

PARTS LIST AND DESCRIPTIONS (Continued)

FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA			
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBIER PART No.	ELWENCO PART No.
C51	.022 400V	Note 1	P288N-22	D6-472	CUB2P22	2DP-4-224
C52	.22 200V		SI 4700	TCN-51	BYA10D47M	CCD-472
C53	.0047			D6-472	CUB2D47	B-247
C54	51 NPO 5%		P688N-0047	D6-472	CUB2D47	CNO-450
C55	.0047 600V		P488N-01	D6-103	CUB2S1	GEM-6247
C56	.01 400V		P488N-001	D6-103	CUB2S1	GEM-411
C57	.001 400V		P288N-001	D6-102	CUB2D1	GEM-621
C58	.068 200V		P288N-068	D6-102	CUB2S8	GEM-4168

\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.  
Note 1. Shielded Unit.

CONTROLS

ITEM No.	RATING	REPLACEMENT DATA			
		BLAUPUNKT PART No.	CENTRALAB PART No.	CTS-IRC PART No.	MALLORY PART No.
RIA	1meg				
B	1meg				

RESISTORS

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

ITEM No.	RATING	REPLACEMENT DATA			
		IRC PART No.	WORKMAN TV PART No.	REMARKS	REMARKS
R2	220K				
R3	18K 1W				
R4	1502				
R5	330K				
R6	10000				
R7	4700				
R8	1meg				
R9	22K				
R10	10000				
R11	47K				
R12	33K				
R13	220K				
R14	39K				
R15	100K				
R16	1000				
R17	33K				
R18	220K				
R19	330K				

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		BLAUPUNKT PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.
L1	RF Choke				
L2	SW Ant.				
L3	460KC IF Trap				
L4	RF Choke				
L5	Loopstick				
L6	SW Osc.				
L7	BC Osc.				
L8	2nd FM IF				
L9	1st AM IF				
L10	Ratio Detector				
L11	2nd AM IF				
L12	F.L. Choke				
L13	F.L. Choke				
L14	Line Choke				
L15	Line Choke				

ITEM No.	RATING	REPLACEMENT DATA			
		IRC PART No.	WORKMAN TV PART No.	REMARKS	REMARKS
R20	1.8meg				
R21	47K				
R22	10meg				
R23	100K				
R24	220K				
R25	100K				
R26	10000				
R27	1meg				
R28	15000 3W				
R29	220K				
R30	27000				
R31	100K				
R32	220K				
R33	1500				
R34	27meg				
R35	4700				
R36	1.8meg				

ITEM No.	TYPE	RATING	REPLACEMENT DATA			
			BLAUPUNKT PART No.	FUSE	HOLDER	BUSS PART No.
M2	3AG	6/10A 250V				

MISCELLANEOUS

ITEM No.	PART NAME	BLAUPUNKT PART No.	NOTES
M3	FM Tuner		Complete
M4	Tuning Cap.		AM, 2 Gang
M5	Switch		Function Selector (Pushbutton Type)

WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors  
Power Cord ..... Use BELDEN No. 1765-B (6 Ft. Length)  
1725-K (7 1/2 Ft. Length)

TRANSFORMER (POWER)

ITEM No.	RATING	REPLACEMENT DATA			
		PRL	SEC. 1	SEC. 2	Triad PART No.
T1	117V@ .38A 200V@ .10A AC		8.3V@ 2A		

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA			
		PRL	SEC. 1	SEC. 2	Triad PART No.
T2	60000 Tap @ 8%		3-40		

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			
		SIZE	V. C. IMP.	QUAM PART No.	NOTES
SP1	4"x6"	PM	3-40	LA80/42	46A1

POWER RECTIFIERS

ITEM No.	RATING	REPLACEMENT DATA			
		BLAUPUNKT PART No.	BLAUPUNKT PART No.	SAKES PART No.	SYLVANIA PART No.
M1	.060A		B50C75		

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA			
			BLAUPUNKT PART No.	FUSE	HOLDER	BUSS PART No.
M2	3AG	6/10A 250V				

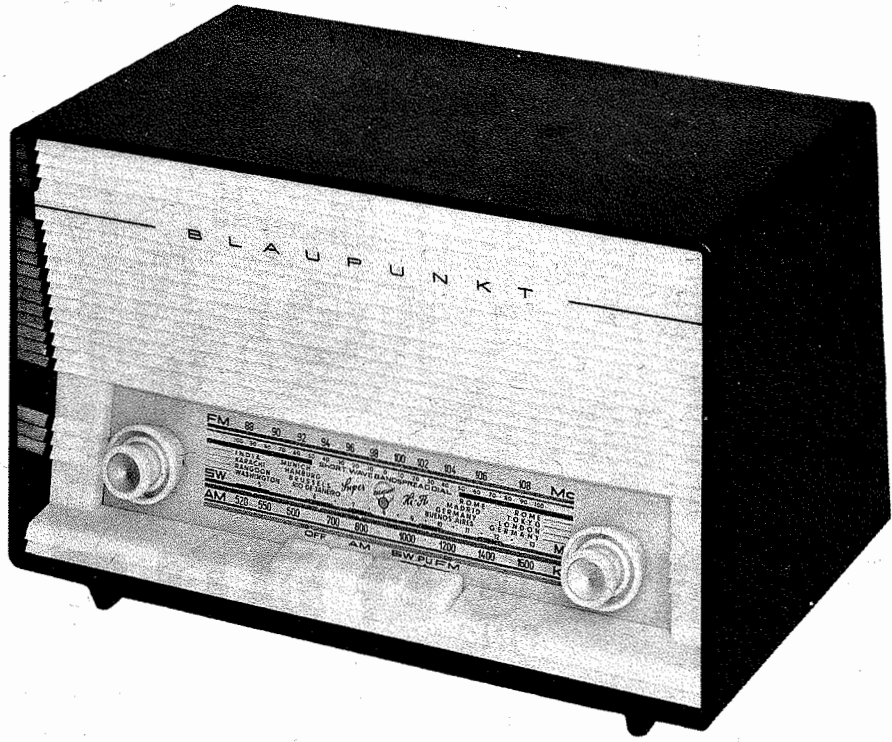
BLAUPUNKT MODEL 20003/20013 (Ballett)

FOLDER 4 SET 545

PHOTOFACT® Folder

with CIRCUITRACE®

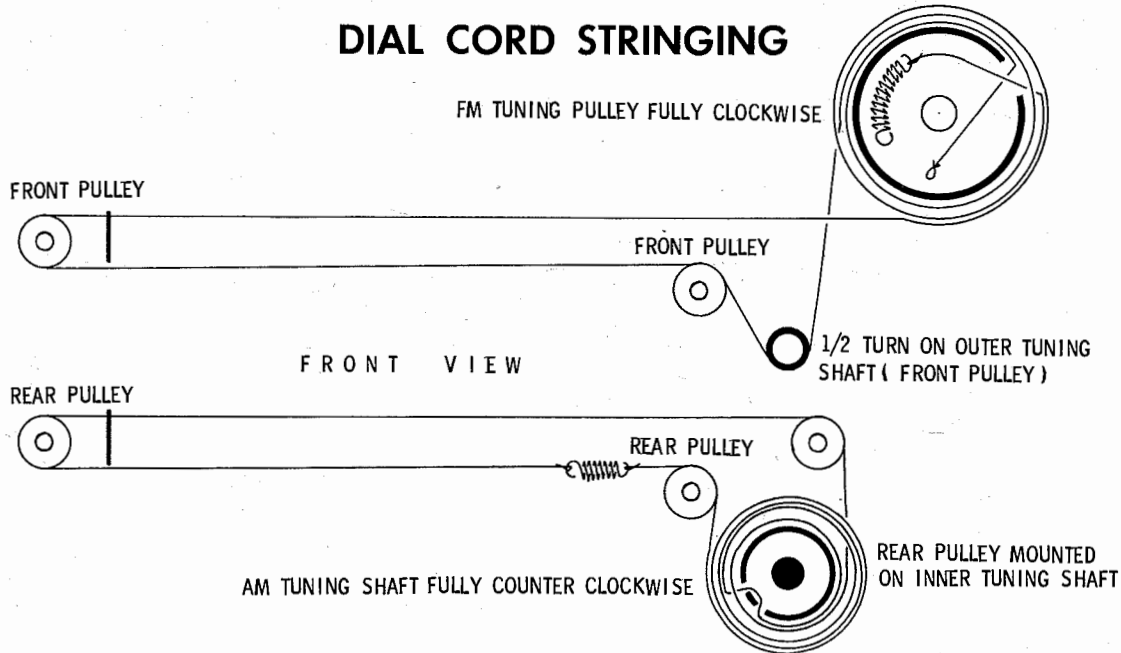
BLAUPUNKT MODEL 20003/20013 (Ballett)



TRADE NAME Blaupunkt Model 20003/20013 (Ballett)  
IMPORTER N. Pickens Import Co., 64-01 Woodside Ave., Woodside 77, N. Y.  
TYPE SET AC Operated 5 Tube FM-BC-SW Receiver  
POWER SUPPLY 110 - 120 Volts AC, 60 Cycles RATING 40 Watts, .38 Amp. @ 117 Volts AC  
TUNING RANGE - BROADCAST 515 - 1620 KC FREQ. MOD. 88 - 108 MC SHORT WAVE 5 - 13 MC

DIAL CORD STRINGING

FM TUNING PULLEY FULLY CLOCKWISE



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 KK668

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. © 1961 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America

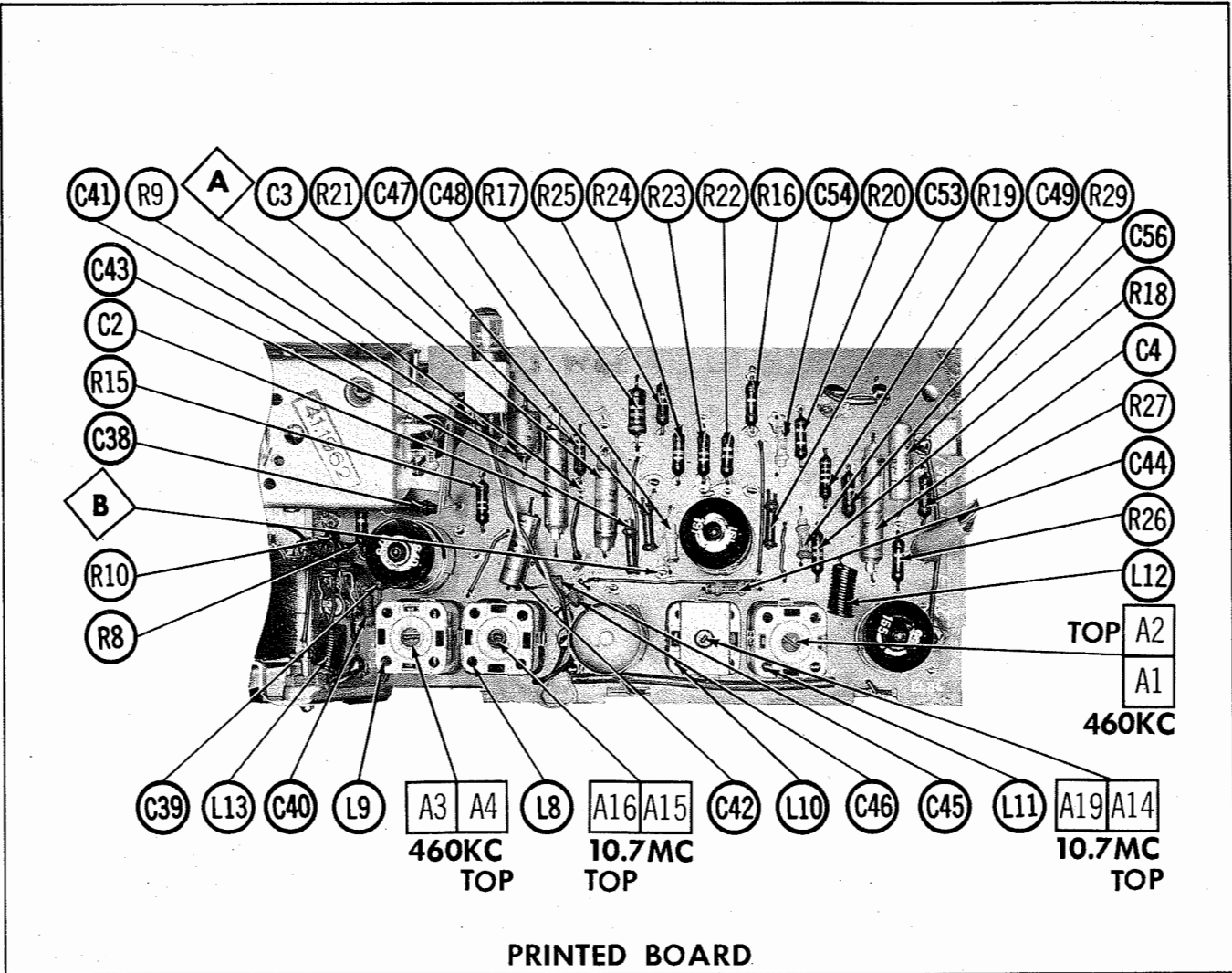
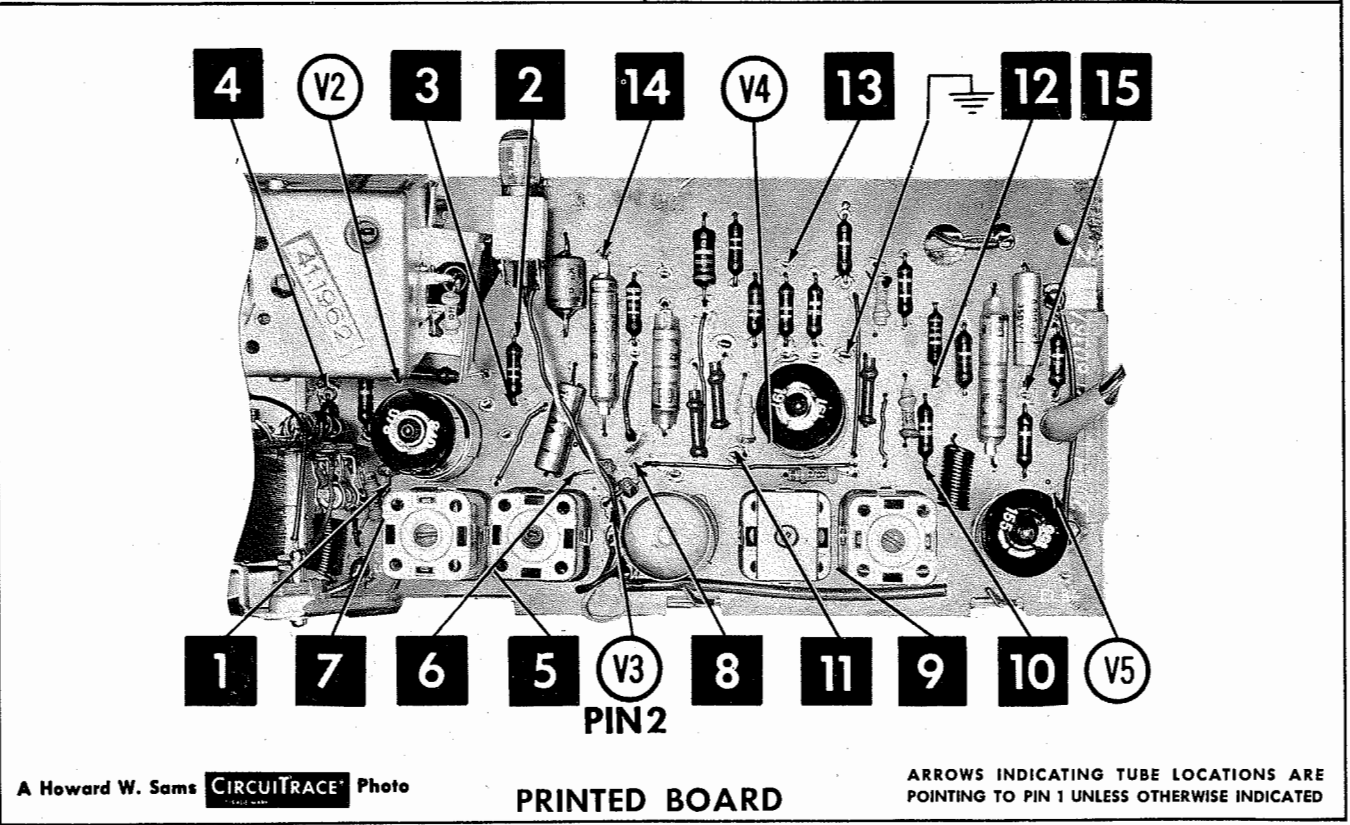
DATE 9 - 61

SET 545

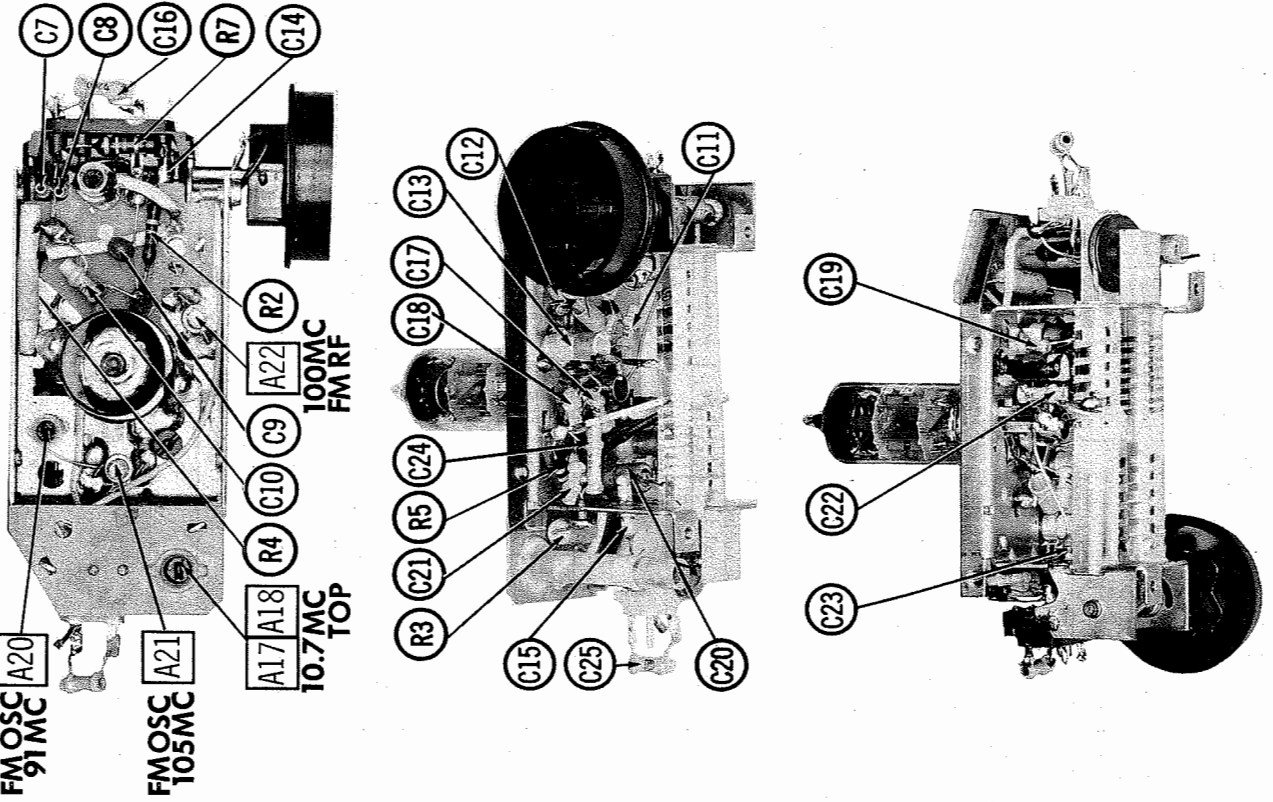
FOLDER 4

BLAUPUNKT MODEL 20003/20013 (Ballett)

SET 545 FOLDER 4



FM RF SUBCHASSIS



PARTS LIST AND DESCRIPTIONS

GENERAL ELECTRIC				RAYTHEON				SYLVANIA			
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	FM RF Amp - FM Conv.	ECC85	V4	Ratio Detector - AM Det. - AVC - AF Amp.	EAB80						
V2	1st FM IF Amplifier - AM Mixer - AM Osc.	ECH81	V5	Output	EL84						
V3	2nd FM - 1st AM IF Amp.	EF89									

ELECTROLYTIC CAPACITORS

REPLACEMENT DATA				REPLACEMENT DATA				REPLACEMENT DATA			
ITEM No.	RATING	CAP.	VOLT.	CORNING PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	ITEM No.	RATING	CAP.	VOLT.
C1A	450	50	350	E0322	WP227.35	TMS-1630	TVL-1822				
C2	450	50	350	BR45	TC595	TD-50-350	TVA-1713				
C3	450	50	350	NLW2-50	TC302	TD-2-350	TVA-1700				
C4	50	50	12	NLW50-45	TL10X50	TE-1133	TE-1133				

FIXED CAPACITORS

REPLACEMENT DATA				REPLACEMENT DATA				REPLACEMENT DATA			
ITEM No.	RATING	REMARKS	AEROVOX PART No.	CENTRALAB PART No.	CORNING PART No.	ELMOCO PART No.	MALLORY PART No.	ITEM No.	RATING	REMARKS	SPRAGUE PART No.
C5	10 N150 5%										
C6	10 N150 5%										
C7	39 N470 5%										
C8	39 N470 5%										
C9	330										
C10	11 N150 5%										
C11	20 N150 5%										
C12	5-3.5										
C13	5-3.5										
C14	.0022										
C15	20										
C16	.0027										
C17	7.5 N150 5%										
C18	7.5 N150 5%										
C19	12 N150 5%										
C20	5-3.5										
C21	11 N150 5%										
C22	25 N150 5%										
C23	.0022										
C24	125 N750 5%										
C25	510										
C26	510										
C27	100										
C28	15 N150										
C29	10-40										
C30	3-12										
C31	.0039										
C32	10-40										
C33	6-25										
C34	470 2.5%										
C35	510 5%										
C36	510 5%										
C37	100										
C38	.0047										
C39	1.5 P100										
C40	.0027										
C41	.022 400V										
C42	.015 400V										
C43	.0047										
C44	.0027										
C45	1.5 N033										
C46	1 N075										
C47	.0047										
C48	82 N750 5%										
C49	100 N750 5%										
C50	.01 600V										

ALIGNMENT INSTRUCTIONS

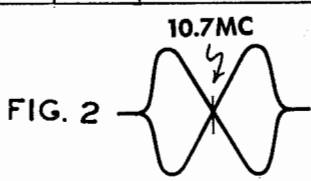
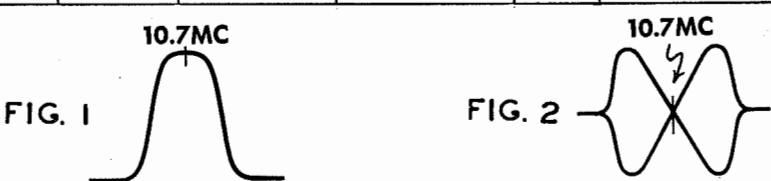
ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT	
Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.	
Suggested Alignment Tools:	
A1 thru A4.....	GENERAL CEMENT #5004, 5008, 5009
A5, A6, A7, A10, A11, A14 thru A20..	WALSCO #2520
	GENERAL CEMENT #8282, 8606, 8606-L, 9091
	WALSCO #2526, 2541, 2542, 2543, 2544
A8, A9, A12, A13, A21, A22...	GENERAL CEMENT #5000, 5003, 8276, 8290
	WALSCO #2512, 2515, 2522, 2523, 2525, 2537

AM ALIGNMENT — SELECTOR IN AM POSITION					
SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1. High side to AM antenna terminal. Low side to chassis.	460KC (400% 30% AM)	(AM) Tuning gang fully open.	Across voice coil.	A1, A2, A3, A4	Adjust for maximum output.
2. "	"	"	"	A5	Adjust for MINIMUM output.
3. "	5MC	(SW) 5MC	"	A6, A7	Adjust for maximum output.
4. "	11.8MC	11.8MC	"	A8, A9	"
5. "	546KC	(AM) 546KC	"	A10, A11	"
6. "	1500KC	1500KC	"	A12, A13	Adjust for maximum output. Repeat Steps 2 thru 6.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM — SELECTOR IN FM POSITION					
Connect two matched 100K (+1%) resistors in series from point A to chassis. The junction of these two resistors is alignment point as shown on the schematic.					
SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
7. High side to ungrounded tube shield floating over FM Converter. Low side to chassis.	10.7MC (Unmod.)	(FM) Point of non-interference.	DC probe to point A. Common to chassis.	A14, A15, A16, A17, A18	Adjust for maximum deflection.
8. "	"	"	DC probe to point B. Common to point C.	A19	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

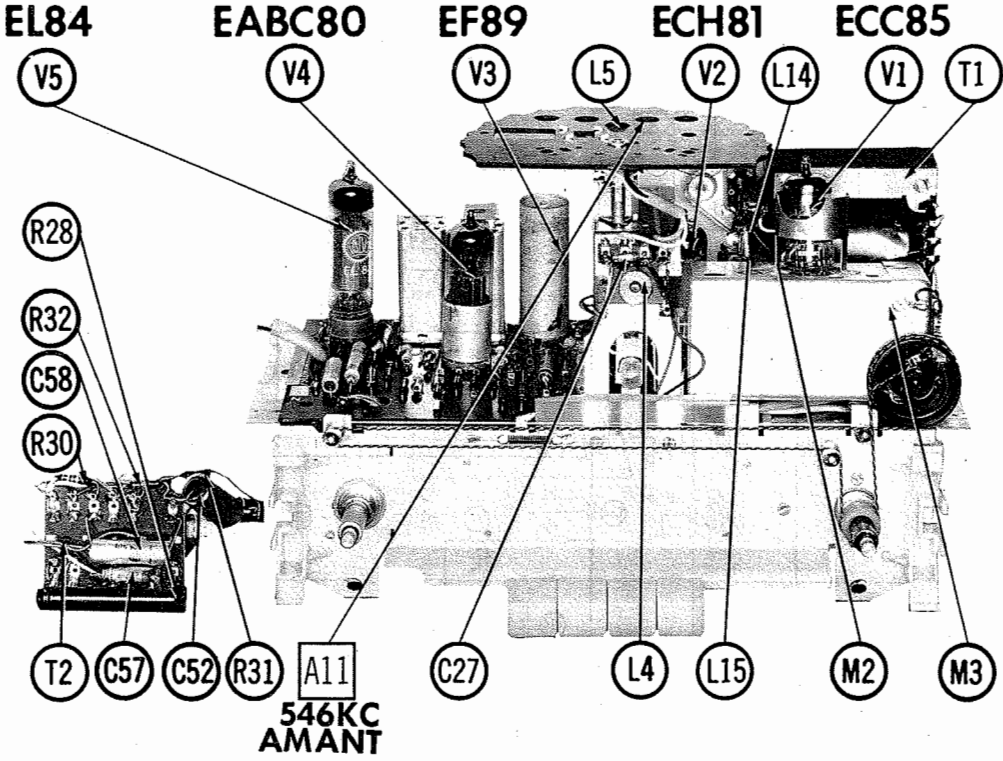
FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE —SELECTOR IN FM POSITION					
Use frequency modulated signal with 60% modulation and 450KC sweep. Use 120V sawtooth voltage in scope for horizontal deflection.					
SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
7. High side to ungrounded tube shield floating over FM Converter. Low side to chassis.	10.7MC (450KC Swp)	(FM) Point of non-interference.	Vert. amp. to point A. Low side to chassis.	A14, A15, A16, A17, A18	Disconnect stabilizing capacitor C3. Adjust for maximum gain and symmetry of response similar to Fig. 1 with markers as shown. Reconnect C3.
8. "	"	"	Vert. amp. to point B. Low side to chassis.	A19	Adjust to place marker at the center of crossover lines similar to Fig. 2. SLIGHTLY retouch A14 for maximum amplitude and straightness of crossover lines.

FM RF ALIGNMENT — SELECTOR IN FM POSITION					
SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
9. Across FM antenna socket with 120Ω in each lead.	91MC	(FM) 91MC	DC probe to point A. Common to chassis.	A20	Adjust for maximum deflection.
10. "	105MC	105MC	"	A21	"
11. "	100MC	100MC	"	A22	"

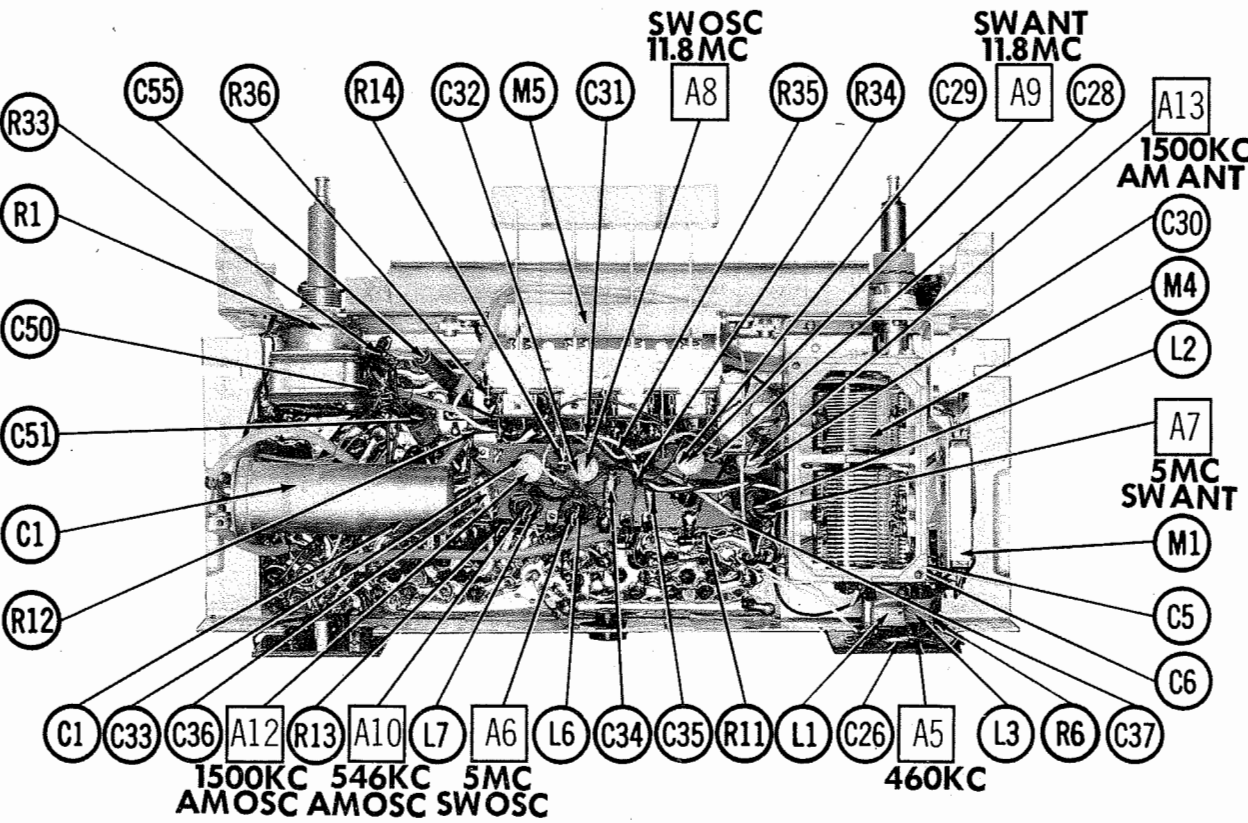


BLAUPUNKT MODEL 20003/20013 (Ballent)

FOLDER 4

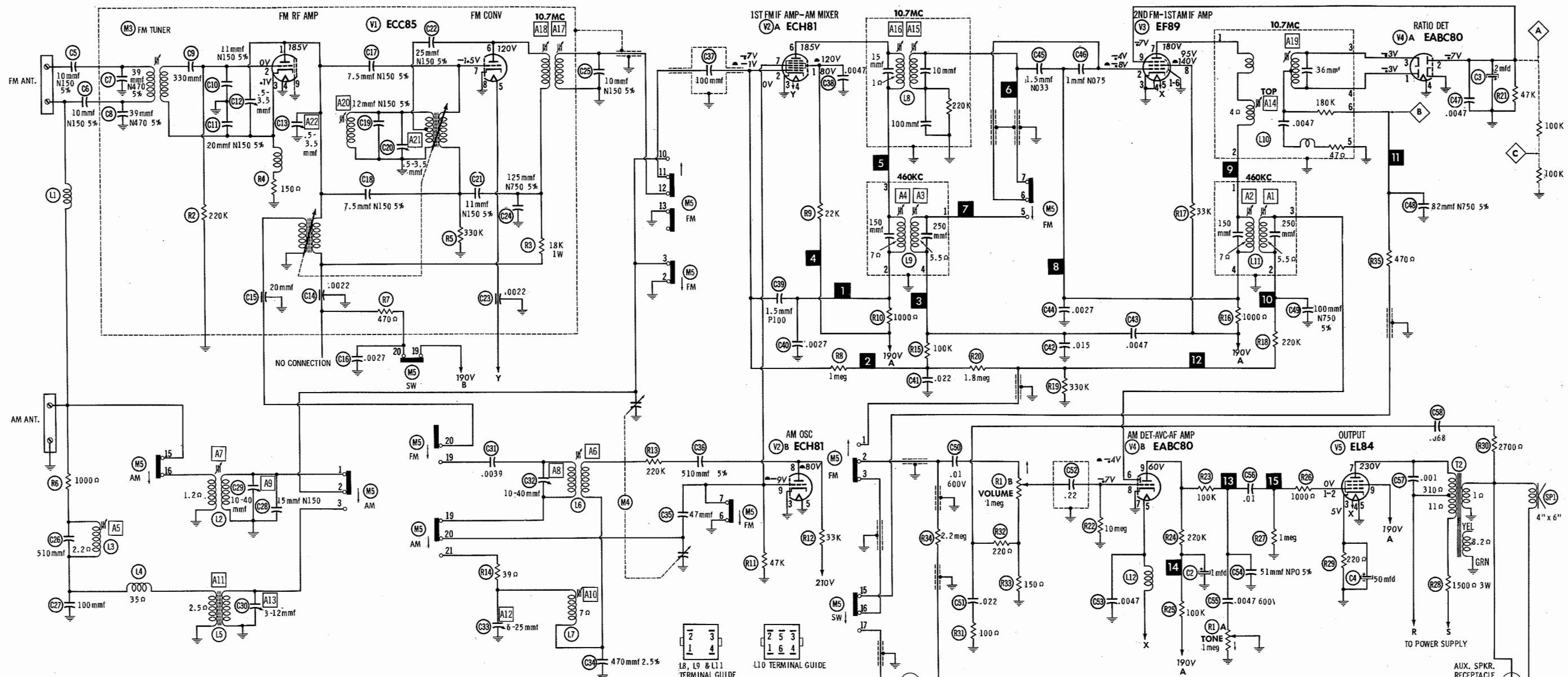


CHASSIS-FRONT VIEW



CHASSIS-BOTTOM VIEW





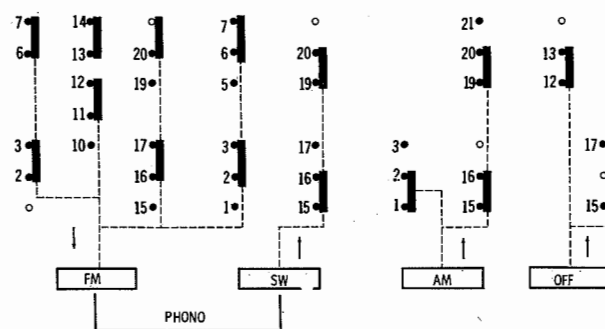
#### RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	ECC85	12000 Ω	220 K	150 Ω	FIL	FIL	120 K	330 K	0 Ω	0 Ω
V2	ECH81	123 K	3.1 meg	0 Ω	FIL	FIL	12500 Ω	0 Ω	134 K	47 K
V3	EF89	0 Ω	220 K	2.2 meg	0 Ω	FIL	FIL	0 Ω	12500 Ω	134 K
V4	EABC80	INF	47 K	INF	FIL	FIL	550 K	0 Ω	10 meg	1320 K
V5	EL84	NC	1 meg	220 Ω	FIL	FIL	NC	1310 Ω	NC	11500 Ω

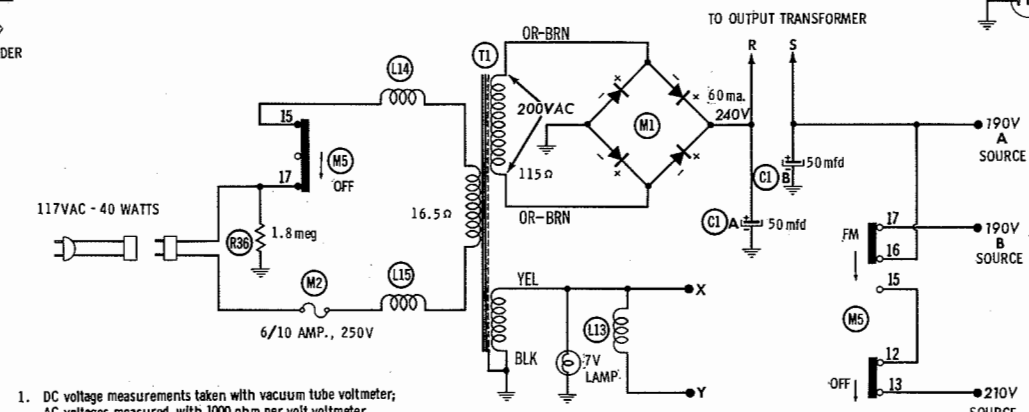
ALL MEASUREMENTS TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED.  
 \* MEASURED IN "AM" POSITION.  
 † MEASURED FROM OUTPUT OF M1.

NC NO CONNECTION

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.



PUSHBUTTONS SHOWN IN "FM" POSITION



1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)

A PHOTOFACIT STANDARD NOTATION SCHEMATIC  
 with CIRCUITRACE

© Howard W. Sams & Co., Inc. 1961

BLAUPUNKT MODEL  
 20003/20013 (Ballnet)