



PHOTOFACT[®] with

CIRCUITRACE[®]

TRADE NAME: VOLKSWAGEN MODELS
2FMBG (1962 Karmann Ghia)
2FMBT (1962 Transporter)
2FMBV (1962 Sedan)

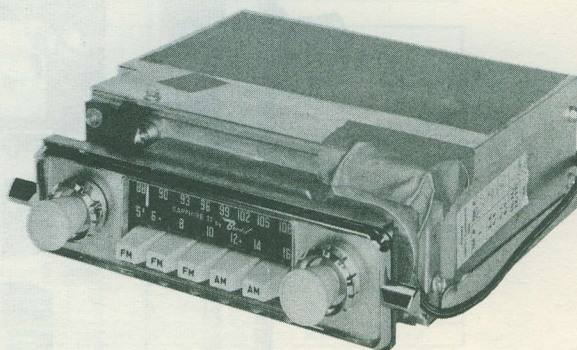
SUPPLIER: The Bendix Corp., Bendix Radio Div.
Baltimore 4, Maryland

TYPE SET: 10 Transistor AM-FM Receiver

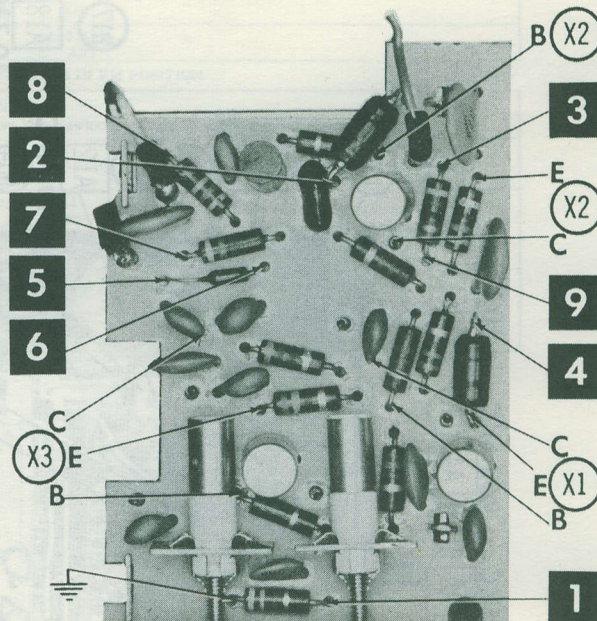
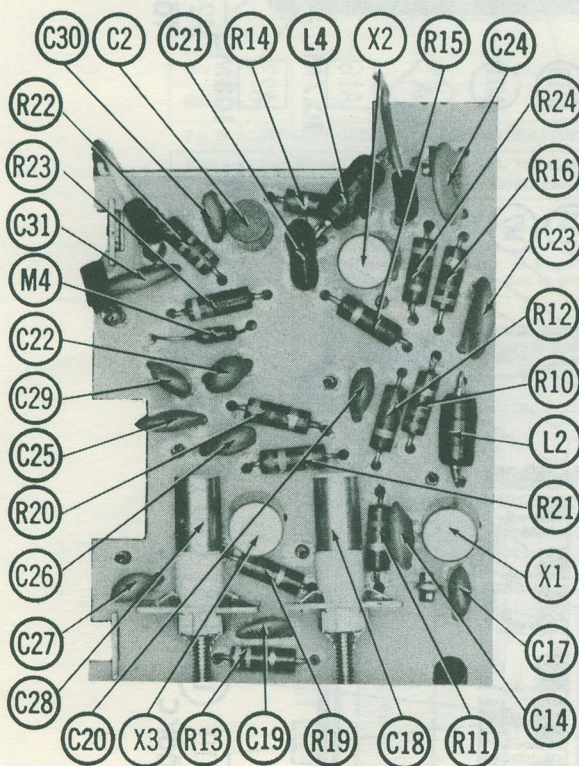
POWER SUPPLY: 6 Volt Storage Battery

RATING: 1 Amp. @ 6.3VAC

TUNING RANGE: BROADCAST 535 — 1605KC
FREQ. MOD. 88 — 108MC



A Howard W. Sams CIRCUITRACE[™] Photo



REMOVAL INSTRUCTIONS

RADIO

1. Pull off knobs.
2. Remove 5/8" nuts holding trim plate.
3. Remove trim plate.
4. Remove 5/8" nuts from control bushings.
5. Disconnect speaker leads, antenna lead, and "A" lead at fuse holder.

6. Remove 7/16" nut from rear of radio.
7. Remove radio from under instrument panel.

SPEAKER

1. Remove four 5/16" nuts from speaker bracket.
2. Remove speaker.

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

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VOLKSWAGEN MODELS 2FMBG, 2FMBT, 2FMBV

ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
Use only enough generator output to provide a usable indication.
Suggested Alignment Tools:
A1 thru A10, A12 thru A18, A20 thru A25,..... GENERAL CEMENT #8290, 8868, 9087
WALSCO #2525, 2528, 2587
A11, A19,..... GENERAL CEMENT #8282, 8606, 9302
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 .1mfd to point $\diamond$, low side to ground.	262.5KC (400% Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1605KC	"	"	A5, A6, A7	"
Step 3 is not necessary unless tuner has been tampered with or associated components have been replaced. IF necessary, back tuning cores (A8, A9, A10) out of coils but not out of forms. Repeat step 2.						
3.	Thru dummy (Fig. 1) to antenna receptacle.	1000KC	Tune to Signal.	Output Meter across voice coil.	A8, A9, A10	Adjust for maximum. Repeat steps 2 & 3 until no further improvement is noted.
With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A 7 for maximum output.						

FM ALIGNMENT USING AM SIGNAL GENERATOR - SELECTOR IN FM POSITION

High side thru 68mmf to Antenna Terminal, low side to ground.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MC (Unmod.)	Point of non-interference.	DC probe of VTVM to point $\diamond$; common to ground.	A11 thru A18	Adjust for maximum.
"	"	DC probe to point $\diamond$; common to ground.	A19	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.
90MC (Unmod.)	90MC	DC probe of VTVM to point $\diamond$; common to ground.	A20, A21, A22	Adjust for maximum.
108MC	108MC	"	A23, A24, A25	"

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

High side thru 68mmf to Antenna Terminal, low side to ground.
Use 60% frequency modulated signal with 450KC sweep. Use 120% 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 $\diamond$; low side to ground.	A11 thru A18	Adjust for maximum gain and symmetry of response similar to Fig. 2 with marker as shown.
"	"	Vert. amp. to point $\diamond$; low side to ground.	A19	Adjust to place marker at center of crossover lines similar to Fig. 3. SLIGHTLY retouch A 11 for maximum amplitude and straightness of crossover lines.

PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.

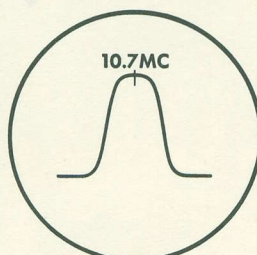
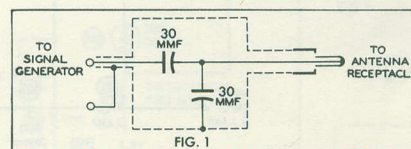


FIG. 2

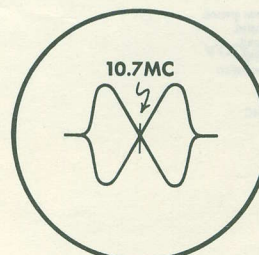
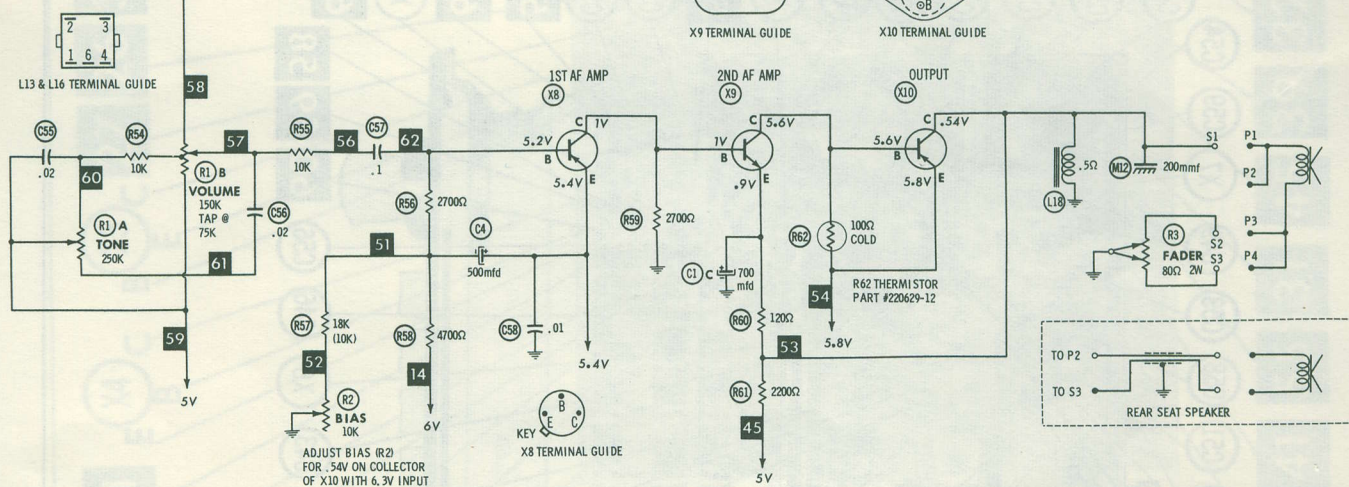


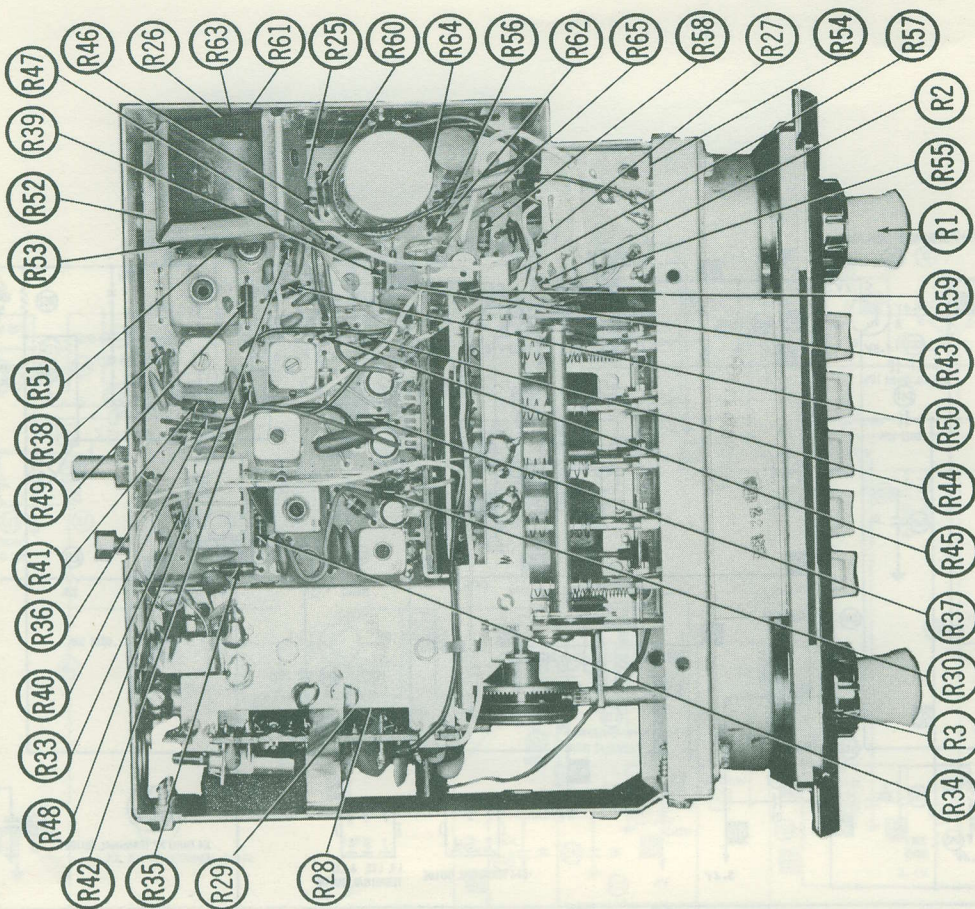
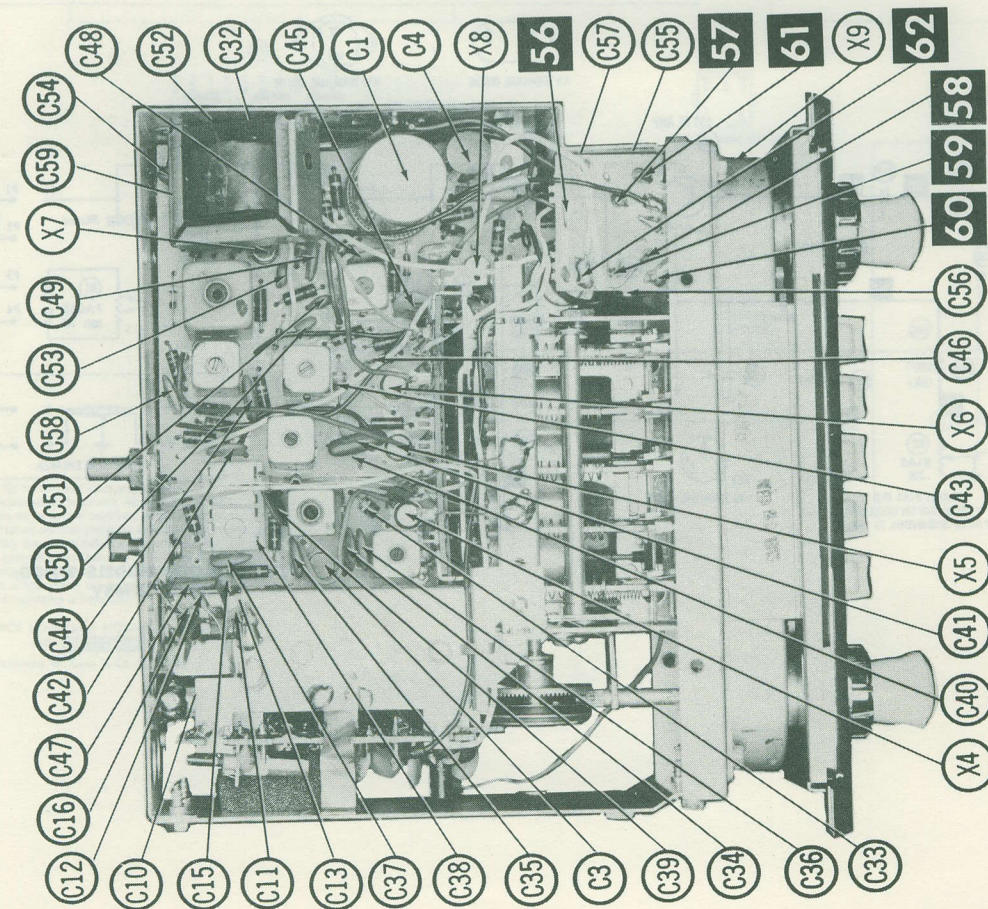
FIG. 3

3RD FM IF AMP-AM IF AMP

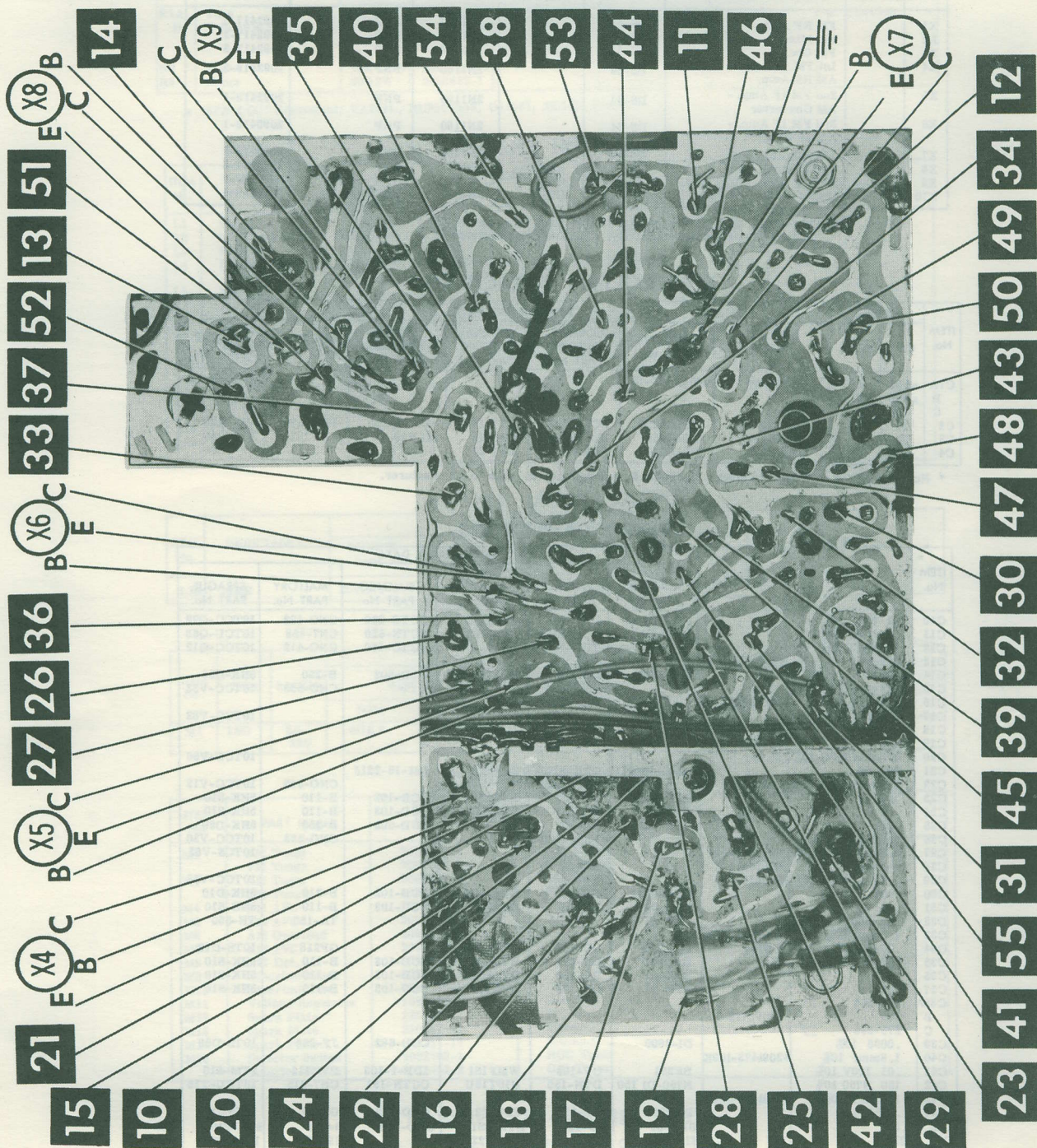
L13 & L16 TERMINAL GUIDE



**VOLKSWAGEN MODELS 2FMBG,
2FMBT, 2FMBV**



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VOLKSWAGEN MODELS 2FMBG, 2FMBT, 2FMBV

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.

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES	BENDIX PART No.
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.		
X1		FM RF Amp.	DS-41		2N1177	PNP	2092417-1
X2		FM Mixer	DS-41		2N1179	PNP	2092417-2
X3		FM Osc.	DS-41		2N1179	PNP	2092417-3
X4		1st FM IF Amp. - AM RF Amp.	DS-34		2N1180	PNP	2092418-2
X5		2nd FM IF Amp. - AM Converter	DS-34		2N1180	PNP	2092418-1
X6		3rd FM IF Amp. - AM IF Amp.	DS-34		2N1180	PNP	2092418-1
X7		FM Limiter	DS-34		2N1180	PNP	2092418-2
X8		1st AF Amp.	DS-26	GE-2	2N591	PNP	2090924-8
X9		2nd AF Amp.	DS-44	GE-8		NPN	2091260-3
X10		Output	DS-520	GE-3	2N301	PNP (Note 1)	2091859-4

Note 1. When replacing, apply silicone grease to both sides of insulator.
Tighten mounting screws securely. Check bias adjustment.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	BENDIX PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	500	8	220353-27	PWH3-54-10					PCLS-3016.3*
B	400	8							
C	700	3							
C2	20	10	2090480-10	BCD12020	ECSP25-15	MT1-10	MLV20-12	PET1570	VL-1129
C3	50	3	2090480-4	BCD3050	ECSP50-3	MT1-15	MLV50-3	PET1575	VL-1045
C4	500	3	2090480-9	BCD12500	NLW450-3	MT1-26	BL2111	TC305	TE-1068

* 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.
C10	22 NPO 10%		NPO-DI 22	DTZ-22	C10Q22C	CCTO-220	CNO-422	10TCC-Q22
C11	82 N750 10%		N750-DI 68	TCN-62	C10Q68U	CCTN-620	CN7-468	10TCU-Q68
C12	12 NPO 10%			TCZ-12		CCTO-120	CNO-412	10TCC-Q12
C13	3.9mmf	#2091473-399K						
C14	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C15	3.3mmf NPO 10%			TCZ-3R3			CNO-533	10TCC-V33
C16	1-8mmf	#2090517-1		829-10				10TCC-V82
C17	8.2mmf NPO 10%		NPO-DI 8.2					
C18	1-8mmf	#2090517-1		TCL-100		*		
C19	100 N1500	#220332-37						10TCC-V56
C20	5.6mmf NPO 10%	(6.8) †						
C21	220 5%		ADM-15-221	CPR-220J	CD10E221J	DM-15-221J		
C22	1.2mmf NPO ±.25mmf			TCZ-1R5			CNO-515	10TCC-V12
C23	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C24	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C25	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C26	3mmf NPO 10%			TCZ-3R3		*	CNO-533	10TCC-V30
C27	8.2mmf N330 10%	#220332-112						10TCC-V82
C28	1-8mmf	#2090517-1		829-10				
C29	5.6mmf NPO 10%	#220332-100						10TCC-V56
C30	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C31	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C32	.05 100V		TTD-05				TA-150	TH-S50
C33	1.0mmf 10%	#2091473-109K						
C34	.0018 10%	(.01) †	DI-1800	DD-182	JB6D18		GP218	10TS-D18
C35	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C36	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C37	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C38A	295-355							
B	180							
C	275-335	#2092422-1						
C39	.0068 10%							
C40	1.8mmf 10%	#2091473-189K	DI-6800			CCD-682	JF-268	10TS-D68
C41	.01 100V 10%		BE2S1	CF-103	WMF1S1	IDP-1-103	PVC211	2TM-S10
C42	150 N750 10%		N750-DI 150	DTN-150	C10T15U	CCTN-151	CN7-315	10TCU-T15
C43	1.8mmf 10%	#2091473-189K						
C44	.0022 10%		DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22
C45	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C46	220		SI 220	D6-221	LA10T22-S3		GP322	10TS-T22
C47	.05 100V		TTD-05				TA-150	TH-S50
C48	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C49	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C50	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C51	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C52	.0018 10%		DI-1800	DD-182	JB6D18		GP218	10TS-D18
C53	470		BPD-00047	DD-471	BYA10T47	CCD-471	B-347	10TS-T47
C54	.001		BPD-01	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C55	.02 100V		TTD-02	DDM-203	H3		TA-120	TH-S20
C56	.02 100V		TTD-02	DDM-203	H3		TA-120	TH-S20
C57	.1 10V		TTD-1	UK10-104	HCC10104Z		TA-010	HY320
C58	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C59	150	Note 1	BPD-00015	DD-151	LA10T15-S3	CCD-151	GP315	10TS-T15
C60	5-80	#219083-1						

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.
Note 1. Not used in some versions. # Bendix Part Number. † Alternate Value.

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.

CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA			
			BENDIX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.
R1A B	Tone Volume & Switch	250K 150K Tap @ 75K	2091258-3	F1-250K, R16-250K, FFS111, RFS203, KR-7		
R2 R3	Bias Fader	10K 1.5W 80Ω 2W	2090181-11 2092415-1			

■ "STA-LOC" Equivalent: FA254L, RU254T653, OS1687, IS2187, US42

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		BENDIX PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	FM Ant.	①					① Part of M2
L2	RF Choke (1uh)	2092210-5	BC-561	4602	RTC-8515	T855	② Part of M3
L3	FM RF	①					
L4	10.7MC Trap (1uh)	2092210-5	BC-561	4602	RTC-8515	T855	
L5	FM Osc.	①					
L6	1st FM IF	2092421-1 or -7					
L7	RF Choke (5uh)	2092210-3	SW-631	4609	RTC-8519	T819	
L8	AM Ant.	②					
L9	2nd FM IF	2092421-5 or -9					
L10	AM RF	②					
L11	AM Osc.	②					
L12	3rd FM IF	2092421-2 or -8					
L13	1st AM IF	2092419-1					
L14	4th FM IF	2092421-4					
L15	2nd AM IF	2092419-2					
L16	Discriminator	2092423-1					
L17	"A" Lead Choke	2092424-1					

CHOKE (AUDIO OUTPUT)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L18	14MH	2091874-5	C-4095	TC-2	TR-152	TY17XT	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			BENDIX PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	1AG	2A 32V	AGA 2	2091699-1	301002 (1AG 2A 32V)	155004	AGA 2	HMF

MISCELLANEOUS

ITEM No.	PART NAME	BENDIX PART No.	NOTES
M2	FM Tuner	2092701-2	GIC Tuner
M3	FM Tuner	2092701-1	RCC Tuner
M3	AM Tuner	2092700-2	GIC Tuner
M4	AM Tuner	2092700-1	RCC Tuner
M5	FM AFC	2092055-3	Varicap
M6	FM AFC	2092055-4	Zener
M7	AM Overload	2092055-1	
M8	AM AVC	2092055-1	
M9	AM Det.	2092055-1	
M10	Discriminator	2092055-1	
M11	Discriminator	2092055-1	
M12	Voltage Regulator	2092055-4	Zener
M13	Spark Plate	220267-17	200mmf
M14	Spark Plate	220267-21	200mmf
M15	Spark Plate	220267-17	200mmf
M15	Selector Switch	2092702-1	RCC Tuner
M15	Selector Switch	2092702-2	GIC Tuner

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Knob, Tuning or Volume	2091244-1	Dial Glass	2092404-2
Knob, Tone or Fader	2092235-1	Escutcheon	2092167-1
Push Button (FM)	2092397-1	Pointer Ass'y. (GIC Tuner)	2090129-33
Push Button (AM)	2092397-2	Pointer Ass'y. (RCC Tuner)	2090129-35

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
Shielded Hook-up Wire	8524 (Stranded) Available in 12 Colors
Rear Seat Speaker Extension Cable	Use BELDEN No. 8885
Bonding Strap	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)

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2FMBT, 2FMBV