

CABINET-REAR VIEW

## HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Tune in a TV signal, preferably with a test pattern. Connect a clip lead from pin 2 (grid) of Sync Separator to ground. Connect another clip lead across the Stabilizer Coil (L12).

Adjust the Horizontal Hold until the picture almost locks in sync. Re-

move the clip lead from the Stabilizer Coil (L12), and adjust B1 until the picture almost locks in. Remove the clip lead from the Sync Separator. The picture should lock in sync. It may be necessary to repeat the above procedure.

## DISASSEMBLY INSTRUCTIONS

### CHASSIS REMOVAL

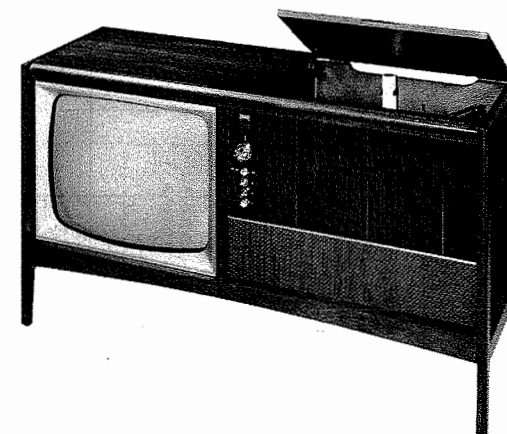
1. Remove all knobs and rear cover.
2. Disconnect speaker leads, picture tube socket, yoke plug, HV anode lead, antenna lead, and picture tube grounding strap.
3. Remove 2 chassis bolts from bottom of cabinet, one screw located

near tuner at front of chassis and one screw holding chassis bracket at rear top edge.

4. Remove chassis.

### PICTURE TUBE REMOVAL

For picture tube removal, follow "Chassis Removal" instructions.



## IMPORTANT FILING NOTICE

Some models covered by this PHOTOFACT Folder employ chassis in addition to the TV chassis. PHOTOFACT Folders covering these additional chassis are packaged immediately behind this Folder and should be filed with this Folder in the yellow filing jacket provided. For specific coverage see index below.

## INDEX

AM-FM Chassis 8A53 . . . . . SET 624, FOLDER 2-A

## CAUTION

ONE SIDE OF AC LINE CONNECTED TO CHASSIS

TRADE NAME	BRADFORD Models	Chassis	AM-FM Stereo Chassis
	WGEC-96735A	23S33	8A53
	WGEC-96743A	23S33U	8A53
SUPPLIER	W. T. Grant Co., 1441 Broadway, New York, New York		
TYPE SET	Television Receiver with AM-FM Stereo Radio		
TUBES	VHF - Fourteen, UHF - Fifteen		
POWER SUPPLY	110-120 Volts AC, 60 Cycle		
TUNING RANGE	Channel 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Inter-carrier)		

RECORD CHANGER ( PART # 28A266 ) VM-1235 USED IN THE ABOVE MODELS

## SERVICING IN THE FIELD

### SAFETY GLASS REMOVAL

For picture tube and safety glass cleaning, it is necessary to remove the chassis. (See "Disassembly Instructions".)

### FUSE OR FUSE DEVICE

A 4.7Ω fusible resistor (R61) is used for low voltage power supply protection. (For location, see "Tube Placement Chart".)

### TUNER OSCILLATOR ADJUSTMENT

To touch up the VHF Oscillator, remove Channel Selector and Fine Tuning knobs.

### FOCUS

The focus may be varied by the position of a strap on the

base of the picture tube.

### HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

Coarse adjustment of the Horizontal Hold is accomplished by the proper setting of the Horizontal Oscillator Coil Slug.

### BUZZ ADJUSTMENT

To eliminate intercarrier buzz, adjust the Buzz control for MINIMUM buzz and maximum sound. (For location, see "Tube Placement Chart".)

### CENTERING

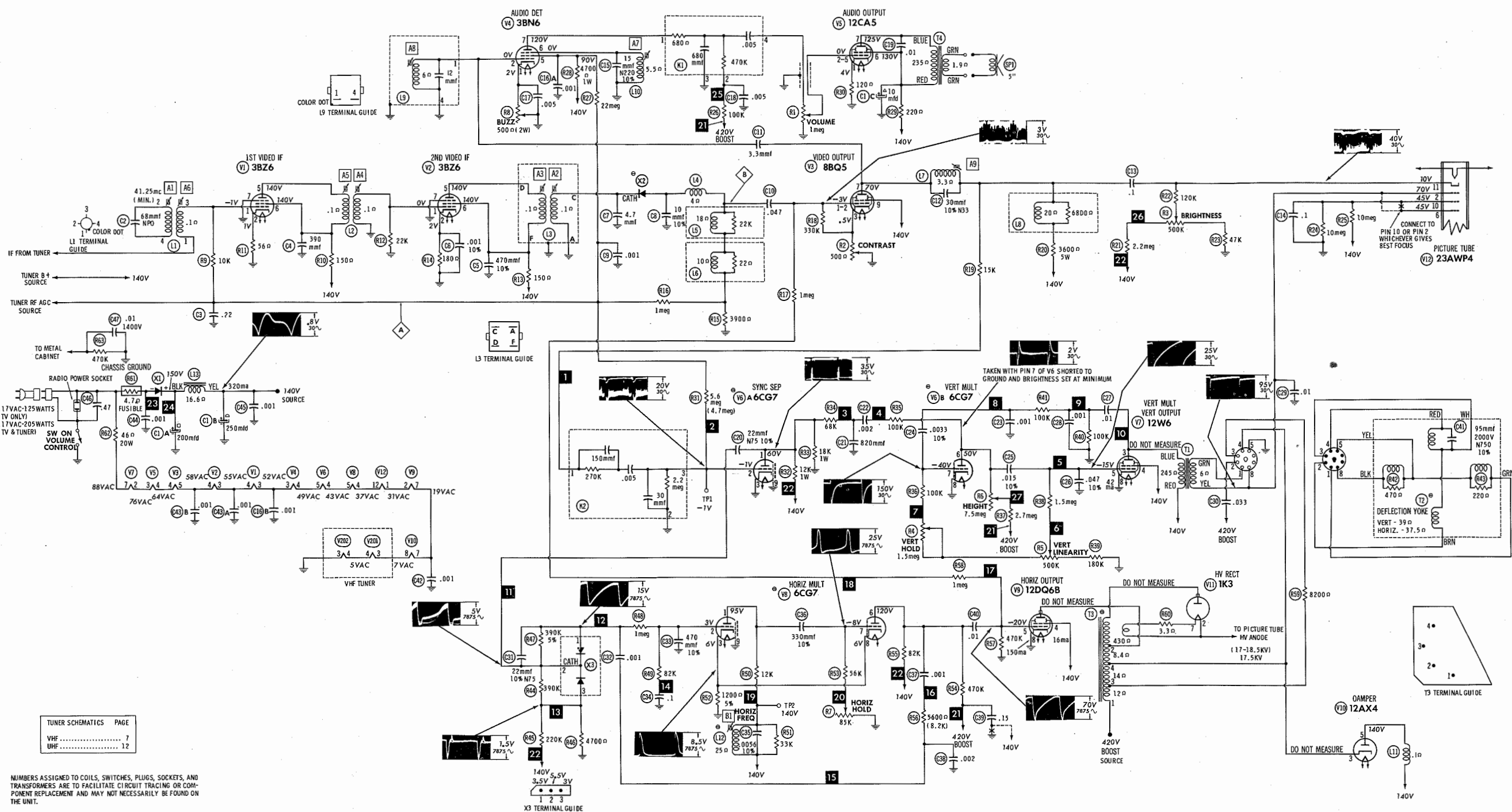
Centering is accomplished by 2 magnetic rings, located behind the yoke, on the neck of the picture tube.

## 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 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. ©1963 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana.

Printed in U.S. of America



TUNER SCHEMATICS	PAGE
VHF	7
UHF	12

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

WAVEFORMS TAKEN WITH CONTROLS SET TO PRODUCE 40 VOLTS PEAK-TO-PEAK SIGNAL AT PICTURE TUBE.

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltage measured at 1000 ohms per volt.
2. Pin numbers are counted in 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. All controls set for normal operation; no signal applied.

A PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCUITRACE

©Howard W. Sams & Co., Inc. 1963

BRADFORD MODELS WGEC-96735A, -96743A (Ch. 23533, U)

BRADFORD MODELS WGEC-96735A, -96743A (Ch. 23533, U)

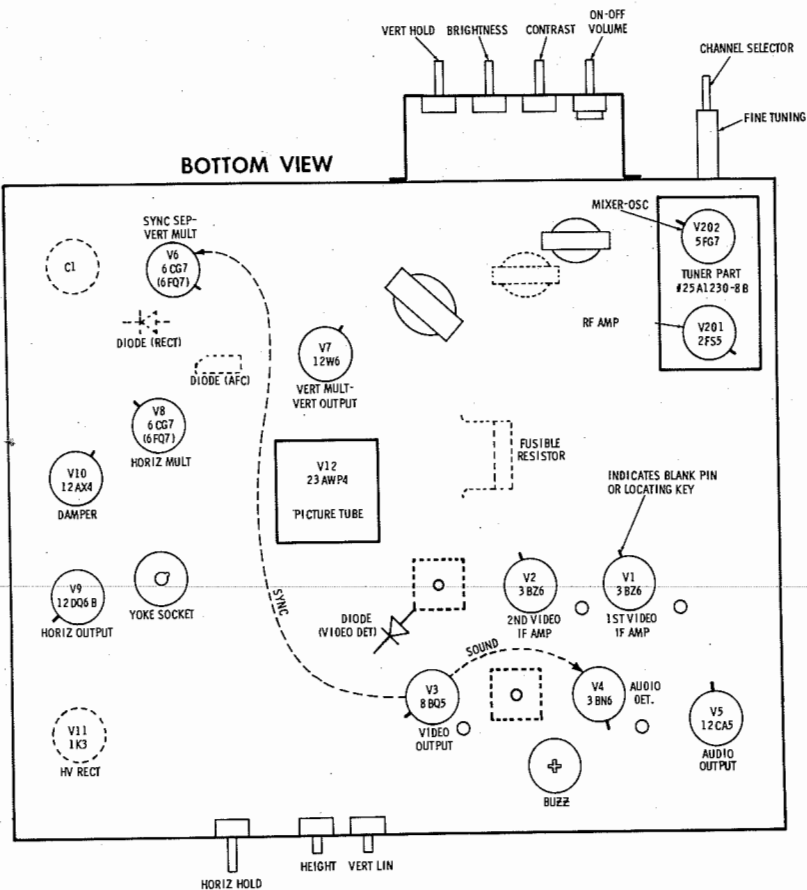
FOLDER 2

RESISTANCE MEASUREMENTS

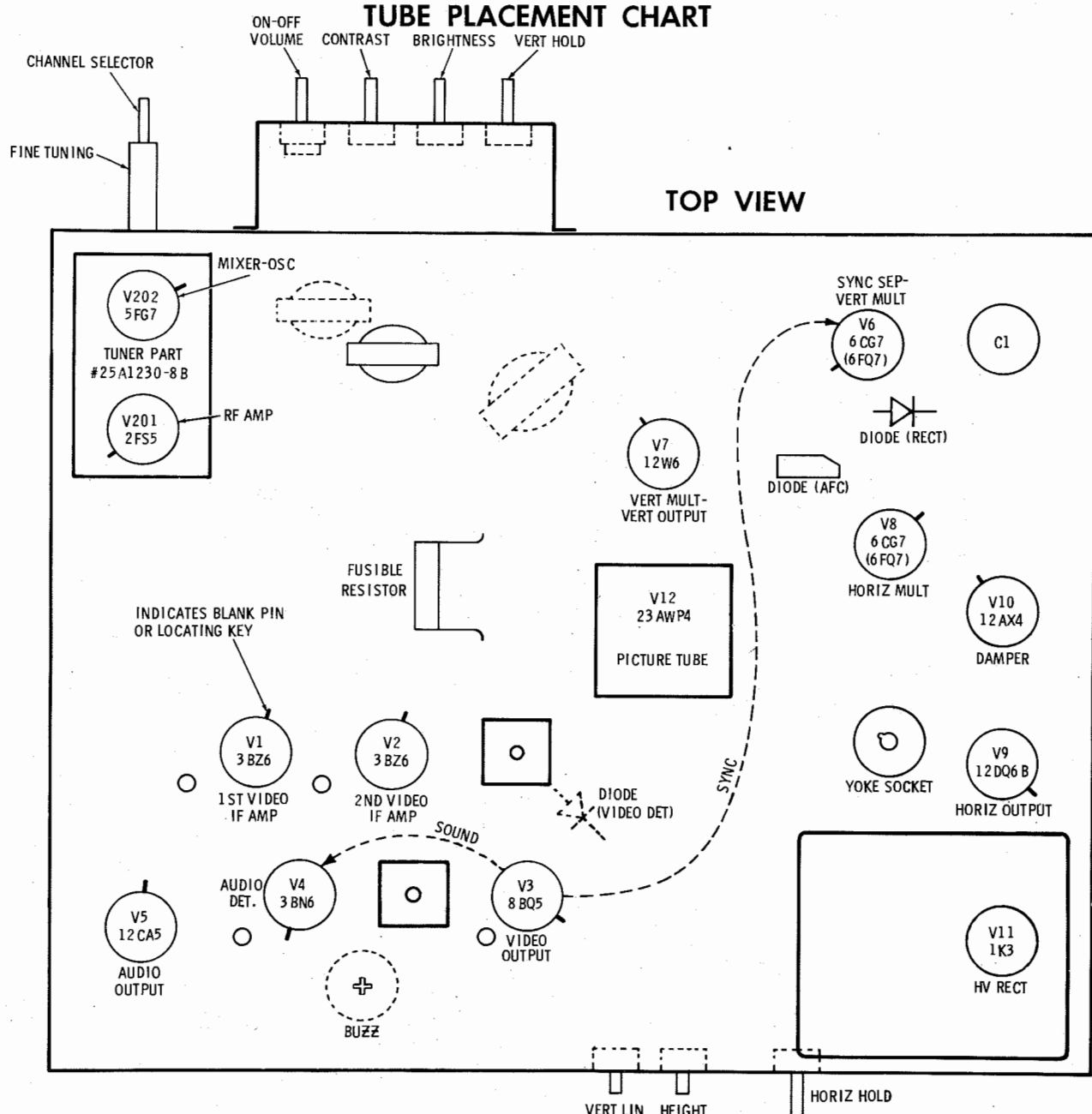
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	3BZ6	1meg	56Ω	12Ω	13Ω	†165Ω	†165Ω	0Ω		
V2	3BZ6	.1Ω	180Ω	13Ω	14Ω	†165Ω	†165Ω	0Ω		
V3	8BQ5	310K	310K	4Ω	15Ω	14Ω	NC	†3600Ω	NC	†17Ω
V4	3BN6	300Ω	6Ω	12Ω	11Ω	†4700Ω	5.5Ω	†570K		
V5	12CA5	120Ω	500K	17Ω	15Ω	500K	†236Ω	†470Ω		
V6	6CG7	†9000Ω	2.2meg	0Ω	10Ω	11Ω	†5meg	1.8meg	0Ω	0Ω
V7	12W6	NC	17Ω	†260Ω	†16Ω	2meg	NC	19Ω	0Ω	
V8	6CG7	†12K	2meg	1200Ω	8Ω	10Ω	†82K	90K	1200Ω	0Ω
V9	12DQ6B	NC	7Ω	TP	†16Ω	450K	TP	4Ω	0Ω	TOP CAP †8.4Ω
V10	12AX4	TP	NC	500K	NC	†17Ω	NC	4Ω	2Ω	
V11	1K3	INF	PINS	1 THRU 8	HAVE	INFINITE	RESISTANCE			TOP CAP †438Ω
V12	23AWP4	7Ω	18Ω	Pin 6 5meg	Pin 10 5meg	Pin 11 180K	Pin 12 8Ω			
V201	2FS5	900K	0Ω	2Ω	1Ω	†190Ω	†190Ω	0Ω		
V202	5FG7	18K	†10K	0Ω	1Ω	0Ω	†2200Ω	†12K	0Ω	200K
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9

† MEASURED FROM OUTPUT OF X1.  
‡ MEASURED FROM PIN 3 OF V10.

NC NO CONNECTION  
TP TIE POINT



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 R61, Selenium Rectifier X1

**SWEEP FAILURE**  
No raster, has sound V8, V9, V10, V11, V12  
No vertical deflection V8, V7  
Poor vert. linearity or foldover V8, V7  
Poor horiz. linearity or foldover V8, V9, V10  
Narrow picture V8, V9, V10, X1  
Vert. off freq. V8, V7  
Horiz. off freq. V8, AFC Diode X3

**LOSS OF PICTURE OR SOUND**  
No pic, no sound, has raster V1, V2, Video Detector X2, V3  
No pic, no sound, has snow V201, V202, V1  
No pic, has sound, has raster V3, V12  
Has pic, no sound V4, V5  
Overloaded picture

**SYNC FAILURE**  
No vert. sync V8  
No horiz. sync V8  
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.)

TO AC LINE 46Ω 20W

V7 7 2 V5 3 4 V3 4 5 V2 4 3 V1 4 3 V4 3 4 V6 5 4 V8 5 4 V12 12 1

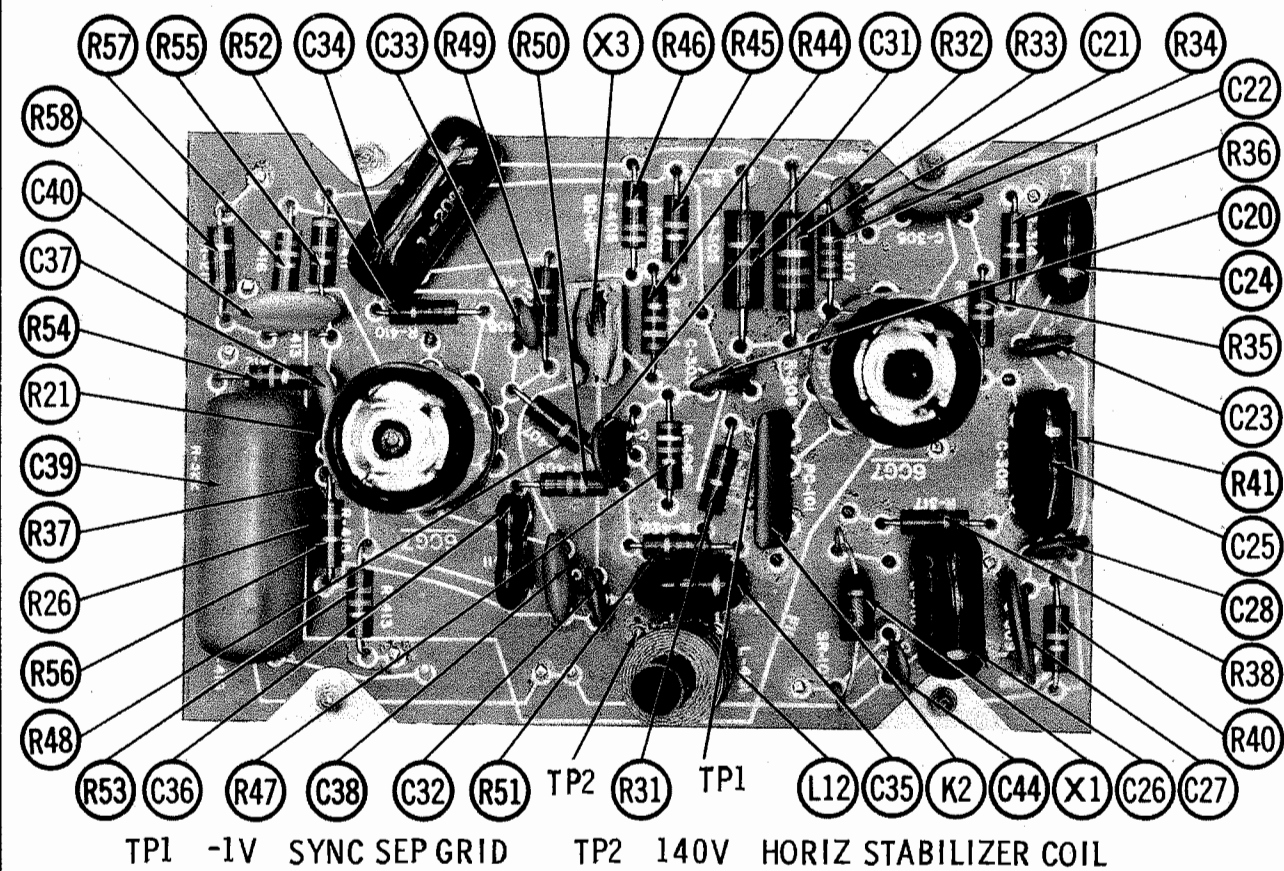
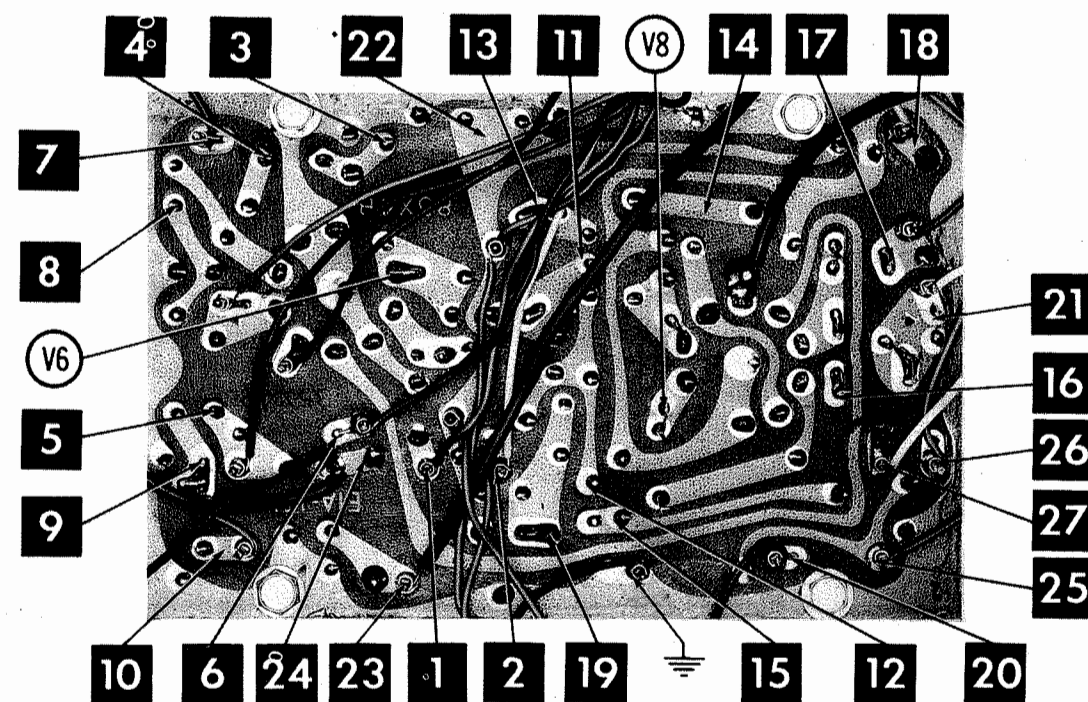
V202 5 4 V201 4 3 V10 8 7 V9 7 2

BRADFORD MODELS WGE-96735A,  
-96743A (Ch. 23S3, U)

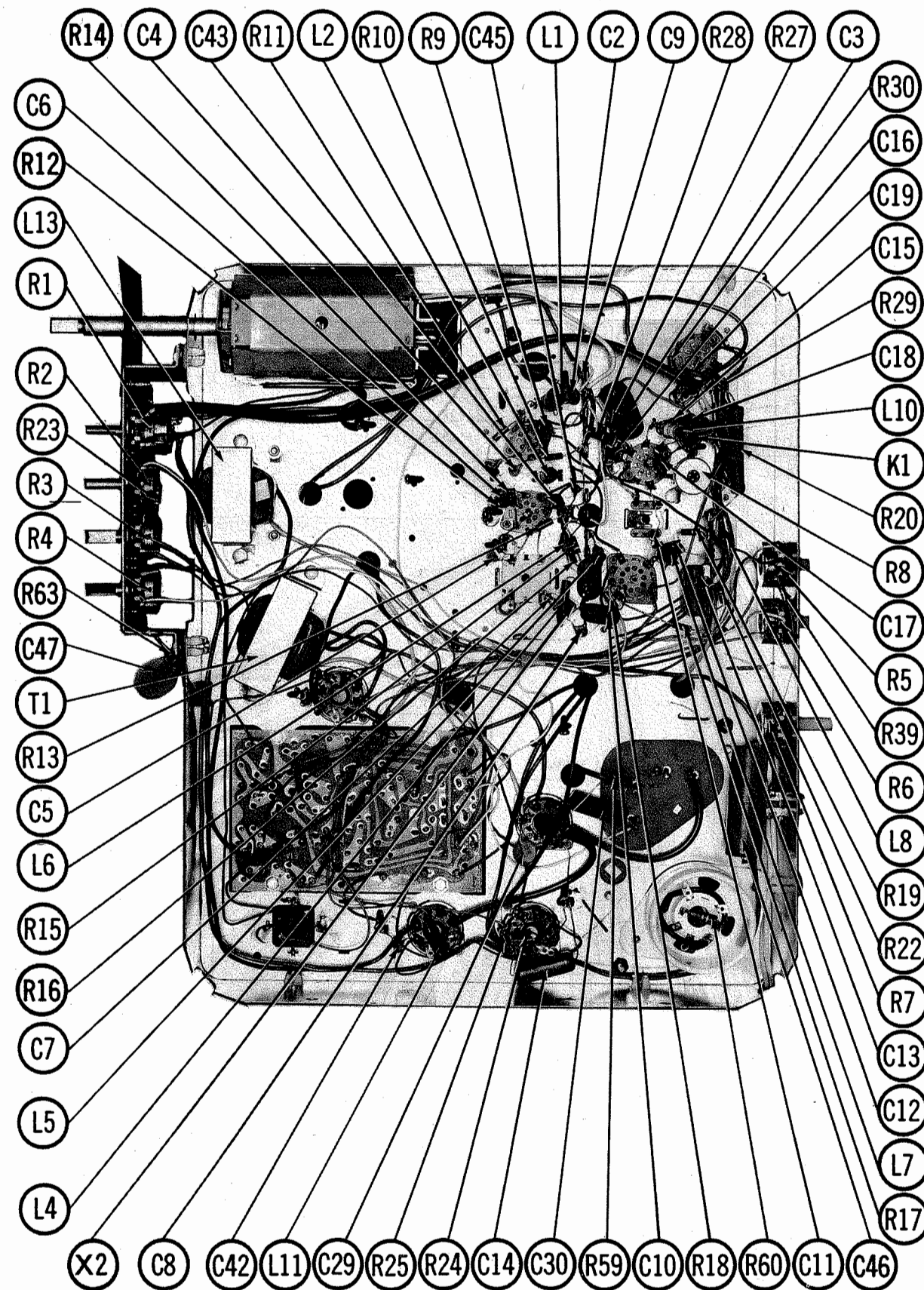
FOLDER 2



**ARROWS INDICATING TUBE LOCATIONS ARE  
POINTING TO PIN 1 UNLESS OTHERWISE INDICATED**

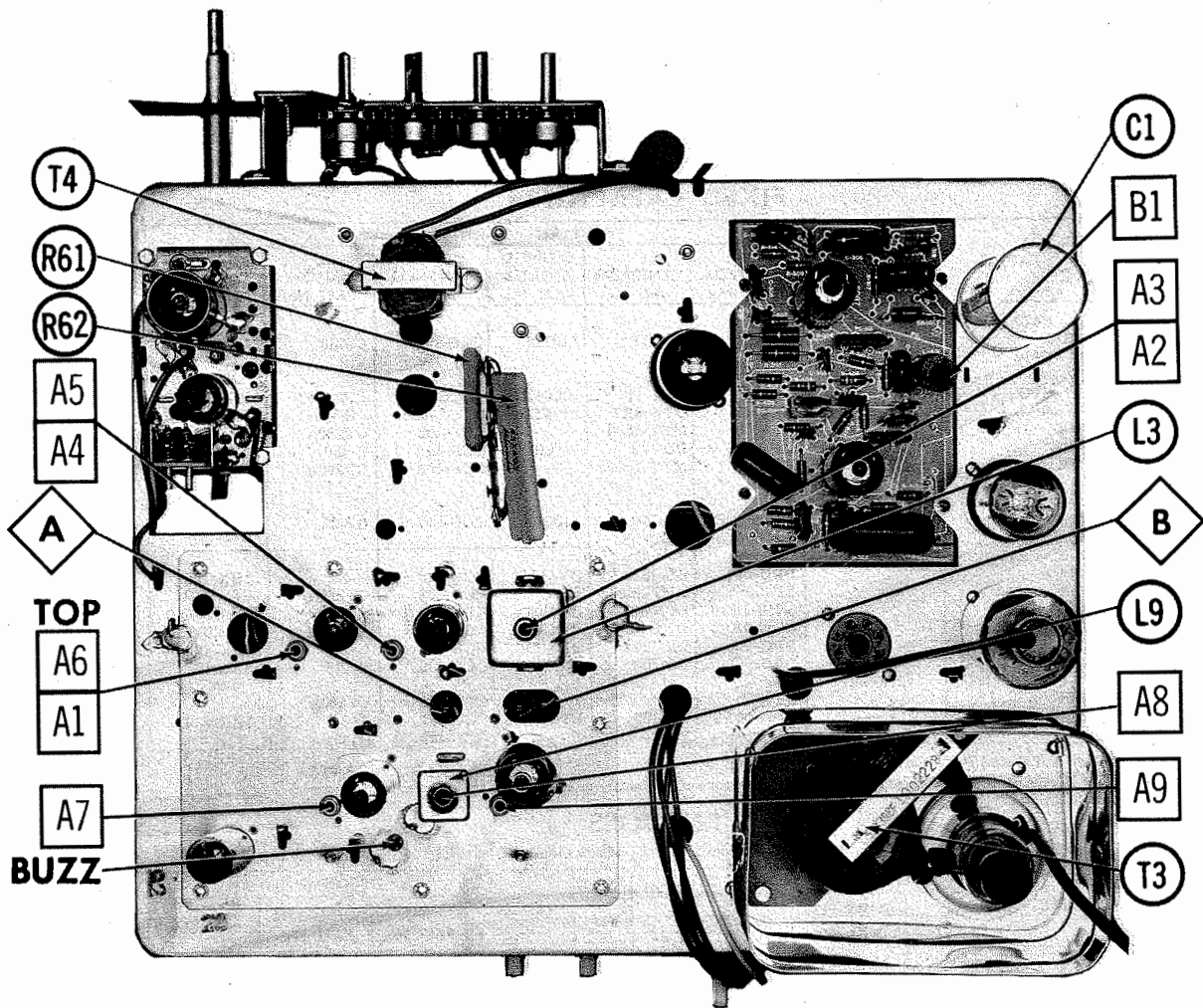


**PRINTED BOARD**

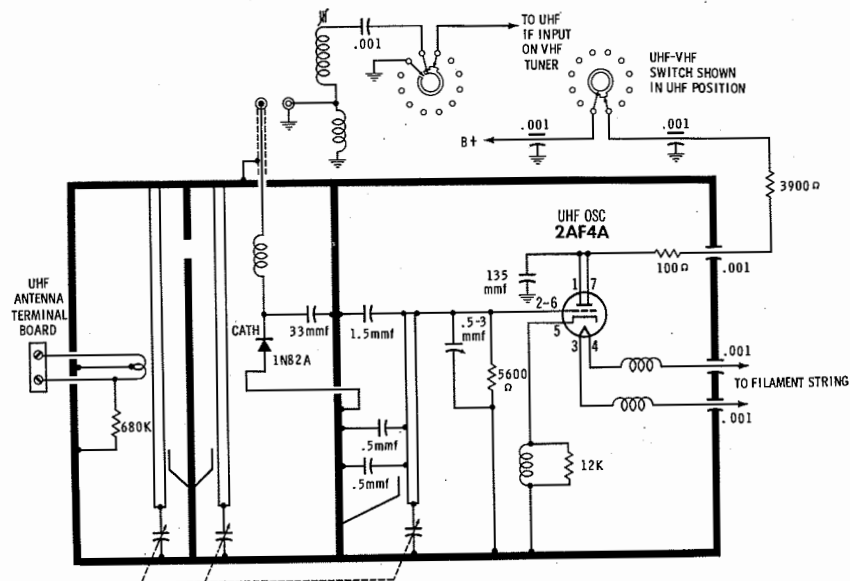


### CHASSIS - BOTTOM VIEW

ALIGNMENT INSTRUCTIONS



CHASSIS - TOP VIEW



A PHOTOFAC STANDARD NOTATION SCHEMATIC  
©Howard W. Sams & Co., Inc. 1963

UHF TUNER, UHF SWITCH

PRE-ALIGNMENT INSTRUCTIONS

Maintain AC line voltage at 117 volts using an isolation transformer. Allow a 20 minute warm-up period for the receiver and test equipment.  
Suggested Alignment Tools: A1 thru A9 ..... GENERAL CEMENT #9302, 8606L, 8869; WALSCO #2511, 2544, 2588  
Mixer Plate Coil .... GENERAL CEMENT #9302, 9296, 9297; WALSCO #2511, 2546, 2547

VIDEO IF ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. Use only enough generator output to provide a usable indication. Connect variable bias to IF AGC line at point  $\diamond$ . Adjust bias to obtain response curve which shows no indication of overloading. Replace Mixer-Osc with a dummy tube (oscillator grid pin removed).

	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	High side to ungrounded tube shield over Mixer-Osc. Low side to chassis		41.25MC	Any non-interfering channel	Connect DC probe of VTVM thru a 47K resistor to point $\diamond$ Common to ground.	A1	Adjust for MINIMUM.
2.	Connect high side to pin 1 (grid) of V2. Low side to ground.	44MC (10MC Sweep)	42.4MC 45.75MC	"	CONNECT SCOPE Connect Vertical of Scope to point $\diamond$ Low side to ground.	A2, A3	Adjust for maximum amplitude and MINIMUM tilt with markers as shown in Figure 1.
3.	High side to ungrounded tube shield over Mixer-Osc. Low side to chassis	"	41.25MC 42.4MC 43.8MC 44.75MC 45.75MC	"	"	A4, A5, A6 & Mixer Plate Coil	Adjust for maximum gain and symmetry of response with markers as shown in Fig. 2. In order to obtain a proper response curve, it may be necessary to retouch slightly A2 and A3.

SOUND IF ALIGNMENT

Tune in a station and reduce the signal strength at the antenna terminals until a hiss (similar to super-regeneration) is heard in the sound. Align for maximum undistorted sound with MINIMUM buzz by adjusting A7, A8 and the Buzz control.

4.5MC TRAP ALIGNMENT

Tune in a strong TV signal and set the Contrast at maximum. Adjust the Fine Tuning until a beat pattern is visible on the screen. Adjust A9 for MINIMUM beat interference.

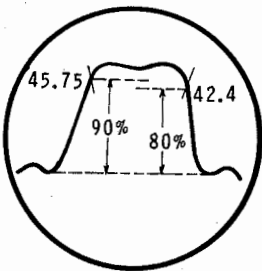


FIG. 1

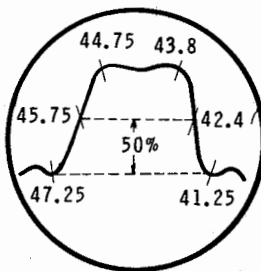


FIG. 2

BRADFORD MODELS WGEC-96735A,  
-96743A (Ch. 23S33, U)

FOLDER 2

VHF TUNER ALIGNMENT INSTRUCTIONS

PRE-ALIGNMENT INSTRUCTIONS

Maintain voltage at 117 Volts AC using an isolation transformer. Allow a 20 minute warm-up period for the receiver and test equipment. Suggested Alignment Tools: A201, A202 ..... GENERAL CEMENT #9087, 8290, 8868 WALSCO #2525, 2528, 2587

VHF OSCILLATOR ADJUSTMENT

Set Fine Tuning to center of its range. Starting with highest channel in area, adjust the appropriate oscillator screw for best picture and sound.

VHF RF AND MIXER ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. Use only enough generator output to provide a usable indication. Use 10MC sweep unless otherwise noted. Connect variable bias to RF AGC line at point ④. Adjust bias to obtain response curve which shows no indication of overloading.

SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1. Across antenna terminal with 120Ω resistor in each lead.	213MC	211.25MC 215.75MC	13	Vert. Amp. thru demodulator probe to point ④. Low side to chassis.	A201, A202	Adjust for maximum gain and symmetry of response similar to Fig. 201 with markers as shown. Spread or compress coils for maximum gain and symmetry similar to Fig. 201.
	207MC	205.25MC 209.75MC	12			
	201MC	199.25MC 203.75MC	11			
	195MC	193.25MC 197.75MC	10			
	189MC	187.25MC 191.75MC	9			
	183MC	181.25MC 185.75MC	8			
	177MC	175.25MC 179.75MC	7			
	85MC	83.25MC 87.75MC	6			
	79MC	77.25MC 81.75MC	5			
	69MC	67.25MC 71.75MC	4			
	63MC	61.25MC 65.75MC	3			
	57MC	55.25MC 59.75MC	2			

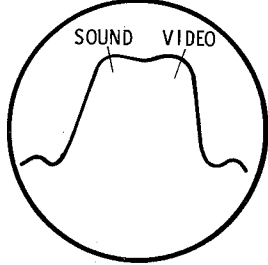


FIG. 201

VHF TUNER PARTS LIST AND DESCRIPTION

TUBES

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V201	RF Amplifier	2F55	V202	Mixer - Osc.	5FG7

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C201	10 N470	#231-100	DI-150	DD-151	L10T15	* CCD-151	GP315	10TS-T15
C202	150	#231-100 #267-620	NPO-DI 5.0 EF-001 BPD-001 EF-001	TCZ-12 DTZ-4R7 MFT-1000 DD-102 MFT-1000	C10Q12C C10V5C BYA10DI	CCTO-120 CCTO-050 CCF-102 CCD-102 CCF-102	CNO-412 CNO-547 CT280A B-210 CT280A	10TCC-Q12 10TCC-V50 5HK-D10
C203	10 N470							
C204	62							
C205	12 NPO							
C206	5 NPO							
C207	.001	#274-209	BPD-001 EF-001 N750-DI 10 N750-DI 10 BPD-001 BPD-001	DD-102 MFT-1000 DTN-10 DTN-10 DD-102 DD-102	BYA10DI	CCD-102 CCF-102 CCTN-10 CCTN-10 CCD-102 CCD-102	B-210 CT280A CN7-10 CN7-10 B-210 B-210	5HK-D10 5HK-D10 10TCU-Q10 10TCU-Q10 5HK-D10 5HK-D10
C208	.001							
C209	.001							
C10A								
C211	15							
C212	100							
C213	2							
C214	.001							
C215	.001							
C216	10 N750							
C217	10 N750							
C218	.001	#295-720	BPD-001 BPD-001 EF-001 BPD-001 EF-001	DD-102 DD-102 MFT-1000 DD-102 MFT-1000	BYA10DI	CCD-102 CCF-102 CCTN-10 CCTN-10 CCF-102	CT280A B-210 CT280A	5HK-D10 5HK-D10
C219	.001							
C220	72							
C221	.001							
C222	.001							
C223	.001							

\* Sarkes Tarzian Part Number      † Alternate Value  
\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

RESISTORS

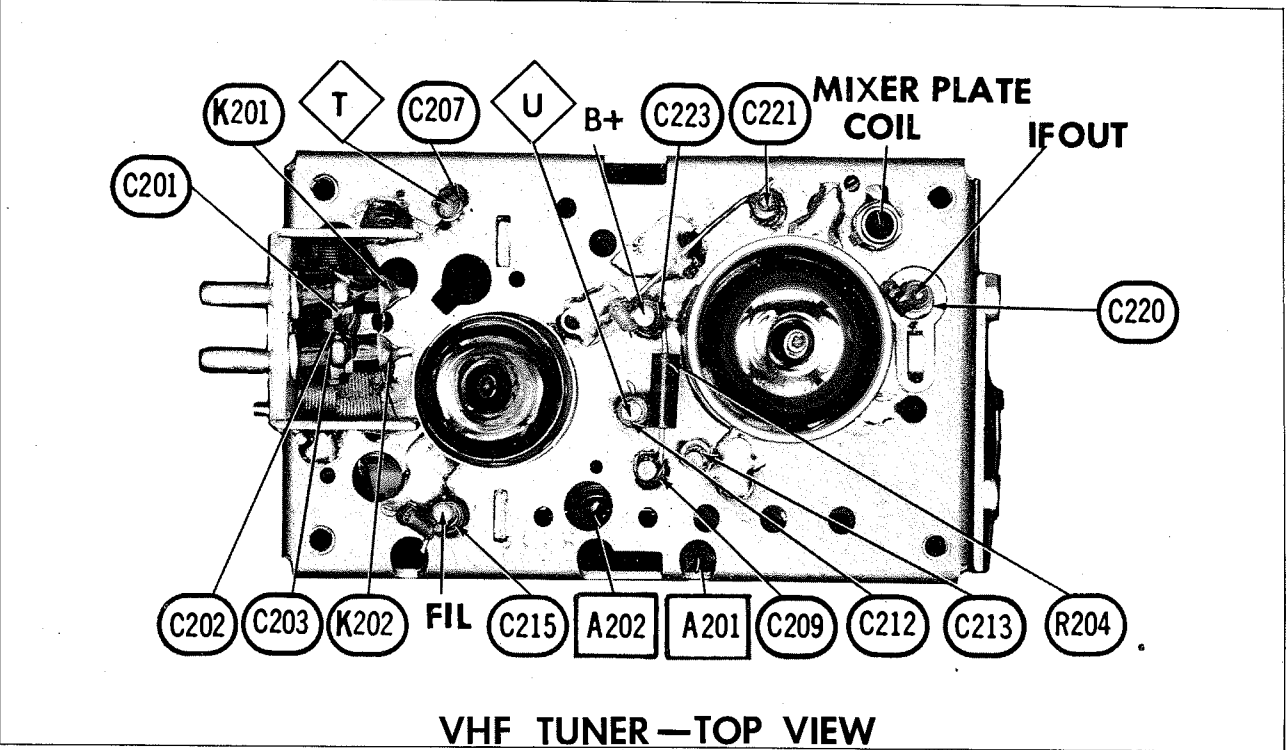
All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS			IRC PART No.	WORKMAN PART No.	REMARKS
R201	4700Ω			(3900Ω) *	R205	15K			
R202	3300Ω				R206	10K			
R203	220K				R207	12K			
R204	120Ω				R208	2200Ω			

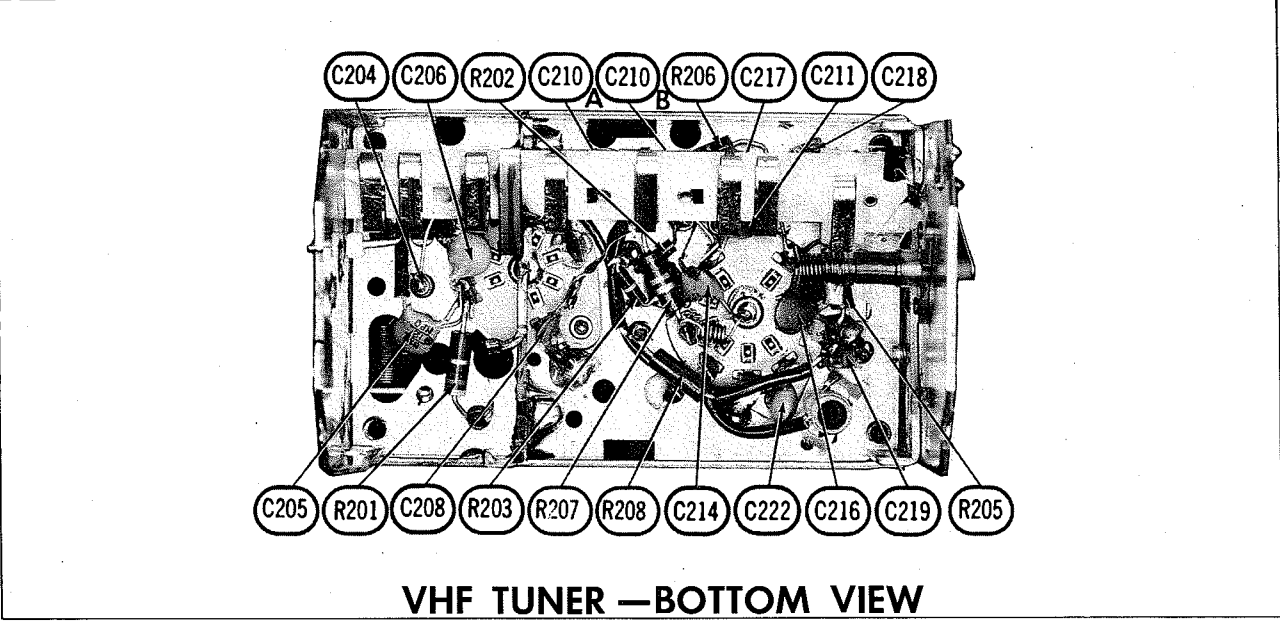
\* Alternate Value.

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	PART No.	REPLACEMENT DATA
K201	Antenna Isolation			
K202	Antenna Isolation			



VHF TUNER—TOP VIEW



VHF TUNER—BOTTOM VIEW

BRADFORD MODELS WGEC-96735A,  
-96743A (Ch. 23S33, U)

FOLDER 2



PARTS LIST AND DESCRIPTION (CONTINUED)

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

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	BRADFORD PART No.	QUAM PART No.	
SP1	5"	PM	3-4Ω	12A527-2	5A07	

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	BRADFORD PART No.	REPLACEMENT DATA
K1	Audio Couplate	680mmf, .005mfd, 680Ω, 470K	76X37-A	Centralab PC-406
K2	Sync Couplate	150mmf, 30mmf, .005mfd, 270K, 2.2meg	76X52	Centralab PC-454

PHONO CARTRIDGE & NEEDLES

\*NEEDLE LISTINGS SHOWN ARE FOR RESPECTIVE REPLACEMENT CARTRIDGES ONLY.

ITEM No.	REPLACEMENT DATA						NOTES		
	BRADFORD PART No.		ASTATIC PART No.		ELECTRO-VOICE PART No.			SONOTONE PART No.	
	CARTRIDGE	NEEDLE*	CARTRIDGE	NEEDLE*	CARTRIDGE	NEEDLE*		CARTRIDGE	NEEDLE*
M1			133D	N50sd	26D	2604D, 2605	16TASD	N-16TSD	① Replacement needles for original cartridge.
				N326-7d, N326-3s ①		2677D, 2678 ①			

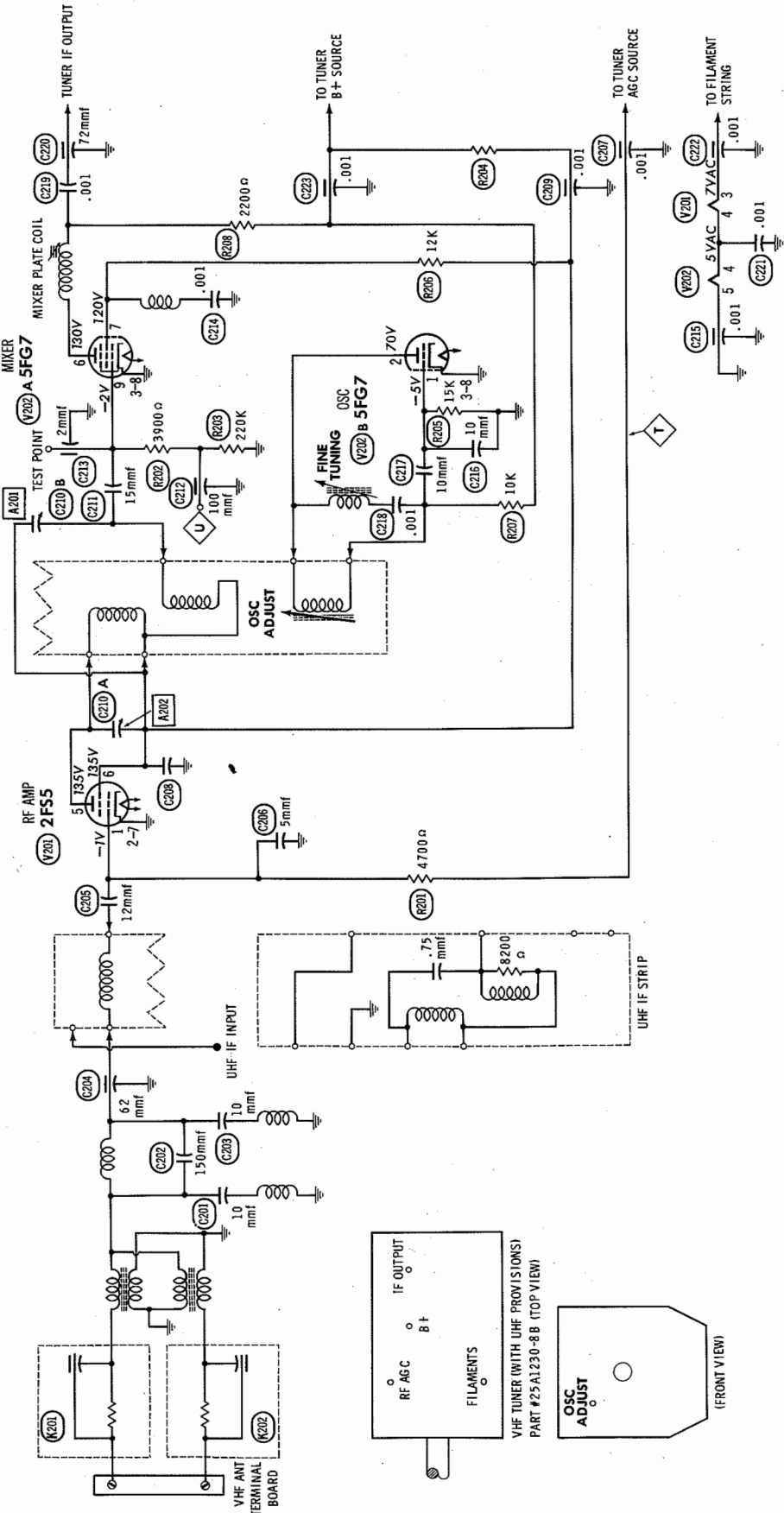
MISCELLANEOUS

ITEM No.	PART NAME	BRADFORD PART No.	NOTES
M2	VHF Tuner VHF Tuner UHF Tuner Switch	25A1230-8B 25A1230-8 25A1193-1 2A553	UHF Switch

CABINETS & CABINET PARTS

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

NAME	PART NO.	DESCRIPTION
Safety Glass	26A712	Channel Selector Fine Tuning UHF Indicator UHF Tuning Vertical, Brightness, Contrast, On-Off Volume
Mask	4X1551-9	
Knob	26A771	
Knob	10A1029-2	
Knob	10A1017-2	
Knob	10A1016-2	
Knob	10A1035-1	



BRADFORD MODELS  
WGEC-96735A, -96743A (Ch. 23533, U)  
13 POSITION TURRET-TYPE VHF TUNER 25A1230-8, -8A

A PHOTOFACT STANDARD NOTATION SCHEMATIC  
©Howard W. Sams & Co., Inc. 1963

## PARTS LIST AND DESCRIPTION

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

## WIRING DATA

High Voltage Lead .....	Use BELDEN No. 8869 (17KV) or 8868 (25KV)
Shielded Hook-up Wire .....	Use BELDEN No. 8885 (Single Conductor) 8738 (Two Conductor)
General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Power Cord (Interlock Type) .....	Use BELDEN No. 8874 (Rubber) or 8895 (Plastic)
3000 Tuner Input Lead .....	Use BELDEN No. 8225
3000 Antenna Lead-in .....	Use BELDEN No. 8230 or 8275
Antenna Rotor Cable .....	Use BELDEN No. 8464 (Flat) or 8464 (Round) - 4 Conductor 8485 (Round) - 5 Conductor 8488 (Round) - 6 Conductor

## TUBES

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	1st Video IF Amp.	3BZ6	V7	Vert. Mult. - Vert. Output	12W6
V2	2nd Video IF Amp.	3BZ6	V8	Horiz. Mult.	6CG7 (6FQ7) *
V3	Video Output	6BQ5	V9	Horiz. Output	12DQ8B
V4	Audio Detector	3BN6	V10	Damper	12AX4
V5	Audio Output	12CA5	V11	HV Rectifier	1K3
V6	Sync Sep. - Vert. Mult.	6CG7 (6FQ7) *			

\* Alternate Value

## PICTURE TUBE

ITEM No.	BRADFORD PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	NOTES
V12	23AWP4	23AWP4 ①			23AWP4 ②	① Aluminized ② Silver Screen "85"

## POWER RECTIFIERS &amp; SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	MALLORY PART No.	RCA PART No.	SARKIS TARZIAN PART No.	NOTES
X1	.32 Amp.	66X23	A300	1N2880	40H	Silicon
X2		66X20				Video Detector (CK706A, 1N60, 1N87, 1N87A)
X3		66X25				Horiz. AFC Dual Selenium SD-101.

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING	BRADFORD PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
CLA	200	45X485	AFH93-13-90	C0238	XC3-20	FP318.8	TMT3447	TVL-3490
B	250			BHRD0286			CDB-D-1014	
C	10							

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOPART No.	MALLORY PART No.	SPRAGUE PART No.
C2	68 NPO		NPO-DI 68	DTN-68	C10Q68C	CCTO-680	CNO-468	10TCC-Q68
C3	.22 200V		P288N-22	DD-391	CUB2P22	2CP-5-224	GEM-2022	2TM-P22
C4	390		DI-390	DD-471	L10T39	CCD-391	B-339	10TS-T39
C5	470 10%		DI-470	DD-471	5R5T47	CCD-471	GP347	10TS-T47
C6	.001 10%		DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C7	4.7 10%		NPO-SI 4.7	TCZ-4R7	C10V47C	CCTO-4R7	CNO-547	10TCC-V47
C8	.001 10%		DI-10	DD-100	L10Q1	CCD-100	GP410	10TS-Q10
C9	.047 200V		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C10	3.3		P288N-047	DD-503	CUB2S47	2CP-3-503	GEM-4147	2TM-S47
C11	30 N33 10%	#80X86	NPO-SI 3.3	TCZ-3R3	C10V33C	CCTO-3R3	CNO-533	10TCC-V33
C12	.1 200V		P288N-1	DF-104	CUB2P1	2CP-4-104	GEM-201	2TM-P10
C13	.1 200V		P288N-1	DF-104	CUB2P1	2CP-4-104	GEM-201	2TM-P10
C14	.1 200V							10TCR-Q15
C15	15 N220 10%	#80X88						
C16A	.001		BPD2-2X001	DD2-102	BYC6DD1	CCD-102	B2X210	5HK-2D10
B	.001		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C17	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C18	.005		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C19	.01							
C20	22 N75 10%	#80X99-7	DI-820	DD-821	BYA10T82	CCD-821	B-382	10TS-T82
C21	820		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C22	.002		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C23	.001							

## FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOPART No.	MALLORY PART No.	SPRAGUE PART No.
C24	.0033 400V 10%		BE6D33	CPR-3300J	PM6D33	8DP-1-332	PVC4233	6PS-D33
C25	.015 600V 10%		BE6S15		PM6S15	8DP-2-153	PVC6115	6PS-S15
C26	.047 200V 10%		BE2S47		PM2S47	4DP-3-473	PVC2147	2PS-S47
C27	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C28	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C29	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C30	.033 400V		P488N-033	DD-503	CUB4S33	4CP-3-333	GEM-4133	6TM-S33
C31	22 N75 10%	#80X99-7						
C32	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-S10
C33	470 10%		DI-470	DD-471	5R5T47	CCD-471	GP347	10TS-T47
C34	.1 200V		P288N-1	DF-104	CUB2P1	2CP-4-104	GEM-201	2TM-P10
C35	.0056 400V 10%		BE6D16	CFR-6600J	PM6D16	6DP-1-562	PVC4256	6PS-D56
C36	.001		1469-00033	CFR-330J	5R5T33	CM-20B-331K		MS-333
C37	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C38	.002		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C39	.15 600V		P688N-15	DD-103	CUB6P15	6CP-5-154	GEM-6015	6TM-P15
C40	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C41	95 2KV N750 10%							
C42	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C43A	.001		BPD2-2X001	DD2-102	BYC6DD1	CCD-102	B2X210	5HK-2D10
B	.001							
C44	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C45	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C46	.47 400V		P488N-47	DD16-103	CUB4P47	4CP-7-474	GEM-4047	4TM-P47
C47	.01 1400V		DAC-27		HVE16D1	16CP-4-103	UAC-110	BL-S10

# Bradford Part Number

\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	BRADFORD PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume, Power On-Off Switch	1meg	36X442	B-70-S, or (F2-1meg, SU204, KR-1)	B47S-1meg-Z	B13-137, TM5, 76-1 ①, or (BU11, CF26, SSI, GC) * B17-103, TM5, or (BU11, CF50, SSI, DC1) *	U53, US-26, or (UA16A, SF1000, US-41)
R2	Contrast	500Ω	40X537	F5-500, SU204, AK-38		B11-133, TM5, or (BU11, CF16, SSI, DC1) *	TA55L, or (U50)
R3	Brightness	500K	40X536	B-58, AK-38, or (F1-500K, SU204, AK-38)	A47-500K-S, FS-3	B11-138, TM5, or (BU11, CF16, SSI, DC1) *	TA26L, or (UA26L, SL37, SF1000)
R4	Vertical Hold	1.5meg	40X535	F1-2meg, SU204, AK-38	A47-2meg-S, FS-3	B11-133, TM4, or (BU11, CF16, S88) *	PTA55L, or (UA55L, SN1000)
R5	Vertical Linearity	500K	40X538-2	F1-500K, SN010, AK-38, or (AB-58, AK-19, AK-38)	B47-500K-S	HLC-6	PTA755L, or (FB755L, SL-37, SN1000)
R6	Height	7.5meg	40X539-2	F1-7.5meg, SN010, AK-38, or (AB-90, AK-19, AK-38)	B47-7.5meg-S		PTA15L, or (UA15L, SN1000, SL-37)
R7	Horizontal Hold	85K	40X534-1	F1-100K, SN010, AK-38, or (AB-40, AK-19, AK-38)	B47-100K-S	B11-128, TM4, or (BU11, CF13, S88) *	
R8	Buzz	500Ω (2WW)	40X472A		38-500	110-600	PFL-600

\* "SNAPTROL"

① Use Switch with metal housing.

## RESISTORS

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

ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS
R9	10K		R37	2.7meg	
R10	150Ω		R38	1.5meg	
R11	50Ω		R39	180K	
R12	22K		R40	100K	
R13	150Ω		R41	100K	
R14	180Ω		R42	470Ω	
R15	3900Ω		R43	220Ω	
R16	1meg		R44	390K	
R17	1meg		R45	220K	
R18	330K		R46	4700Ω	
R19	15K		R47	390K 5%	
R20	3600Ω 5W	PW5-3600	R48	1meg	
R21	2.2meg	5G-3600	R49	82K	
R22	120K		R50	12K	
R23	47K		R51	33K	
R24	10meg		R52	1200Ω 5%	
R25	56K		R53	56K	
R26	100K		R54	470K	
R27	22meg		R55	82K	
R28	4700Ω 1W		R56	5600Ω	
R29	220Ω		R57	470K	
R30	120Ω		R58	1meg	
R31	5.6meg		R59	8200Ω	
R32	12K 1W		R60	3.3Ω	
R33	18K 1W		R61	4.7Ω ↑	
R34	68K		R62	48Ω 20W	
R35	100K		R63	470K	
R36	100K				

\* Alternate Value

## COILS (RF-IF)

ITEM No.	USE	BRADFORD PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman PART No.	NOTES
L1A	1st Video IF	9A2436					* Disregard Secondary.
L2	4L 25MC Trap	9A2390				TC250	
L3	2nd Video IF	9A2517				TC223	
L4	3rd Video IF	9A2432					
L5	RF Choke (16uh)	36A19 ①	TV-199 *	4624	RTC-8524	T862	① Wound on 22K resistor.
L6	Peaking (290uh)	36A19 ②	TV-182 *	6155 *	RTC-8587 *	T318 *	* Shunt with 22K resistor.
L7	Peaking (110uh)	9A2504	TV-151	6153 *	RTC-8585 *	T307 *	② Wound on 220Ω resistor.
L8	4.5MC Trap	36A28 ③	TV-190 ↑	6132 ↑	RTC-8577 ↑	T319 ↑	* Shunt with 220Ω resistor.
L9	Peaking (350uh)	9A2434	TV-154	1481	RTC-8604	T247	③ Wound on 6800Ω resistor.
L10	Sound Takeoff	9A2387	TV-121	1480	RTC-8605	T251	† Shunt with 6800Ω resistor.
L11	Quadrature	9A2380	BC-562	4604	RTC-8516	T856	

## COILS (SWEEP CIRCUITS)

ITEM No.	USE	BRADFORD PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	Workman PART No.	NOTES
L12	Horiz. Stabilizer	9A2515B		6335-G					
	Alt. Horiz. Stabilizer	9A2515				HS-16			

## FILTER CHOKE

ITEM No.	CURRENT (Measured)	DC RES.	INDUCTANCE (D CURRENT 1000-)	BRADFORD PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	NOTES
L13	.320A	18.6Ω	315MH	52X102-4	C-4084 ①	C-2328 ①	20C58 ①	C-36X ①	① Drill new mounting hole.

## \* TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	BRADFORD PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T1	Vert. Output Yoke (Horiz. 26.5MB)	51X193-2					
T2	92° (Vert. 31.5MB)	9A2465 IF	MDF-121	DY-31A	Y-56	Y-45 & YC-112 ②③	
	Clamp	30X811	① ② ③	① ④ ⑤	③ ⑤		
T3	Alt. Yoke	9A2485					
	Horiz. Output	53X398F	HVO-134	HO-297	FLY-146	D-124	
	Alt. Horiz. Output	53X398					

① Use original rear cover and centering device.

② Add lead from terminal #5.

③ Use original horizontal damping capacitor (C41).

Use original vertical damping network if necessary.

④ Add leads from terminals #4 and #8.

⑤ Use original vertical and horizontal damping network if necessary.

⑥ Use original vertical and horizontal damping network.

## \* COMPONENT CONNECTION DATA

ORIGINAL →	HV TRANSFORMER	VERTICAL OUTPUT	YOKE	YOKE PLUG
REPLACEMENT	Original Connections	Original Connections	Original Connections	1 2 3 4 5 6 7 8
	1 2 3 4		W GR Y BK RD BR	TO YOKE TERMINAL
MERIT	1 2 3 4		2 4 5 6 3 1	4 1 2 3 5 6 7 8
STANCOR	1 2 3 4		2 4 5 6 3 1	4 1 2 3 5 6 7 8
THORDARSON	1 2 3 4		2 4 5 6 3 1	4 1 2 3 5 6 7 8
TRIAD	1 2 3 4		2 4 5 6 3 1	4 1 2 3 5 6 7 8

† Remove Jumpers from Yoke Terminals #1 and #4 and Yoke Plug Pins #7 and #8.

## TRANSFORMER (AUDIO OUTPUT)

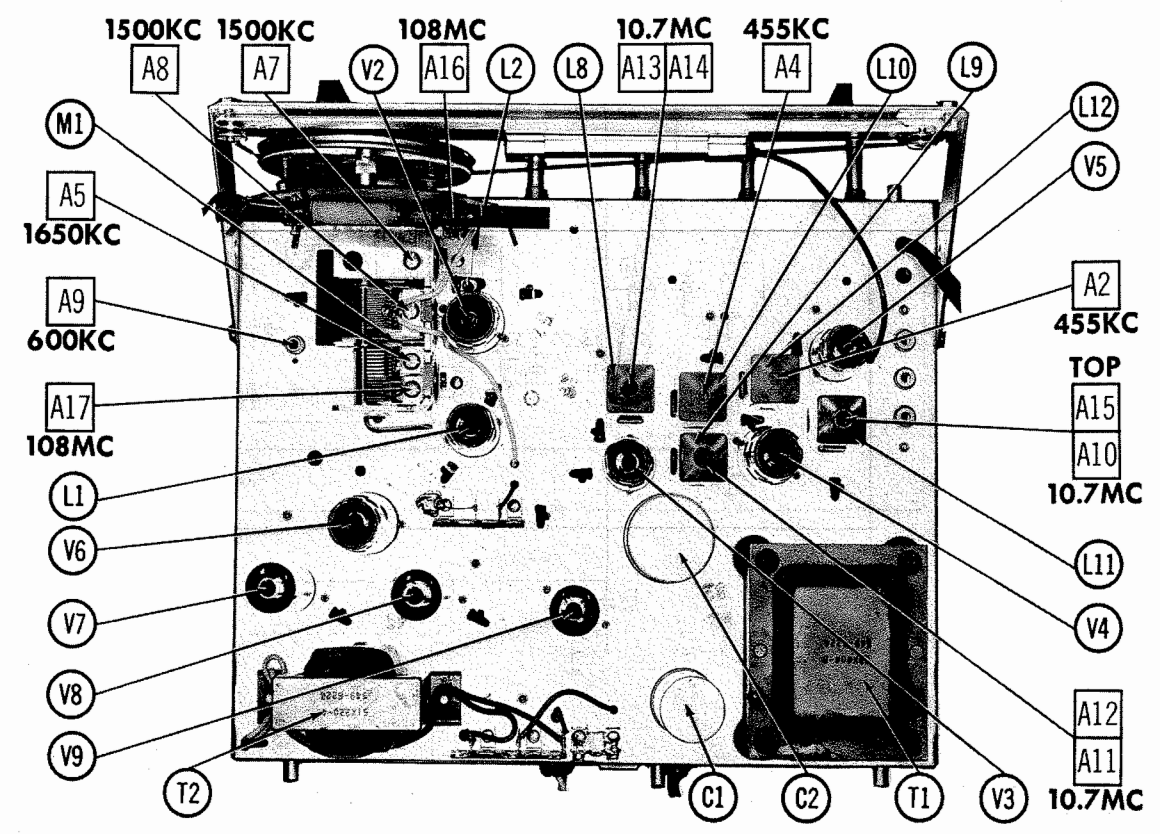
ITEM No.	IMPEDANCE	BRADFORD PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T4	5200Ω	51X192-4	A-3026	A-3877 ①	24S48	S-48X	① Drill new mounting hole(s).



**IMPORTANT FILING NOTICE**

This PHOTOFACT Folder covers equipment used with the TV chassis covered in PHOTOFACT SET 624 FOLDER 2. File this Folder with the TV Folder in the yellow filing jacket provided.

BRADFORD AM-FM  
CHASSIS 8A53



BRADFORD AM-FM  
CHASSIS 8A53

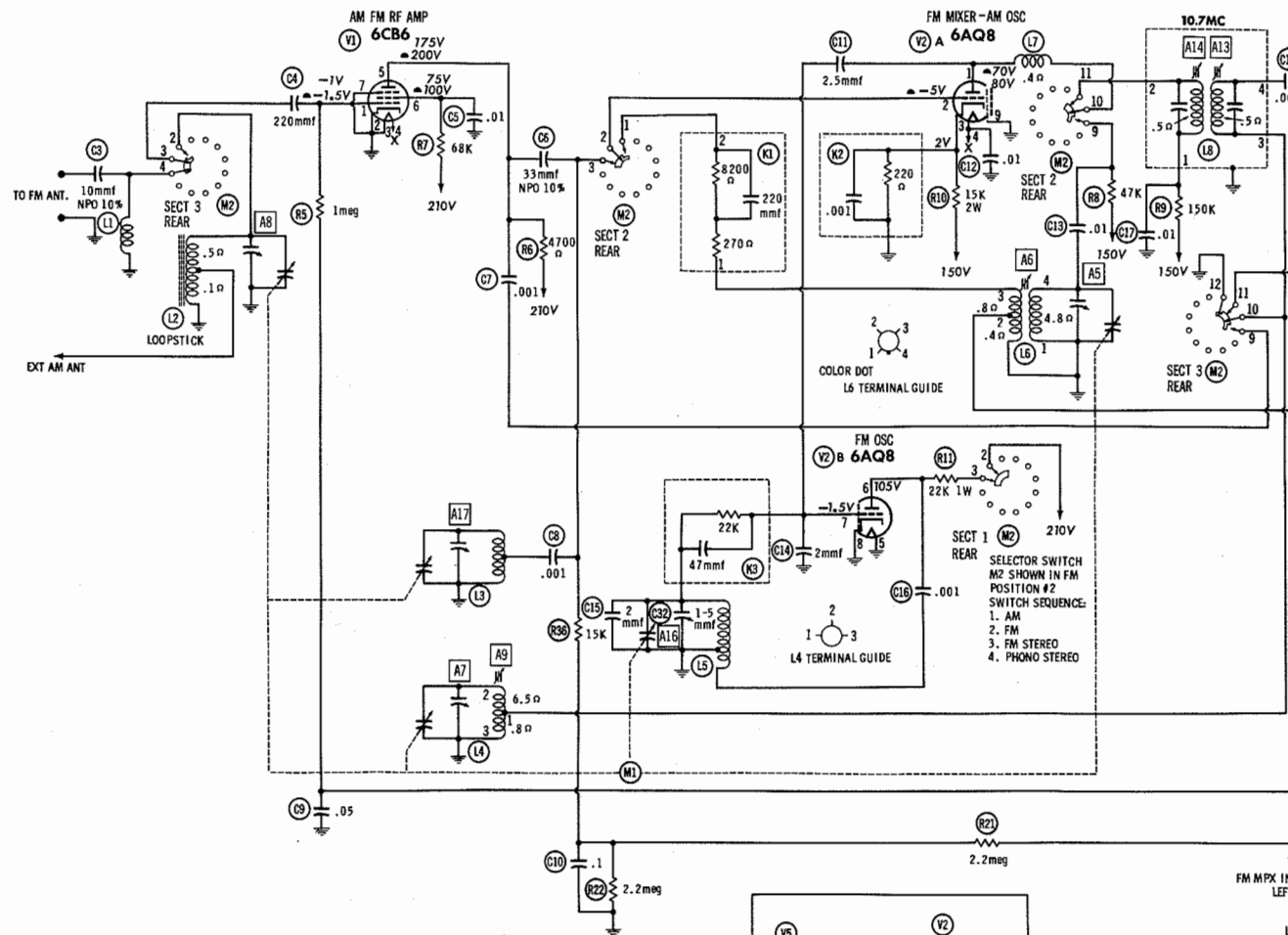
TRADE NAME	Bradford Chassis 8A53
SUPPLIER	W. T. Grant Co., 1441 Broadway, New York, New York
TYPE SET	AM-FM Stereo Radio
TUBES	Nine
POWER SUPPLY	110-120 Volts AC, 60 Cycle
TUNING RANGE	AM: 535-1620KC, IF 455KC; FM: 88-108MC, IF 10.7MC
	RATING 87 Watts, .8 Amp. @ 117 Volts AC

**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 the particular type of replacement  
LA967

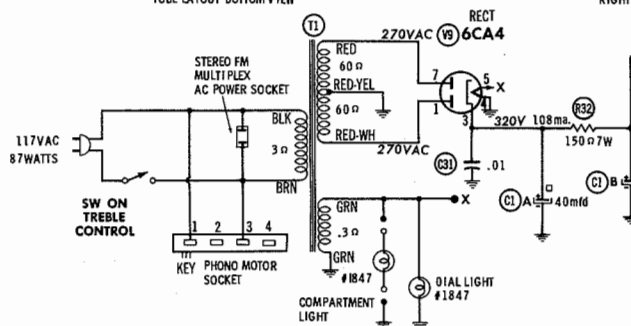
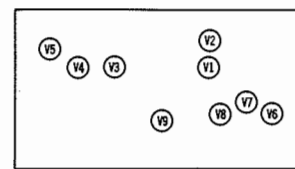
part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. ©1963 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana.

Printed in U.S. of America



RESISTANCE READINGS									
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V1	6CB6	1.5meg	0Ω	FIL	FIL	111K	175K	0Ω	
V2	6AQ8	1156K	1.5meg	FIL	FIL	128K	22K	0Ω	0Ω
V3	6BA6	3.7meg	0Ω	FIL	FIL	110K	110K	1.8Ω	
V4	6EQ7	0Ω	100K	0Ω	FIL	FIL	110K	110K	150K
V5	6AL5	0Ω	100K	FIL	FIL	175K	0Ω	100K	
V6	7025	1225K	8.2meg	330Ω	FIL	FIL	1225K	8.2meg	330Ω
V7	6BD5	NC	471K	130Ω	FIL	FIL	NC	1700Ω	1480Ω
V8	6BD5	NC	471K	130Ω	FIL	FIL	NC	1700Ω	1480Ω
V9	6CA4	60Ω	NC	120K	FIL	FIL	NC	60Ω	NC

ALL MEASUREMENTS MADE IN "FM" POSITION UNLESS OTHERWISE DESIGNATED. NC = NO CONNECTION  
 † MEASURED FROM PIN 3 OF V9. ‡ MEASURED IN "AM" POSITION.  
 † THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.



NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

1. DC voltage measurements taken with vacuum tube voltmeter;
2. AC voltages measured with 1000 ohm per volt voltmeter.
3. Socket connections are shown as bottom views.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance of component values makes possible a variation of ±15% in voltage and resistance readings.

A PHOTOFACT STANDARD NOTATION SCHEMATIC  
 ©Howard W. Sams & Co., Inc. 1963

## PARTS LIST AND DESCRIPTION

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

### TUBES

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	AM-FM RF Amp.	6CB8	V5	FM Discriminator	6AL5
V2	AM Osc. - FM Mixer-Osc.	6AQ8	V6	AF Amp.	7025
V3	AM Mixer - 1st FM IF Amp.	6BA6	V7	Output	6BQ5
V4	AM IF Amp. - AM Det. - FM Limiter	6EQ7	V8	Output	6BQ5
			V9	Rectifier	6CA4

### ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	BRADFORD PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1A	40	350	45X474	AFH2-40-50	A0380	XCI-5	YF137.2	TMS1840	TVLS-2631.5*
A60	350				BR60-350	QTL-18	TC78	FD-40-350	
C2A	40	350	45X475	AFH84-87	D0680	XC4-42	FP431.7	TMQ4592	TVL-4747
B10	350								
C40	350								
D100	15								

\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

### FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C3	10 NPO 10%		NPO-DI 10	DD-100	C10QIC	CCTO-100	CNO-410	10TCC-Q10
C4	220		DI-220	DD-221	L10T22	CCD-221	B-322	10TS-T22
C5	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C6	33 NPO 10%		NPO-DI 33	DD-330	C10Q33C	CCTO-330	CNO-433	10TCC-Q33
C7	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C8	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C9	.05		BPD-05	DD-503	CUB6S5	6CP-4-503	GP150	5HK-S50
C10	.1 100V		P286N-1	DF-104	CUB2P1	2CP-4-104	GEM-201	2TM-P10
C11	2.5	#47X638						
C12	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C13	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C14	2.0	#47X628						
C15	2.0	#47X628						
C16	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C17	.01		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C18	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C19	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C20	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C21	22 N75 10%	#60X32				*		
C22	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C23	.05		BPD-05	DD-503	CUB6S5	6CP-4-503	GP150	5HK-S50
C24	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C25	.01 200V 10%		BE2S1	CPR-10000J	PM4S1	4DP-1-103	PVC211	4PS-S10
C26	22 N75 10%	#60X32				*		
C27	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C28	.05		BPD-05	DD-503	CUB6S5	6CP-4-503	GP150	5HK-S50
C29	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C30	.01 200V 10%		BE2S1	CPR-10000J	PM4S1	4DP-1-103	PVC211	4PS-S10
C31	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C32	1-5			829-6		CY-3	CT552	

# Bradford Part Number  
\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

### CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			BRADFORD PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A B	Bass, Left Channel Bass, Right Channel	500K 500K	40X543	F2-500K, R2-500K, TU304	AD47-500K-Z, FS-3		FA55A, RU55A, CS9500
R2A B	Loudness, Left Chan. Loudness, Right Chan.	2meg, 175K Tap 2meg, 175K Tap	36X443	F17-2meg, R17-2meg, TU304			
R3A	Balance, Left Chan. Balance, Right Chan.	1meg 1meg	36X444	F2-1meg, R3-1meg, TU304			FA18A, RU18R, CS9500
R4A B	Treble, Right Chan. Treble, Left Chan., Power On-Off Switch	500K 500K	40X542				

### RESISTORS

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

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS			IRC PART No.	WORKMAN PART No.	REMARKS
R5	1meg			(5. 8meg) *	R18	100K 5%			
R6	4700Ω				R19	100K 5%			
R7	66K				R20	2. 2meg			
R8	47K				R21	2. 2meg			
R9	150K				R22	2. 2meg			
R10	15K 2W				R23	18K			
R11	22K 1W				R24	8. 2meg			
R12	3. 3meg				R25	330Ω			
R13	4700Ω				R26	15K			
R14	470K				R27	18K			
R15	15K 1W				R28	8. 2meg			
R16	22K				R29	330Ω			
R17	100K 5%				R30	130Ω 5W	PW5-130	5G-130	

(6.8meg) \*

### RESISTORS (cont)

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

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS
R31	15K			
R32	150Ω 7W		7G-150	
R33	330Ω 7W		7G-330	

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS
R34	5600Ω 1W			
R35	5000Ω 7W			
R36	15K		7G-5K	

\* Alternate Value

### COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		BRADFORD PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman PART No.	
L1	FM Ant.	S-38A2240					* Disregard Primary.
L2	Loopstick	9A2498	BC-419	705-A	RTC-8915	T532	
L3	FM RF	9A2511					
L4	AM RF	9A2506		7L-RF *			
L5	FM Osc.	9A2512					
L6	AM Osc.	9A2507					
L7	RF Choke (3uh)	9A2518	BC-564	4608	RTC-8518	T658	
L8	1st FM IF	9A2510	FM-254	1463	RTC-8599	T833	
L9	2nd FM IF	9A2509	FM-254	1463	RTC-8599	T833	
L10	1st AM IF	9A2508	BC-352	12-C1	RTC-8632	T607	
L11	Discriminator	9A2519					
L12	2nd AM IF	9A2491	BC-353	12-C2	RTC-8633	T608	

### TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
				BRADFORD PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC ② .8A	540VCT ④ .108A ② 4.5A DC		53X404				R-112B	

### TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			BRADFORD PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
	PRI.	SEC.						
T2	4200Ω	3-4Ω	51X220-4	A-2935	A-3825	24983	S-5X	
T3	4200Ω	3-4Ω	51X220-4	A-2935	A-3825	24983	S-5X	

### SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
				BRADFORD PART No.	QUAM PART No.	
	SIZE	FIELD	V. C. IMP.			
SP1	6"	PM	6-8Ω	12A591	6A15	
SP2	6"	PM	6-8Ω	12A591	6A15	

### COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	BRADFORD PART No.	REPLACEMENT DATA
K1	AM Osc. Couplate	220mmf, 8200Ω, 270Ω	78X50A	
K2	FM Mixer Cathode Net.	.001mf, 220Ω	78X24	
K3	FM Osc. Couplate	.47mmf, 22K	78X38	
K4	Cathode Bypass Network	.01mf, 68Ω	78X54	
K5	FM Limiter Grid Network	100mmf, 100K	78X40	
K6	Diode RF Filter	100mmf, 100mmf, 50K	78X30	
K7	FM De-emphasis Filter	330mmf, 22mmf, 220K	78X53	
K8	Left Chan. Audio Couplate	75mmf, 75mmf, .01mf, 220K, 470K, 1000Ω	78X31	
K9	Right Chan. Audio Couplate	75mmf, 75mmf, .01mf, 220K, 470K, 1000Ω	78X31	

### MISCELLANEOUS

ITEM No.	PART NAME	BRADFORD PART No.	NOTES
M1	Tuning Gang	14A246	3 Gang, AM-FM
M2	Switch	2A555	Function Switch

### CABINETS & CABINET PARTS

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

NAME	PART NO.	DESCRIPTION
Dial Glass	58X845	
Dial Background	58X846	
Dial Pointer	15X298	
Knob	10A1065-1	Loudness, Balance, Bass, Treble, On-Off, Function
Knob	10A1065-2	Tuning
Switch	2A555	Function Selector

### WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
Power Cord	Use BELDEN No. 17108 (Plastic) or 17126 (Rubber) - 6 Ft. 17109 (Plastic) or 17129 (Rubber) - 9 Ft.
Power Cord (Interlock Type)	Use BELDEN No. 8874 (Rubber) or 8895 (Plastic)

## ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT					
Use only enough generator output to provide a usable indication. Suggested Alignment Tools: A1 thru A4 ..... GENERAL CEMENT #9728, 8275, 8195 ... WALSCO #2531-X, 2541, 2526 A5, A7, A8, A16, A17 .. GENERAL CEMENT #5004, 5006, 5009 ... WALSCO #2520 A6, A9 thru A15 ..... GENERAL CEMENT #8606, 8606L, 8869 ... WALSCO #2543, 2544, 2588					
AM ALIGNMENT SELECTOR IN AM POSITION					
SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. High side thru .1 mfd to pin 1 (grid) of AM Converter. Low side to ground.	455 KC (Unmod.)	(AM) Tuning gang fully open	Connect DC probe of VTVM to point ④. Common to ground.	A1, A2, A3, A4	Adjust for maximum.
2. "	1650KC	"	"	A5	"
3. "	530KC	Tuning gang fully closed.	"	A6	"
4. Fashion loop of several turns of wire and radiate signal into loop of receiver.	1500KC	1500KC Signal	"	A7, A8	"
5. "	800KC	800KC Signal	"	A9	"
FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM — SELECTOR IN FM POSITION					
SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
6. High side thru .001 mfd to pin 2 (grid) of FM Mixer. Low side to ground.	10.7MC (Unmod.)	(FM) Point of non-interference	Connect DC probe of VTVM to point ④. Common to ground.	A10, A11, A12, A13, A14	Adjust for maximum.
7. "	"	"	Connect DC probe to point ④. Common to ground.	A15	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE — SELECTOR IN FM POSITION					
Use frequency modulated signal with 60% modulation and 450KC sweep. Use 120V sawtooth voltage in scope for horizontal deflection.					
SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
6. High side thru .001 mfd to pin 2 (grid) of FM Mixer. Low side to ground.	10.7MC (450KC Swp.)	(FM) Point of non-interference	Vert. Input of Scope to point ④. Low side to ground.	A10, A11, A12, A13, A14	Adjust for maximum gain and symmetry of response similar to Figure 1 with markers as shown.
7. "	"	"	Vert. Input to point ④. Low side to ground.	A15	Adjust to place marker at the center of crossover lines similar to Figure 2. Slightly retouch A10 for maximum amplitude and straightness of crossover lines.
FM RF ALIGNMENT — SELECTOR IN FM POSITION					
SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
8. Across FM antenna terminals with 120Ω resistor in each lead.	108MC (Unmod.)	(FM) 108MC	DC probe to point ④. Common to ground.	A16, A17	Adjust for maximum.
9. "	88MC	88MC	"	L3, L5	Spread or compress coils for maximum deflection.

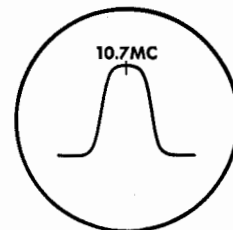


FIG. 1

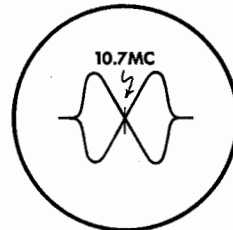
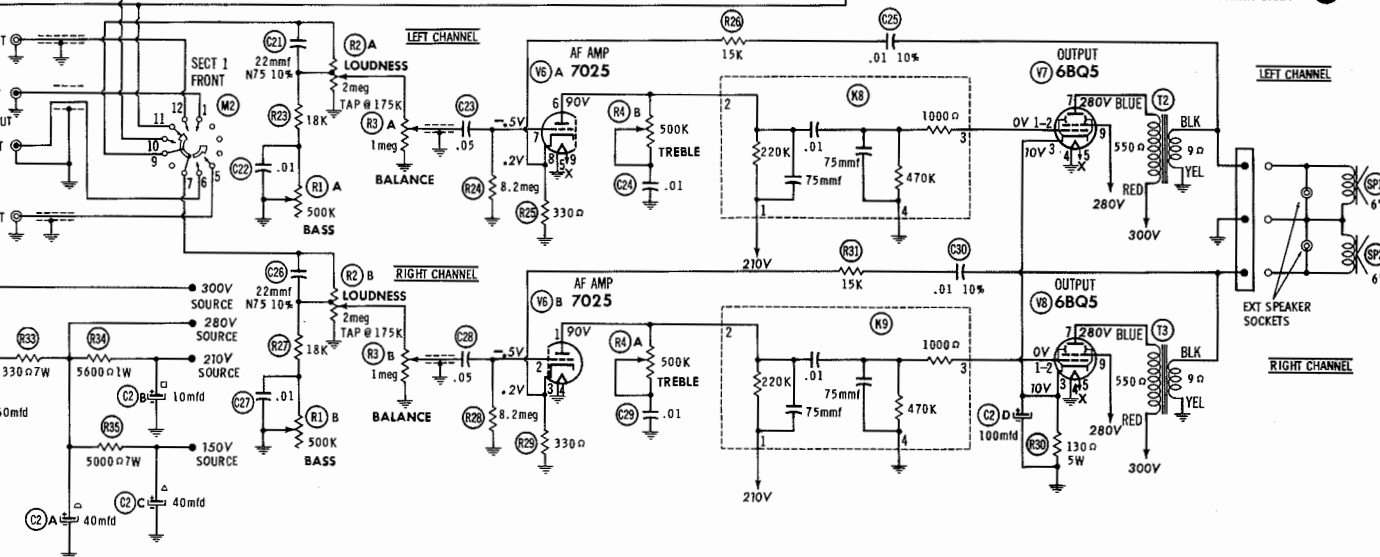


FIG. 2



**BRADFORD AM-FM  
CHASSIS 8A53**

