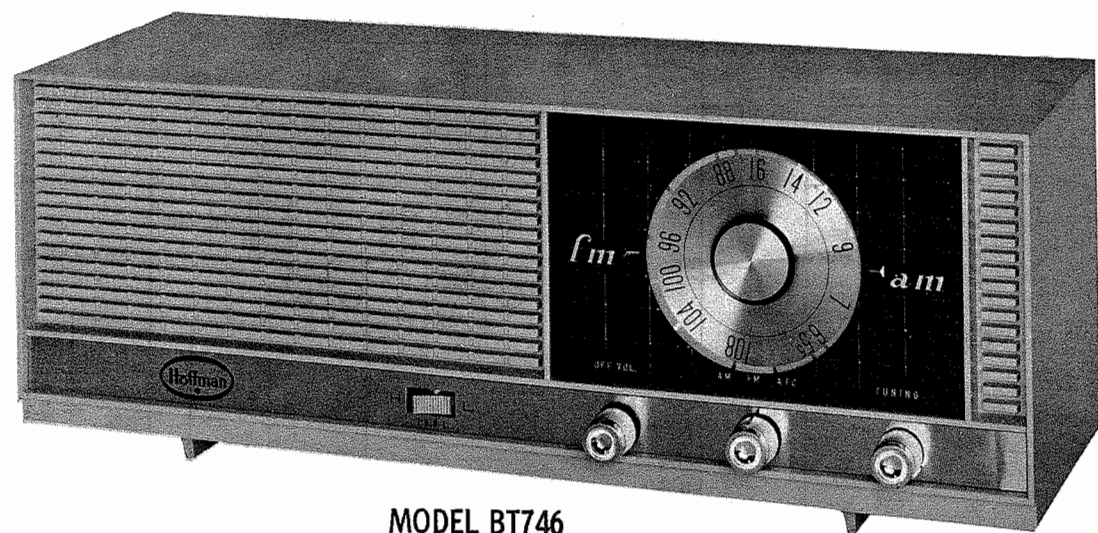


PHOTOFACT® Folder

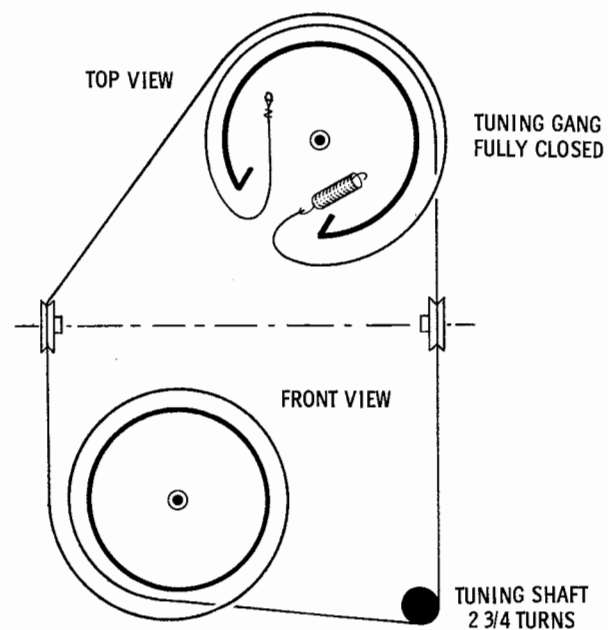
with CIRCUITRACE™

HOFFMAN MODELS  
BT746, CP746, KP746, OT746

MODEL BT746

TRADE NAME	Hoffman Models BT746, CT746, KP746, OT746		
MANUFACTURER	Hoffman Electronics Corp., Div. Consumer Products, 6200 So. Avalon Blvd., Los Angeles 3, Cal.		
TYPE SET	AC-DC Operated 6 Tube AM-FM Receiver		
POWER SUPPLY	110-120 Volts AC-DC	RATING	32 Watts, .36 Amp. @ 117 Volts AC
TUNING RANGE	BROADCAST 540-1630KC	FREQ MOD	88-108MC

## DIAL CORD STRINGING



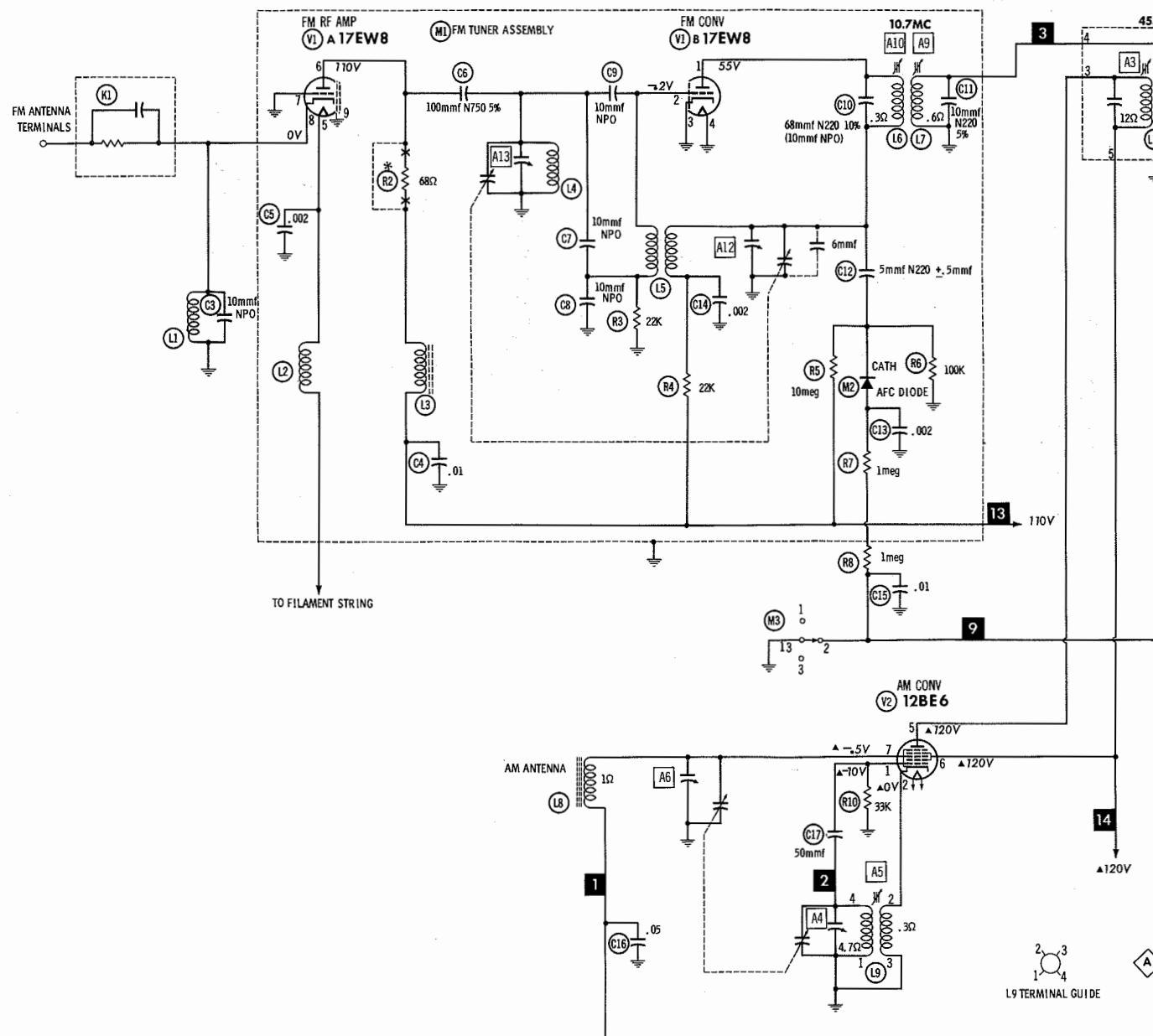
HOWARD W. SAMS &amp; CO., INC. Indianapolis 6, Indiana

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. MK561

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. © 1964 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U. S. of America

DATE 2 -64 SET 681 FOLDER 8

HOFFMAN MODELS  
BT746, CT746, KP746, OT746



RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	17EW8	† 22K	22K	0Ω	0Ω	18Ω	† 640Ω	0Ω	0Ω	0Ω
V2	12BE6	33K	.3Ω	18Ω	30Ω	† 580Ω	† 570Ω	† 2.7meg		
V3	12BA6	2.7meg	0Ω	30Ω	42Ω	† 1040Ω	† 1040Ω	0Ω		
V4	12BA6	570K	0Ω	42Ω	55Ω	† 1570Ω	† 1570Ω	0Ω		
V5	14GT8	450K	450K	7500Ω	55Ω	70Ω	7500Ω	0Ω	4.7meg	† 470K
V6	50EH5	62Ω	† 470K	70Ω	120Ω	NC	† 570Ω	† 290Ω		

ALL MEASUREMENTS TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED. NC NO CONNECTION  
 ▲ MEASURED IN "AM" POSITION. † MEASURED FROM OUTPUT OF X1.

\* NOT USED IN SOME VERSIONS

- See parts list for alternate value or application.
- Voltage measurements taken with vacuum tube voltmeter.
- All controls set for normal operation, no signal applied.
- Measured values are from socket pin or terminal to common ground.
- All terminals viewed from bottom unless otherwise designated.
- Numbers assigned to terminals may not be found on the unit.
- Supply voltage maintained at rated value for voltage readings.

A PHOTOFAC STANDARD NOTATION SCHEMATIC

with CIRCUITRACE

©Howard W. Sams & Co., Inc. 1964

PARTS LIST AND DESCRIPTION

TUBES

♦ AMPREX ♦ GENERAL ELECTRIC ♦ RCA ♦ RAYTHEON ♦ SILVANIA ♦			
ITEM No.	USE	ITEM No.	TYPE
V1	FM RF Amp. -FM Conv	V4	AM-DeL. -AVC-FM Limiter
V2	AM Conv.	V5	Ratio Del. -AF Amp.
V3	AM-FM IF Amp.	V6	Output

POWER RECTIFIERS

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS	
			MALORY PART No.	RCA PART No.
X1	.085A	743009	1N539 or A300 or D300 or 1N3194	SARKES TARZIAN PART No.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA			
		Hoffman PART No.	AEROVOX PART No.	CORNELL-DUBIER PART No.	GENERAL ELECTRIC PART No.
C1A	60	856821	AFH8-11-50X	XC9-44	TMT-3133
C1B	150				
C1C	150				
C2	50	856057	CBE754A	NLW5-50	MT-1-3

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA			
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBIER PART No.	ELENCO PART No.
C3	10	NPO	NPO-D10	DTZ-10	C10Q1C	CCTO-100
C4	.01		BPD-01	DD-103	BYA1081	CCD-202
C5	.002		BPD-02	DD-202	BYA1082	CCD-202
C6	100	N750 5%		DF-503	PM255	1DP-2-503
C7	10	NPO	NPO-D10	DTN-100	C10Q9C	CCTO-510
C8	10	NPO	NPO-D10	DTZ-10	C10Q1C	CCTO-100
C9	10	NPO	NPO-D10	DTZ-10	C10Q1C	CCTO-100
C10	68	N220 5%		DD-102	BYA1081	CCD-202
C11	5	N220 10%		DD-502	BYA1082	CCD-202
C12	.01			DD-502	BYA1081	CCD-202
C13	.01			DF-503	PM255	1DP-2-503
C14	.002			DF-104	WAF1P1	1DP-2-104
C15	.01	100V		DD-202	BYA1082	CCD-202
C16	.06	100V		DD-202	BYA1081	CCD-202
C17	50			DD-202	BYA1082	CCD-202
C18	.005			DD-202	BYA1081	CCD-202
C19	.005			DD-202	BYA1082	CCD-202
C20	.001			DD-202	BYA1081	CCD-202
C21	.005			DD-202	BYA1082	CCD-202
C22	.05	400V		DD-202	BYA1081	CCD-202
C23	.1	100V		DD-202	BYA1082	CCD-202
C24	.01	2KV		DD-202	BYA1081	CCD-202
C25	.002			DD-202	BYA1082	CCD-202
C26	.002			DD-202	BYA1081	CCD-202
C27	.002			DD-202	BYA1082	CCD-202
C28	.002			DD-202	BYA1081	CCD-202
C29	.002			DD-202	BYA1082	CCD-202
C30	.002			DD-202	BYA1081	CCD-202
C31	5mmf	NPO	NPO-D10	DTZ-10	C10Q1C	CCTO-100
C32	.01			DD-103	BYA1081	CCD-202
C33	.01	2KV		DD-103	BYA1082	CCD-202

\* Not normally in distributor's stock. Available thru distributor on order to manufacturer. Note 1 Not used in some versions.

CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA			
			Hoffman PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.
R1	Volume, Switch	500K	800115	F2-500K, SU204 XR-1 or (B-80-6)	A47-500K-Z FS-3, SWE-12	Q13-133, 76-1 or (BU1, CF75, SL38, SL3500, US-41) or (U-48, US-26)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		Hoffman PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.
L1	FM Input	780064			
L2	FIL Choke	780065			
L3	RF Choke	780069			
L4	FM RF	780087			
L5A	FM RF	780087			
L5B	FM Osc. Pri.	780086			
L6	FM Osc. Sec.	780086			
L7	1st FM IF Pri.	780086			
L8	1st FM IF, Sec.	780086			
L9	2nd FM IF, Sec.	780086			
L10	1st AF	780054			
L11	2nd AF	780054			
L12	Ratio Detector	780058			

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	Hoffman PART No.	REPLACEMENT DATA
K1	Antenna Isolation		9 88013	
K2	AM RF Filter		988014	
K3	Ratio Detector Network		988016	
K4	Audio Coupling		988017	

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA			
		Hoffman PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.
T1	3000Ω	8-1003	724059	A-4103	22586

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		Hoffman PART No.	QUAM PART No.	
SP1	4X6" PM 8-1003	708816	46A128	

ALIGNMENT INSTRUCTIONS

Maintain line voltage at rated value. Allow a 15 minute warmup for receiver and equipment. Use only enough generator output to obtain a suitable indication. Suggested Alignment Tools: All GENERAL CEMENT: 8868, 9087, 9089 WALSCO: 2528, 2541, 2587

AM ALIGNMENT - SELECTOR IN AM POSITION

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
455KC (Unmod.)	Tuning gang fully open.	DC probe of VTVM to point ⬠; common to ground.	A1, A2, A3.	Adjust for maximum.
1830KC	"	"	A4.	"
800KC	600KC	"	A5	Rock tuning gang and adjust for maximum. Repeat steps 2 and 3.
1400KC	Tune to signal.	"	A 6	Adjust for maximum.

FM ALIGNMENT USING AM SIGNAL GENERATOR - SELECTOR IN FM POSITION

High side to ungrounded shield over FM converter tube, low side to ground for IF, across FM antenna terminals with 1200 carbon resistor in series with each lead for RF.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MC (Unmod.)	Point of non-interference.	DC probe of VTVM to point ⬠; common to ground.	A7, A8, A9, A10	Adjust for maximum.
"	"	DC probe to point ⬠; common to ground.	A11	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.
108MC (Unmod.)	108MC	DC probe of VTVM to point ⬠; common to ground.	A12, A13	Adjust for maximum.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR - SELECTOR IN FM POSITION

High side to ungrounded shield over FM converter, low side to ground. Use 60v frequency modulated signal with 450KC sweep. Use 120v sawtooth voltage in scope for horizontal deflection.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MC (450KC Swp.)	Point of non-interference.	Vert. amp. of scope to point ⬠; low side to ground.	A7, A8, A9, A10	Disconnect stabilizing capacitor C 2 . Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown. Reconnect C 2 .
"	"	Vert. amp. to point ⬠; low side to ground.	A11	Adjust to place marker at center of crossover lines similar to Fig. 2. SLIGHTLY reduce A 7 for maximum amplitude and straightness of crossover lines.

10.7MC

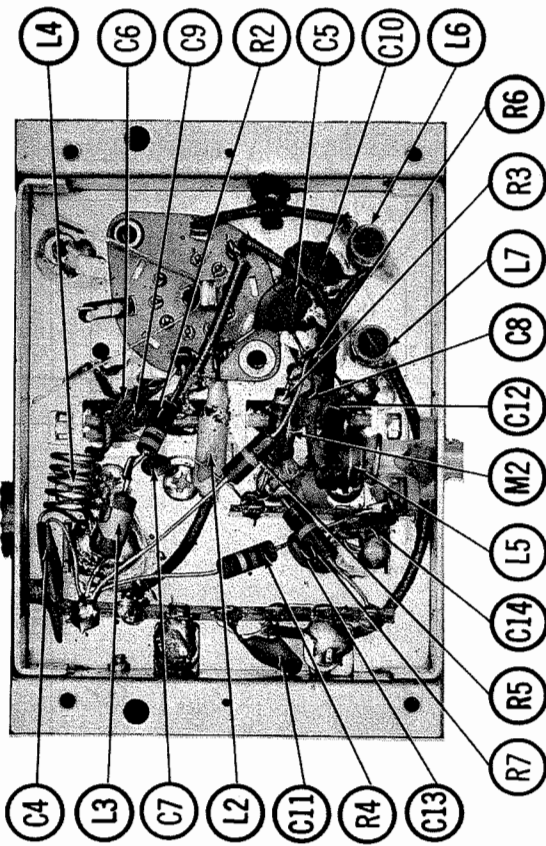
10.7MC



FIG. 1



FIG. 2



PARTS LIST AND DESCRIPTION (CONTINUED)

MISCELLANEOUS

ITEM No.	PART NAME	Hoffman PART No.	NOTES
M1	FM Tuner		
M2	Diode		FM AFC
M3	Switch		Function
M4	Switch		Tone

WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors Power Cord ..... Use BELDEN No. 17008 (Plastic) or 17128 (Rubber) - 6 Ft. Power Cord (Interlock Type) ..... Use BELDEN No. 8674 (Rubber) or 8895 (Plastic)

