

AIRLINE MODELS
05BR-3021B, 05BR-3024B, 05BR-3027A

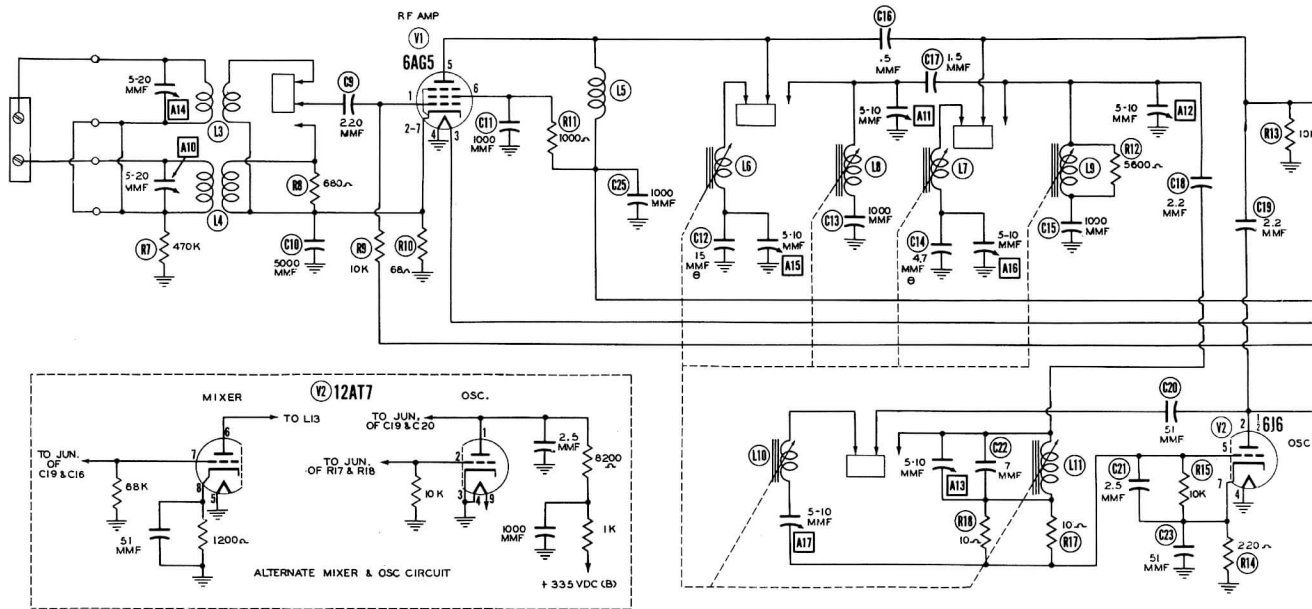
AIR LINE MODEL 05BR-3027A

TRADE NAME	Airline, Models 05BR-3021B, 05BR-3024B, 05BR-3027A	
SUPPLIER	Montgomery Ward Co., 619 Chicago Ave., Chicago, Illinois	
TYPE SET	Television Receiver	
TUBES	Twenty One	
POWER SUPPLY	110-115 Volts AC-60 Cycle	RATING 1.8 Amp. @ 115 Volts AC
TUNING RANGE	Channels 2 Thru 13	
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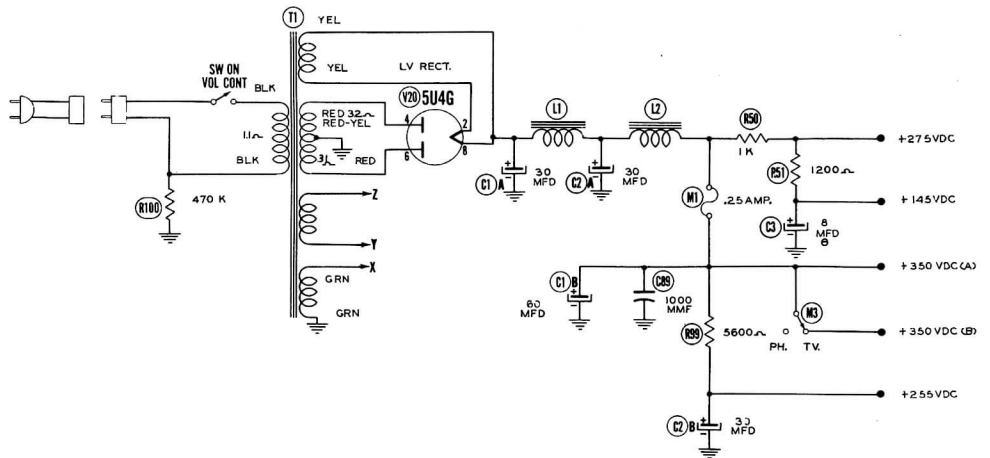
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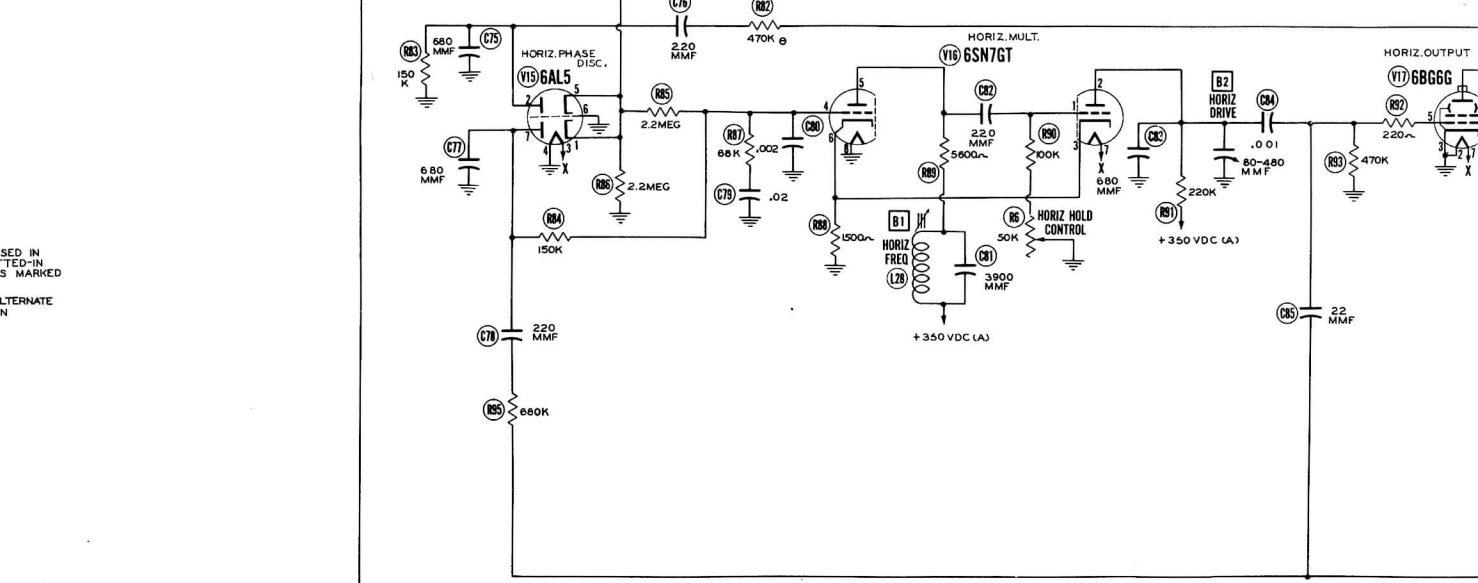
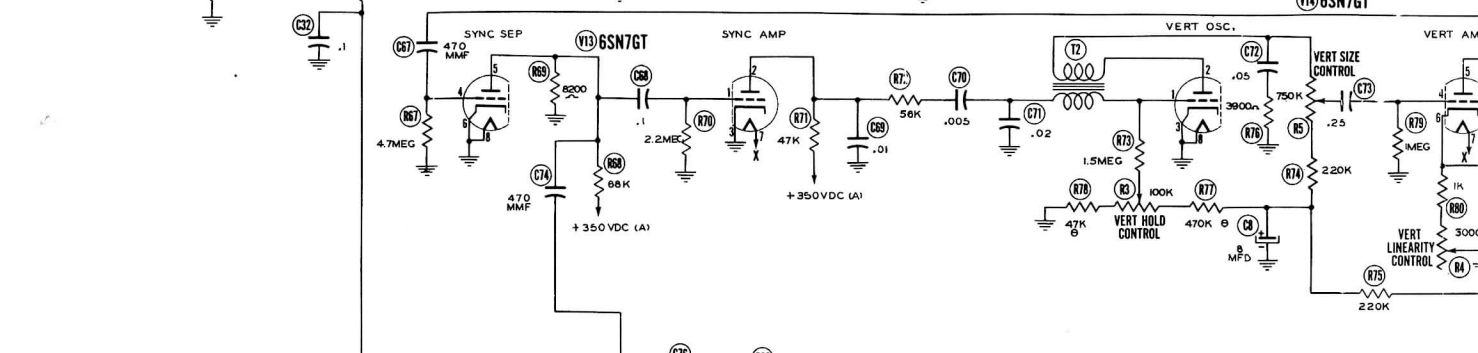
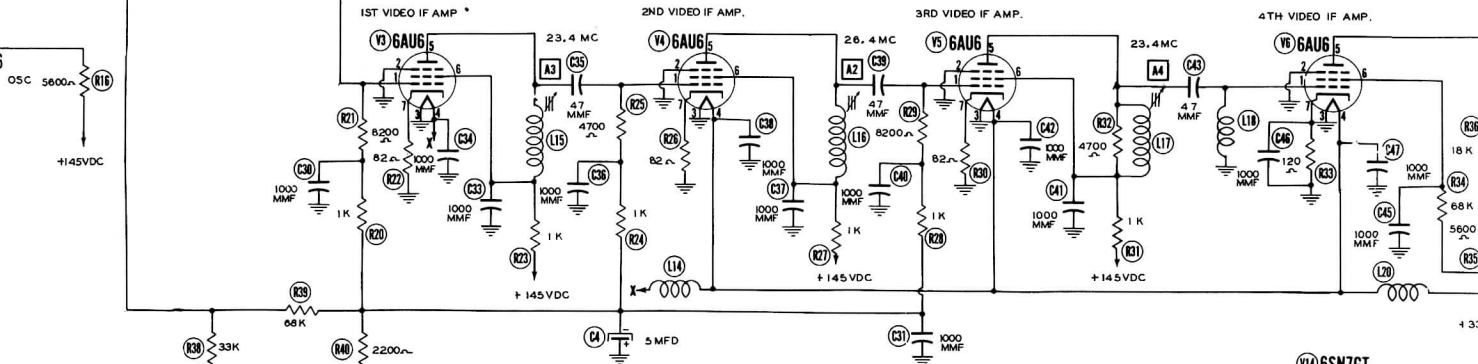
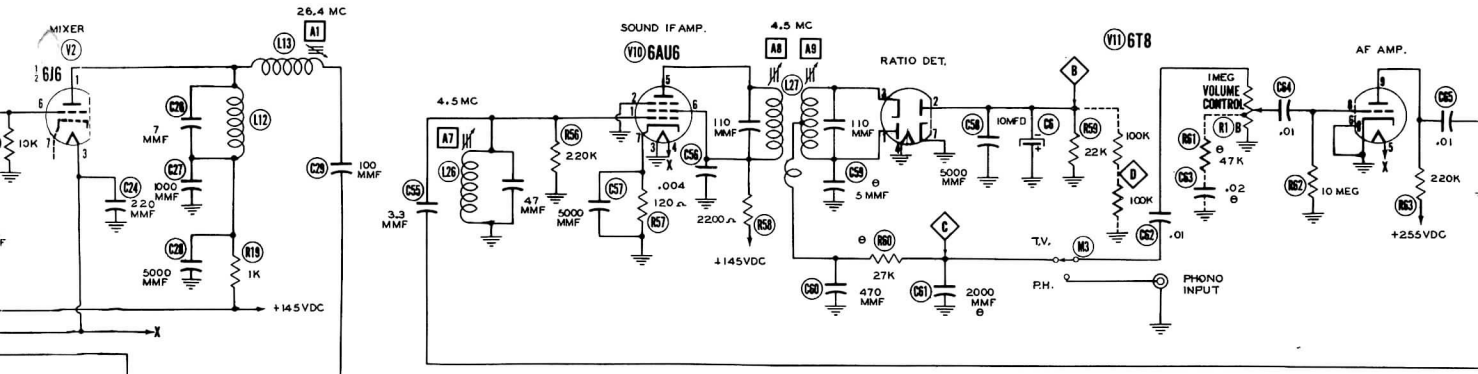


HI-LO BAND SWITCH SHOWN IN HI BAND POSITION

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

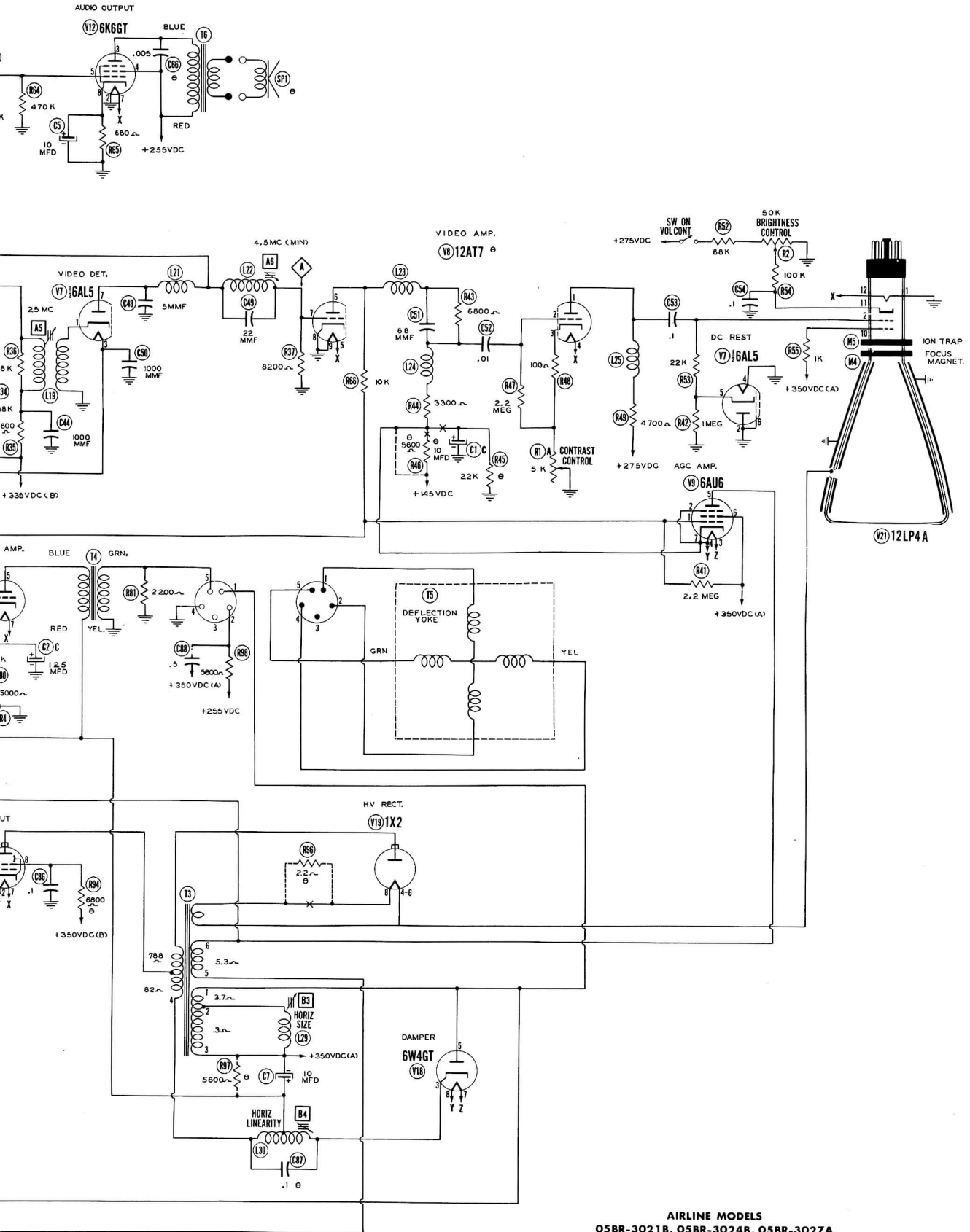


DOTTED IN PARTS NOT USED IN ALL MODELS. WHEN DOTTED-PARTS ARE USED, POINTS MARKED WITH AN 'X' ARE BROKEN.
 Ⓢ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION



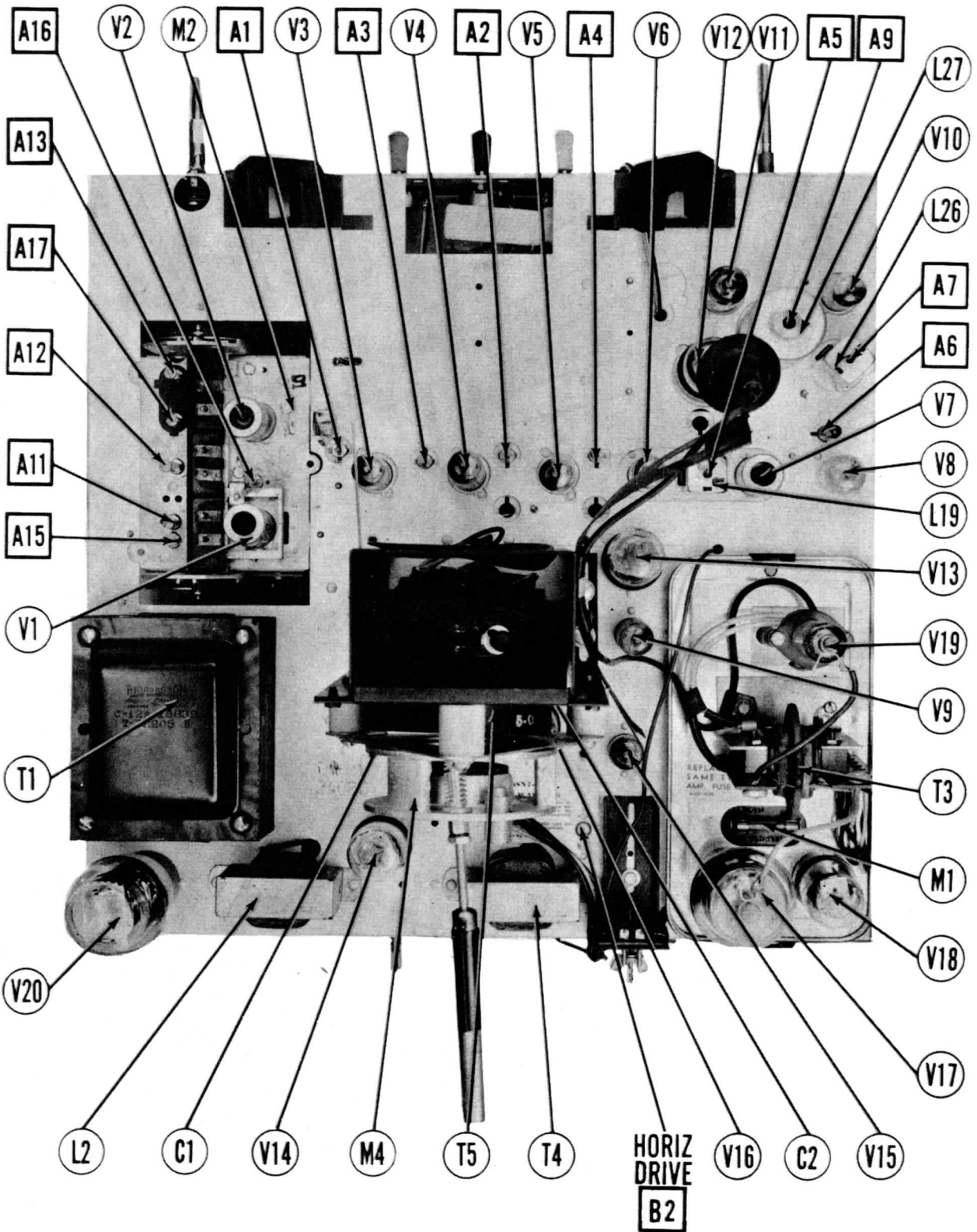
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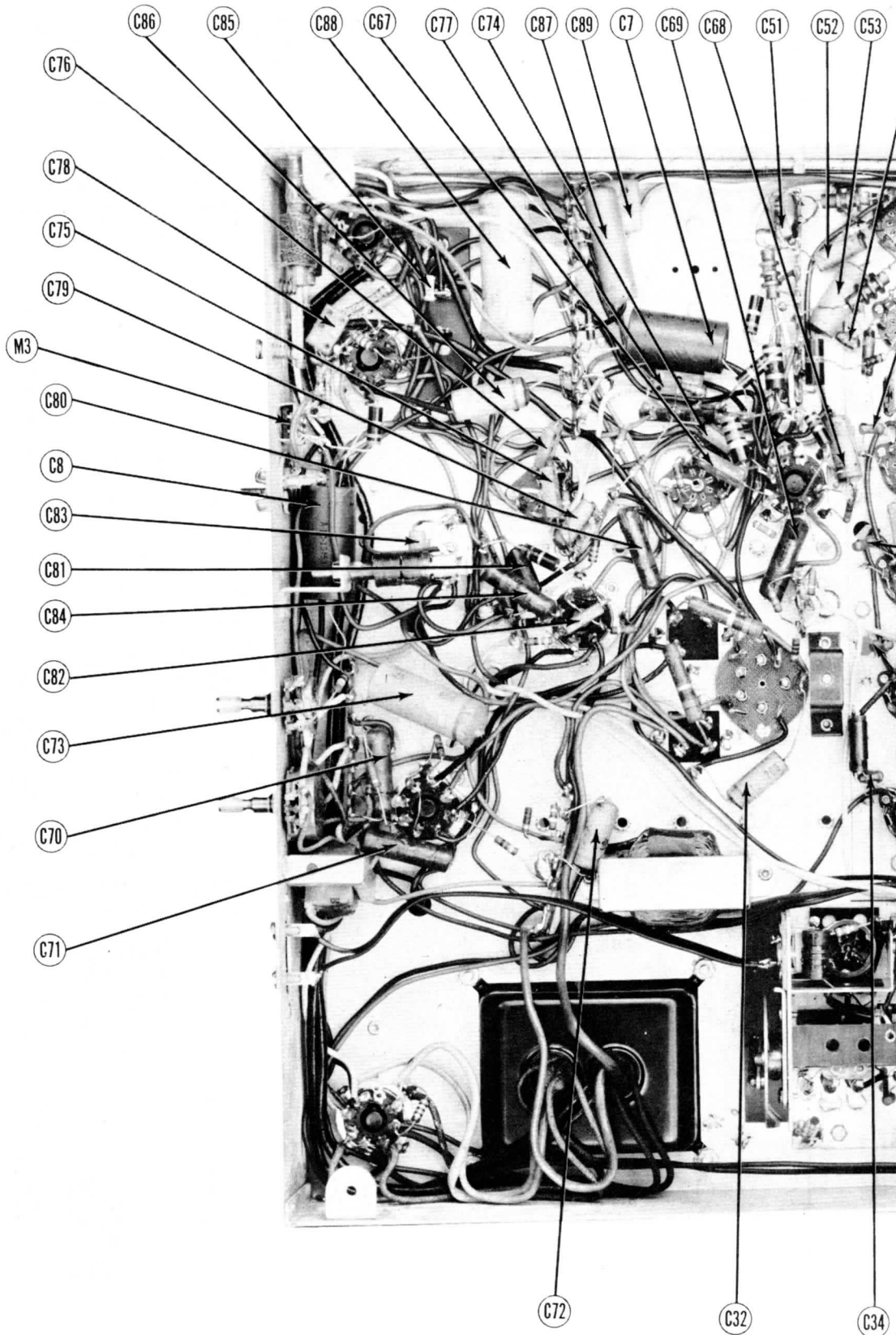


AIRLINE MODELS
 05BR-3021B, 05BR-3024B, 05BR-3027A

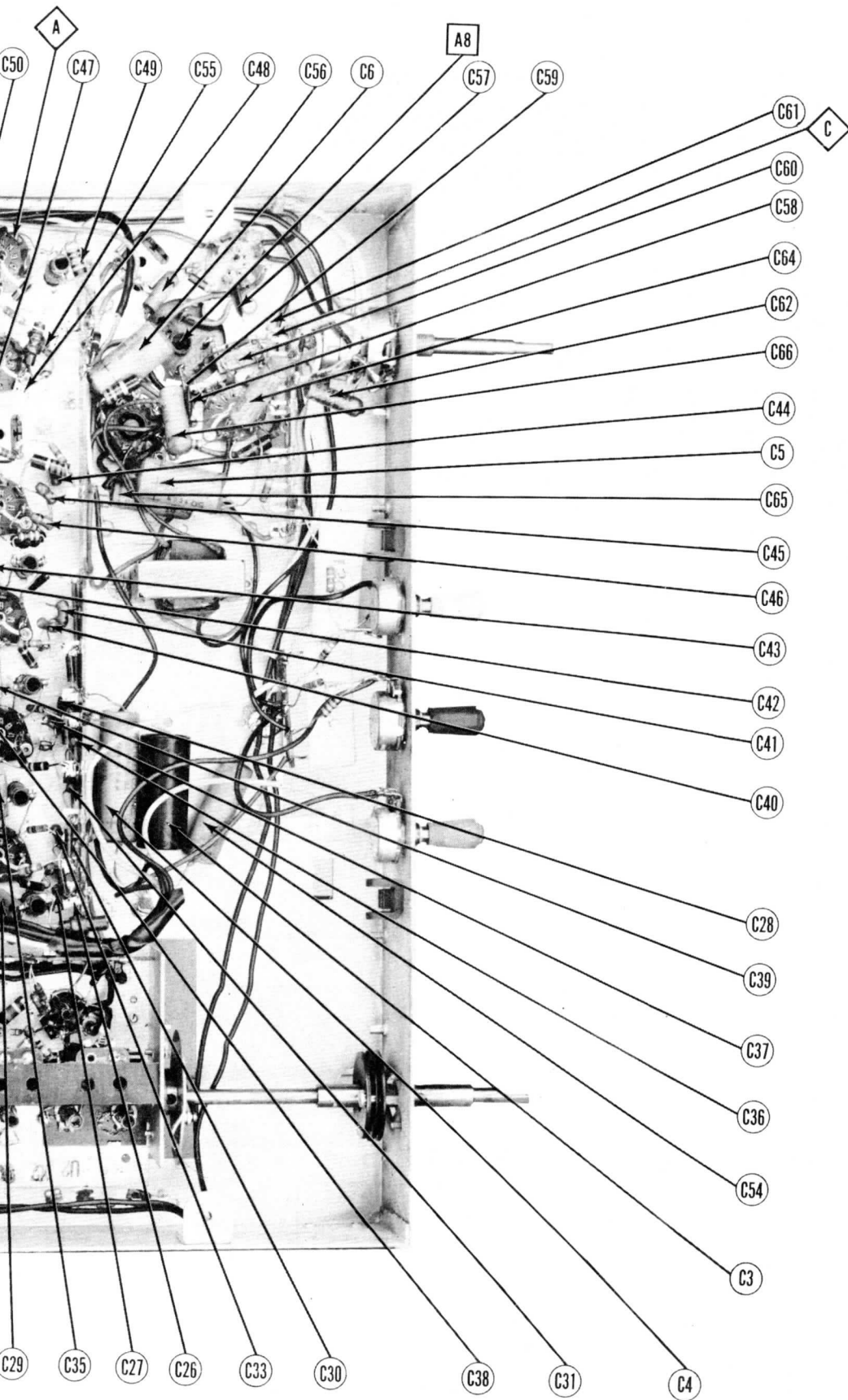
AIRLINE MODELS
 05BR-3021B, 05BR-3024B, 05BR-3027A



CHASSIS TOP VIEW

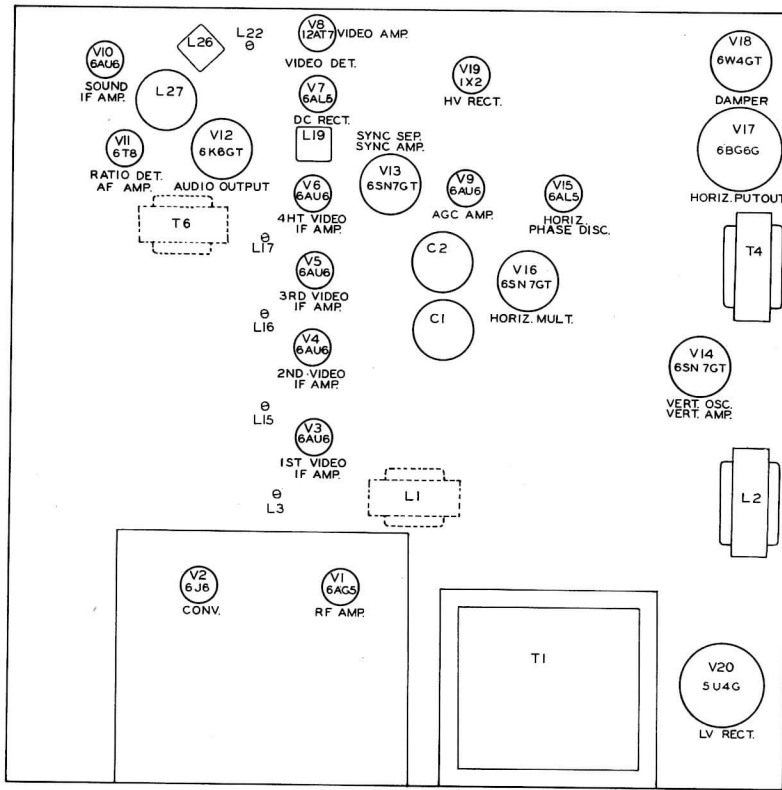


CHASSIS BOTTOM VIEW-CAPACITOR

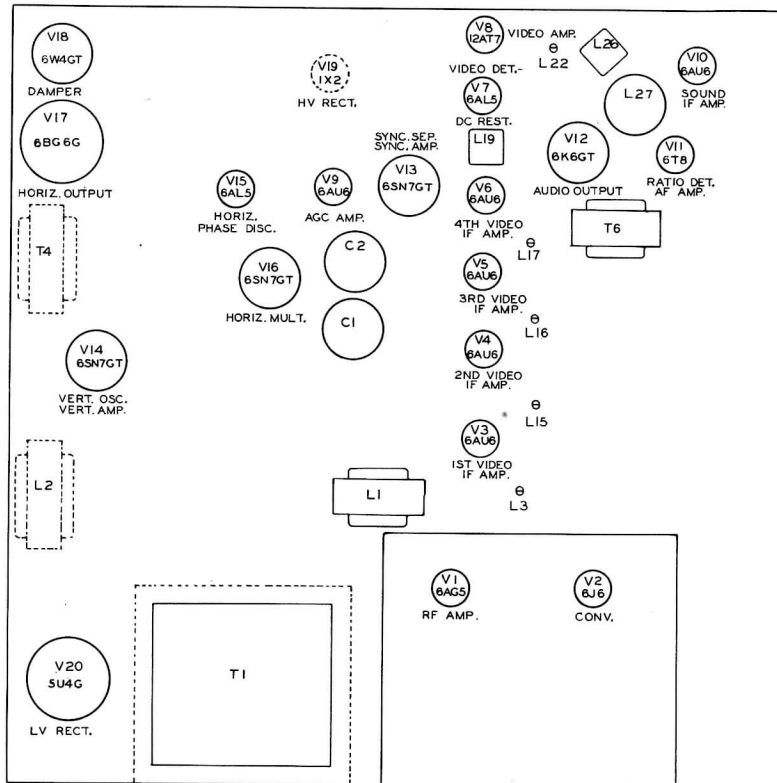


AIRLINE MODELS
 05BR-3021B, 05BR-3024B, 05BR-3027A

AND ALIGNMENT IDENTIFICATION



TOP VIEW



BOTTOM VIEW

TUBE PLACEMENT CHART

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT							
The end of the high voltage lead should be securely taped and kept away from the chassis. Do not remove the horizontal oscillator tube to disable the high voltage.							
VIDEO IF ALIGNMENT							
Remove the converter tube, (V2), from its socket and replace it with a 6J6 which has pin 1 removed. This will disable the local oscillator and prevent the possibility of erroneous indications. Note: In later productions the 6J6, converter, has been replaced with a 12AT7. In that event use a 12AT7 with pin 1 removed.							
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, (V2). Low side to chassis	26.4MC	Any	DC probe to Point A. Common to chassis.	A1, A2	Adjust for maximum deflection. Attenuate signal gen. to maintain 1 volt reading.	
2. "	"	23.4MC	"	"	A3, A4	"	
3. "	"	25MC	"	"	A5	"	
OVERALL VIDEO IF RESPONSE CHECK							
DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
4. Direct	High side to an ungrounded tube shield floating over dummy converter tube, (V2). Low side to chassis	24MC (10MC SWP)	23MC 26.75MC	Any	Vert. Amp. to Point A. Low side to chassis.		Check for response curve similar to fig. 1. If necessary retouch A1 thru A5 for proper response.
4.5MC TRAP ADJUSTMENT							
DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
5. .01MFD.	High side to pin 1 (cathode of 6AL5, (V7). Low side to chassis.	Not used	4.5MC (400% Mod.)	Any	Vert. Amp. to pin 2 of picture tube. Low side to chassis.	A6	Adjust for MINIMUM 400% indication on scope.
SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM							
Connect two matched 100KΩ (± 1%) resistors in series from Point B to B-. The junction of these two resistors is alignment Point D as shown on the schematic.							
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS	
6. .01MFD.	High side to pin 1 (cathode of 6AL5, (V7). Low side to chassis.	4.5MC (unmod.)	Any	DC probe to Point B. Common to chassis.	A7, A8	Adjust for maximum deflection.	
7. "	"	"	"	DC probe to Point C. Common to Point D.	A9	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							
Use frequency modulated signal with 60% modulation and 450KC sweep. Use 120% sawtooth voltage in scope for horizontal deflection.							
DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
6. .01MFD.	High side to pin 1 (cathode of 6AL5, (V7). Low side to chassis.	4.5MC (450KC SWP)	4.5MC	Any	Vert. Amp. to Point B. Low side to chassis.	A7, A8	Disconnect stabilizer capacitor C6. Adjust for maximum amplitude and symmetry as per fig. 2.
7. "	"	"	"	"	Vert. Amp. to Point C. Low side to chassis.	A9	Reconnect capacitor C6. Adjust A9 so 4.5MC occurs at center of crossover lines as per fig. 3. SLIGHTLY retouch A8 for maximum amplitude and straightness of crossover lines.
TUNER ALIGNMENT							
Remove the dummy converter tube and replace the original tube in its socket. Pre-set the trimmer screws as shown in figure 5. With the switch in low band position, turn the tuner core carriage to the extreme top of its travel. Check to see that the cores project 1.6ins. out of the coils, then turn the low band oscillator core on additional four turns out of the coil, (counter-clockwise).							
LOW BAND ALIGNMENT							
Move carriage bar down 7/64 inch, from extreme top, by turning tuning control clockwise. This is the proper position for channel 6. 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
8. Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	85MC (10MC SWP)	83.25MC 87.75MC	6 (see note above)	Vert. Amp. to Point A. Low side to chassis.	A10, A11, A12	Adjust for maximum response with symmetrical peaks.
9. "	"	"	"	"	"	A13	Adjust to place video marker at 50% on response curve as shown in fig. 4.
10. "	"	63MC (10MC SWP)	61.25MC 65.75MC	3	"	"	Turn the tuning control until the video marker appears at 50% on the response curve for each of the low band channels, and check for proper response curve. If necessary retouch A11 and A12 for compromise adjustment which will give best response over the low band channels.
		69MC (10MC SWP)	67.25MC 71.75MC	4			
		75MC (10MC SWP)	73.25MC 77.75MC	5			
		81MC (10MC SWP)	79.25MC 83.75MC	6			
		87MC (10MC SWP)	85.25MC 89.75MC	7			
HIGH BAND ALIGNMENT							
Move the carriage bar down 7/64 inch, from extreme top, by turning tuning control counter-clockwise. This is the proper position for channel 13.							
DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
11. Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	213MC (10MC SWP)	211.25MC 215.75MC	13 (see note above)	Vert. Amp. to Point A. Low side to chassis.	A14, A15, A16	Adjust for maximum amplitude of response with symmetrical peaks.
12. "	"	"	"	"	"	A17	Adjust to place video marker at 50% on response curve as shown in fig. 4.
13. "	"	207MC (10MC SWP)	205.25MC 209.75MC	12	"	"	Turn tuning control to place video marker at 50% for each of the high band channels, and check for proper response curve. If necessary retouch A15 and A16 for compromise adjustment which will give the best response over the high band channels.
		201MC (10MC SWP)	199.25MC 203.75MC	11			
		195MC (10MC SWP)	193.25MC 197.75MC	10			
		189MC (10MC SWP)	187.25MC 191.75MC	9			
		183MC (10MC SWP)	181.25MC 185.75MC	8			
		177MC (10MC SWP)	175.25MC 179.75MC	7			

ALIGNMENT INSTRUCTIONS (CONT.)

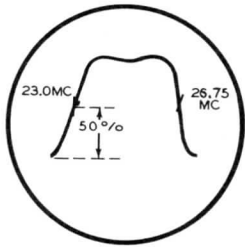


FIG. 1

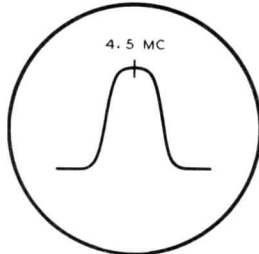


FIG. 2

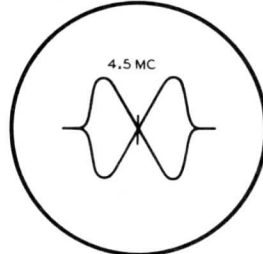


FIG. 3

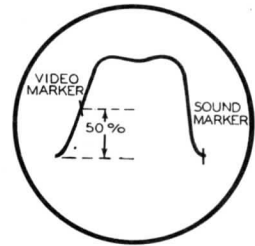


FIG. 4

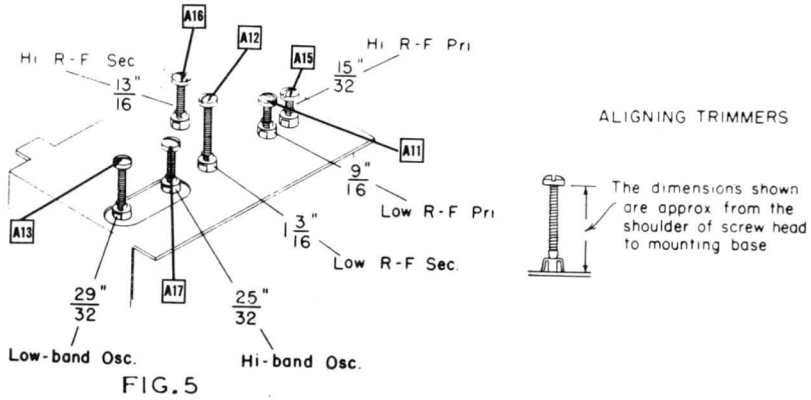
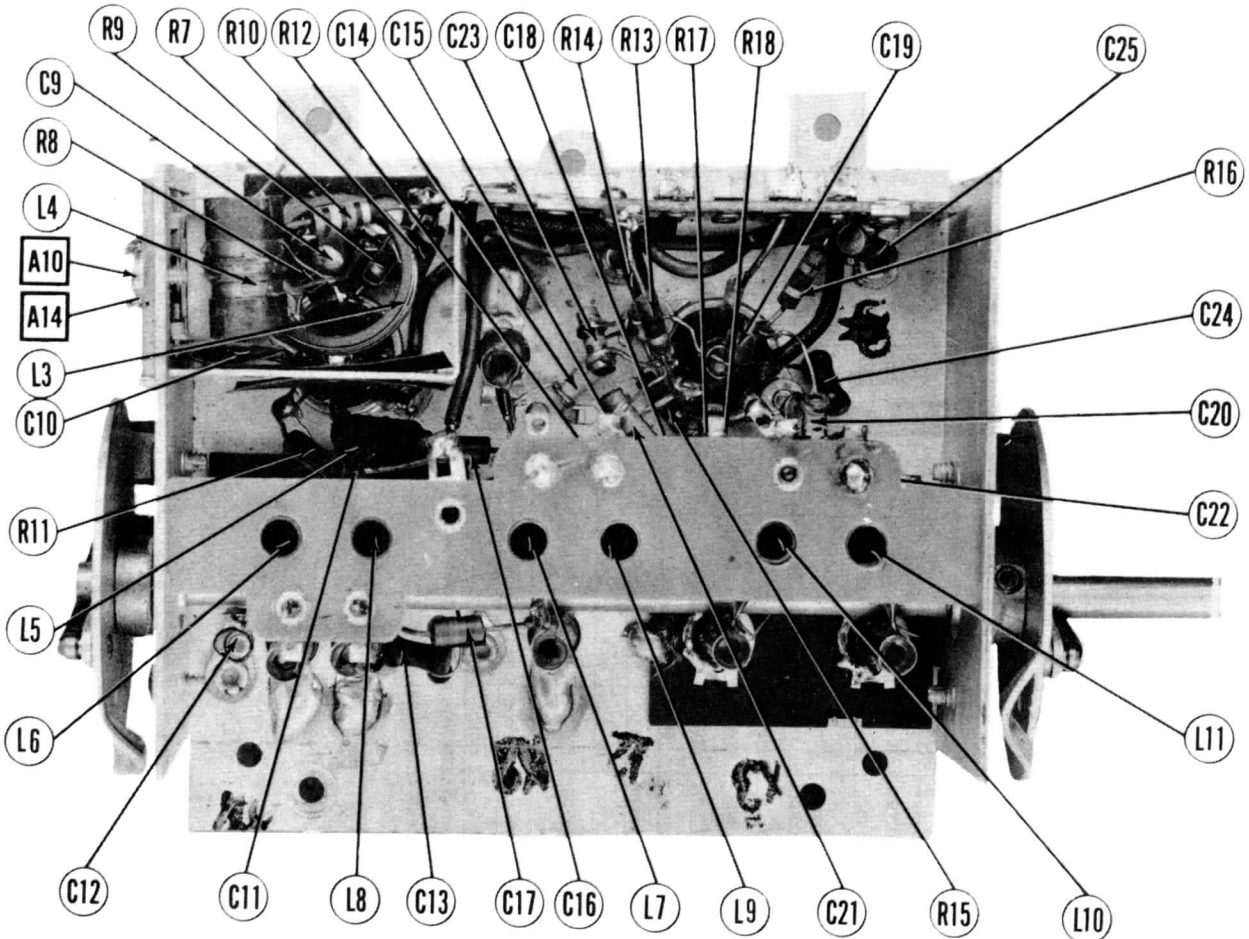


FIG. 5



RF TUNER - BOTTOM VIEW

AIRLINE MODELS
 05BR-3021B, 05BR-3024B, 05BR-3027A

VOLTAGE AND RESISTANCE MEASUREMENTS

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6AG5	-1VDC	.6VDC	6.3VAC	0V	145VDC	145VDC	.6VDC		
V 2	6J6	180VDC	100VDC	6.3VAC	0V	8--8VDC	0V	3VDC		
V 3	6AU6	0V	0V	0V	6.3VAC	135VDC	135VDC	.9VDC		
V 4	6AU6	0V	0V	0V	6.3VAC	135VDC	135VDC	.9VDC		
V 5	6AU6	0V	0V	0V	6.3VAC	138VDC	138VDC	.9VDC		
V 6	6AU6	0V	0V	0V	6.3VAC	290VDC	140VDC	1.2VDC		
V 7	6AL5	0V	0V	6.3VAC	0V	.9VDC	0V	-2.2VDC		
V 8	12AT7	200VDC	0V	1VDC	6.3VAC	6.3VAC	83VDC	-3VDC	0V	0V
V 9	6AU6	85VDC	100VDC	100VDC	100VDC	0V	330VDC	100VDC		
V 10	6AU6	0V	0V	0V	6.3VAC	125VDC	125VDC	1VDC		
V 11	6T8	-2VDC	-3VDC	-2VDC	0V	6.3VAC	0V	0V	-3VDC	83VDC
V 12	6K6GT	0V	0V	250VDC	255VDC	0V	0V	6.3VAC	18VDC	
V 13	6SN7GT	-2VDC	85VDC	0V	-1VDC	35VDC	0V	6.3VAC	0V	
V 14	6SN7GT	-7.3VDC	112VDC	0V	0V	450VDC	22VDC	6.3VAC	0V	
V 15	6AL5	2.8VDC	-2VDC	6.3VAC	0V	2.8VDC	0V	-2VDC		
V 16	6SN7GT	-1.6VDC	125VDC	11VDC	-2VDC	290VDC	11VDC	6.3VAC	0V	Top Cap
V 17	6BG6G	-2VDC	0V	0V	310VDC	-14VDC	-14VDC	6.3VAC	250VDC	*
V 18	6W4GT	330VDC	0V	445VDC	0V	330VDC	0V	100VDC	100VDC	
V 19	1X2	DO NOT MEASURE								
V 20	5U4G	0V	350VDC	0V	340VAC	0V	340VAC	330VDC	350VDC	
V 21	12LP4A	0V	6VDC	340VDC	95VDC	6.3VAC	6.3VAC			

ALL MEASUREMENTS TAKEN WITH PICTURE TUBE REMOVED

* DO NOT MEASURE

■ 6.3 VAC MEASURED ACROSS FILAMENTS

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6AG5	45KΩ	68Ω	.1Ω	0Ω	12.4KΩ	13.4KΩ	68Ω		
V 2	6J6	13.2KΩ	19KΩ	.1Ω	0Ω	10KΩ	10KΩ	220Ω		
V 3	6AU6	80KΩ	0Ω	0Ω	.1Ω	13.6KΩ	13.8KΩ	82Ω		
V 4	6AU6	75KΩ	0Ω	0Ω	.1Ω	13.6KΩ	13.8KΩ	82Ω		
V 5	6AU6	80KΩ	0Ω	0Ω	.1Ω	13.6KΩ	13.8KΩ	82Ω		
V 6	6AU6	2Ω	0Ω	0Ω	.1Ω	15.8KΩ	168KΩ	120Ω		
V 7	6AL5	1Ω	0Ω	.1Ω	0Ω	1MΩ	0Ω	8.2KΩ		
V 8	12AT7	15.6KΩ	2.2MΩ	4.5KΩ	.1Ω	.1Ω	118KΩ	8.2KΩ	0Ω	0Ω
V 9	6AU6	130KΩ	17.5KΩ	1.1Ω	10Ω	70KΩ	180Ω	17.5KΩ		
V 10	6AU6	1Ω	0Ω	0Ω	.1Ω	14.5KΩ	14.5KΩ	120Ω		
V 11	6T8	Inf.	22KΩ	Inf.	0Ω	.1Ω	0Ω	0Ω	10MΩ	1220KΩ
V 12	6K6GT	Inf.	0Ω	13.2KΩ	13.2KΩ	470KΩ	Inf.	.1Ω	680Ω	
V 13	6SN7GT	2.2MΩ	147KΩ	0Ω	4.7MΩ	120KΩ	0Ω	.1Ω	0Ω	
V 14	6SN7GT	1.5MΩ	1MΩ	0Ω	1MΩ	100Ω	1KΩ	.1Ω	0Ω	
V 15	6AL5	2.2MΩ	150KΩ	.1Ω	0Ω	2.2MΩ	0Ω	4.5MΩ		
V 16	6SN7GT	100KΩ	1220KΩ	1.5KΩ	4.5MΩ	15.6KΩ	1.5KΩ	.1Ω	0Ω	
V 17	6BG6G	4.5MΩ	0Ω	0Ω	680KΩ	470KΩ	470KΩ	.1Ω	16.8KΩ	Top Cap 48Ω
V 18	6W4GT	180Ω	Inf.	200KΩ	Inf.	180Ω	70KΩ	1.1Ω	10Ω	Top Cap 850Ω
V 19	1X2	ALL PINS ARE INF. RESISTANCE								
V 20	5U4G	Inf.	20KΩ	500KΩ	32Ω	500KΩ	31Ω	20KΩ	20KΩ	
V 21	12LP4A	0Ω	1MΩ	1.2KΩ	150KΩ	.1Ω				

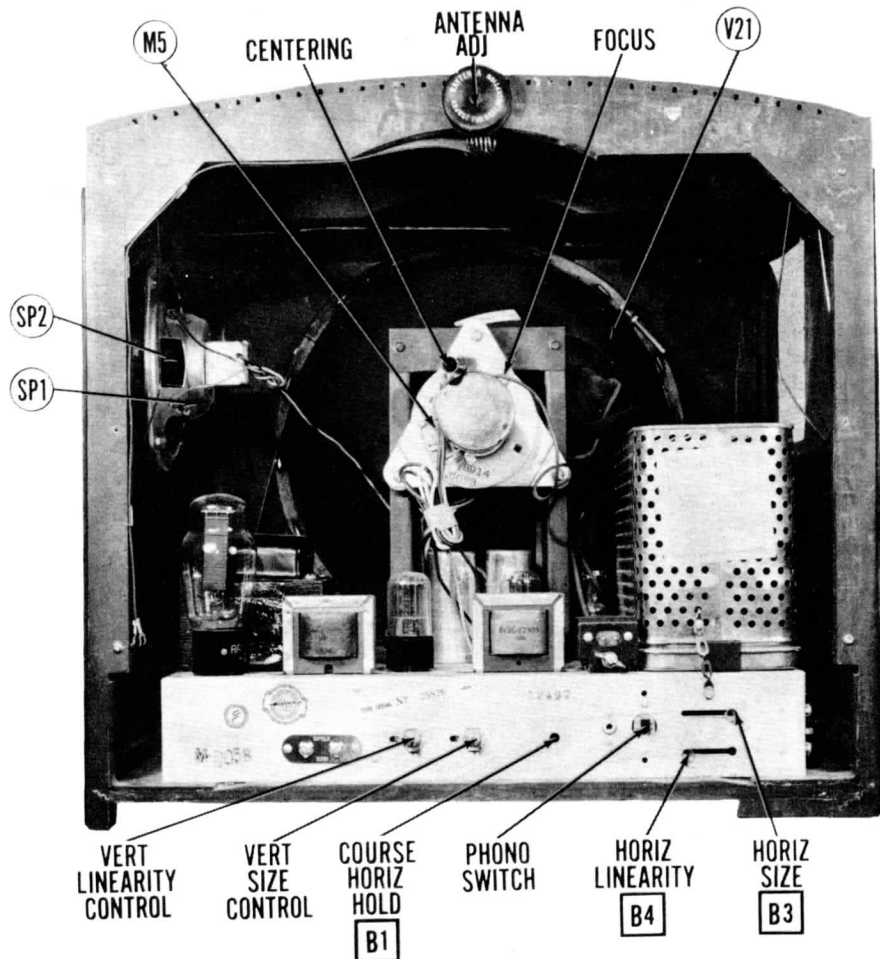
ALL MEASUREMENTS TAKEN WITH PICTURE TUBE REMOVED

* MEASURED FROM PIN 8 OF V20

▲ MEASURED FROM PIN 3 OF V18

† MEASURED FROM JUNCTION OF R44 AND R45.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltage measured at 1,000 ohms.
2. Pin numbers are counted in a clockwise direction on bottom of socket.
3. Measured values are from socket pin to common negative unless otherwise stated.
4. Line voltage maintained at 117 volts for voltage readings.
5. Front panels controls set at minimum.
6. Where readings may vary according to the setting of the service controls, both minimum and maximum readings are given.



CABINET-REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

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

Turn the horizontal hold, "fine", (front panel), to the mid-position of its range.

Adjust the horizontal hold control, "coarse" slug, (B1), (rear of chassis), to the center of the range over which the picture synchronizes horizontally.

Adjust the horizontal drive trimmer, (B2), counter-clockwise until a fold over, (bright vertical line) appears in the picture. Then turn the trimmer clockwise until the fold over disappears and then one half turn additional.

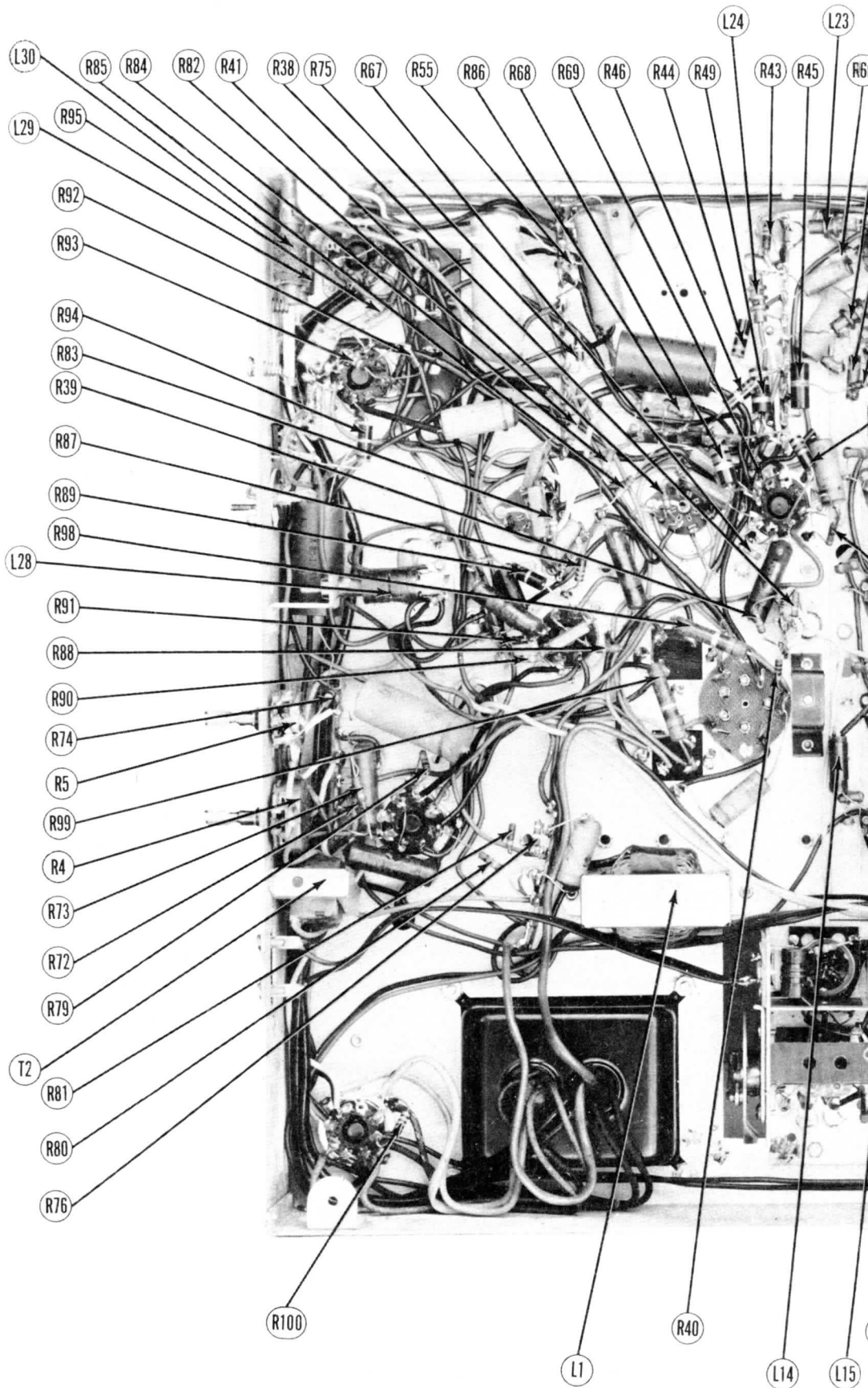
Adjust the horizontal size slug, (B3), until the picture is slightly wider than necessary to fill the mask horizontally.

Adjust the horizontal linearity slug, (B4), until the picture is symmetrical from left to right. Slight readjustment of B2 may be necessary for optimum linearity.

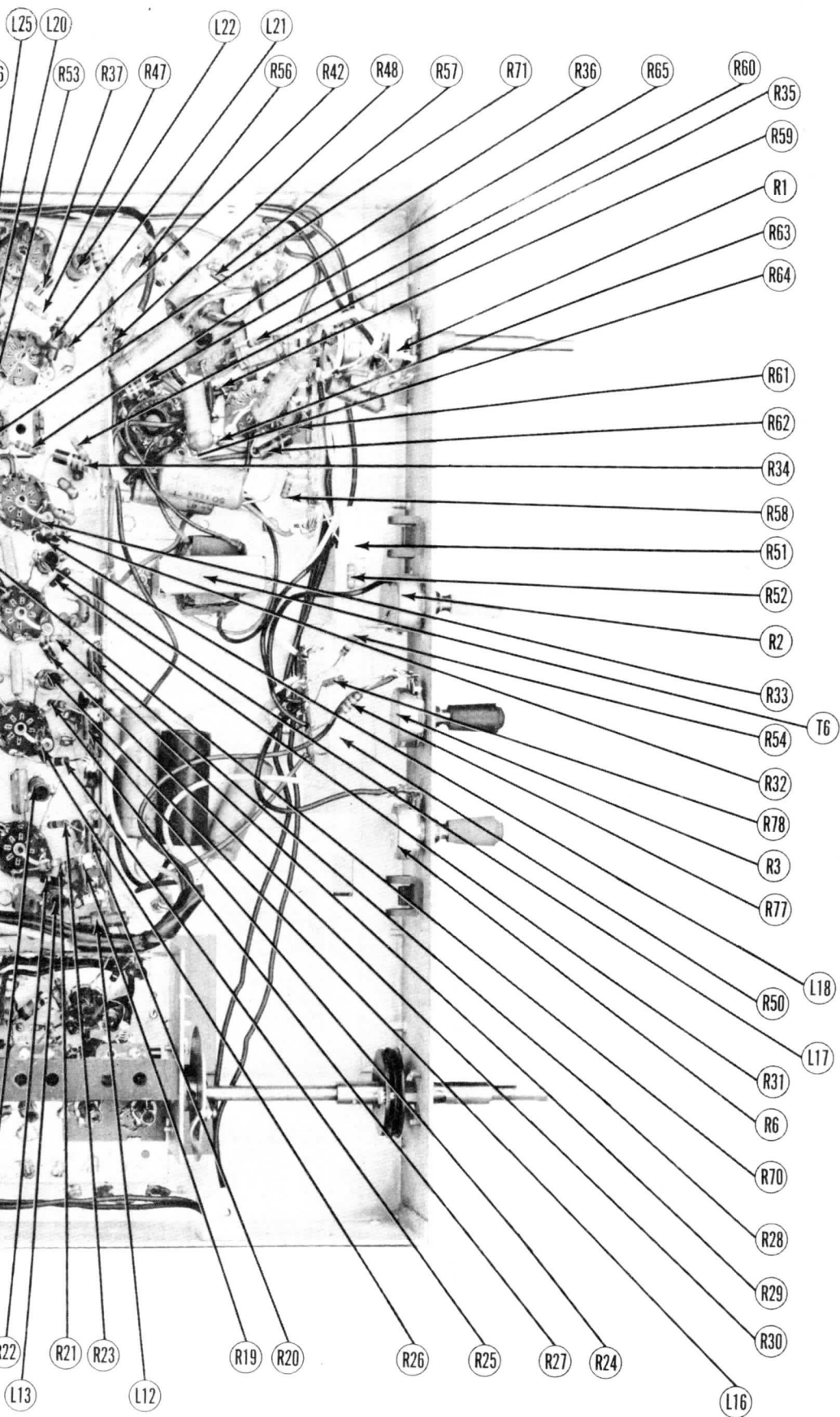
DISASSEMBLY INSTRUCTIONS

1. Remove three push-on type control knobs and channel pointer.
2. Remove four wood screws from rear cover. Remove rear cover.
3. Disconnect built-in antenna,
4. Disconnect speaker.
5. Remove five metal screws from chassis. Remove chassis.
6. Remove two 5/10" hex nuts from speaker. Remove speaker.

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



CHASSIS BOTTOM VIEW-RESISTOR



AND INDUCTOR IDENTIFICATION

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		AIR LINE PART No.	STANDARD REPLACEMENT		
V1	RF Amplifier	6AG5	6AG5	7BD	
V2A	Converter	6J6	6J6	7BF	
B	Converter	12A T7	12A T7	9A	
V3	1st. Video IF Amp.	6AU6	6AU6	7BK	
V4	2nd. Video IF Amp.	6AU6	6AU6	7BK	
V5	3rd. Video IF Amp.	6AU6	6AU6	7BK	
V6	4th. Video IF Amp.	6AU6	6AU6	7BK	
V7	Video Detector-DC Restorer	6AL5	6AL5	6BT	
V8A	Video Amplifier	12A T7	12A T7	9A	
B	Video Amplifier	12A U7	12A U7	9A	
V9	AGC Amplifier	6AU6	6AU6	7BK	
V10	Sound IF Amplifier	6AU6	6AU6	7BK	
V11	Ratio Detector-AF Amplifier	6T8	6T8	9E	
V12	Audio Output	6K6GT	6K6GT	7S	
V13	Sync. Separator-Sync. Amplifier	6SN7GT	6SN7GT	8BD	
V14	Vert. Amplifier - Vert. Oscillator	6SN7GT	6SN7GT	8BD	
V15	Horiz. Phase Discr.	6AL5	6AL5	6BT	
V16	Horiz. Mult.	6SN7GT	6SN7GT	8BD	
V17	Horiz. Output	6BG6G	6BG6G	5BT	
V18	Damper	6W4GG	6W4GT	4CG	
V19	HV Rectifier	1X2	1X2	7CB	
V20	LV Rectifier	5U4G	4U4G	5T	

CATHODE-RAY TUBE

ITEM No.	REPLACEMENT DATA			RTMA BASE TYPE	NOTES
	AIR LINE PART No.	SYLVANIA PART No.	THOMAS PART No.		
V 21	12LP4A	12LP4A	12LP4A ①		① Use single magnet ion trap.

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					IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	AIR LINE PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	
C1A	30	450	A-8C-17845	AFH3666J		UPT36145		TVL-3790
B	60	450						Filter
C	10	450						Filter
C2A	30	450	A-8C-18487	AF644J		UPT409		TVL-3741
B	30	450		PRS25/100				TVA-1207
C	125	25						Decoupling
C3	8	450	A-8C-13453	PRS450/8		BR845A		TVA-1704
C4	5	50	A-8C-11751	PRS150/4		BR550		TVA-1303
C5	10	50	A-8C-17183	PRS50/10		BR105		TVA-1304
C6	10	50	A-8C-17183	PRS50/10		BR105		TVA-1304
C7	10	150	A-8C-11495	PRS150/12		BR1015		TVA-1406
C8	8	450	A-8C-13453	PRS450/8		BR845A		TVA-1704
C9	220		A-8C-16045	SI220	D6-221		GP2K-221	5GA-722
C10	5000		A-8C-13962	BPD-005	DD-502		811-005	5HK-05
C11	1000		C-8G-13201	SI1000	D6-102		GP2L-102	5HK-D1
C12	15				TCZ-105		NPOK-150	5TCC-Q15
C13	1000		C-8G-13201	SI1000	D6-102		GP2L-102	5HK-D1
C14	4.7				TCZ-4.7		NPOK-4R7	
C15	1000		C-8G-13201	SI1000	D6-102		GP2L-102	5HK-D1
C16	.5		A-8G-12495-7		TCZ-.5		NPOK-OR5	
C17	1.5				TCZ-1.5		NPOK-IR5	
C18	2.2		A-8G-12495-4		TCZ-2.2		NPOK-2R2	
C19	2.2		A-8G-12495-4		TCZ-2.2		NPOK-2R2	
C20	51		A-8G-11891		TCN-51		N750K-510	
C21	2.5		C-8G-15737					
C22	7		C-8G-15224	SI6.8NPO	TCZ-6.8		NPOK-6R8	
C23	51		A-8G-11891	SI51	TCN-51		GP1K-510	5GA-Q5
C24	220		C-8G-16045	SI220	D6-221		GP2K-220	5GA-722
C25	1000		C-8G-13201	SI1000	D6-102		GP2L-102	5HK-D1
C26	7		C-8G-15224	SI6.8NPO	TCZ-6.8		NPOK-6R8	
C27	1000		C-8G-13201	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1
C28	5000		A-8G-13962	BPD-005	DD-502	1D5D5	811-005	5HK-05
C29	100	500	C-8F3-8	1468-0001	D6-101	1W5T1	GP1K-101	1FM-31
C30	1000		C-8G-13201	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1
C31	1000		C-8G-13201	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1
C32	.1	200	C-8D-10770	P288-1	DF-104	PTE4P1		2TM-P1
C33	1000		C-8G-13201	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1
C34	1000		C-8G-13201	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1
C35	47	500	C-8F3-109	1469-00005	D6-470	5R5Q5	GP1K-470	MS-45
C36	1000		C-8G-13201	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1
C37	1000		C-8G-13201	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1
C38	1000		C-8G-13201	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1
C39	47	500	C-8F3-109	1468-00005	D6-470	5R5Q5	GP1K-470	MS-45
C40	1000		C-8G-13201	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1
C41	1000		C-8G-13201	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1
C42	1000		C-8G-13201	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1
C43	47	500	C-8F3-109	1468-00005	D6-470	5R5Q5	GP1K-470	MS-45
C44	1000		C-8G-13201	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1
C45	1000		C8G-13201	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1
C46	1000		C8G-13201	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1
C47	1000		C-8G-13201	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1
C48	5		C-8G-12166	SI5NPO			NPOK-050	
C49	22				TCZ-22		NPOK-220	5TCC-Q22
C50	1000		C-8G-13201	SI1000	D6-102	1W5D1	GP2L-102	5HK-D1
C51	88	500	C-8F3-111	1469-00007	D6-680	5R5Q7	GP1K-680	MS-47
C52	.01	400	C-8D-10761	P488-01	DF-103	PTE4S1		4TM-S1
C53	.1	400	C-8D-10760	P488-1	DF-104	PTE4P1		4TM-P1
C54	.1	400	C-8D-10760	P488-1	DF-104	PTE4P1		4TM-P1
C55	3.3	400	A-8G-12495-5	SI3.3NPO	TCZ-3.3		NPOK-3R3	
C56	.004	400	C-8B-17958	P688-004	D6-402	PTE6D4	GP2-333-402	6TM-D4
C57	5000		A-8G-13962	BPD-005	DD-502	1D5D5	811-005	5HK-D5

ITEM No.	RATING		REPLACEMENT DATA		
	CAP.	VOLT	AIR LINE PART No.	AEROVOX PART No.	CENTRALAB PART No.
C58	5000		A-8G-13962	BPD-005	DD-502
C59	5			SI5	
C60	470	500	C-8F3-121	1469-0005	D6-470
C61	2000			SI2000	D6-2000
C62	.01	200	C-8D-11738	P488-01	D6-.01
C63	.02	200	C-8D-17268	P488-02	DF-.02
C64	.01	200	C-8D-11738	P488-01	D6-.01
C65	.01	400	C-8D-10761	P488-01	D6-.01
C66	.005	600	C-8D-10935	P488-005	D6-.005
C67	470	500	C-8F3-121	1469-0005	D6-470
C68	.1	200	C-8D-10770	P288-1	DF-.1
C69	.01	400	C-8D-10761	P488-01	D6-.01
C70	.005	600	C-8D-10935	P488-005	D6-.005
C71	.02	400	C-8D-10774	P488-02	DF-.02
C72	.05	400	C-8D-14461	P488-05	DF-.05
C73	.25	400	C-8D-13439	P488-25	DF-.25
C74	470	500	C-8F3-121	1469-0005	D6-470
C75	680	500	C-8F3-123	1479-0007	D6-680
C76	220	500	C-8F3-117	1469-00025	D6-220
C77	680	500	C-8F3-123	1479-0007	D6-680
C78	220	500	C-8F3-117	1469-00025	D6-220
C79	.02	600	C-8B-17268	P688-02	DF-.02
C80	.002	600	C-8D-10778	P688-002	D6-.002
C81	3900	500	C-8F11-132	1464-004	D6-3900
C82	220	500	C-8F3-117	1469-00025	D6-220
C83	680	500	C-8F3-123	1479-0007	D6-680
C84	.001	400	C-8D-12020	P688-001	D6-.001
C85	22		C-8G-11892		TCN-22
C86	.1	400	C-8D-17990	P488-1	DF-.1
C87	.1	200	C-8D-10770	P288-1	DF-.1
C88	.5	200	C-8D-11270	P288-5	DF-.5
C90	1000	500	C-8F6-125	1468-001	D6-1000

† Some models use 4.7MMF Mfgs. Part #
 † Some models use 12MMF Mfgs. Part #
 † Some models use 4MMF Mfgs. Part #
 † Some models use 470MMF Mfgs. Part #
 † Some models use .01MF Mfgs. Part #
 † Some models use .05MF Mfgs. Part #
 * Not used in all models.

ITEM No.	RATING		REPLACEMENT DATA		
	RESISTANCE	WATTS	AIR LINE PART No.	IRC PART No.	CLIP PART No.
R1A	5000Ω	1/2	A-10A-18441		RT
B	1Meg	1/2			
R2A	50KΩ	1/2	A-10B-17764	Q11-123	AG
B	Shaft	1/2	A-10B-17764	Not req.	KSS
R3A	10kΩ	1/2	A-10B-17275	Q11-128	KSS
B	Shaft	1/2	Not req.	Not req.	AM
R4A	5000	1/2	A-10B-17766	Q11-114	FK
B	Shaft	1/2	Not req.	Not req.	FK
R5A	750KΩ	1/2	A-10B-18240	Q11-123	AG
B	Shaft	1/2	Not req.	Not req.	FK
R6A	50KΩ	1/2	A-10B-17764	Q11-123	AG
B	Shaft	1/2	Not req.	Not req.	KSS

ITEM No.	RATING		REPLACEMENT DATA		
	RESISTANCE	WATTS	AIR LINE PART No.	IRC PART No.	CLIP PART No.
R7	470KΩ	5%	C-9B1-60	BTS-470K	
R8	680Ω		C-9B1-74	BTS-10K	
R9	10KΩ		C-9B1-48		
R10	82Ω		C-9B1-48		
R11	1000Ω	20%	C-9B1-13	BTS-1000	
R12	5600Ω		C-9B1-71	BTS-5600	
R13	10KΩ		C-9B1-74	BTS-10K	
R14	220Ω		C-9B1-54	BTS-220	
R15	100Ω		C-9B1-74	BTS-10K	
R16	5600Ω		C-9B1-71	BTS-5600	
R17	10Ω		C-9B1-38		
R18	10Ω		C-9B1-38		
R19	1000Ω	20%	C-9B1-13	BTS-1000	
R20	1000Ω	20%	C-9B1-13	BTS-1000	
R21	8200Ω		C-9B1-73	BTS-8200	
R22	82Ω		C-9B1-49	BTS-82	
R23	1000Ω	20%	C-9B1-13	BTS-1000	
R24	1000Ω	20%	C-9B1-13	BTS-1000	
R25	4700Ω		C-9B1-70	BTS-4700	

DESCRIPTIONS

DATA			IDENTIFICATION CODES AND INSTALLATION NOTES
CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	
D5D5	811-005	5HK-D5	RF Bypass
D5W5	GP1K-050		Balancing Cap. †
R5T5	GP2K-471	MS-35	Diode Load Cap.
W5D2	GP2-333-202	5HK-D2	De-emphasis ††
PTE4S1	GP2-333-103	4TM-S1	Audio Coupling
PTE4S2		2TM-S2	Tone Comp. *
PTE4S1	GP2-333-103	4TM-S1	Audio Coupling
PTE4S1	GP2-333-103	4TM-S1	Audio Coupling
PTE6D5	GP2-333-502	6TM-D5	Audio Output Plate††
R5T5	GP2K-471	MS-35	Sync. Coupling
PTE4P1		2TM-P1	Sync. Coupling
PTE4S1	GP2-333-103	4TM-S1	Sync. Sep. Plate
PTE6D5	GP2-333-502	6TM-D5	Vert. Sync. Coupling
PTE4S2		4TM-S2	Integrator Net.
PTE4S5		4TM-S5	Vert. Discharge
PT4P25	GP2K-471	MS-35	Vert. Sync. Coupling
R5T5	GP2K-681	MS-37	Horiz. Sync. Coupling
R5T7	GP2K-681	MS-37	Voltage Divider
R5T25	GP2K-221	MS-32	Horiz. Feedback
R5T25	GP2K-681	MS-37	Voltage Divider
R5T25	GP2K-221	MS-32	Horiz. Feedback
PTE6S2		6TM-S2	AFC Filter
PTE6D2	GP2-333-202	6TM-D2	AFC Filter
DR5D4	GP2-333-402	MS-24	Fixed Trimmer
R5T5	GP2K-221	MS-32	Horiz. MV Feedback
R5T7	GP2K-681	MS-37	Horiz. Discharge
PTE5T7	GP2L-102	6TM-D1	Horiz. Sweep Coupling
PTE4P1	N750K-220	5TCL-Q22	Horiz. Feedback
PTE4P1		4TM-P1	Horiz. Output Screen
GT2P5		2TM-P1	Fixed Trimmer ††
W5D1	GP2L-102	1FM-21	Horiz. Sweep Coupling
W5D1		RF Bypass	RF Bypass

945-6 in this application.
05 in this application.
3 in this application.
2 in this application.
1 in this application.
70 in this application.

OLS

CENTRALAB PART No.	INSTALLATION NOTES
SBBT-617-S	Contrast Control - Front Volume Control and SW - Tapped ① 100KΩ - Rear
AN-31	Brightness Control
AK-4	Attach to R2A per instructions
AN-40	Vert. Hold Control
AK-4	Attach to R3A per instructions
AN-10	Vert. Linearity Control
AK-1	Attach to R4A per instructions
AN-69	Vert. Size Control
AK-1	Attach to R5A per instructions
AN-31	Horiz. Hold Control
AK-4	Attach to R6A per instructions

ORS

IDENTIFICATION CODES	
LL RESISTORS ± 10% UNLESS OTHERWISE SPECIFIED	
Antenna Isolation	
Antenna Coil Shunt	
F Amp. Grid	
F Amp. Cathode	
F Amp. Screen	
F Coil Shunt	
Fixer Grid	
Conv. Cathode	
Sc. Grid	
Sc. Plate	
Parasitic Suppressor	
Parasitic Suppressor	
Decoupling	
GC Network	
st. Video IF Amp. Grid	
st. Video IF Amp. Cathode	
st. Video IF Amp. Decoupling	
GC Network	
nd. Video IF Amp. Grid	
nd. Video IF Amp. Cathode	
nd. Video IF Amp. Decoupling	
GC Network	
nd. Video IF Amp. Grid	
nd. Video IF Amp. Cathode	
nd. Video IF Amp. Decoupling	
h. Video IF Transformer Shunt	
h. Video IF Amp. Cathode	
h. Video IF Amp. Screen	
h. Video IF Amp. Plate Decoupling	
h. Video IF Transformer Shunt	
Video Det. Diode Load	
GC Network	
GC Network	
GC Network	
Voltage Divider	
RC Restorer Diode Load	
Video Amp. Plate	
Video Amp. Plate	
Voltage Divider	

RESISTORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	AIR LINE	IRC	
			PART No.	PART No.	
R46	5600Ω	1	C-9B2-71	BTA-5600	Decoupling
R47	2.2Meg		C-9B1-102	BTS-2.2Meg	Video Amp. Grid
R48	100Ω		C-9B1-50	BTS-100	Video Amp. Cathode
R49	4700Ω 20%		C-9B4-70	BTB-4700	Video Amp. Plate
R50	1000Ω	10	C-9C14-1099	1 3/4A-1000	Voltage Divider - Wire Wound
R51	1200Ω	10	C-9C14-1100	1 3/4A-1200	Voltage Divider - Wire Wound
R52	68KΩ		C-9B1-84	BTS-68K	Voltage Divider
R53	22KΩ		C-9B1-78	BTS-22K	Picture Tube Grid
R54	100KΩ		C-9B1-86	BTS-100K	Picture Tube Cathode
R55	1000Ω		C-9B1-62	BTS-1000	Acc. Anode
R56	220KΩ		C-9B1-90	BTS-220K	Sound IF Transformer Shunt
R57	120Ω		C-9B1-51	BTS-120	Sound IF Amp. Cathode
R58	2200Ω		C-9B1-66	BTS-2200	Sound IF Amp. Decoupling
R59	22KΩ 20%		C-9B1-78	BTS-22K	Ratio Det. Diode Load
R60	27KΩ 20%		C-9B1-78	BTS-27K	De-emphasis - See Note 2
R61	47KΩ		C-9B1-82	BTS-47K	Tone Compensation - See Note 1
R62	10Meg 20%		C-9B1-37	BTS-10Meg	AF Amp. Grid
R63	220KΩ		C-9B1-90	BTS-220K	AF Amp. Plate
R64	470KΩ 20%		C-9B1-94	BTS-470K	Output Grid
R65	680Ω		C-9B2-60	BTA-680	Output Cathode
R66	10KΩ		C-9B1-74	BTS-10K	Isolation
R67	4.7Meg		C-9B1-106	BTS-4.7Meg	Sync. Sep. Grid
R68	68KΩ		C-9B4-84	B7B-68K	Sync. Sep. Plate
R69	8200Ω		C-9B1-73	BTS-8200	Voltage Divider
R70	2.2Meg		C-9B1-102	BTS-2.2Meg	Sync. Amp. Grid
R71	47KΩ 5%		C-9B2-82	BTA-47K-5%	Sync. Amp. Plate
R72	56KΩ		C-9B1-83	BTS-56K	Integrator
R73	1.5Meg		C-9B1-100	BTS-1.5Meg	Vert. Osc. Grid
R74	220KΩ		C-9B1-90	BTS-220K	Vert. Osc. Plate
R75	220KΩ		C-9B1-90	BTS-220K	Vert. Osc. Plate
R76	3900Ω		C-9B1-69	BTS-3900	Vert. Peaking
R77	47KΩ		C-9B1-94	BTS-47K-5%	Voltage Divider
R79	1Meg		C-9B1-82	BTS-1Meg	Voltage Divider
R80	1000Ω		C-9B1-98	BTS-1000	Vert. Amp. Grid
R81	2200Ω		C-9B1-62	BTS-2200	Vert. Amp. Cathode
R82	470KΩ		C-9B1-66	BTS-470K	Damping
R83	150KΩ		C-9B1-94	BTS-150K	Horiz. Feedback Network - See Note 3
R84	150KΩ		C-9B1-88	BTS-150K	Horiz. Phase Det. Diode Load
R85	2.2Meg		C-9B1-88	BTS-150K	Horiz. Phase Det. Diode Load
R86	2.2Meg		C-9B1-102	BTS-2.2Meg	Horiz. Phase Det. Diode Load
R87	68KΩ 20%		C-9B1-84	BTS-68K	Horiz. AFC Filter
R88	1500Ω		C-9B1-64	BTS-1500	Horiz. MV Cathode
R89	5600Ω		C-9B2-71	BTA-5600	Horiz. MV Plate
R90	100KΩ		C-9B1-86	BTS-100K	Horiz. MV Grid
R91	220KΩ		C-9B1-90	BTS-220K	Horiz. MV Plate
R92	220Ω		C-9B1-54	BTS-220	Parasitic Suppressor
R93	470KΩ		C-9B1-94	BTS-470K	Horiz. Output Grid
R94	6800Ω		C-9B2-72	BTA-6800	Horiz. Output Screen
R95	680KΩ 20%		C-9B1-96	BTS-680K	Horiz. Feedback Network
R96	2.2Ω		C-9C1-1067		HV Rectifier Filament
R97	5600Ω		C-9B4-71	BTB-5600	Decoupling
R98	5600Ω		C-9B4-71	BTB-5600	Voltage Divider
R99	5600Ω		C-9B4-71	BTB-5600	Decoupling
R100	470KΩ 5%		C-9B1-94	BTS-470K-5%	Isolation

Note 1 Not used in all models.
Note 2 Some models use 10KΩ resistor in this application.
Note 3 Some models use 220KΩ resistor in this application.

AIRLINE MODELS
05BR-3021B, 05BR-3024B, 05BR-3027A

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	AIR LINE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T1	117VAC ① 1.8A	720VCT .250ADC	5VAC ① 3A	6.3VAC ① 1.5A SEC. 4 6.3VAC ① 7A	C12A-18839	P-8159	P-3059	TP395 and F633 ①

① Drill new mounting holes.

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	DC RESISTANCE	SEC.	AIR LINE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
T2	200Ω	1100Ω	B12M-18241	A-8111 ②	A-3000 ②	TB0-1 ②	Vert. Block Osc. Trans. Horiz. Output Trans.
T3	870Ω	4Ω	C12M-18689-2		HV0-6 and MWC-1 ③		
	Tap 82Ω	Tap .3Ω					
		SEC. 2					
		5.3Ω					
		SEC. 3					
		0Ω					
T4	990Ω	11.5	B12C-17303	A-8112	A-3036	TS0-5 ①	Vert. Output Trans. Horiz. Deflection Coils Vert. Deflection Coil.
T5A	13.5Ω		B13M-13590	DY-1	MD-12		
T5B	61Ω						

① Drill one new mounting hole.

③ Used for AGC winding.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE	DC RES.	AIR LINE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.			
T6	6.9KΩ	3Ω	480Ω	1.9Ω	B12C-18743	A-3878	A-2931	R0-13 ①	① Drill one new mounting hole.

PARTS LIST CONTINUED ON PAGE 15

PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	AIR LINE	JENSEN	QUAM	
			PART No.	PART No.	PART No.	
SP1A B	PM PM	3Ω 3Ω	C18A-18745 ④ C18A-18865 ⑤	6J6 10J12	6A15 10A4A	④ Used in models 05BR-3024B, 05BR-3027A ⑤ Used in model 05BR-3021B
SP2A B	CONE DIA.	V. C. DIA.				
	5 7/8" 9 7/8"	9/16" 1"				

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 μ)	AIR LINE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
L1 L2	.250A .250A	38Ω 38Ω	1.3 Henries 1.3 Henries	B16A-17959 B16A-17959	C-2326 ② C-2326 ②	C-2991 C-2991	TR3300 ② TR3300 ②	② Drill one new mounting hole.

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	AIR LINE	MEISSNER	
				PART No.	PART No.	
L3	High Band Ant. Trans.	.1Ω	.1Ω	B-201-17143		Part of L3 High Band High Band Low Band Low Band High Band Low Band Includes C49 Tap. .6Ω
L4	Low Band Ant. Trans.	.1Ω	.1Ω			
L5	RF Choke	.9Ω		A-16A-17128		
L6	RF Coil Pri.	.1Ω		B-13E-17140		
L7	RF Coil Sec.	.1Ω		B-13E-17140		
L8	RF Coil Pri.	.1Ω		B-13E-12046		
L9	RF Coil Sec.	.1Ω		B-13E-12046		
L10	Osc. Coil	.1Ω		B-13E-17140		
L11	Osc. Coil	.1Ω		B-13D-12155		
L12	Conv. Plate Trap	11Ω		A-16A-18025		
L13	1st. Video IF	.4Ω		A-13M-18026		
L14	Fil. Choke	.3Ω		A-201-15609		
L15	2nd. Video IF	.2Ω		B-201-15612		
L16	3rd. Video IF	.2Ω		B-201-15612		
L17	4th. Video IF	.2Ω		B-201-15612		
L18	RF Choke	2.4Ω		A-201-15608		
L19	5th. Video IF	1.3Ω	1.3Ω	B-13B-18784		
L20	Fil. Choke	1.1Ω		A-16A-17937		
L21	Peaking	2.3Ω		A-16A-17961		
L22	4.5MC Trap	2.5Ω		A-201-18695		
L23	Peaking	20Ω		A-16A-18685		
L24	Peaking	15Ω		A-16A-18685		
L25	Peaking	20Ω		A-16A-19486		
L26	1st. Sound IF	1Ω		B-13A-18783		
L27	Ratio Det. Trans.	4.2Ω	.2Ω	B-13M-17273		
L28	Horiz. Osc.	60Ω		A-13D-16943		
L29	Horiz. Size	.2Ω		A-13M-18233		
L30	Horiz. Lin.	3.6Ω	Tap. 1Ω	A-13M-18961		

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA				REMARKS
			AIR LINE PART No.		LITTELFUSE PART No.		
			FUSE	HOLDER	FUSE	HOLDER	
M1	3AG	.250	A46B-18362	A55F-18024	312.250	357001	

MISCELLANEOUS

ITEM No.	PART NAME	AIR LINE PART No.	NOTES
M2	RF Tuner	C-211-18742	(Phono-TV) 80-480MMF. (Horiz. Drive) Tuner Volume Contrast Antenna 3 Used (Models 05BR-3021B, 05BR-3024B) 3 Used (Model 05BR-3027A)
M3	Switch	A-20F-12108	
M4	Focus Magnet	B-55P-18914	
M5	Ion Trap	B-16M-17982	
B2	Trimmer	A-8E-18508	
	Knob	A-5B-18781-76	
	Knob	B-5B-17761-76	
	Knob	B-5B-17762-76	
	Knob	B-5B-18382-36	
	Knob	B-5B-18244-76	
	Knob	B-5B-18244-56	
	Pointer	A-2G-18788	