools: A201, A202, A203 GENERAL CEMENT #5000, 5003, 5014, 5015, 5016, 8276, 8290
WALSCO #2512, 2515, 2522, 2523, 2525, 2537
A216 thru A227 GENERAL CEMENT #5009, 8195, 8274, 8275, 8728, 8987
WALSCO #2531
A228 GENERAL CEMENT #9296, 9297
WALSCO #2546, 2547

VHF RF AND MIXER 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.
Coils not containing adjustable cores are adjusted by expanding or compressing coil turns.
Connect the negative lead of a 2.5 volt bias supply to point \diamond . Positive to chassis.

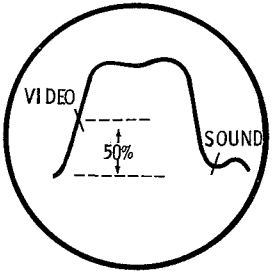
	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	Two 120 Ω Carbon Resistors	Across antenna terminals with 120 Ω in each lead.	195MC	193. 25MC 197. 75MC	10	Vert. Amp. thru 10K to point \diamond . Low side to chassis.	A201, A202, A203	Adjust A201 and A202 for maximum amplitude and symmetry with markers as shown in Fig. 201. Increase bias for MINIMUM amplitude of response curve. Without changing the bias adjust A203 to obtain MINIMUM response on the scope. Recheck A201.
2.	"	"	213MC 207MC 201MC 195MC 189MC 183MC 177MC 85MC 79MC 69MC 63MC 57MC	211. 25MC 215. 75MC 205. 25MC 209. 75MC 199. 25MC 203. 75MC 193. 25MC 197. 75MC 187. 25MC 191. 75MC 181. 25MC 185. 75MC 175. 25MC 179. 75MC 83. 25MC 87. 75MC 77. 25MC 81. 75MC 67. 25MC 71. 75MC 61. 25MC 65. 75MC 55. 25MC 59. 75MC	13 12 11 10 9 8 7 6 5 4 3 2	"	A204 A205 A206 A207 A208 A209 A210 A211 A212 A213 A214 A215	Adjust for maximum amplitude of response similar to Fig. 201. Adjust by expanding or compressing coil turns.



VHF OSCILLATOR 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.
Connect the negative lead of a 4.5 volt bias supply to point \diamond . Positive to chassis.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
3.	Two 120 Ω Carbon Resistors	Across antenna terminals with 120 Ω in each lead.	213MC 207MC 201MC 195MC 189MC 183MC 177MC 85MC 79MC 69MC 63MC 57MC	211. 25MC 215. 75MC 205. 25MC 209. 75MC 199. 25MC 203. 75MC 193. 25MC 197. 75MC 187. 25MC 191. 75MC 181. 25MC 185. 75MC 175. 25MC 179. 75MC 83. 25MC 87. 75MC 77. 25MC 81. 75MC 67. 25MC 71. 75MC 61. 25MC 65. 75MC 55. 25MC 59. 75MC	13 12 11 10 9 8 7 6 5 4 3 2	Vert. Amp. thru 47K across Video Detector load.	A216 A217 A218 A219 A220 A221 A222 A223 A224 A225 A226 A227	Adjust to place sound marker in trap notch as in Fig. 202. Video marker should fall at 50%.



UHF 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.

TRAP ADJUSTMENT

Some types of interference may be reduced by adjusting A228. Tune in the channel where interference occurs and adjust A228 for MINIMUM interference while observing the picture.

TUNER PARTS LIST AND DESCRIPTIONS

25A1178

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V201	RF Amp.	2BN4	

ITEM No.	USE	TYPE	NOTES
V202	Mixer-Osc.	5CG8	

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			REPLACEMENT DATA						NOTES
	CAP.	VOLT	TOL	PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MAILORY PART No.	SPRAGUE PART No.	
C201	120		N2200 10%	13L-031						
C202	30			13M420U300J-01						
C203A	15		N150 7%	13L8PG150N2						
	B 15									
C204	2-10			31B-206-08		829-10				
C205	47			13M130U470J-01						
C206	.3			13D-111-42						
C207	2-6			31B-206-01		829-6				
C208	1000			13M420EA102Z-01	EF-1000	MFT-1000				
C209	1000			13M420EA102Z-01	EF-1000	MFT-1000				
C210	1.0	10%		13D-111-35	NPO-SI 1.0	TCZ-1.0				
C211	51	N750 10%			N750-DI 51	TCZ-51	C10Q51U	CNO-510	5TCCB-V1S 10% *	
C212	2-6			31B-206-01		829-6				
C213	1000			31J-024	BPD-001	DD-102	BYA10DIM	B-210	5HK-DI	
C214	1000			13L6X102Z	BPD-001	DD-102	BYA10DIM	B-210	5HK-DI	
C215	13			13L8R130J						
C216	4.7	N220 5% ±. 25mmf		13L8R47C				CNO-547	5TCCB-V47S ±. 25mmf*	
C217	47			13M420Q470J-01						
C218	1000			13L6X102Z	BPD-001	DD-102	BYA10DIM	B-210	5HK-DI	
C219	1000			13M420EA102Z-01	EF-1000	MFT-1000				

* Not normally in distributors stock. Available thru distributor on order to manufacturer.
NOTE: Part numbers listed above are "Standard Coll" Part Numbers.

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		PART No.	NOTES
	OHMS	WATT		
R201	1000 Ω			
R202	4700 Ω			
R203	100K			
R204	220K			

ITEM No.	RATING		PART No.	NOTES
	OHMS	WATT		
R205	10K			
R206	1000 Ω			
R207	5600 Ω			
R208	10K			

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	PART No.	REPLACEMENT DATA
K201	Antenna Isolation	470mmf., .3-1meg.	13P-198-02	Centralab Sprague RC-47I ACL-1
K202	Antenna Isolation	470mmf., .3-1meg.	13P-198-02	Centralab Sprague RC-47I ACL-1

NOTE: Part numbers listed above are "Standard Coll" Part Numbers.

COILS (RF-IF)

ITEM No.	USE	PART No.	NOTES
L201	Ant. Trans.	31T-3397	†
L202	IF Trap Coil	34A-748	†
L203	IF Trap Coil	34A-782	
L204	RF Choke	34A-1005	
L205	Flt. Choke	31K-137-027	

† Part of M201.

NOTE: Part numbers listed above are "Standard Coll" Part Numbers.

ITEM No.	USE	PART No.	NOTES
L206	Ant, RF, Mixer Grid & Osc. Coils	31T-3361-07	Includes Rotor Disc Assy.
L207	Fine Tuning Coil	34A-787-03	
L208	Mixer Plate Coil	31UA-580-017	

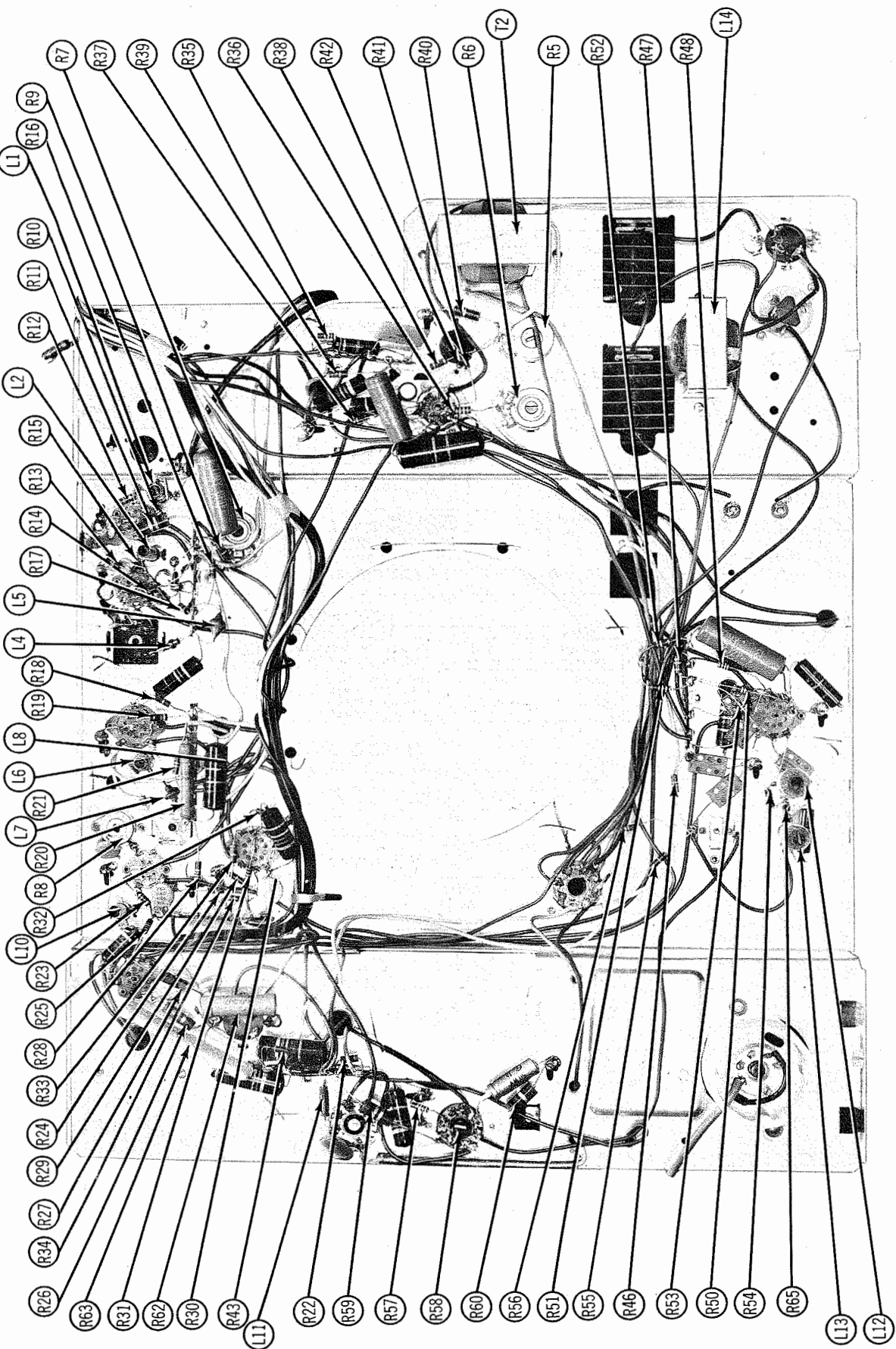
MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M201	Antenna Input Assy Retaining Spring Locking Spring Contact Spring Detent Spring Oscillator Slug	31T-3398-02 23A-172 23A-131 23A-132-02 23A-145 9E-501-01	Includes C201, L201, L202, K201 and K202

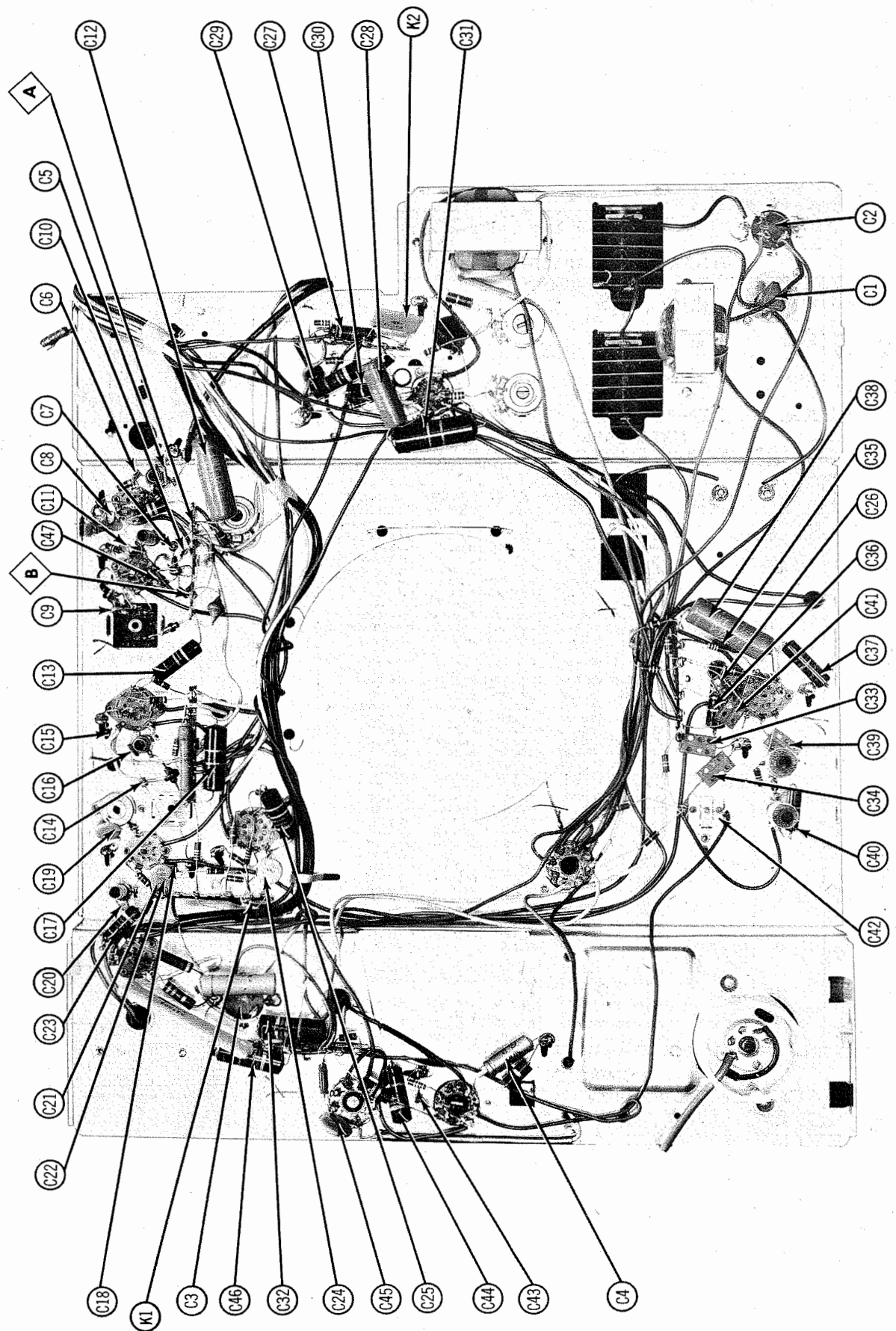
NOTE: Part numbers listed above are "Standard Coll" Part Numbers.

AIRLINE MODELS WG-5060A, B, WG-5061A, B, WG-5062A, B,
WG-5067A, B, WG-5071A, B, WG-5072A, B, WG-5077A, B,
WG-5160A, B, WG-5162A, B, WG-5172A, B

FOLDER 1



CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION



AIRLINE MODELS WG-5060A, B, WG-5061A, B, WG-5062A, B, WG-5067A, B, WG-5071A, B, WG-5072A, B, WG-5077A, B, WG-5160A, B, WG-5162A, B, WG-5172A, B
NOTIFICATION IDENTIFICATION & CAPACITOR & COIL IDENTIFICATION

PARTS LIST AND DESCRIPTIONS

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		AIRLINE PART No.	NOTES
	OHMS	WATT		
R9	2.2meg		B84225	Note 1
R10	10K 5%			Note 2
R11	10K	2W		Note 3
R12	56K 5%			Note 4
R13	22K			
R14	470Ω			
R15	150Ω			
R16	1meg			
R17	5600Ω			
R18	1meg			
R19	47Ω			
R20	3600Ω	4W	43X331	
R21	180K			
R22	100K			
R23	680Ω			
R24	4700Ω			
R25	330K			
R26	330Ω	1W		
R27	470Ω	1W		
R28	35K			
R29	2.2meg			
R30	1.5meg			
R31	680K			
R32	47K			
R33	6800Ω			
R34	4700Ω			
R35	470K			
R36	390K			
R37	22K			

Note 1. Not used in some versions.
Note 2. Some versions may use 470Ω in this application.
Note 3. Some versions may use 47Ω 5% in this application.
Note 4. Some versions may use 180Ω in this application.
Note 5. Some versions may use 57Ω 10W in this application.

COILS (RF-IF)

ITEM No.	USE	AIRLINE PART No.	REPLACEMENT DATA				NOTES
			Meissner PART No.	Merit PART No.	Miller PART No.	Rom PART No.	
L1A	1st Video IF	9A2436					
L2	41.25MC Trap	9A2444					
L3	2nd Video IF	9A2435					
L4	3rd Video IF	9A2435					
L5	Resonant Choke	9A2375	19-3300	TV-199	6155		Includes 30 microhenries
L6	Shunt Peaking Coil	9A2366	20-1004	TV-151	1469	VP-7	30 Microhenries, wound on 22K resistor
L7	Series Peaking Coil	36A28	19-4400	TV-151	6132		350 Microhenries, wound on 6800Ω resistor
L8	Shunt Peaking Coil	36A38	19-3300	TV-199	6155		290 Microhenries, wound on 470Ω resistor
L9	Shunt Peaking Coil	36A38	19-4201	TV-197	6154		220 Microhenries, wound on 470Ω resistor
L10	Sound IF	9A2434	17-1026	TV-121	1480		
L11	Quadrature Coil	9A2387	20-1005	TV-121	1480		
L12	RF Choke	9A2380	19-1001	BC-562	4604		1.5 Microhenries

① Some versions may use Part #9A2390 in this application. ▲ Parallel with 22K resistor. ♦ Disregard tap.
② Alternate part used in some versions. ■ Parallel with 6800Ω resistor. ■ Parallel with 470Ω resistor.

TRANSFORMER (HORIZ. OSC.)

ITEM No.	DC RES.		AIRLINE PART No.	REPLACEMENT DATA				NOTES
	PR1	SEC.		Meissner PART No.	Merit PART No.	Miller PART No.	Rom PART No.	
L13	72Ω		9A2371					
L14	48Ω		9A2372	TV-165	6211	6915	HS-7	Horiz. Freq. tapped @ 50Ω
							HS-5 *	Enlarge mounting hole.

FILTER CHOKE

ITEM No.	RATINGS		AIRLINE PART No.	REPLACEMENT DATA					
	CURRENT (Measured)	DC RES.		Meissner PART No.	Merit PART No.	Miller PART No.	Rom PART No.	Stancor PART No.	Thordorson PART No.
L14	.280A	40Ω	1 Hy.	52X95-9	C5037 ①	C-2991 ①		C-2326 ①	26C43 ①

① Drill new mounting hole.

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	AIRLINE PART No.	REPLACEMENT DATA						
			Hallidorsen PART No.	Merit PART No.	Rom PART No.	Rogers PART No.	Stancor PART No.	Thordorson PART No.	Triad PART No.
T1	Vert. Osc.	54X19	B6702	A-3003	V405	VBO19	A-8125	26A03	A-97X
T2	Vert. Output	51X186-2	Z1900 ①②	A-2855	V307 ①③	VO26 ①	A-8113 ①	26B73 ③	A-118X ②③
T3	Yoke-Horiz. (24MH)	9A2403 ④	DF610	MDF-92	Y90F19/43		Y-16	Y-16	Y-45 & YC-1
	(90°)-Vert. (39MH)		⑤ ⑥	⑤ ⑥ ⑦			⑤ ⑥ ⑦		
	Rear Cover & Centering Device	9A435							
	Yoke Retainer	8X247							
	Yoke Clamp	30X611							
T4	Horiz. Output	53X362G	FB486 ③	HVO-157	X174	EFB188	HO-283 *	FLY-143	D-121 *
	Alt. Horiz. Output	53X362	* ⑤	③ * ⑤		③ ⑤ * ⑤			

① Connect as autotransformer.
② Use 8 : 1 turns ratio.
③ Connect same as original.
④ Remove Horizontal Damping Network from yoke.
⑤ Trim 1 1/2" from top of terminal board.

*HORIZONTAL OUTPUT TRANSFORMER CONNECTION DATA

Use Original Winding Unless Replacement Type Is Listed

	ORIGINAL TERMINAL CONNECTIONS	Hallidorsen Replacement Connections	Merit Replacement Connections	Rom Replacement Connections	Rogers Replacement Connections	Stancor Replacement Connections	Thordorson Replacement Connections	Triad Replacement Connections
	4	5	5		5	8	4	4
	7	2	2		2	3	8 & 7	3
	6	6	6		6	2	2	2
	5	1	1		1	1	5	1
Special Notes		⑨	⑨		⑨			⑨

⑨ Remove one turn from filament winding.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		AIRLINE PART No.	REPLACEMENT DATA						NOTES
	PR1	SEC.		Hallidorsen PART No.	Merit PART No.	Rom PART No.	Stancor PART No.	Thordorson PART No.	Triad PART No.	
T5	6100Ω	3-4Ω	51X185	Z1110	A-3026	AU-602 ①	A-3877 ①	24S51 ①	S-6X	① Drill new mounting hole.

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	AIRLINE PART No.	QUAM PART No.	
SP1	5"	PM	6-8Ω	12A550 ①	5A1526.6 ①	① Connect in parallel and phase. Models WG-5062A, B, 5072A, B, 5077A, B, 5162A, B, 5172A, B
SP2	5"	PM	6-8Ω	12A550 ①	5A1526.6 ①	② Models WG-5060A, B, 5061A, B, 5071A, B, 5160A, B
SP3	5"	PM	6-8Ω	12A527 ②		

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	AIRLINE PART No.	REPLACEMENT DATA
K1	Sync Coupling	180mmf, 270K	76X15	
K2	Vert. Integrator	2000mmf, 5000mmf, 5000mmf, 22K, 8200Ω, 8200Ω	76X7	Aerovox Centralab Cornell-Dubilier Sprague
K3	Chassis Isolation	470mmf @ 1500V, .3-1meg	76X11	RC-47 AC1-1

RECTIFIERS

ITEM No.	RATING	CURRENT (Measured)	REPLACEMENT DATA				NOTES
			AIRLINE PART No.	FEDERAL PART No.	INTERNATIONAL PART No.	SARKES TAZIAN PART No.	
M1	.240A		66X14 ①	1236AH ①	T300 ①	300 ①	① Selenium Type.
M2	.240A		66X14 ①	HA504 ②	TV500 ②	40K ②	② Silicon Type.

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		AIRLINE PART No.	CBS PART No.	SYLVANIA PART No.	
M3	1N60 *		1N60	1N60	Video Detector (Pigtail) * Some versions may use CK706 in this application.

MISCELLANEOUS

ITEM No.	PART NAME	AIRLINE PART No.	NOTES
M4	Tuner	25A-1175B	VHF
	Tuner	25A-1175	VHF
	Tuner	25A-1176	VHF
	Tuner	25A-1159	UHF
M5	Thermal Switch Magnet	2A494-B	Not used in Models WG-5060A, B, 5061A, B, 5071A, B, 5160A, B
		2A494	Beam Alignment, may be used to improve focus

CABINETS & CABINET PARTS

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

NAME	PART NO.	DESCRIPTION
Safety Glass	17X199-1	Models WG-5061A, B, 5062A, B, 5067A, B, 5071A, B, 5072A, B, 5077A, B, 5162A, B, 5172A, B
Safety Glass	17X195	Models WG-5060A, B, 5180A, B
Mask Assembly	S-38A756	Gold, VHF Models
Mask Assembly	S-38760	Silver, VHF Models
Mask Assembly	S-38A761	Gold, VHF-UHF Models
Mask Assembly	S-38A931	Silver, VHF-UHF Models
Mask Assembly	S-38A751	Models WG-5060A, B, 5160A, B
Mask Assembly	S-38A841	Models WG-5061A, B
Mask Assembly	S-38A847	Models WG-5071A, B

WIRING DATA

High Voltage Lead	Use BELDEN No. 8869
Shielded Hook-up Wire	Use BELDEN No. 8885 (Single Conductor)
General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors
Power Cord (Interlock Type)	Use BELDEN No. 8874
300Ω Tuner Input Lead	Use BELDEN No. 8225
300Ω Antenna Lead-in	Use BELDEN No. 8230 or 8275
Antenna Rotor Cable	Use BELDEN No. 8464 (Flat) or 8484 (Round) - 4 Conductor
	8485 (Round) - 5 Conductor
	8488 (Round) - 8 Conductor

FOLDER 1

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	1st Video IF Amp.	3DK5	3B26 *
V2	2nd Video IF Amp.	3DK5	3CB6 *
V3	Video Output	12BY7A	
V4	Audio Det.	3BN6	
V5	Audio Output	5AQ5	
V6	Sync Sep.-Sync Amp.	6CG7	

* Alternate.

PICTURE TUBE

ITEM No.	REPLACEMENT DATA				NOTES
	AIRLINE PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	SYLVANIA PART No.	
V12	21CBP4A	21BTP4 ①	21CBP4-A ②	21CBP4A ③	① "Aluminized" Add Ion Trap. ② "Silverama" ③ "Silver Screen 85"

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	AIRLINE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C1	140	150	45X421	AFH51-23	XA0261	FP117	TMS-24	TVL-1428	
C2A	125	300	45X431	AFH402-60	XC0733. 2	FP218			
B	20	300				TC36			
C	20	50							
C3A	125	300	45X420	AFH3-99-82	C0733. 7	FP330. 27		TVL-3574. 6	
B	60	300							
C	40	50							
C4	4	50	45X418	PRS150V4	BBR4-50	TT50X4	TD-4-50	TVA-1402	

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			REPLACEMENT DATA							NOTES
	CAP.	VOLT	TOL	AIRLINE PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.		
C5	68		NPO	5%	NPO-DI 68	DTZ-68	C10Q68C	CNO-468	5TCC-Q68S 5%		
C6	270			10%	DI 270	DI 270	L10T27		5GA-T27S 10%		
C7	1000				BPD-.001	DD-102	BYA10DIM	B-210	5HK-DI		
C8	390			10%	DI 390	MD-391	L10T39		5GA-T39S 10%		
C9	470			10%	DI 470	MD-471		JL-347	5GA-T47S 10%		
C10					BPD-.001	DD-102	BYA10DIM	B-210	5HK-DI		
C11	1000				BPD-.001	DD-102	BYA10DIM	B-210	5HK-DI		
C12	.47	200			P288N-47	CUB2P47	GEM-2047		2TM-P47		
C13	.047	200			P488N-.047	DF-503	CUB2S47	GEM-4147	2TM-S47		
C14	3.3			10%	NPO-SI 3.3	TCZ-3R3	C10V33C	CNO-533	5TCCV-V33S 10%		
C15	1000				BPD-.001	DD-102	BYA10DIM	B-210	5HK-DI		
C16	30		N33	10%							
C17	.1	400			P488N-.1	DF-104	CUB4P1	GEM-.401	4TM-P1		
C18A	1000				BPD-2X001	DD2-102	BYD6DD1	B-210	5HK-2D1		
B	1000						B-210				
C19	5000				BPD-.005	DD-502	BYA10D5	B-250	5HK-D5		
C20	15			10%	DI 15	DD-150	L10Q15	CNO-415	5TCC-Q15S 10%		
C21	1000				BPD-.001	DD-502	BYA10DIM	B-210	5HK-DI		
C22	5000				BPD-.005	DD-502	BYA10D5	B-250	5HK-D5		
C23	.0047	600			P688N-.0047	D6-472	CUB6D47	GEM-6247	6TM-D47		
C24	5000				BPD-.005	DD-502	BYA10D5	B-250	5HK-D5		
C25	.047	400			P488N-.047	DF-503	CUB4S47	GEM-4147	4TM-S47		
C26	.18			10%	1469-00018	TCZ-18	22R5Q18	CNO-418	MS-418		
C27	.01	400			P488N-.01	D6-103	CUB4S1	GEM-411	4TM-S1		
C28	.047	600			P688N-.047	DF-503	CUB6S47	GEM-6147	6TM-S47		
C29	.047	200			P288N-.047	DF-503	CUB2S47	GEM-4147	2TM-S47		
C30	.01	400			P488N-.01	D6-103	CUB4S1	GEM-411	4TM-S1		
C31	.1	600			P688N-.1	DF-104	CUB6P1	GEM-601	6TM-P1		
C32	.047	600			P688N-.047	DF-503	CUB6S47	GEM-6147	6TM-S47		
C33	100			10%	1469-0001	TCZ-100	22R5T1	MCB235	MS-31		
C34	82			10%	1469-00082	TCZ-82	22R5Q82	CNO-482	MS-482		
C35	.047	200			P288N-.047	DF-503	CUB2S47	GEM-4147	2TM-S47		
C36	.047	400			P488N-.047	DF-503	CUB4S47	GEM-4147	4TM-S47		
C37	.022	200			P288N-.022		CUB2S22	GEM-4122	2TM-S22		
C38	.47	200			P288N-.47		CUB2P47	GEM-2047	2TM-P47		
C39	220			10%	1469-00022	TCZ-220	22R5T22		MS-322		
C40	.01	400			P488N-.01	D6-103	CUB4S1	GEM-411	4TM-S1		
C41	820			10%	1464-00082		1R5T82		MS-382		
C42	170-700										
C43	1000				BPD-.001	DD-102	BYA10DIM	B-210	5HK-DI		
C44	.047	400			P488N-.047	DF-503	CUB4S47	GEM-4147	4TM-S47		
C45	56	5000		10%	47X755						
C46	.047	600			P688N-.047	DF-503	CUB6S47	GEM-6147	6TM-S47		
C47A	1000				BPD-2X001	DD2-102	BYD6DD1	B-210	5HK-2D1		
B	1000				P488N-.22		CUB4P22	GEM-4022	4TM-P22		
C48	.22	400									