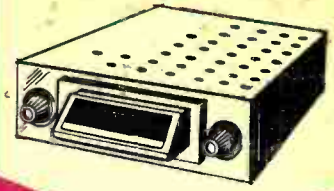


SAMS PHOTOFACT[®]



AUTO RADIO SERIES

AR-26
26
SEPT. 1964



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

SAMS PHOTOFACT[®] AUTO RADIO SERIES

VOLUME
26

by the *Howard W. Sams* ENGINEERING STAFF

STU TYSON TV
WEST BAY SHOPPING CENTER
PH. 946-3880 - TRAVERSE CITY, MICH.



HOWARD W. SAMS & CO., INC.
INDIANAPOLIS 6, INDIANA

FIRST EDITION
FIRST PRINTING—SEPTEMBER, 1964

PHOTOFACT®
AUTO RADIO SERIES
VOLUME 26

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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.

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PHOTOFACT[®]

TRADE NAME : All American Model SM-130RPE
 SUPPLIER : For Current Address, See Master Index.
 TYPE SET : 3 Tube 2 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : 1.2 Amp. @ 12.6 Volts DC
 TUNING RANGE : BROADCAST 540-1615KC



ALIGNMENT INSTRUCTIONS

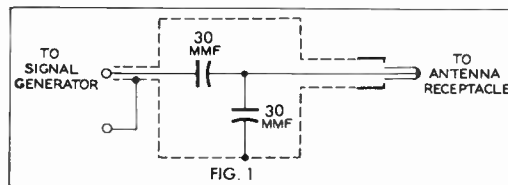
Check for specified source voltage.

Use only enough generator output to provide a usable indication.

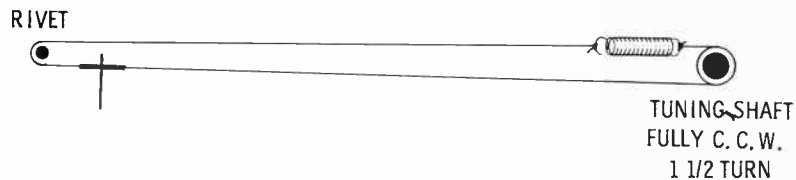
Suggested Alignment Tools: A1 thru A4 GENERAL CEMENT: 8606, 8606L, 8869 WALSCO: 2543, 2544, 2588
 A5, A6, A7 GENERAL CEMENT: 8290, 8868, 9087 WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfid to point Δ , low side to ground.	262KC (400v 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.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.



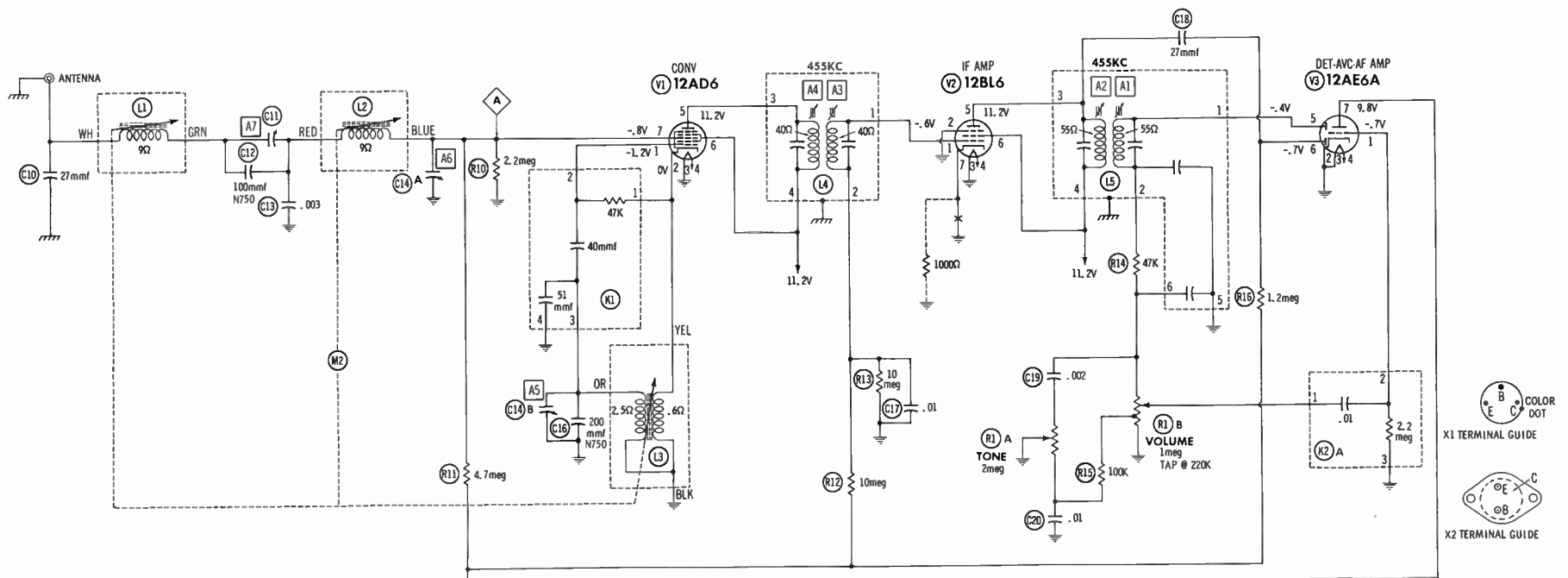
DIAL CORD STRINGING



REAR VIEW

ALL AMERICAN MODEL SM-130RPE

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

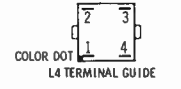
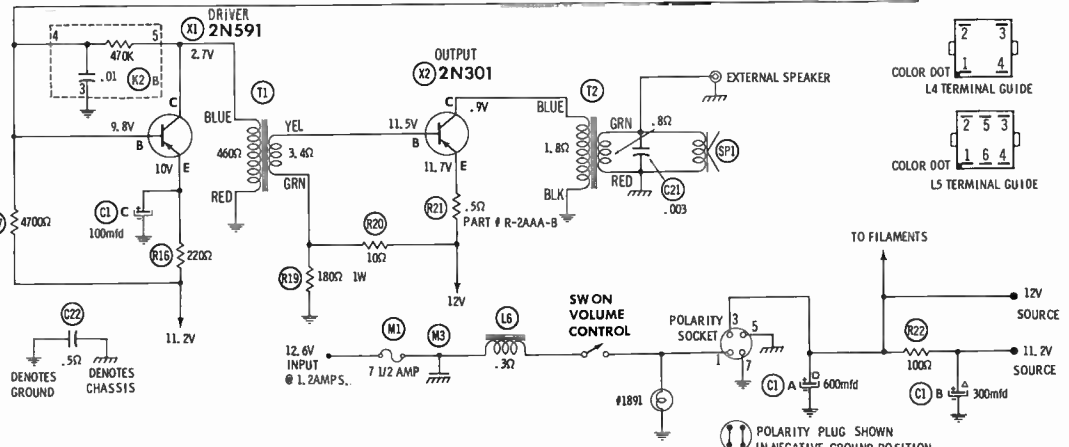


RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
V1	12AD6	47K	.6Ω	FIL	FIL	†140Ω	†100Ω	2meg
V2	12BL6	7meg	0Ω	FIL	FIL	†155Ω	†100Ω	0Ω
V3	12AE6A	2.2meg	0Ω	FIL	FIL	400K	7meg	†4700Ω

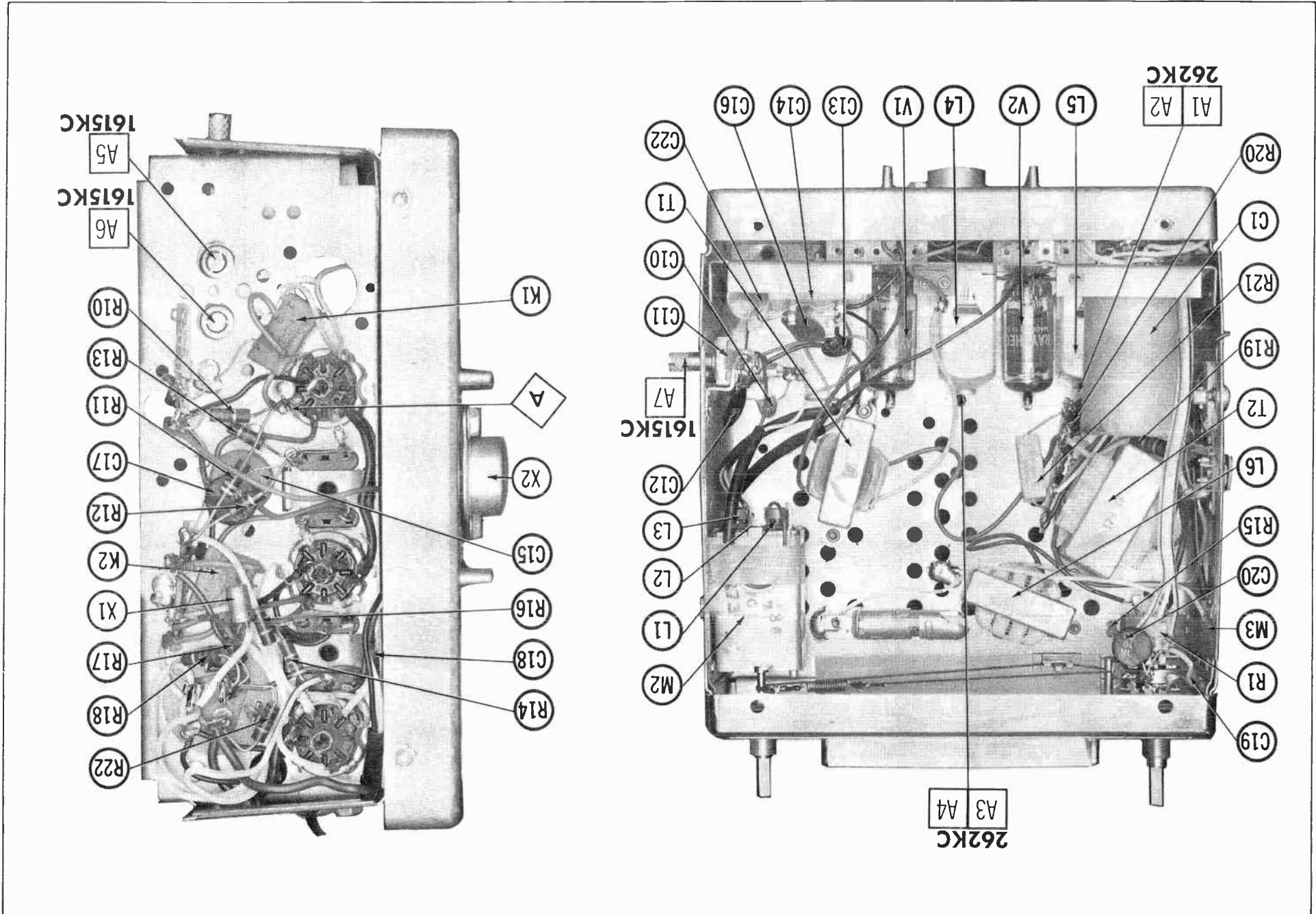
† MEASURED FROM CIA.
 RESISTANCE MEASUREMENTS NOT GIVEN FOR X1 & X2 BECAUSE OF THE WIDE VARIATION IN INTERNAL RESISTANCE OF TRANSISTOR.
 VOLTAGES TAKEN IN NEGATIVE GROUND POSITION.
 1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.
 Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

ALL AMERICAN MODEL SM-13ORPE



⚡ POLARITY PLUG SHOWN IN NEGATIVE GROUND POSITION. ROTATE 90° C. W. FOR POSITIVE GROUND POSITION.

ALL AMERICAN MODEL SM-13ORPE



PARTS LIST AND DESCRIPTION

WIRING DATA

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.

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

TUBES

• AMPEREX •		GENERAL ELECTRIC		RCA		SYLVANIA	
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE
V1	Converter	12AD6	V3	Det. -AVC-AF Amp.	12AE6A		
V2	IF Amp.	12BL6					

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2N591	Driver	DS-26	GE-2	2N591	PNP
X2	2N301	Output	DS-520	GE-3	2N301	

* 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.	All American PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	800	16	C-46	AFH3-00-95.4		XC3-48	WP300.85v	WP300.85	PCL8-0026.10*
B	300	16							
C	100	16							

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

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALLAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C10	27	#TR-5A		TCN-27			CN7427	10TCU-Q27	
C11	100		N750	N750-DI100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10
C12	.003			DI-3000	DD-302	LA10D3-C4	CCD-302	GP230	5GA-D30
C13	.047								
C14A	200	N750		DTN-200	C10T2U	CCTN-201	CN7320	10TCU-T20	
C15	.01		N750-DI200	DD-103	BYA10S1	CCD-103	B110	5HK-S10	
C16	.01		BPD-01	TCN-27			CN7427	10TCU-Q27	
C17	27						B220	5HK-D20	
C18	.002		BPD-002	DD-202	BYA10D2	CCD-202	B110	5HK-S10	
C19	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10	
C20	.003		DI-3000	DD-302	LA10D3-C4	CCD-302	GP230	5GA-D30	
C21	.5		BE2P5		DPMS2P5	1DP-4-504	PVC105	2PS-750	
C22									

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			PART No.	CENTRALLAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
RIA	Tone	2meg	VC-2B	F1-2meg,		† QJ-1811A	AUE4524-S
B	Volume, Switch	1meg Tap @ 220K		R14-1meg, FFS015, RFS017, AK31, KR4			

† "CONCENTRIKIT" Equivalent: K7 Kit with Base Elements and Shafts: B11-139, P21-029 (Panel)
"SNAPTROL" Equivalent: BU6, CF19, CR32T, SF40, SR8, GC. B13-137X, R28-112 (Rear)
"STA-LOC" Equivalent: FR26L, RU16T224, OS937, IS1437, US41 76-1 (Switch)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		All American PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	1st Ant.	①					① Part of M2
L2	2nd Ant.	①					
L3	Osc.	①					
L4	Input IF	TF-8 (2624S)					
L5	Output IF	TF-9 (2626S)					

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	All American PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L6	1.2Amp.	.3Ω	3MH	TF-8C	C-4095	TC-1	TR-156	TY18XT	

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO	REPLACEMENT DATA					NOTES
		All American PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	14.4: 1	TF-1C					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	All American PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	20Ω	3-4Ω	TF-20C				TR-167	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		All American PART No.	QUAM PART No.	
SP1	5" PM 3-4Ω	SK-5	5A07R	

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	All American PART NO.	REPLACEMENT DATA
K1	Osc. Coupling	47K, 40mmf, 51mmf.	RC-3	
K2	Audio Coupling	470K, 2.2meg, .01mf, .01mf.	RC-4A	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA			
			All American PART No.	LITTELFUSE PART No.	BUSS PART No.	
M1	3AG	7½ 32V	FUSE	HOLDER	FUSE	HOLDER
					31107.5	155020
					AGC7½	HDJ

MISCELLANEOUS

ITEM No.	PART NAME	All American PART No.	NOTES
M2	Tuner	TUN-17M	
M3	Spark Plate	SPK-P-2	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Escutcheon	BE-12		



PHOTOFACT®

TRADE NAME : All American Model UP-220RPT
 SUPPLIER : For Current Address, See Master Index.
 TYPE SET : 5 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .65 Amp. @12.6 Volts DC
 TUNING RANGE: BROADCAST 540-1615KC



ALL AMERICAN MODEL UP-220RPT

ALIGNMENT INSTRUCTIONS

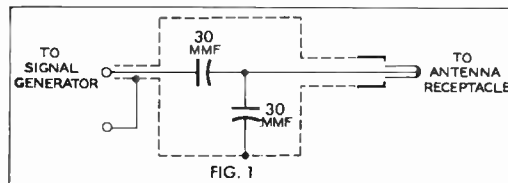
Check for specified source voltage.

Use only enough generator output to provide a usable indication.

Suggested Alignment Tools: A1 thru A4 GENERAL CEMENT: 8606, 8606L, 8869 WALSCO: 2543, 2544, 2588
 A5, A6, A7 GENERAL CEMENT: 8290, 8868, 9087 WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point A, low side to ground.	262KC (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.	1615KC	"	"	A5, A6, A7	"

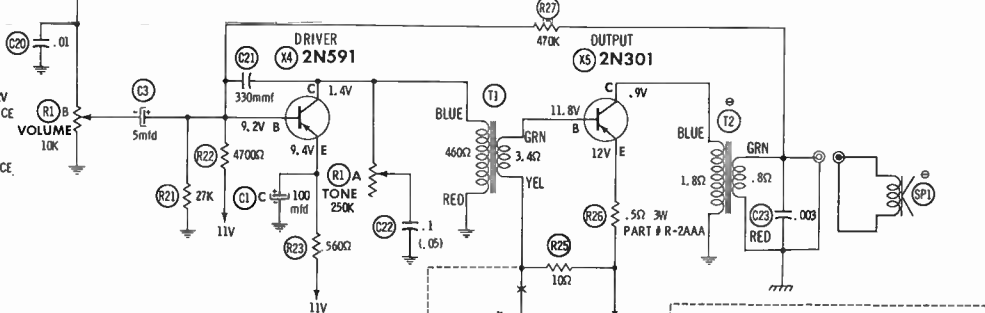
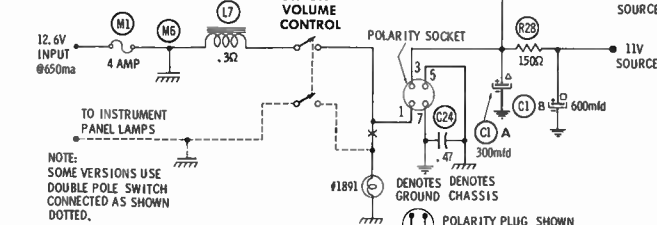
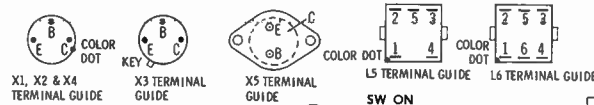
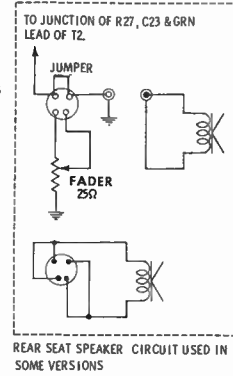
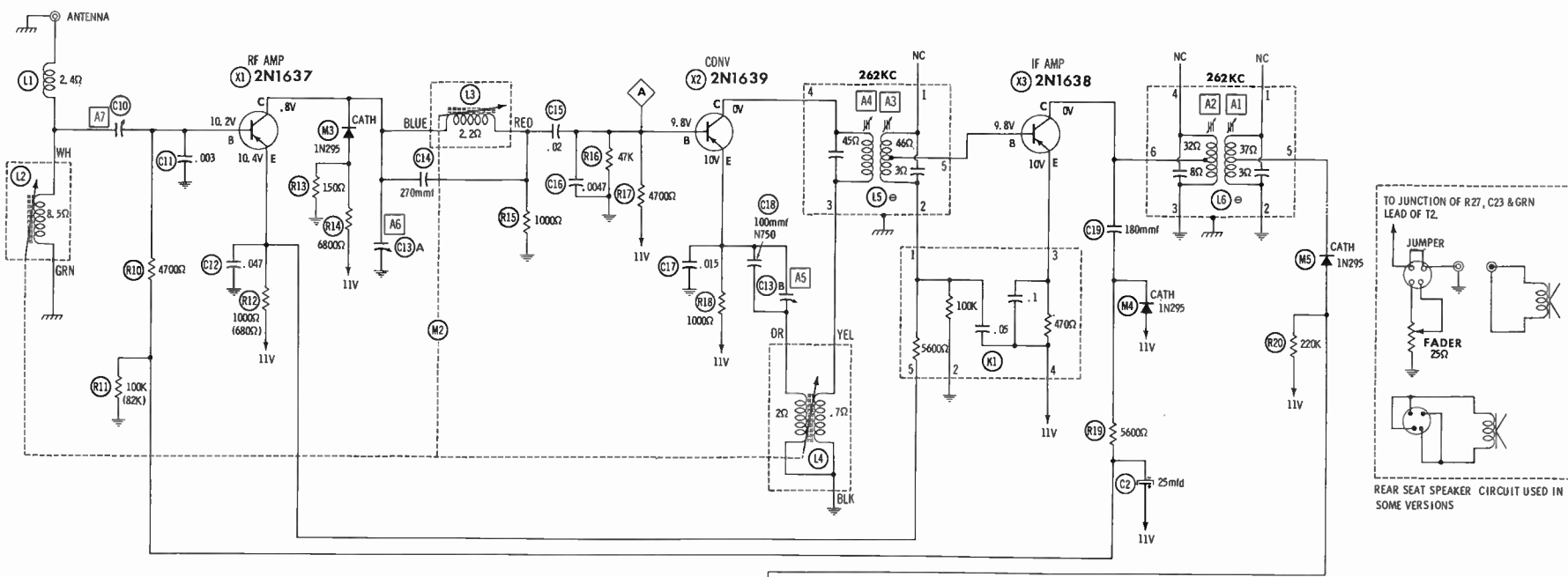
With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.



PUSH-BUTTON ADJUSTMENT

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

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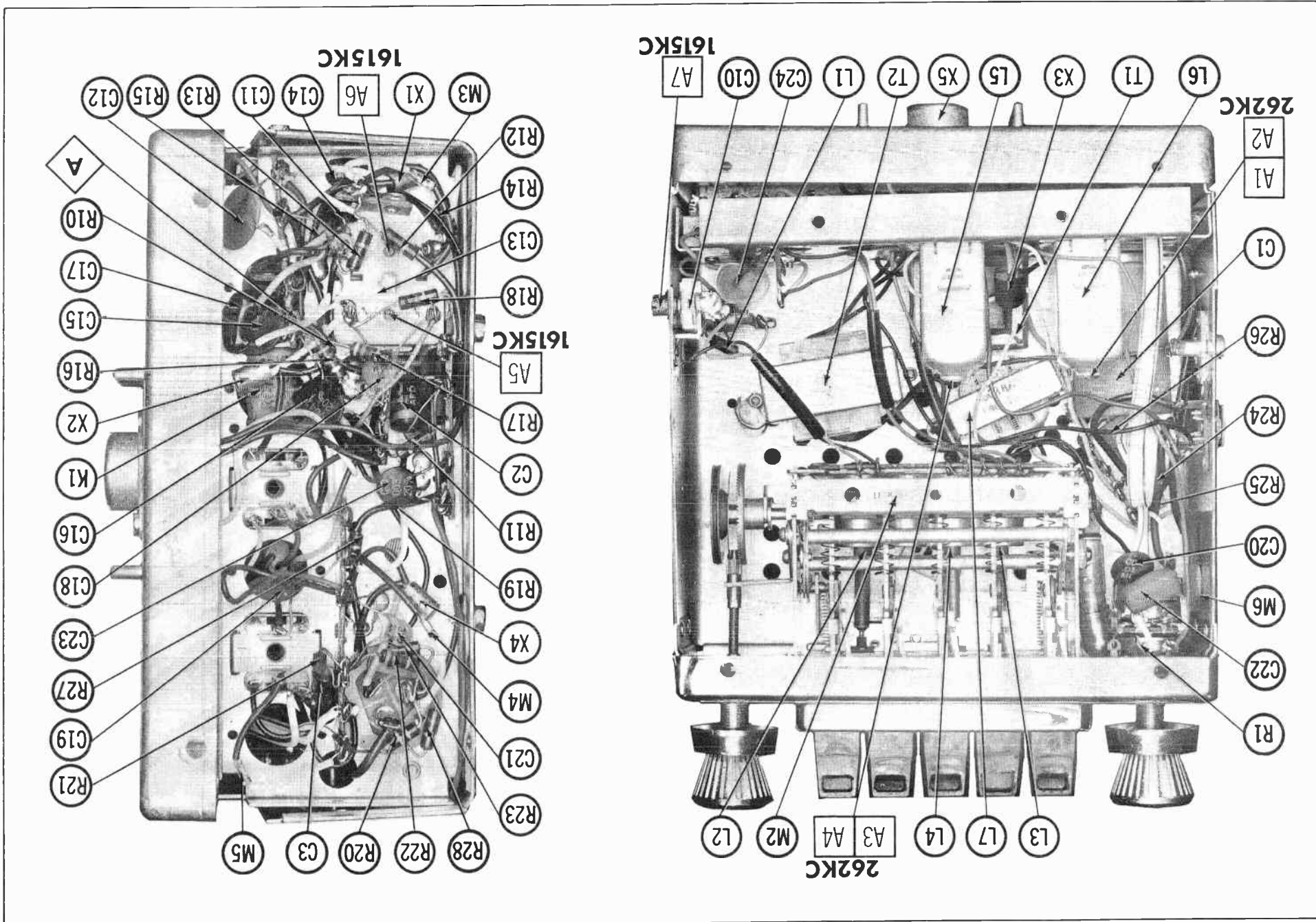


ALL AMERICAN MODEL UP-220RPT

- * NOT USED IN SOME VERSIONS.
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.
- ⊖ See parts list for alternate value or application.
1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.
 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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ALL AMERICAN MODEL UP-220RPT



PARTS LIST AND DESCRIPTION

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

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2N1637	RF Amp.	DS-25	GE-1	2N1637	PNP
X2	2N1639	Converter	DS-25	GE-1	2N1639	PNP
X3	2N1638	IF Amp.	DS-25	GE-1	2N1638	PNP
X4	2N591	AF Amp.	DS-26	GE-2	2N591	PNP
X5	2N301	Output	DS-520	GE-3	2N301	PNP*

* When replacing, apply silicone grease to both sides of insulator. Tighten Mounting screws securely. Check bias adjustment.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT.	All American PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	
C1A	300	16	C-46	AFH3-00-95.4		XC3-48		WP300.85	TVLS-3028.7*
B	600	16							
C	100	16							
C2	25	16	C-35	PTT82	NLW25-25	MTI-14	BL1550	TT25X25	TL-1157.1
C3	5	16	C-36	PTT77	NLW8-25	MTI-3	BL1250	TT25X25	TL-1152

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

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	.003	#TR5A-1	DI-3000	DD-302	LA10D3-C4	CCD-302	GP230	5GA-D30
C11	.047							HY-310
C12		#TR-3						
C13A								
B								
C14	270		DI-270	DD-271	LA10T27-C4	CCD-271	GP327	5GA-T27
C15	.02		BPD-02	DD-203	BYA6S2	CCD-203	B120	5HK-S20
C16	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B247	5HK-D47
C17	.015	100V	P288N-015		WMF2S15	4DP-1-153	PVC2115	4PS-S15
C18	100	N750	N750-DI100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10
C19	180		DI-180	DD-181	LA10T18-S	CCD-181	GP318	5GA-T18
C20	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C21	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33
C22	.1	100V	P288N-1		WMF1P1	1DP-2-104	PVC101	2PS-P10
C23	.003		DI-3000	DD-302	LA10D3-C4	CCD-302	GP230	5GA-D30
C24	.47	100V	BE2P5		DPMS2P5	1DP-4-504	PVC105	2PS-P50

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

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			All American PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone	250K	VC2BT	F2-250K,			† QJ-1761A	
B	Volume	10K		R2-10K, FFS014, RFS108, AK-31, KR-4				

① Alter Bushing to meet requirements. ② Disregard Tap.
 †"CONCENTRIKIT" Equivalent: K8 Kit with base Elements and Shafts: B13-130, P21-029 (Panel) B13-116, R9-110 (Rear) S45 (Bushings) 76-1 (Switch)

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	All American PART No.	REPLACEMENT DATA
K1	Biasing	470Ω, 5600Ω, 100K, .05mfd, .1mfd.	RC7B	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		All American PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.8uh)	TF-14	BC-565	74F886AP	RTC-8520	T859	① Part of M2. ② Some versions may use Part #TF-27T. ③ Some versions may use Part #TF-28T.
L2	Ant.	①					
L3	RF	②					
L4	Osc.	③					
L5	Input IF	TF-20 ②		6570			
L6	Output IF	TF-21 ③		6571			

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	All American PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L7	650MA	.3Ω	3MH	TF-8C	C-4095	TC-1	TR-156	TY16XT

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	All American PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	14.4:	1	TF-1C					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		All American PART No.	QUAM PART No.	
SP1	5" X 7" PM 5" PM	3-4Ω 3-4Ω	SK-11 SK-5	57A1 5A07R Alt.

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			All American PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	3AG	4A 32V			311004	155020	AGC4	HDJ

MISCELLANEOUS

ITEM No.	PART NAME	All American PART No.	NOTES
M2	Tuner	TUN-37T	
M3	RF Limiter		(1N295)
M4	AVC Limiter		(1N295)
M5	AF Det.		(1N295)
M6	Spark Plate	SPK-P-2	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Bezel	BE-27		

WIRING DATA

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



PHOTOFACT[®] with

CIRCUITRACE[®]

TRADE NAME : All American Model VWP-19T
 (1958-1964 Volkswagon)
 SUPPLIER : For Current Address, See Master Index.
 TYPE SET : 5 Transistor AM Receiver
 POWER SUPPLY : 6 Volt Storage Battery
 RATING : .750 AMP. @ 6.3 Volts DC
 TUNING RANGE: BROADCAST 540-1615KC

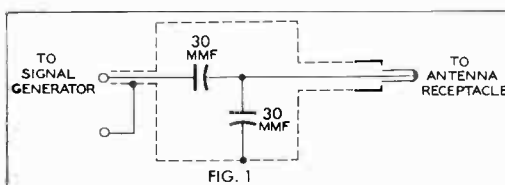


ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
 Use only enough generator output to provide a usable indication.
 Suggested Alignment Tools: A1 thru A4 GENERAL CEMENT: 8606, 8606L, 8869 WALSCO: 2543, 2544, 2588
 A5, A6, A7 GENERAL CEMENT: 8290, 8868, 9087 WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point Δ , low side to ground.	262KC (400 ν 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.	1615KC	"	"	A5, A6, A7	"

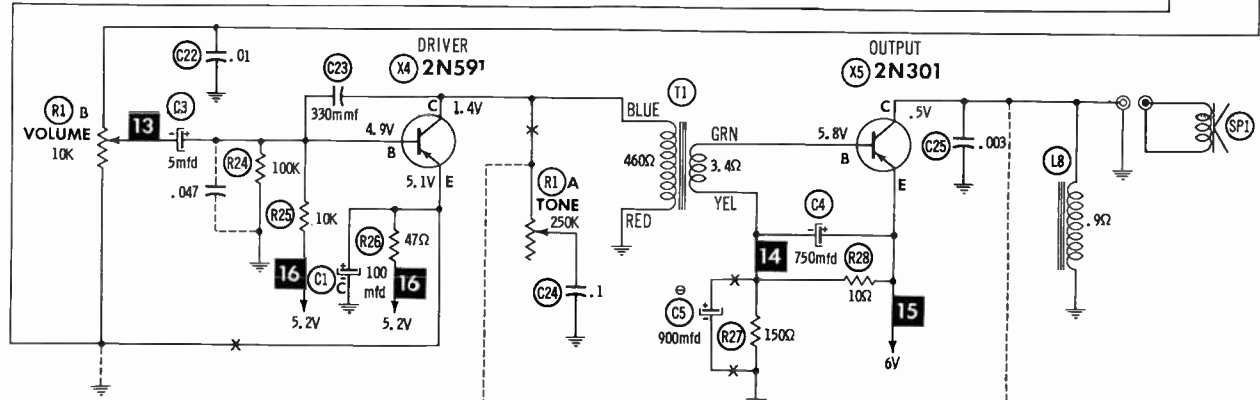
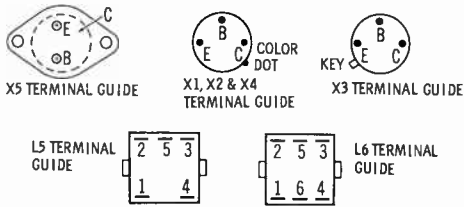
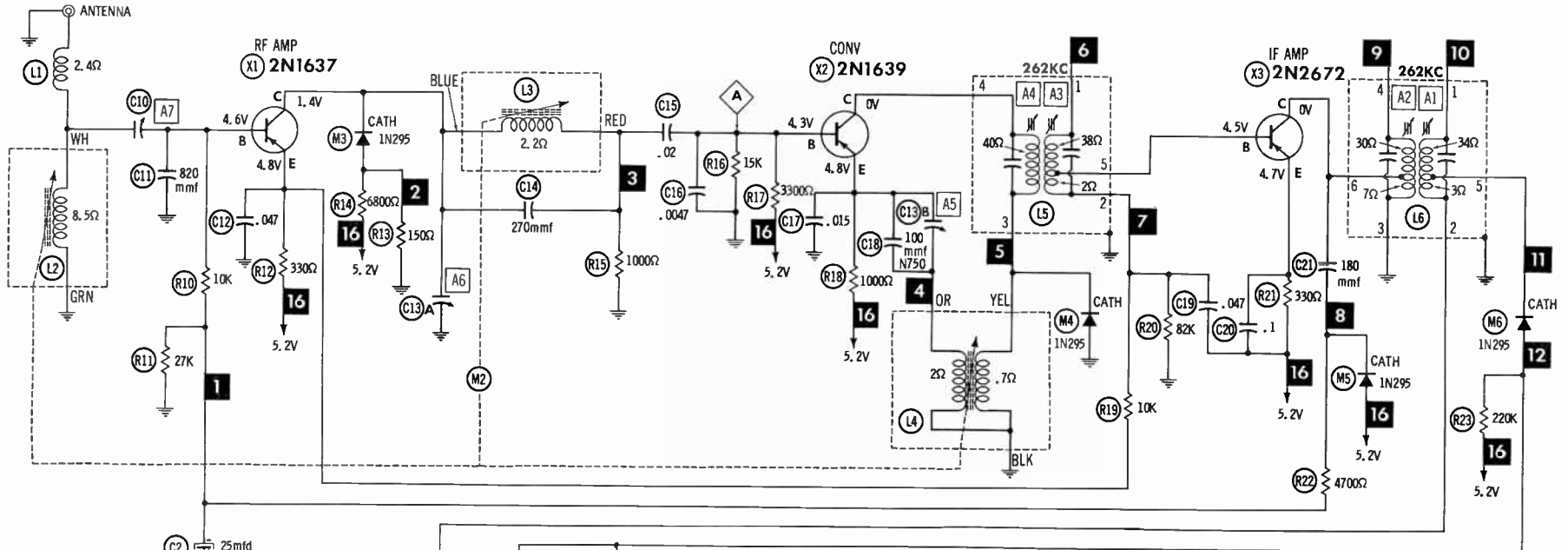
With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.



PUSH-BUTTON ADJUSTMENT

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

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



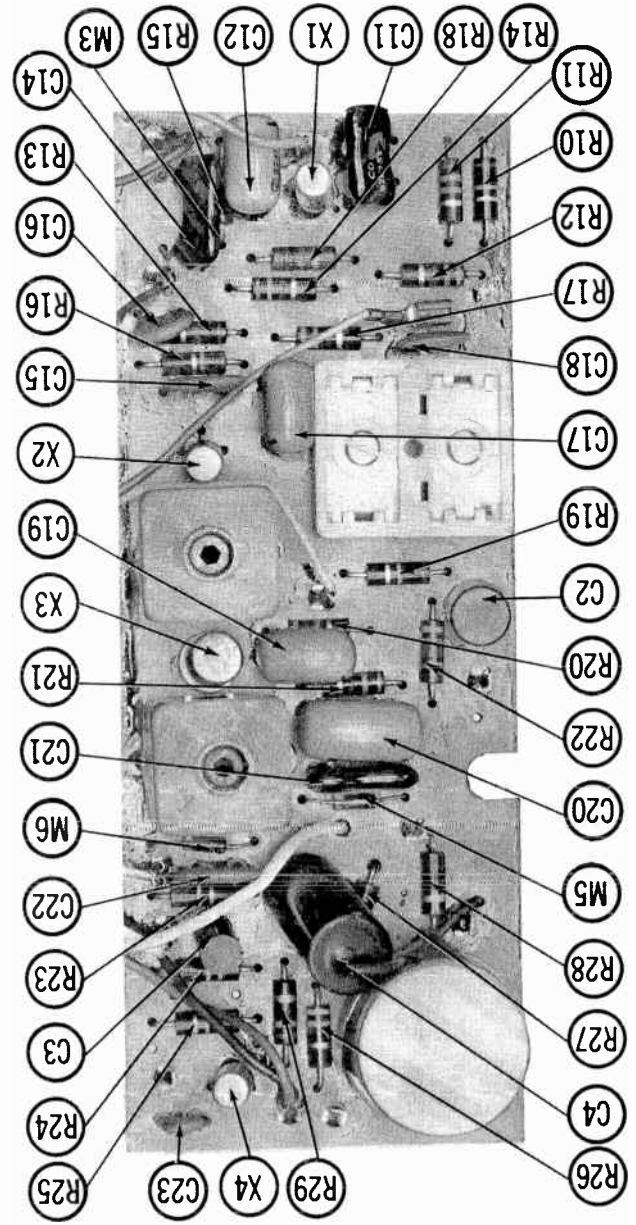
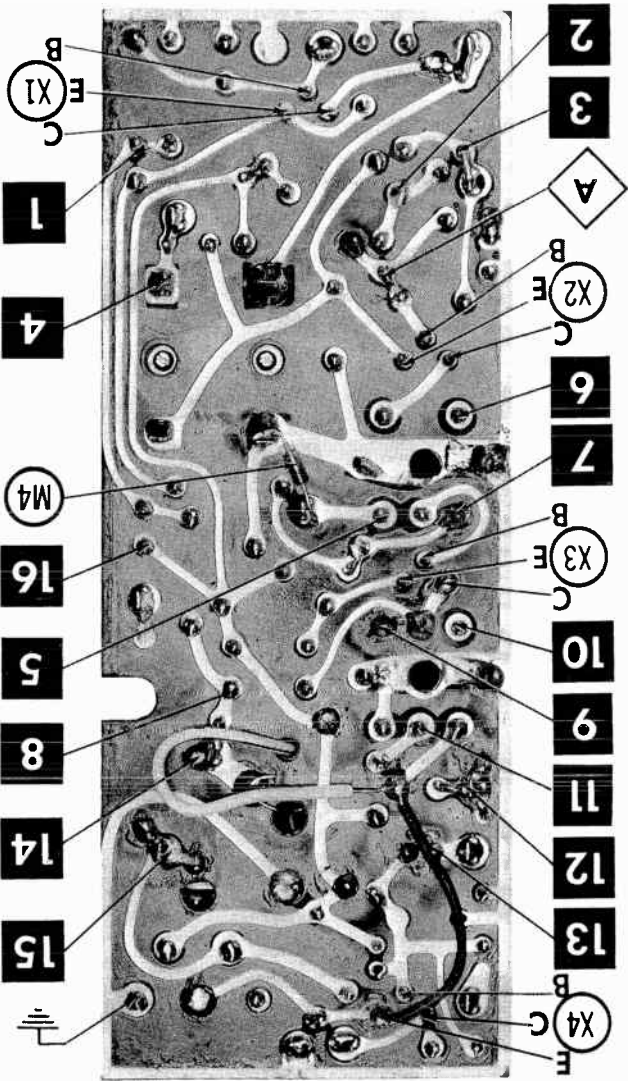
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

- ⊖ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise designated.
- 5. Numbers assigned to terminals may not be found on the unit.
- 6. Supply voltage maintained at rated value for voltage readings.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFAC STANDARD NOTATION SCHEMATIC with CIRCUITRACE

ALL AMERICAN MODEL VWP-19T

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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

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

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2N1837	RF Amp.	DS-25	GE-1	2N1837	PNP
X2	2N1839	Converter	DS-25	GE-1	2N1839	PNP
X3	2N2872	IF Amp.	DS-25	GE-1	2N1838	PNP
X4	2N591	Driver	DS-28	GE-2	2N591	PNP
X5	2N301	Output	DS-520	GE-3	2N301	PNP*

* 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.	All American PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	▲300	18	C-86	PWH3-00-95	CCOO12	XC3-48		PFP300, 18	PC1S-3026, 12*
B	▲500	18							
C	100	18							
C2	23	15	C-53	BCD15025	NLP25-15	MT1-14	BL1441	PET1570	VL-1170
C3	5	15	C-54	BCD15005	NLP5-15	MT1-3	BL1141	PET1535	VL-1184
C4	750	3	C-22	PRS1130	BR1000-6	QT1-32	BL2211	PETA190	TVA-1087
C5	900	10	①	PRS1180	BR1000-12	QT1-32	BL2430	TC1501	TVA-1133

① May not be used in some versions.
 * 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	820 .047	100V	#TR-5A-1	DI-820 P288N-047	DD-821	LA10T82-C4	CCD-821	B382	10TS-T82
C11						WFMF2S47	1DP-2-473	PVC1147	2PS-S47
C13A									
C14	270		#TR-14	DI-270	DD-271	LA10T27-C4	CCD-271	GP327	5GA-T27
C15	.02			BPD-02	DD-203	BYA6S2	CCD-203	B120	5HK-S20
C16	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B247	5HK-D47	
C17	.015	200V	P288N-015		WFMF2S15	4DP-1-153	PVC2115	4PS-S15	
C18	100	N750	N750-DI100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10	
C19	.047	100V	P288N-047		WFMF2S47	1DP-2-473	PVC1147	2PS-S47	
C20	.1	100V	P288N-1		WFMF1P1	1DP-2-104	PVC101	2PS-P10	
C21	180		DI-180	DD-181	LA10T18-S3	CCD-181	GP318	5GA-T18	
C22	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10	
C23	330		DI-330	DD-331	LA10B33-C4	CCD-331	GP333	10TS-T33	
C24	.1	100V	P288N-1		WFMF1P1	1DP-2-104	PVC101	2PS-P10	
C25	.003		BPD-0033	DD-332	BYA10D33	CCD-332	B233	5HK-D33	

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			All American PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	250K	VC2BT	F2-250K, R2-10K, FFS014, RFS108, AK-31 ① KR4		† QJ-1781A	
B	Volume, Switch	10K					

① Alter Bushing to meet requirements.
 † "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B13-130, P21-029 (Panel)
 B13-116, R9-110 (Rear)
 S45 (Bushing)
 78-1 (Switch)

COILS (RF-IF)

ITEM No.	USE	All American PART No.	REPLACEMENT DATA				NOTES
			MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.8uh)	TF-14	BC-565	74F888AP	RTC-8520	T859	① Part of M2.
L2	Ant.	①					
L3	RF	①					
L4	Osc.	①					
L5	Input IF	TF-31					
L6	Output IF	TF-30					

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	All American PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	750MA	.5Ω	1.5MH	TF-17C	C-4096	TC-1	TR-159	TY10XT	

TRANSFORMER (DRIVER)

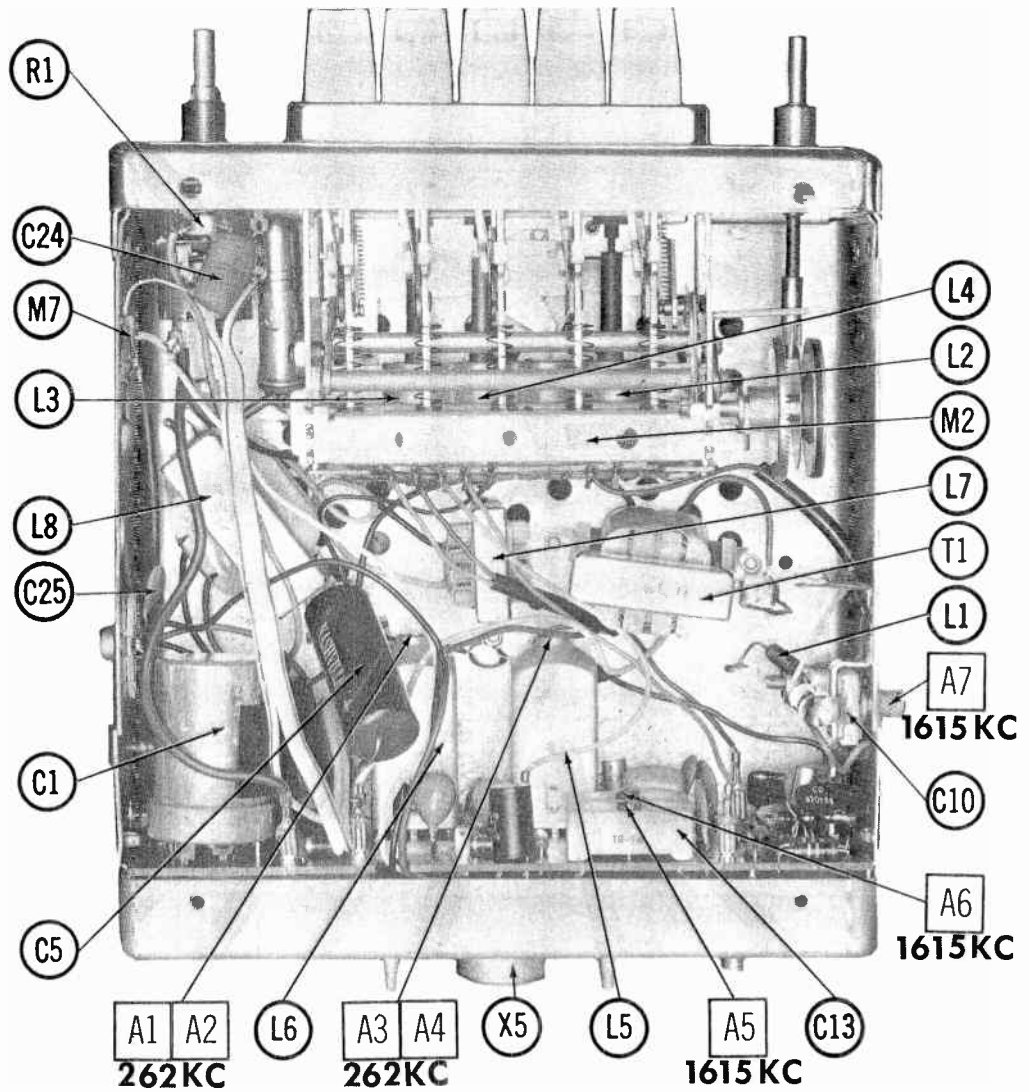
ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	All American PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	14.4:	1	TF-1C					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	All American PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	15MH	TF22						

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		All American PART No.	QUAM PART No.	
SP1	5" PM 8Ω	SK-5A	5A07Z8	



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.

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			All American PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	3AG	7½ A 32V			31107.5	155020	AGC7½	HDJ

MISCELLANEOUS

ITEM No.	PART NAME	All American PART No.	NOTES
M2	Tuner	TUN-34-T	
M3	RF Limiter		1N295
M4	IF Limiter		1N295
M5	AVC Limiter		1N295
M6	AF Det.		1N295
M7	Spark Plate	SPK-P-2	

CABINETS & CABINET PARTS

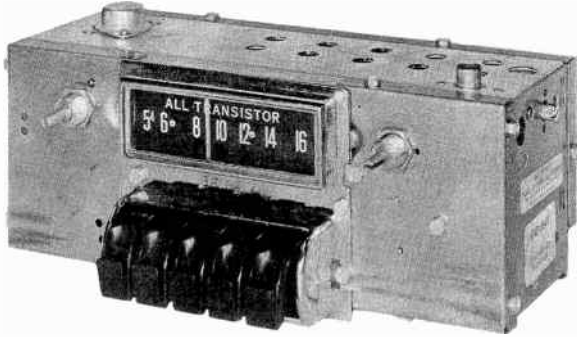
(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Bezel	BE-13	Dial Scale	DS-24T



PHOTOFACT[®] with

CIRCUITRACE[®]



TRADE NAME : All American Model RAP-364T (1964 Rambler)
 SUPPLIER : For Current Address, See Master Index
 TYPE SET : 5 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .680 Amp. @12.6 Volts DC
 TUNING RANGE : BROADCAST 540-1615KC

ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

Use only enough generator output to provide a usable indication.

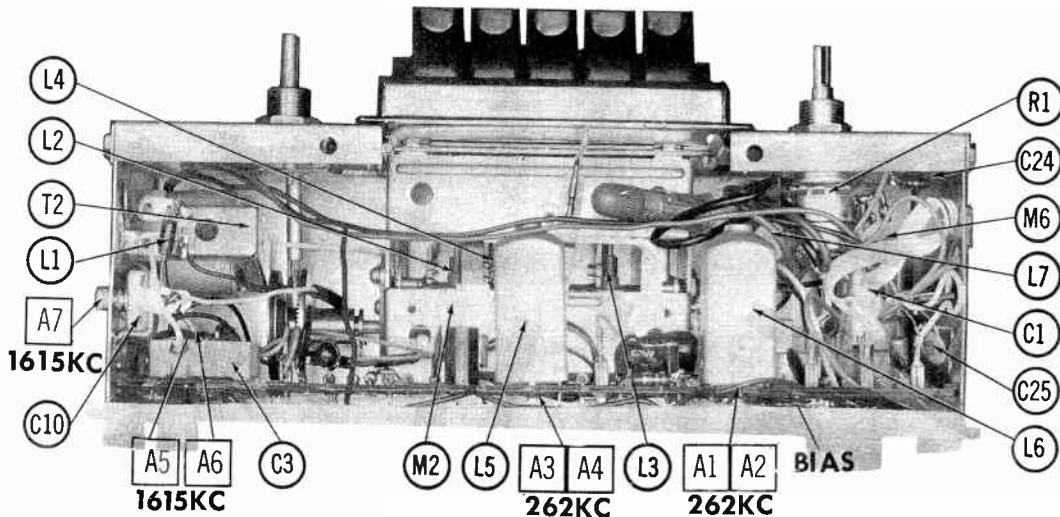
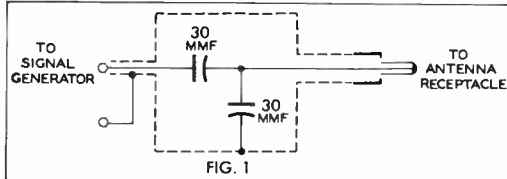
Suggested Alignment Tools: A1 thru A4 GENERAL CEMENT: 8606, 8606L, 8869 WALSCO: 2543, 2544, 2588
 A5, A6, A7 GENERAL CEMENT: 8290, 8868, 9087 WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point Δ , low side to ground.	262KC (400v 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.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.

PUSH-BUTTON ADJUSTMENT

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



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

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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2N1637	RF Amp	DS-25	GE-1	2N1637	PNP
X2	2N1639	Converter	DS-25	GE-1	2N1639	PNP
X3	2N1638	IF Amp.	DS-25	GE-1	2N1638	PNP
X4	2N591	Driver	DS-26	GE-2	2N591	PNP
X5	2N301	Output	DS-520	GE-3	2N301	PNP*

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT.	All American PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	
C1A	4300	16	C-66	PWH3-00-95		XC3-48		PPF300.18	PCIS-302&12*
B	500	16							
C	100	16							
C2	25	15	C-53	BCD15025	NLP25-15	MT1-14	BL1441	PET1570	VL-1170
C3	5	15	C-54	BCD15005	NLP5-15	MT1-3	BL1141	PET1535	VL-1164

* 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	.003	#TR-5A	BPD-0033	DD-332	BYA10D33	CCD-332	B233	5HK-D33
C11	.047	100V	P288N-047		WMF2847	1DP-2-473	PVC1147	2PS-847
C12		#TR-14						
C13A								
B								
C14	.270		DI-270	DD-271	LA10T27-C4	CCD-271	GP327	5GA-T27
C15	.02		BPD-02	DD-203	BYA8S2	CCD-203	B120	5HK-S20
C16	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B247	5HK-D47
C17	.015	100V	P288N-015		WMF2S15	4DP-1-153	PVC2115	4PS-S15
C18	100	N750	N750-DI100	DTN-100	C10T1U	CCCTN-101	CN7310	10TCU-T10
C19	.05	100V	P288N-05		DPMS2S5	1DP-2-503	PVC215	2PS-S50
C20	.1	100V	P288N-1		WMF1P1	1DP-2-104	PVC101	2PS-P10
C21	180		DI-180	DD-181	LA10T18-S3	CCD-181	GP318	5GA-T18
C22	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C23	.330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33
C24	.1	200V	P288N-1		WMF1P1	1DP-2-104	PVC101	2PS-P10
C25	.003	(.05) †	BPD-0033	DD-332	BYA10D33	CCD-332	B233	5HK-D33

All American Part Number.

† Alternate Value.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			All American PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone	25K	VC15T	F1-25K, R2-10K,			† QJ1763A	▲UE4523-S
B	Volume, Switch	10K		FFS011, RFSL02,				
				AK28, KR4				
R2	Bias	500Ω 2W	PT1	V-500	U39-500		110-600	PFL600

① Alter Bushing to meet requirements.

† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B11-120, P22-021 (Panel)

"SNAPTROL" Equivalent: BU10, CF11, CR49T, SF3, SR39, GC.

▲ "STA-LOC" Equivalent: FE253L, RU14A, OS750A, IS1187, US41

B13-116, R1-100 (Rear)

S37 (Bushing)

76-1 (Switch)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		All American PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.8uh)	TF-14	BC-565	74F686AP	RTC-8520	T859	① Part of M2
L2	Ant.	①					
L3	RF	②					
L4	Osc.	③					
L5	Input IF	TF-31					
L6	Output IF	TF-30					

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	All American PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	680MA	.8Ω	15MH	TF-4C	C-4095	TC-2	TR-152	TY17XT	

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO	REPLACEMENT DATA					NOTES
		All American PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	13:1	TF-34					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	All American PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	25Ω Tap @	3-4Ω	TF-15E				TR-168	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		All American PART No.	QUAM PART No.	
SP1	6" X 10" PM	3-4Ω	SK-23W 610A1	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			All American PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	3AG	7½A 32V			31107.5	155020	AGC7½	HDJ

MISCELLANEOUS

ITEM No.	PART NAME	All American PART No.	NOTES
M2	Tuner	TUN-38T	
M3	RF Limiter		1N295
M4	AVC Limiter		1N295
M5	AF Det.		1N295
M6	Spark Plate	SPK-P-2	

WIRING DATA

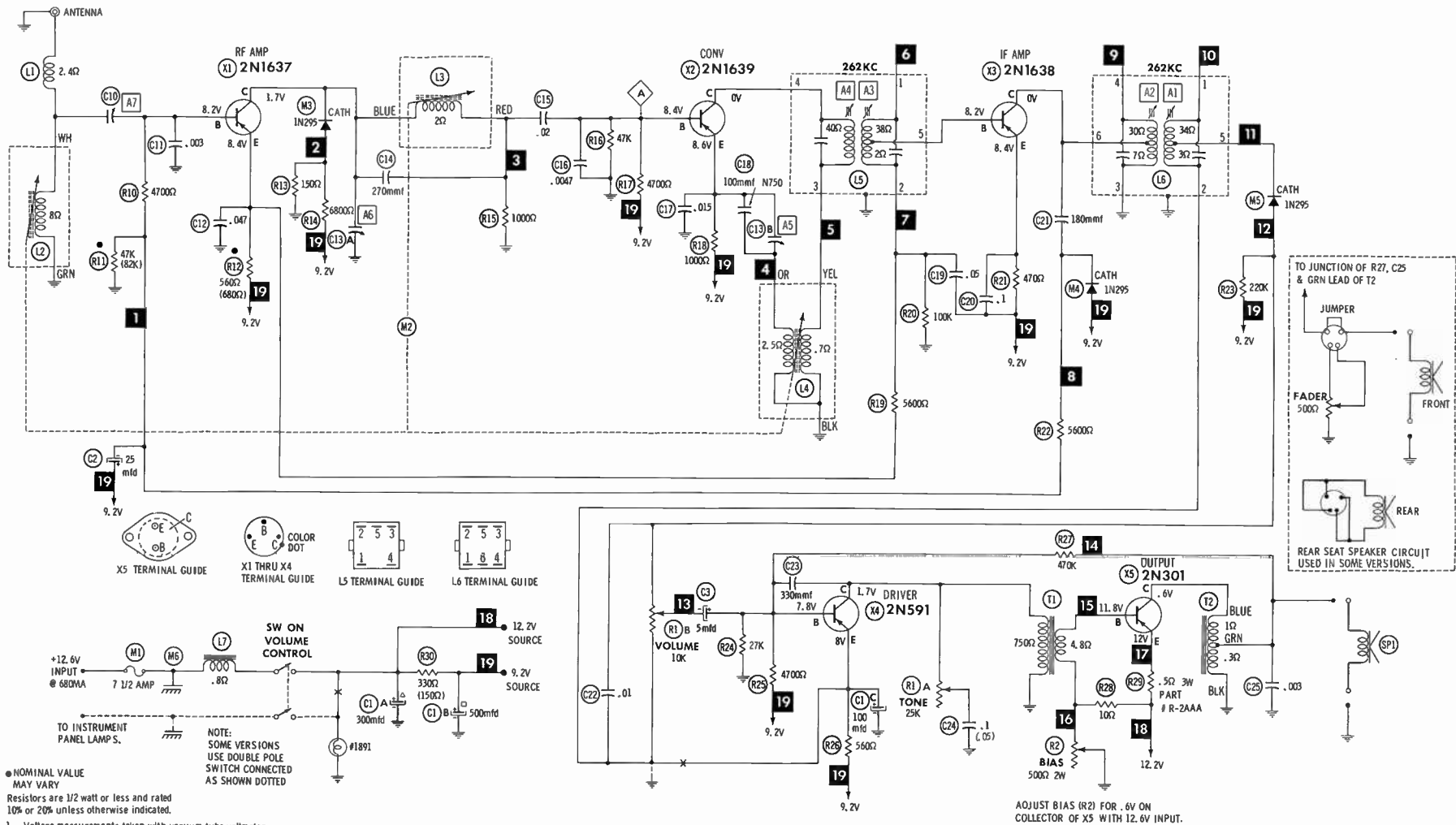
General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in 12 Colors
8524 (Stranded) Available in 12 Colors

Shielded Hook-up Wire Use BELDEN No. 8885

Rear Seat Speaker Extension Cable Use BELDEN No. 8782 (Stranded) Coded Parallel Leads

Bonding Strap Use BELDEN No. 8861 (3/8 In.) or 8670 (3/4 In.)

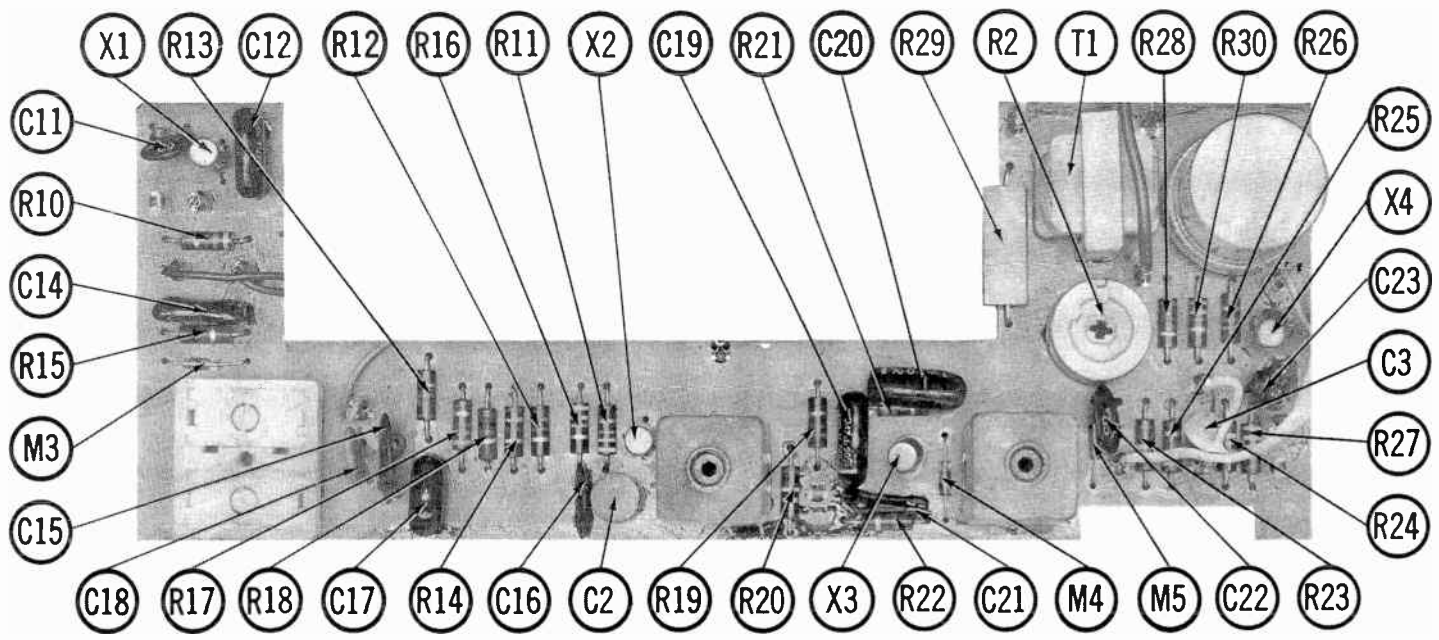
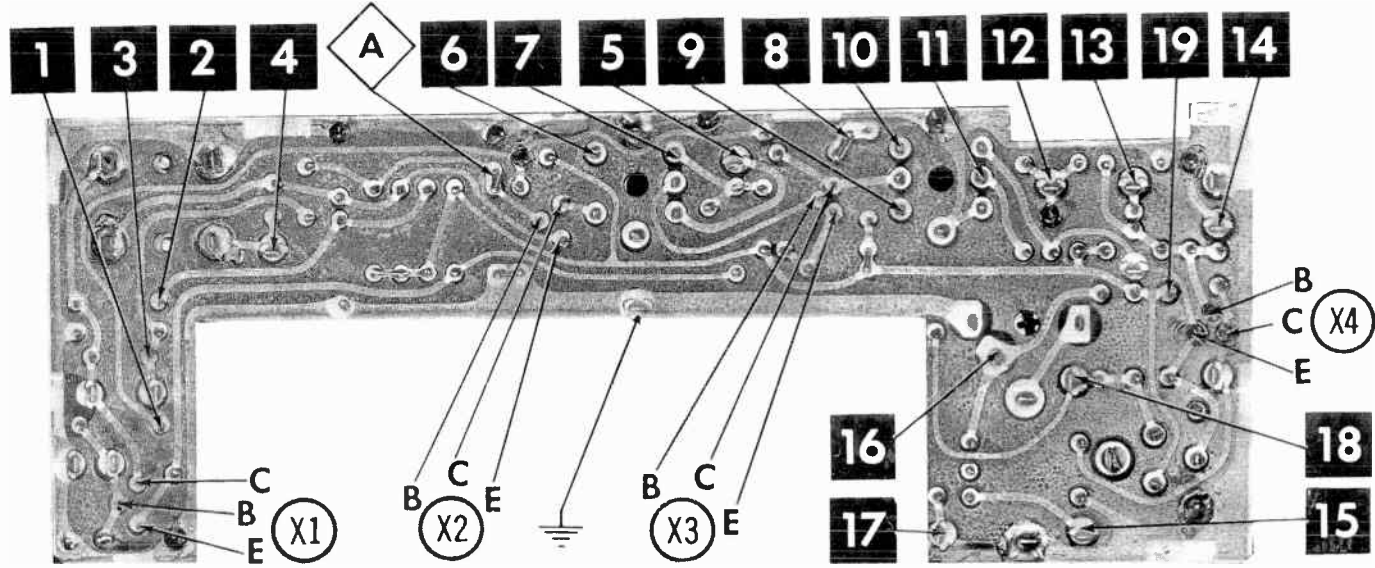
ALL AMERICAN MODEL RAP-3647



- NOMINAL VALUE MAY VARY
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.
1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.
 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFACIT STANDARD NOTATION SCHEMATIC with **CIRCUITRACE**
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ALL AMERICAN MODEL RAP-364T



ALL AMERICAN MODEL RAP-364T



PHOTOFACT[®]



TRADE NAME : Allstate Model 5066
 SUPPLIER : For Current Address, See master Index
 TYPE SET : 7 Transistor AM Tractor Receiver
 POWER SUPPLY : 6 (or) 12 Volt Storage Battery
 RATING : .2 Amp @ 6.3 VDC
 .42 Amp @ 12.6 VDC
 TUNING RANGE : BROADCAST 540-1615KC

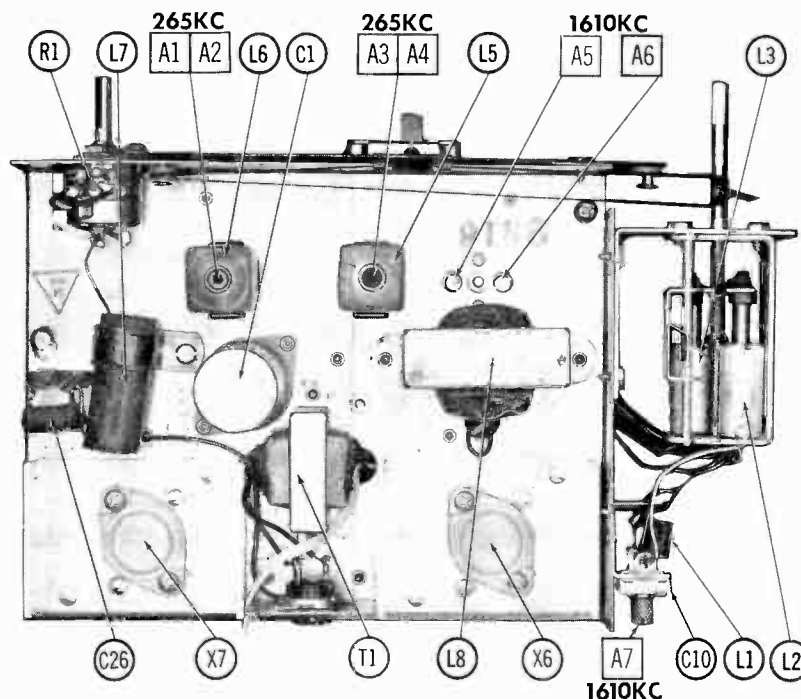
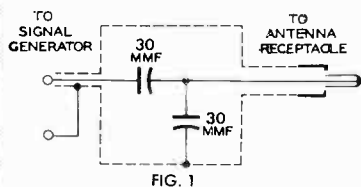
ALLSTATE MODEL 5066

ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
 Use only enough generator output to provide a usable indication.
 Suggested Alignment Tools: GENERAL CEMENT 8282, 8606, 9302
 WALSCO 2543, 2544, 2588

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. High side thru .1mf to pin 7 of V2, low side to ground.	265KC (400 ν 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.	1610KC	1610KC	Output Meter across voice coil.	A5, A6 A7	Adjust for maximum.

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.



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

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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-60D	RF Amp.	DS-25	GE-1	2N640	PNP
X2	6-61D	Converter	DS-25	GE-1	2N642	PNP
X3	6-62D	IF Amp.	DS-25	GE-1	2N641	PNP
X4	6-63	AF Amp.	DS-26	GE-2	2N591	PNP
X5	6-63	Driver	DS-26	GE-2	2N591	PNP
X6	8P404	Output	DS-520	GE-3	2N176	Note 1
X7	8P404	Output	DS-520	GE-3	2N176	Note 1

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.	Allstate 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	15	20-328	PWH3-00-94		XC3-48.1		PWP300.4A	PCL-3026.6
B	250	15							
C	250	15							
C2	25	15	20-256-015	CRE462A	NLW25-15	MT1-10	MLV25-15	TT15X25	TE-1157.1
C3	5	15	20-505-015	CRE454A	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152
C4	5	15	20-505-015	CRE454A	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALLAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C10	.05 100V	#28-800-3L	P288N-05	CK-503	P44S5	IDP-2-503	GEM-415	2TM-S50
C11	.1 16V		TTD-1468LS-270	CK-104	H6	CM-15-E-271J	TA-010	TG-P10
C12	.270				22R5T27		MCB-240.5	MS-327
C13		#28A1332						
C14			BPD-02	DD-203	BYB6S2	CCD-203	B-120	5HK-S20
C15	.02		BPD-0047	DD-472	BYA10D47	CCD-472	B-247	5HK-D47
C16	.0047		P288N-.01	DM-103	WMP2S1	4DP-1-103	PVC-211	2TM-S10
C17	.01 200V	(.015)*	N750-DI 100	DTN-100	CK-503	CCTN-101	CN7-310	10TCU-T10
C18	100 N750		TTD-05	CK-503				
C19	.047 100V		TTD-05	CK-503				
C20	.047 100V		TTD-05	CK-503				
C21	180		1468LS-180		22R5T18	CM-15-E-181J		MS-318
C22	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C23	.1		TTD-1	CK-104	H6		TA-010	TG-P10
C24	.05 100V		P288N-.05	CK-503	P2M2S5	IDP-2-503	GEM-415	2TM-S50
C25	.270		1468LS-270					
C26	.05 100V		P288N-.05	CK-503	P2M2S5	IDP-2-503	GEM-415	2TM-S50
C27	.47 200V		P288N-.47		P2MP247	2DP-5-474	GEM2047	2TM-P47

* Alternate Value # Allstate Part Number

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Allstate PART No.	CENTRALLAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	10K	80A2090				

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Allstate PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.2uh)	14-6.2					① Part of M2, TF606
L2	Ant.	①					
L3	RF	①					
L4	Osc.	①					
L5	Input IF	14-270					
L6	Output IF	14-271					
L7	"A" Lead Choke (200uh)	75A6002					

CHOKE (AUDIO OUTPUT)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		Allstate PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L8	7.5mh	75A2075					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Allstate PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	2.1	1	75A2074					

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			Allstate PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	3AG	3Amp. 250V	108-303	12-TR12	312003 (3Amp.)	155020	AGC3	HMJ

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA	
		Allstate PART No.	QUAM PART No.
SP1	6" X 9" PM 6-8Ω	73B2093	69A3Z6.4

MISCELLANEOUS

ITEM No.	PART NAME	Allstate PART No.
M2	Tuner	78A2089
M3	Switch Tone	94-SS-1
M4	Spark Plate	43-215
M5	Detector	1N295(or 1GD2)
M6	AVC	1N295(or 1GD2)
M7	Antenna	10-TR12

CABINETS & CABINET PARTS

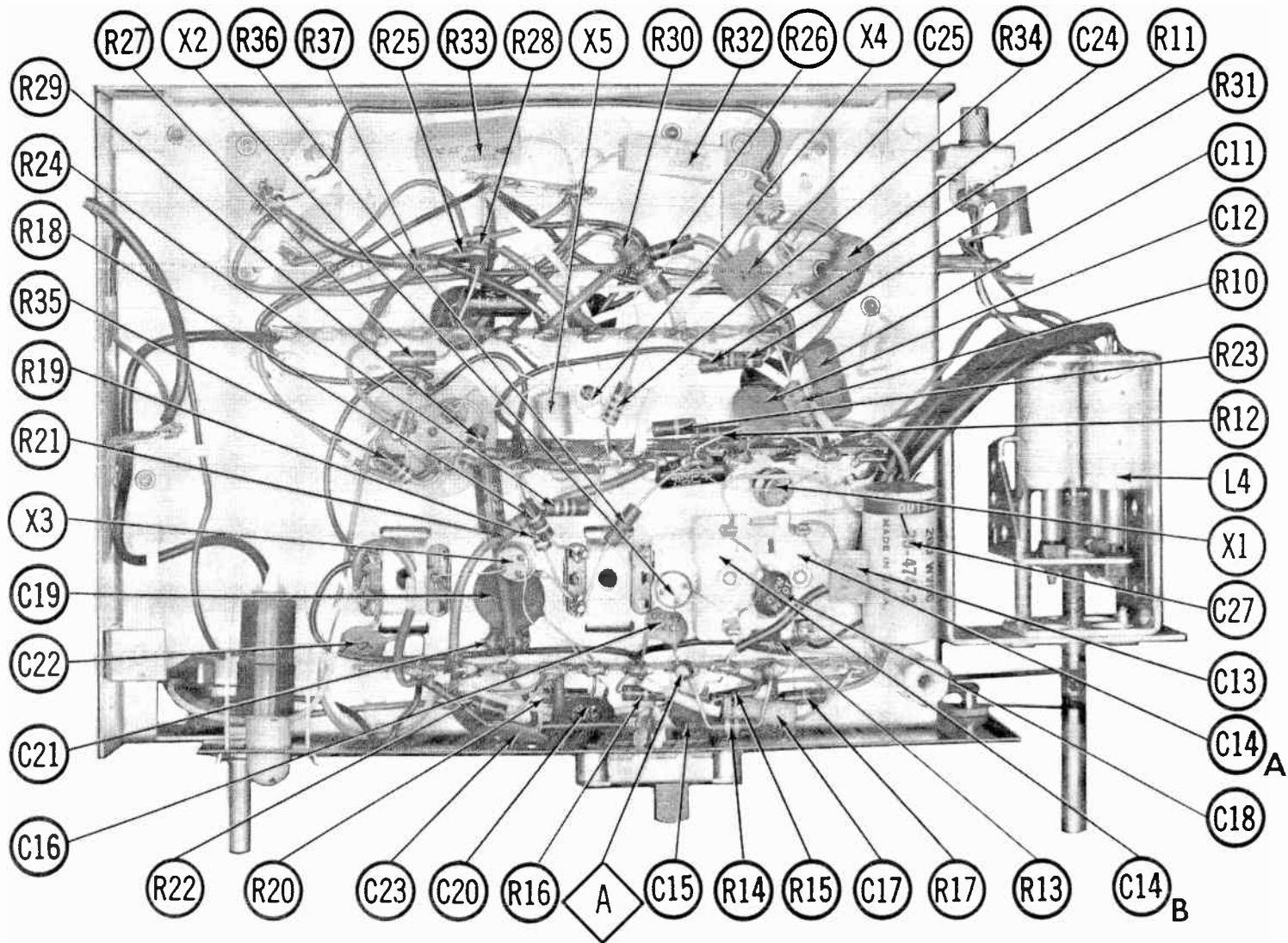
(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.
Knob, Volume, Tuning	48A1069

WIRING DATA

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

9905 MODEL 506E ALLSTATE

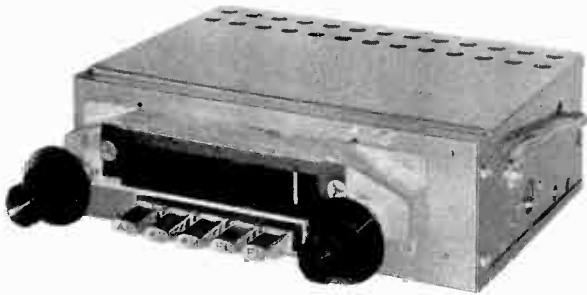


ALLSTATE MODEL 5066



PHOTOFACT[®] with

CIRCUITRACE[®]



TRADE NAME : Automatic Models DFM-3095
 MFM-3099(1964 Ford)
 OFM-3093(1964 Olds.)

SUPPLIER : For Current Address, See Master Index.

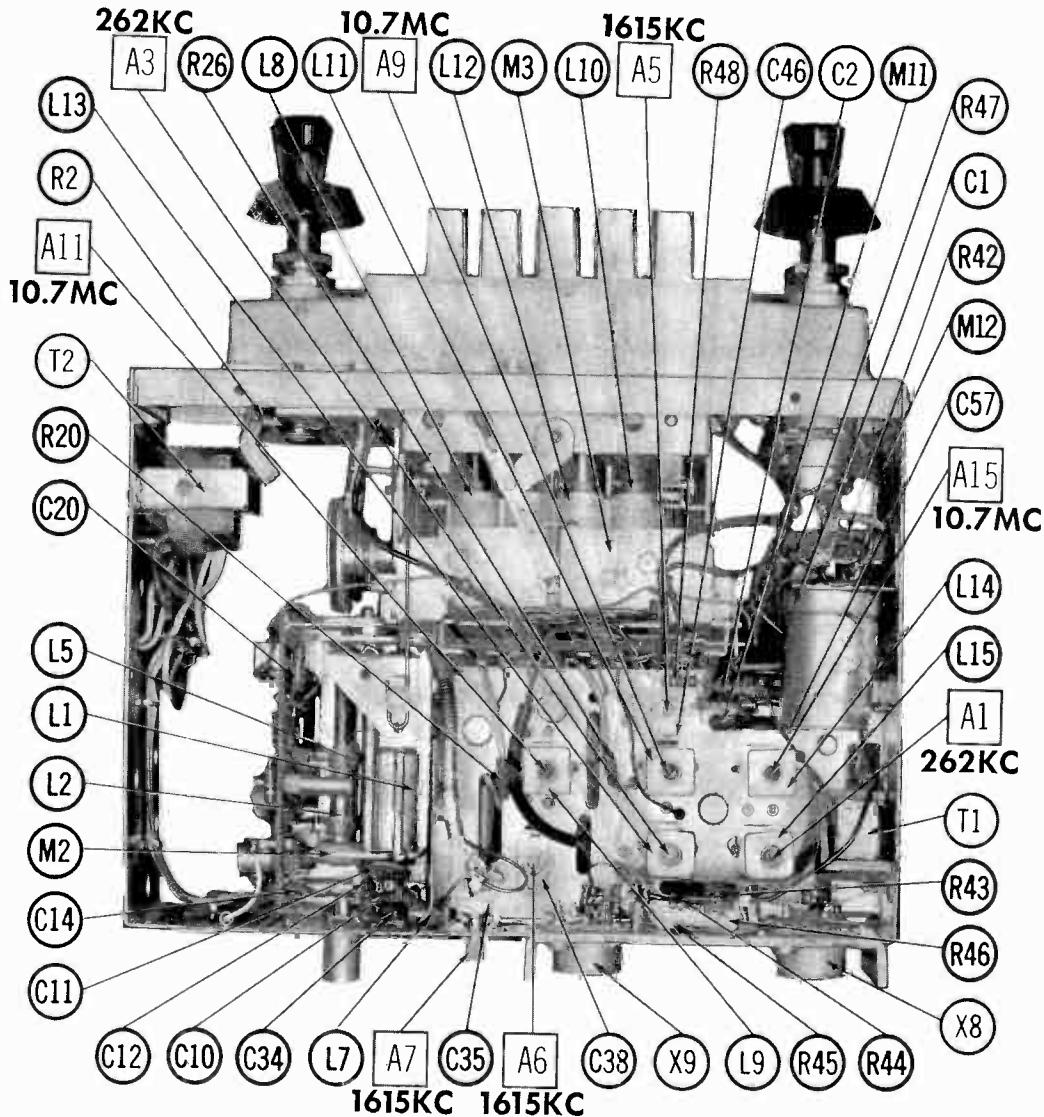
TYPE SET : 9 Transistor AM-FM Receiver

POWER SUPPLY : 12 Volt Storage Battery

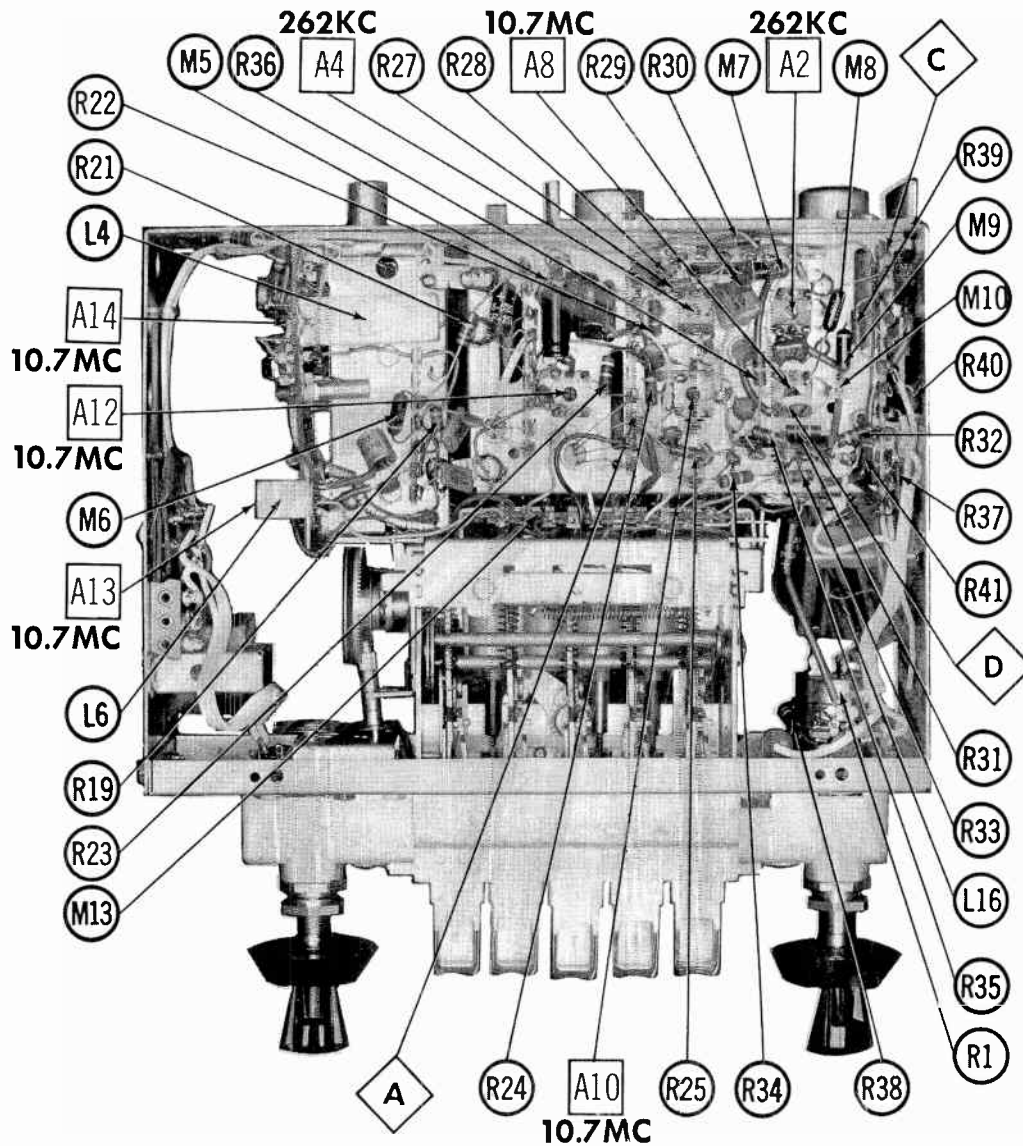
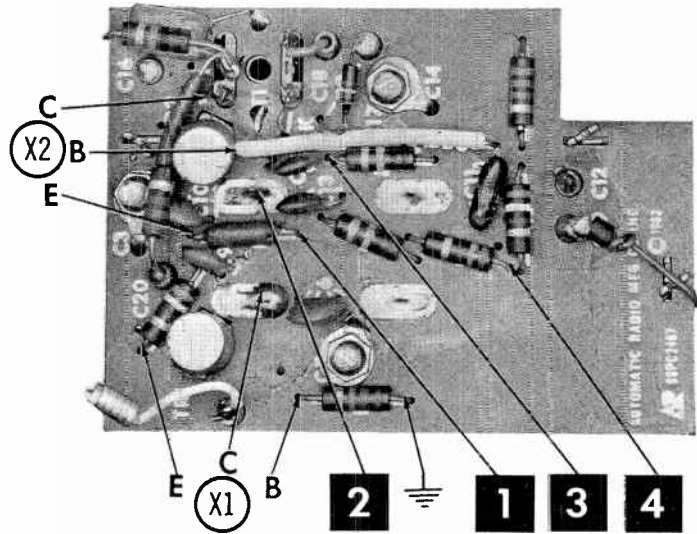
RATING : .460 Amp. @ 12.6 Volts DC

TUNING RANGE : BROADCAST 540-1615KC
 FREQ. MOD. 88-108MC

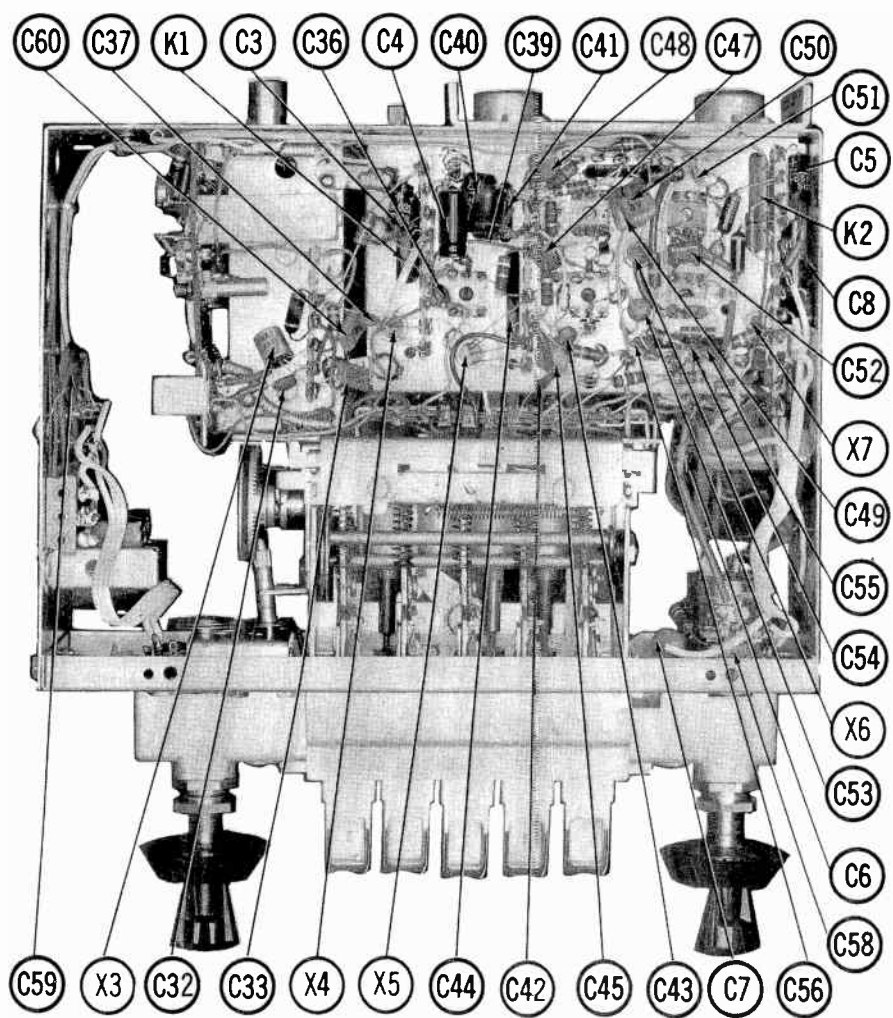
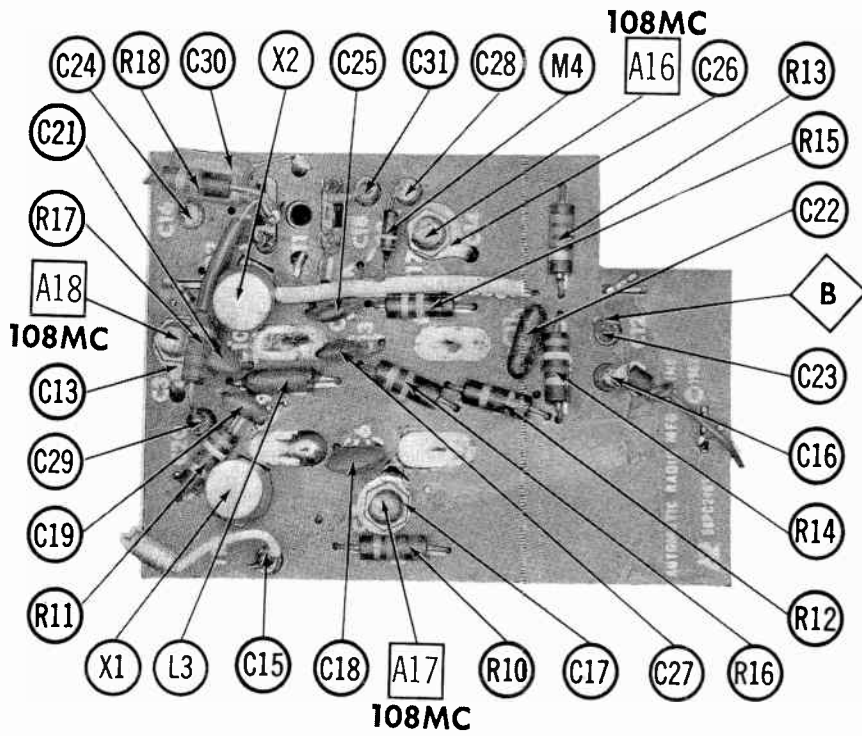
AUTOMATIC MODEL DFM-3095



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



AUTOMATIC MODEL DFM-3095



ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
Use only enough generator output to provide a usable indication.
Suggested Alignment Tools:

A1 thru A18.....GENERAL CEMENT #5009, 8728A, 8987
WALSCO #2531X, 2536

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.	262KC (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.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and adjust A7 for maximum output.

FM ALIGNMENT USING AM SIGNAL GENERATOR - SELECTOR IN FM POSITION

High side of generator thru .01mfd to point \diamond , low side to chassis for IF, across antenna input thru 120 Ω carbon resistors in each lead for RF.

	GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
3.	10.7MC (Unmod.)	Point of non-interference.	DC probe of VTVM to point \diamond ; common to ground.	A8 thru A14	Adjust for maximum.
4.	"	"	DC probe to point \diamond ; common to ground.	A15	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.
5.	108MC	108MC	DC probe of VTVM to point \diamond ; common to ground.	A16, A17, A18	Adjust for maximum.

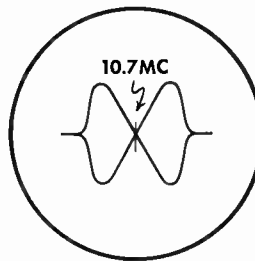
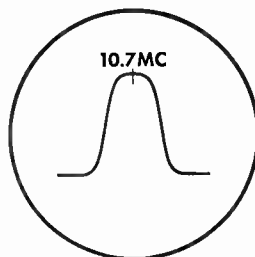
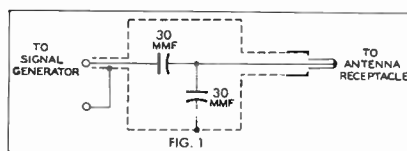
FM IF ALIGNMENT USING FM SIGNAL GENERATOR - SELECTOR IN FM POSITION

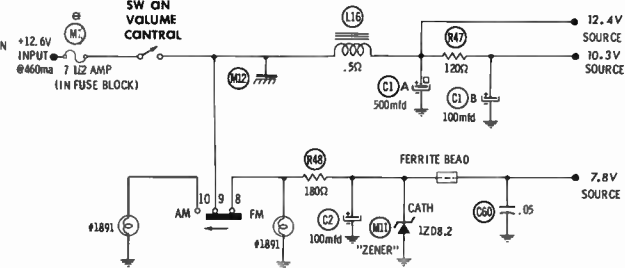
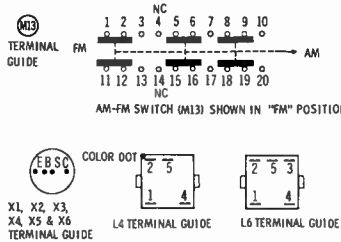
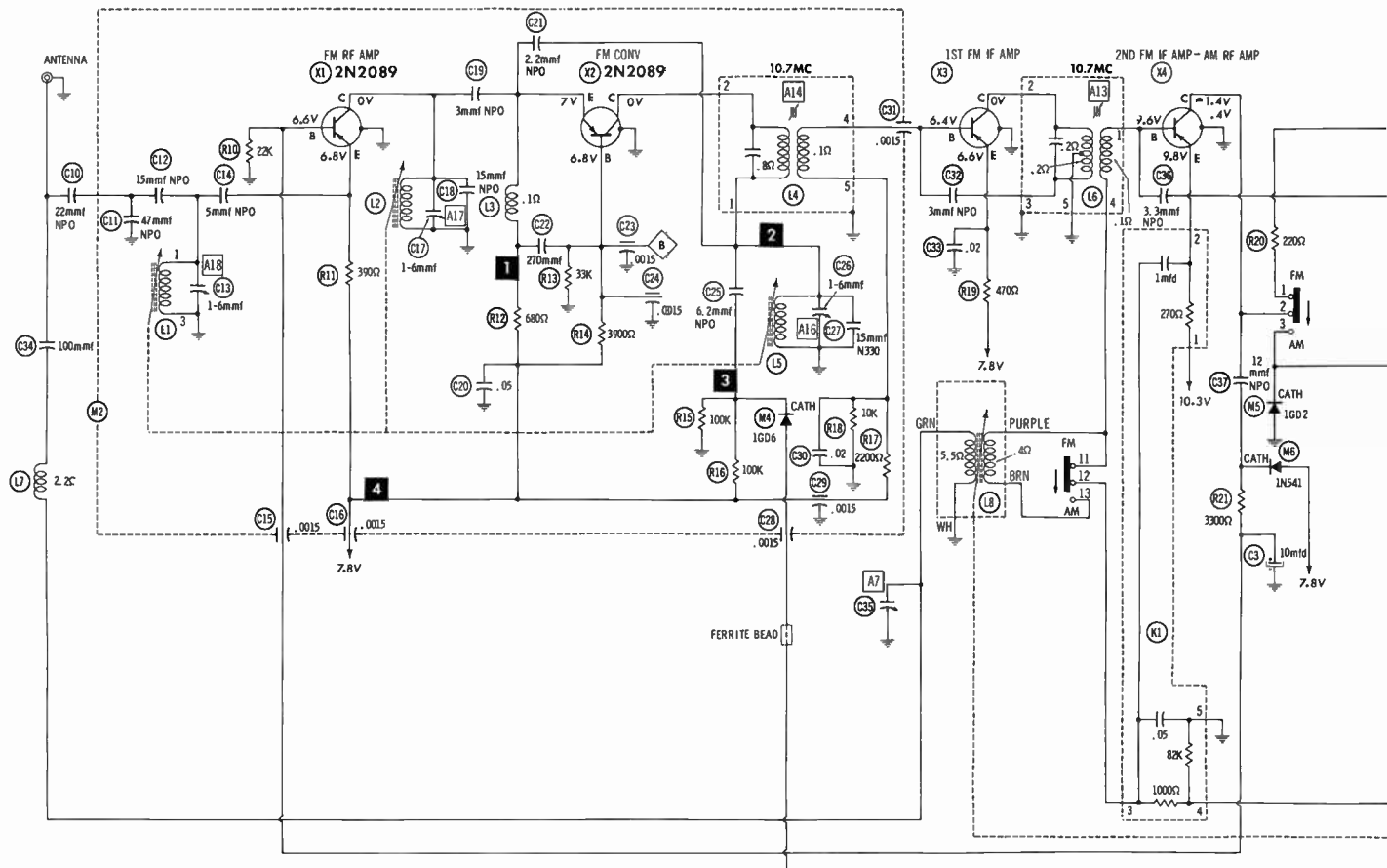
High side thru .1mfd to point \diamond , low side to ground.
Use 80% frequency modulated signal with 450KC sweep. Use 120v sawtooth voltage in scope for horizontal deflection.

	GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
3.	10.7MC (450KC Swp.)	Point of non-interference.	Vert. amp. of scope to point \diamond ; low side to ground.	A8 thru A14	Disconnect stabilizing capacitor C 5 . Adjust for maximum gain and symmetry of response similar to Fig. 2 with marker as shown. Reconnect C 5 .
4.	"	"	Vert. amp. to point \diamond ; low side to ground.	A15	Adjust to place marker at center of crossover lines similar to Fig. 3. SLIGHTLY retouch A 8 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.





Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.
 ALL VOLTAGES MEASURED IN "FM" POSITION UNLESS OTHERWISE DESIGNATED.
 = MEASURED IN "AM" POSITION

- Ø See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise designated.
- 5. Numbers assigned to terminals may not be found on the unit.
- 6. Supply voltage maintained at rated value for voltage readings.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
 with **CIRCUITRACE**
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AUTOMATIC MODEL DFM-3095

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

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

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2N2089	FM RF Amp.	DS-41		2N1177	PNP
X2	2N2089	FM Converter	DS-42		2N1179	PNP
X3	6-89†	1st FM IF	DS-38		2N1180	PNP
X4	6-89†	2nd FM IF-AM RF Amp.	DS-34		2N1180	PNP
X5	6-89†	3rd FM IF-AM Conv.	DS-35		2N1180	PNP
X6	6-89†	4th FM IF-AM IF	DS-37		2N1180	PNP
X7	6-53†	Driver	DS-26	GE-2	2N591	PNP
X8	8P404R	Output	DS-520	GE-3	2N301	PNP
X9	8P404R	Output	DS-520	GE-3	2N301	PNP

* When replacing, apply silicone grease to both sides of insulator. Tighten mounting screws securely. Check bias adjustment.
† Automatic Part Number.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		PART No.	REPLACEMENT DATA					SPRAGUE PART No.
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	
C1A	500	18	20-2853	AFH3-00-945		XC3-48.1		FP300.83	PCLS3028,11*
B	100	18							
C	300	18							
C2	100	18	20-107	PTT86	NLW100-25	MT1-10	BL2050	TT25X100	TL-1182
C3	10	15	20-106	CPE457A	NLW10-15	MT1-5	MLV10-15	TT15X10	TE-1155
C4	25	15	20-258	PTT69	NLW25-15	MT1-10	MLV25-15	TT15X25	TE-1157.1
C5	5	15	20-505	CRE454A	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152
C6	5	15	20-505	CRE454A	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152
C7	100	16	20-107	PTT86	NLW100-25	MT1-10	BL2050	TT25X100	TL-1182
C8	120	3	20-127	CRE226A	NLW125-3	MT1-21	BL1811	TT3X110	TL-1081

* 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.	ELMENCOS PART No.	MALLORY PART No.	SPRAGUE PART No.
C10	22	NPO	NPO-DI22	DTZ-22	C10Q22C	CCT0-220	CNO422	10TCC-Q22
C11	47	NPO	NPO-DI47	DTZ-47	C10Q47C	CCT0-470	CNO447	10TCC-Q47
C12	15	NPO	NPO-DI15	DTZ-15	C10Q15C	CCT0-150	CNO415	10TCC-Q15
C13	1-6							
C14	5	NPO	NPO-DI5	DTZ-4R7	C10V47C	CCT0-050	CNO547	10TCC-V50
C15	.0015		EF-001	MFT-1000		CCF-102	CT280A	
C16	.0015		EF-001	MFT-1000		CCF-102	CT280A	
C18	15	NPO	NPO-DI15	DTZ-15	C10Q15C	CCT0-150	CNO415	10TCC-Q15
C19	3	NPO	NPO-DI3	DTZ-3R3	C10V33C	CCT-3R3	CNO533	10TCC-V30
C20	.05		TTD-05	CK-503	H5		TA180	TC-S50
C21	2.2	NPO	NPO-DI2.2	DTZ-2R2	C10V22C	CCT0-2R2	CNO522	10TCC-V22
C22	270		DI-270	DD-271	LA10T27C4	CCD-271	GP327	5GA-T270
C23	.0015		EF-001	MFT-1000		CCF-102	CT280A	
C24	.0015		EF-001	MFT-1000		CCF-102	CT280A	
C25	6.2	NPO						

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOS PART No.	MALLORY PART No.	SPRAGUE PART No.
C26	1-6							
C27	15	N330						
C28	.0015		EF-001	MFT-1000		CCF-102	CT280A	10TCS-Q15
C29	.0015		EF-001	MFT-1000		CCF-102	CT280A	
C30	.02		BPD-02	DD-203	BYA6S2	CCD-203	B120	5HK-S20
C31	.0015		EF-001	MFT-1000		CCF-102	CT280A	
C32	3	NPO	NPO-DI3	DTZ-3R3	C10V33C	CCT0-3R3	CNO533	10TCC-V30
C33	.02		BPD-02	DD-203	BYA6S2	CCD-203	B120	5HK-S20
C34	100		N750-DI100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10
C35								
C36	3.3	NPO	NPO-DI3	DTZ-3R3	C10V33C	CCT0-3R3	CNO-533	10TCC-V30
C37	12	NPO		TCZ-12	CCT0-120		CNO412	10TCC-Q12
C38	100-400							
C39	270							
C40	.0015		NPO-SI270	TCZ-270	LA10T27C4	CCD-271	CNO327	10TCC-T27
C41	820		BPD-0015	DD-152	LA10D15C4	CCD-152	B215	10TS-D15
C42	.02		DI-820	DD-821	LA10T82C4	CCD-821	B382	10TS-T82
C43	.02		BPD-02	DD-203	BYA6S2	CCD-203	B120	5HK-S20
C44	3.3	NPO	NPO-DI3	DTZ-3R3	C10V33C	CCT0-3R3	CNO533	10TCC-V30
C44	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B247	5HK-D47
C45	100	N750	N750-DI100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10
C46	100-400							
C47	560							
C48	.05		DI-560	DD-561	LA10T56C4	CCD-561	GP356	5GA-T56
C49	.05		TTD-05	CK-503	H5		TA150	TC-S50
C50	.05		TTD-05	CK-503	H5		TA150	TC-S50
C51	180		DI-180	DD-181	LA10T18S3	CCD-181	GP318	5GA-T18
C52	300							
C53	2.2	NPO	NPO-DI2.2	DTZ-2R2	C10V22C	CCT0-2R2	CNO522	10TCC-V22
C54	.02		BPD-02	DD-203	BYA6S2	CCD-203	B120	5HK-S20
C55	.02		BPD-02	DD-203	BYA6S2	CCD-203	B120	5HK-S20
C56	.02		BPD-02	DD-203	BYA6S2	CCD-203	B120	5HK-S20
C57	.1	18V	TTD-1	CK-104	H6		TA010	TG-P10
C58	.22	3V		UK20-204	HCC25224Z			HY-325
C59	.05		TTD-05	CK-503	H5		TA150	TC-S50
C60	.05		TTD-05	CK-503	H5		TA150	TC-S50

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Automatic PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Tone Volume, Switch	10K 7500Ω Tap @ 5100Ω	80A2658C①				
	Tone Volume, Switch	10K 7500Ω Tap @ 5100Ω	80A2772②			† QJ-1687A	■ UE4458S
R2	Fader	40Ω 2W	80A2626①				
	Fader	40Ω 2W	80A2774②			†† QJ-1806A	

① Used in Models DFM-3095, MFM-3099.

② Used in Model OFM-3093.

③ Alter bushing to meet requirements.

† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B11-116, P17-129 (Panel)

"SNAPTROL" Equivalent: BU8③, CF9, CR48T, SF16, SR51, GC.

■ "STA-LOC" Equivalent: FG14L, RU752T53, OS2000, IS2437, US41.

†† "CONCENTRIKIT" Equivalent: K10 Kit with base element and shaft W11-050, P3-100

"SNAPTROL" Equivalent: BU8③, WF18, SF6.

B21-115X, R9-208 (Rear)

S9 (Bushing)

76-1 (Switch)

QC8B (Bushing)

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.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Automatic PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	FM Ant.	①					① Part of M2.
L2	FM RF	①					
L3	RF Choke (.82uh)		TV-189	4594		T804	② Part of M3.
L4	1st FM IF	14-2520B					
L5	FM Osc.	①					
L6	2nd FM IF	14-2832					
L7	RF Choke (6.2uh)	14-6.2	BC-585	4610	RTC-8520	T859	
L8	AM Ant.	②					
L9	3rd AM IF	14-2521					
L10	AM RF	②					
L11	4th FM IF	14-2521					
L12	AM Osc.	②					
L13	1st AM IF	142523					
L14	Ratio Detector	14-2522					
L15	2nd AM IF	14-2524					

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Automatic PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L16	.460	.5Ω	10MH	75A1289	C-4096	TC-2	TR-155	TY17XT	

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Automatic PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	5:	1	75A2500	A-2777		TR-253	TY40X	

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Automatic PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	16Ω Tap	@ 8Ω & 12Ω	75A2501					

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES	
				Automatic PART No.	QUAM PART No.		
SP1	6" X 9" PM			8Ω	73B2871	89A3Z8	Used in Model DFM-3095 Used in Models MFM3099 Used in Models OFM-3093,
	6" X 9" PM			8Ω	73B2724	610A1Z8	
	4" X10" PM			8Ω	73B2737	410A2Z8	

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	Automatic PART No.	REPLACEMENT DATA
K1	Biasing	270Ω, 1000Ω, 82K, .05mfd, 1mfd.	89A2582C	
K2	Ratio Det. Couplate	680Ω, 820Ω, 6800Ω, 6800Ω, 330mmf, 330mmf.	89A2538	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			Automatic PART No.		LITTELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1①	AGC	7½		In Fuse Block	31107.5			AGC 7½	
②	AGW	4		In Fuse Block	303004			AGW 4	

① Used in Model DFM-3095
② Used in Models MFM-2099, OFM-3093

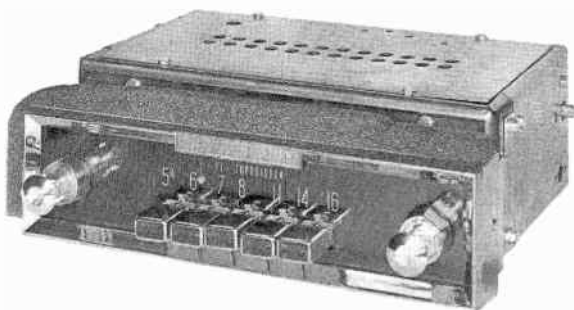
MISCELLANEOUS

ITEM No.	PART NAME	Automatic PART No.	NOTES
M2	FM Tuner	78A3197	Models DFM-3095, OFM-3093 Model MFM3099 (1GD6) (1GD2) (1N541) (1N541) (1N541) (1N542) (1N542) (1GD2) (1ZD8. 2)
M3	AM Tuner	78B2889	
	AM Tuner	78B2818	
M4	AFC		
M5	AM Limiter		
M6	AFC		
M7	AVC		Matched Pair
M8	Ratio Detector		
M9	Ratio Detector		
M10	AM Detector		
M11	Zenor Diode		
M12	Spark Plate	43-316	
M13	Selector Switch		

AUTOMATIC MODEL DFM-3095



PHOTOFACT[®]



TRADE NAME : Automatic DP-3082, DP-4107
 (1964 Dodge 880)
 SUPPLIER : For Current Address, See Master Index.
 TYPE SET : 5 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .75 Amp. @ 12.6 Volts DC
 TUNING RANGE: BROADCAST 540-1615KC

AUTOMATIC MODELS DP-3082, DP-4107

ALIGNMENT INSTRUCTIONS

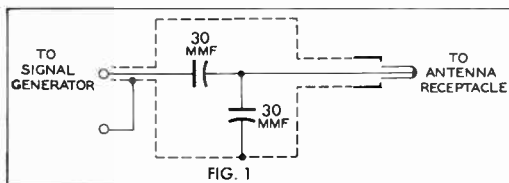
Check for specified source voltage.

Use only enough generator output to provide a usable indication.

Suggested Alignment Tools: A1 thru A4 GENERAL CEMENT: 8606, 8606L, 8869 WALSCO: 2543, 2544, 2588
 A5, A6, A7 GENERAL CEMENT: 8290, 8868, 9087 WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point Δ , low side to ground.	262KC (400 ν 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.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.



PUSH-BUTTON ADJUSTMENT

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

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

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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2N640	RF Amp.	DS-25	GE-1	2N1837	PNP
X2	2N642	Conv.	DS-25	GE-1	2N1839	
X3	2N641	IF Amp.	DS-25	GE-1	2N1838	
X4	2N591	Driver	DS-28	GE-2	2N591	
X5	2N176	Output	DS-520	GE-3	2N301	

*When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT.	Automatic PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	
C1A	500	18	20-2853	AFH3-00-94.5		XC3-48.1		FP300.83	TVL-3028.8
C1B	300	18							
C1C	100	18							
C2	25	15	20-256	PTT89	NLW25-15	MT1-10	MLV25-15	TT15X25	TE-1157.1
C3	5	15	20-505	CRE454A	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152

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	1 3V	#28-800-2L						
C11	.05		TTD-05	UK-105	HCC3105P		TA150	HY-135
C12				CK-503	H5			TG-S50
C13A		#28A1332						
C14	270		SI 270	CPR-270J	LA10T27-C4	CCD-271	GP327	5GA-T27
C15	.02		TTD-02	CK-203	H3		TA120	TG-S20
C16	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250	5HK-D50
C17	.015 200V		P288N-015	DD-153	WMF2S15	4DP-1-153	PVC2115	4PS-S15
C18	100 N750		N750-DI100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10
C19	.05		TTD-05	CK-503	H5		TA150	TG-S50
C20	.05		TTD-05	CK-503	H5		TA150	TG-S50
C21	.05		TTD-05	CK-503	H5		TA150	TG-S50
C22	180		SI 180	CPR-180J	LA10T18-S3	CCD-181	GP318	5GA-T18
C23	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C24	.22 3V			UK20-204	HCC25224Z			HY-325
C25	.002		BPD-002	DD-202	BYA10D2	CCD-202	B220	5HK-D20
C26	.1 200V		P288N-1		WMF2P1	2DP-3-104	PVC201	2PS-P10
C27	.05		TTD-05	CK-503	H5		TA150	TG-S50

Automatic Part Number.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			Automatic PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone	10K	80A2402C	F1-10K, R14-500			†QJ-1688A	
B	Volume and Switch	750Ω Tap @ 5500 Ω		FFS113, RFS205, KR-7, AK-28				
R2	Fader	40Ω 2W	80A1789					

† "CONCENTRIKIT" Equivalent: K-8 Kit with base elements and shafts: B11-118, P17-123 (Panel)
 B21-115X, R26-206 (Rear)
 "SNAPTROL" Equivalent: BU10, CF9, CR48T, SF15, SR15, WF
 ① Alter Bushing to meet requirements.
 S50 (Bushings),
 76-2 (Switch)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Automatic PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke(8.2uh)	14-8.2	BC-565	4610	RTC-8520	T859	① Part of M2.
L2	Ant.	①					
L3	RF	①					
L4	Osc.	①					
L5	Input IF	14-2654	BC-690	6570			
L6	Output IF	14-2655	BC-691	6571		TF806	

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Automatic PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L7	.750	.5Ω	10MH	75A1269	C-4095	TC-2	TR-155	TY17XT

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO	REPLACEMENT DATA					NOTES
		Automatic PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
		PRI.	SEC.				
T1	8: 1	75A2635				TR-184	

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
		Automatic PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	24Ω Tap @ 8Ω	75A2693				TR-189	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			Automatic PART No.		LITTELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	SFE	7 1/2 A			30707.5		15507.5A	SFE7 1/2	HDH

MISCELLANEOUS

ITEM No.	PART NAME	Automatic PART No.	NOTES
M2	Tuner	78B2403	
M3	AVC		(1GD2/1N295)
M4	AF Det.		(1GD2/1N295)
M5	Spark Plate	43-215	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA	
		Automatic PART No.	QUAM PART No.
SP1	6" X 9" PM 8Ω	73B2810	69A3Z8

CABINETS & CABINET PARTS

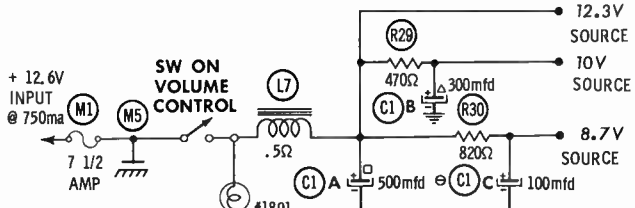
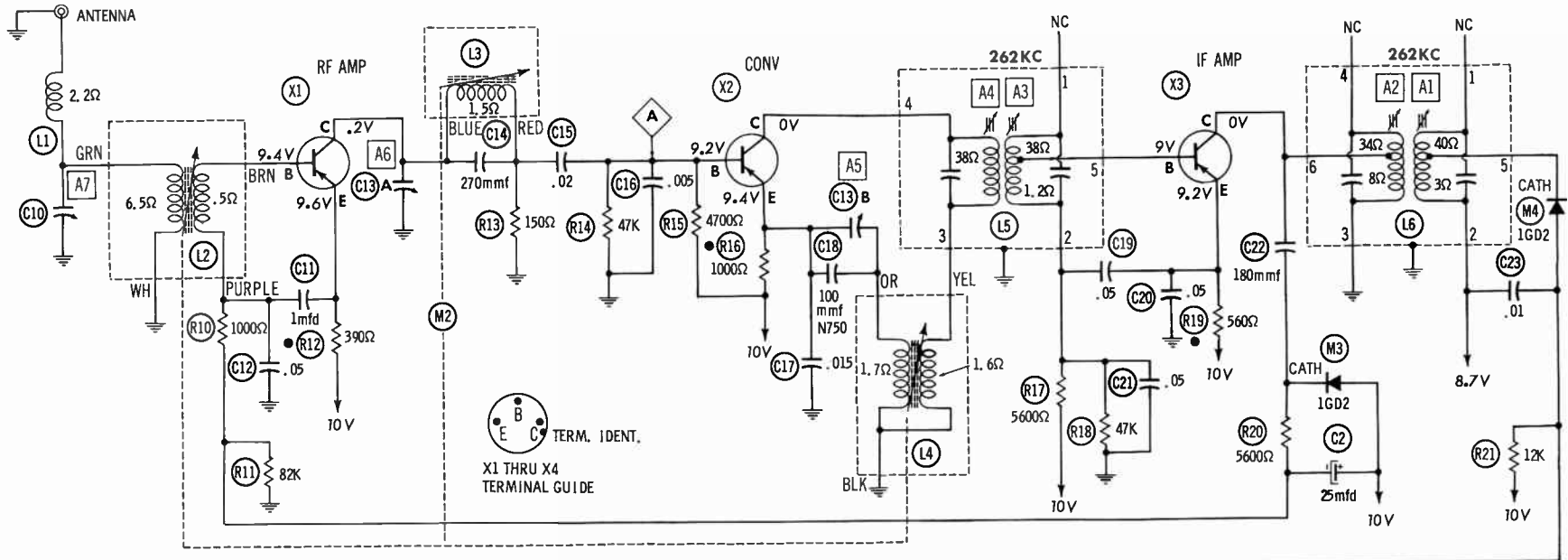
(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Knob-Tuning, Volume	55A3375	Pushbuttons	54A1103
Knob-Tone, Dummy	48A1450		

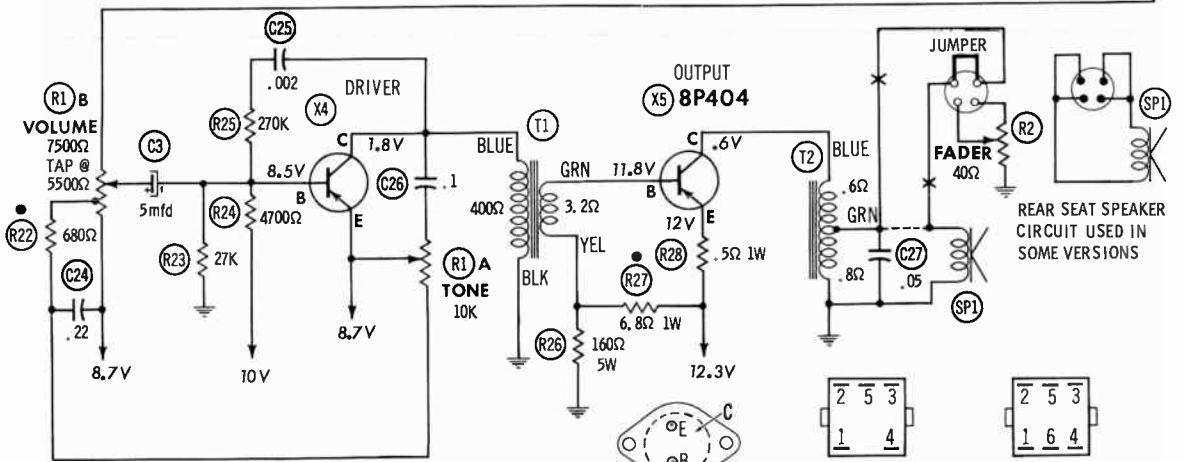
WIRING DATA

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

AUTOMATIC MODELS DP-3082, DP-4107



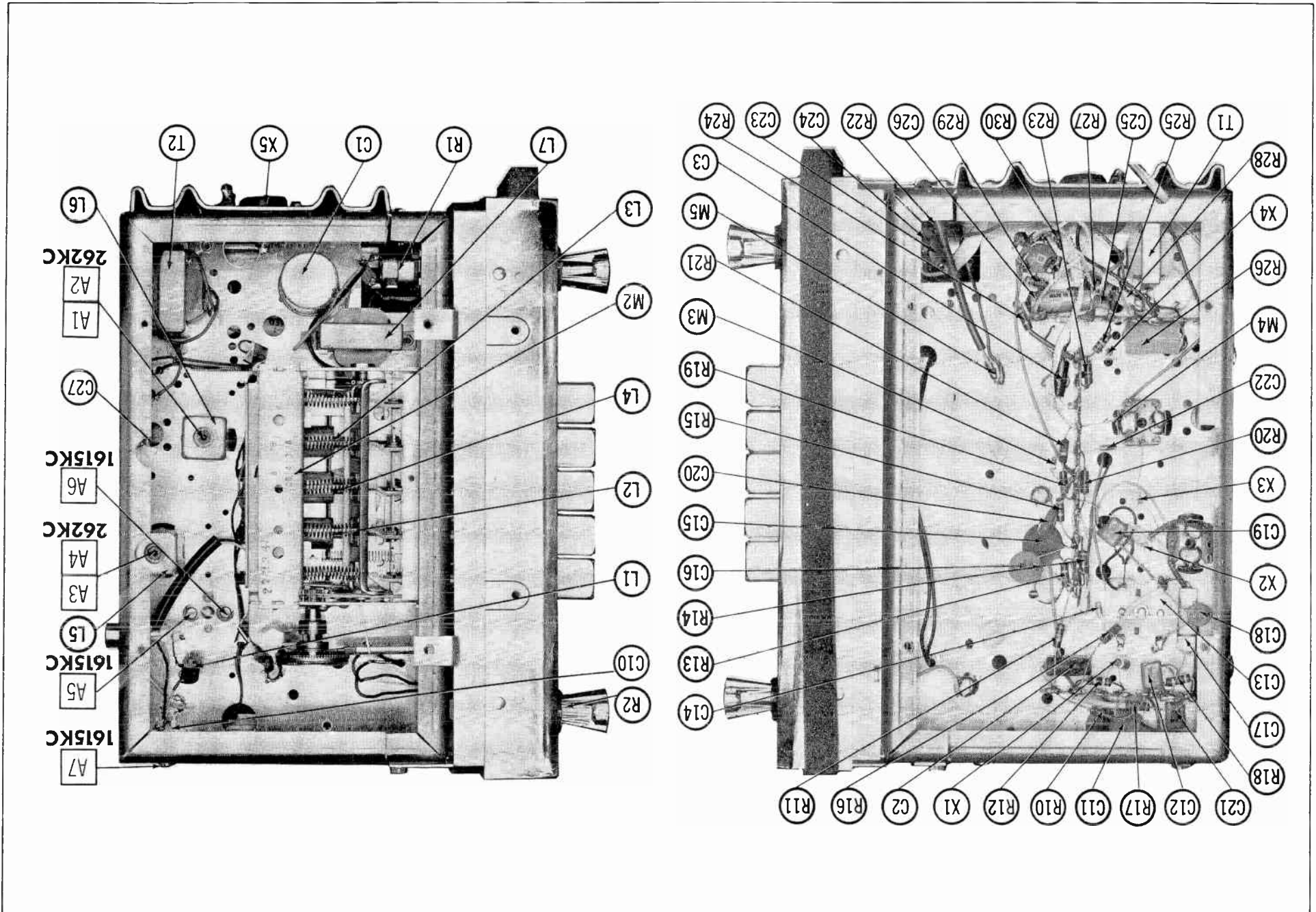
- NOMINAL VARY VALUE MAY
- Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise designated.
- 5. Numbers assigned to terminals may not be found on the unit.
- 6. Supply voltage maintained at rated value for voltage readings.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.



A PHOTOFAC STANDARD NOTATION SCHEMATIC
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AUTOMATIC MODELS DP-3082, DP-4107

AUTOMATIC MODELS DP-3082, DP-4107



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	AMPEREX		GENERAL ELECTRIC		RCA		SYLVANIA	
		TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	
V1	RF Amp.	12BL6	V3	IF Amp.	12BL6				
V2	Converter	12AD6	V4	Det. -AVC-AF Amp.	12AE8-A				

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES	Automatic PART No.
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.		
X1		Driver	DS-26	GE-2	2N591		
X2		Output	DS-520	GE-3	2N301	PNP	8L201V

* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely. Check bias adjustment.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	Automatic 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	16	20-316	PWH2-02-40	CC0012	XC2-43.1		WP200.6	TVL-2157
B	500	16							
C2	750	3	20-757	PRS1130	BR1000-6	QT1-32	BL2211	TC310	TVA-1097

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	40 NPO	#28-4046	NPO-DI39	TCZ-39	C10Q39C	CCT0-390	CNO439	10TCC-Q39
C11	.003		DI-3000	DD-302	BYA10D3	CCD-302	GP230	10TS-D30
C13	.05 200V		P288N-05		DPMS2S5	4DP-3-503	PVC215	2PS-S50
C14	5		NPO-SI5.0	TCZ-4R7	C10V5C	CCT0-050	CNO547	10TCC-V50
C15A								
B								
C								
C16	100 NPO	#28-4046	NPO-DI100	DTZ-100	C10T1C	CCT0-101	CNO310	10TCC-T10
C17	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C18	.003		DI-3000	DD-302	BYA10D3	CCD-302	GP230	10TS-D30
C19	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C20	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C21	27			TCN-27			CN7427	10TCU-Q27
C22	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C23	.003		DI-3000	DD-302	BYA10D3	CCD-302	GP230	10TS-D30

#Automatic Part Number.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Automatic PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	2meg	80A155		P2-2megZ,	†QJ-1755A	UE4252-S FEB26A,
B	Volume & Switch	1meg			RF1-1meg,		RU18T184,
		Tap @			C114, CSR205,		OS2000, IS2500,
		180K			XB-1, SWE-13		US41.
R2	Fader	25Ω				††QJ-1807A	
		2W					

① Alter Bushing to meet requirements.

† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B13-139, P17-126 (Panel)
"SNAPTROL" Equivalent: BU10①, CF27, CR32T, SF16, SR51, GC. B13-137X, R26-206 (Rear)

†† "SNAPTROL" Equivalent: BU10①, WF17, SF6 550 (Bushing)
76-1 (Switch)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	Ant.	①					① Part of M2.
L2	RF	②					
L3	Osc.	③					
L4	Input IF	14-265	BC-350	6584	RTC-8638	T604	
L5	Output IF	14-267	BC-354	6585	RTC-8640	T806	

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Automatic PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L6	1.2Amp.	.9Ω	8MH	75B801B	C-4095	TC-2	TR-155	TY17XT

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Automatic PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA				NOTES
	PRI.	SEC.	Automatic PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
T2	20Ω Tap	4Ω	75A1306			TR-168	

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	Automatic PART No.	REPLACEMENT DATA
K1	Ant. Isolation	1.2meg, 100mmf	89-4204	Sprague-PRC-9

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			Automatic PART No.	LITTELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	AGC	7½		In Fuse Block	31107.5		AGC7½	

MISCELLANEOUS

ITEM No.	PART NAME	Automatic PART No.
M2	Tuner	
M3	Spark Plate	

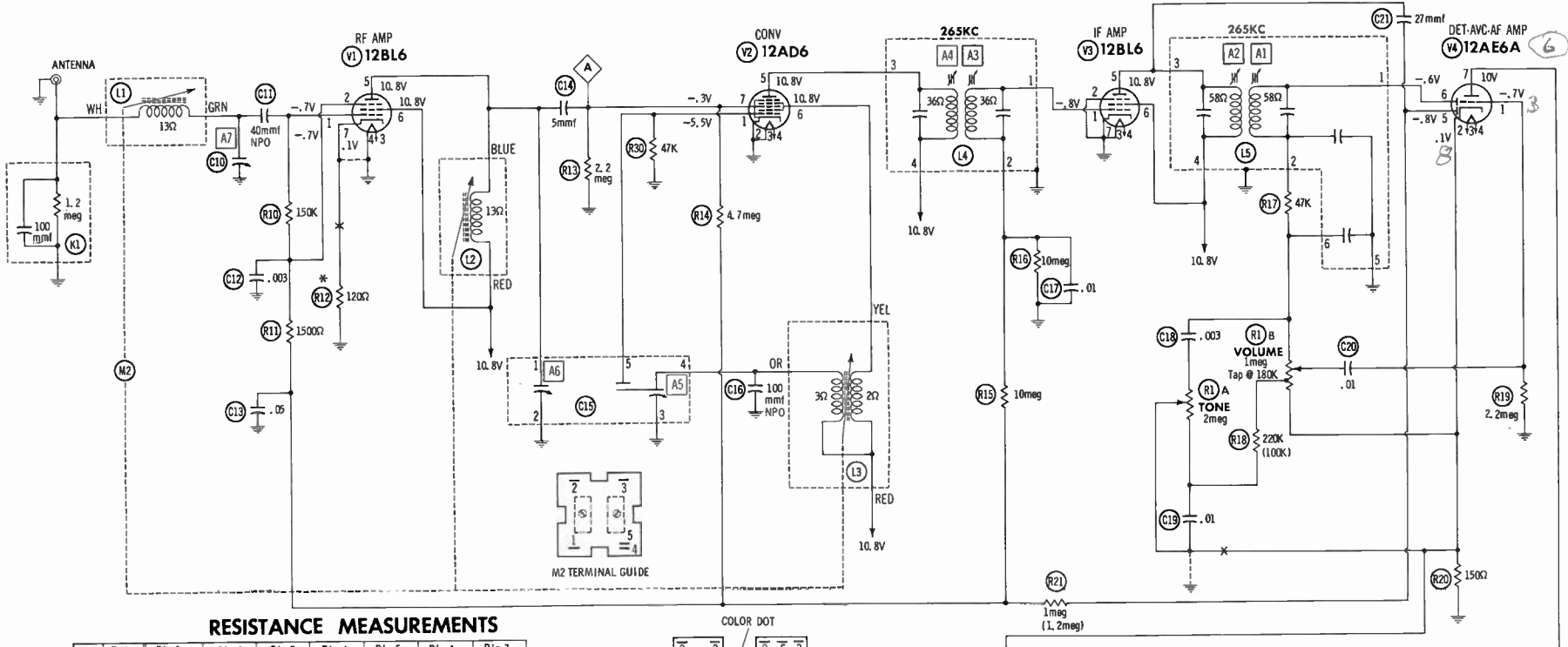
SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA	
		Automatic PART No.	QUAM PART No.
SP1	8" X 9" PM 4Ω		69A2

WIRING DATA

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

AUTOMATIC MODEL NY-3100



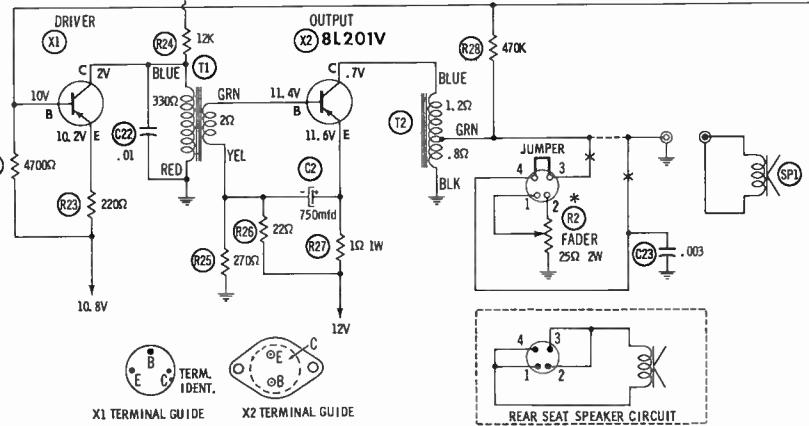
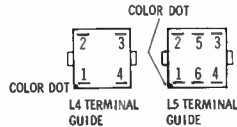
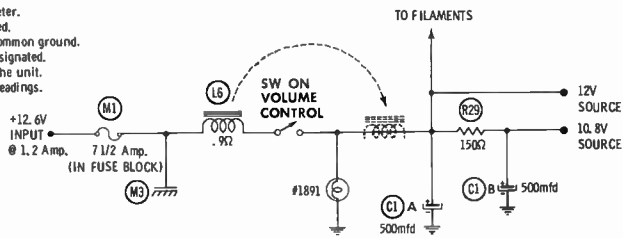
RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
V1	12BL6	6meg	6meg	Fil.	Fil.	†165Ω	†150Ω	120Ω
V2	12AD6	47K	0Ω	Fil.	Fil.	†190Ω	†150Ω	2meg
V3	12BL6	8meg	0Ω	Fil.	Fil.	†210Ω	150Ω	0Ω
V4	12AE6A	2.2meg	150Ω	Fil.	Fil.	7meg	950K	†4000Ω

† Measured from C1A
Resistance measurements not given for X1 and X2 because of wide variation in Internal Transistor Resistance.

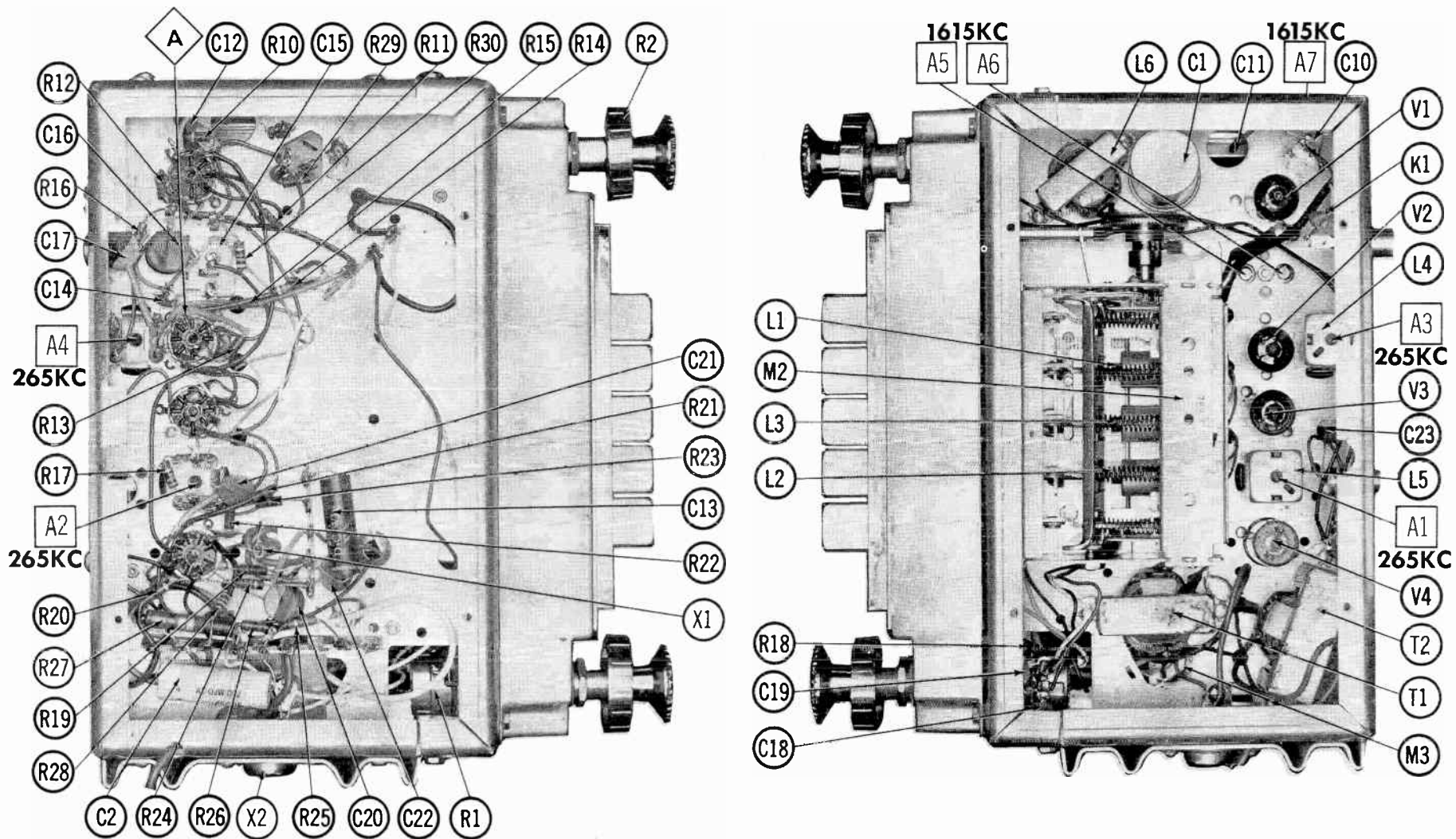
*** NOT USED IN SOME VERSIONS**

1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.
- Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.



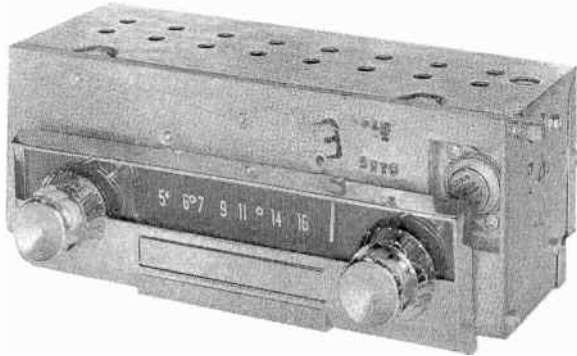
A PHOTOFAC STANDARD NOTATION SCHEMATIC **AUTOMATIC MODEL NY-3100**
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AUTOMATIC MODEL NY-3100





PHOTOFACT®



TRADE NAME: Automatic Models PA-3065, PT-3025
 (1963 Plymouth)
 SUPPLIER: For Current Address, see Master Index
 TYPE SET: 3-Tube, 2-Transistor AM Receiver
 POWER SUPPLY: 12 Volt Storage Battery
 RATING: 1.2 Amp. @12.6 Volts DC
 TUNING RANGE: BROADCAST 540 - 1615KC

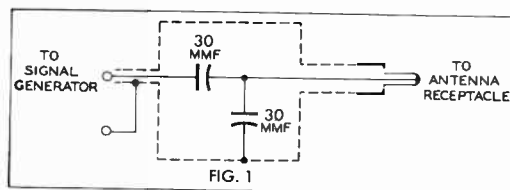
ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
 Use only enough generator output to provide a usable indication.
 Suggested Alignment Tools:

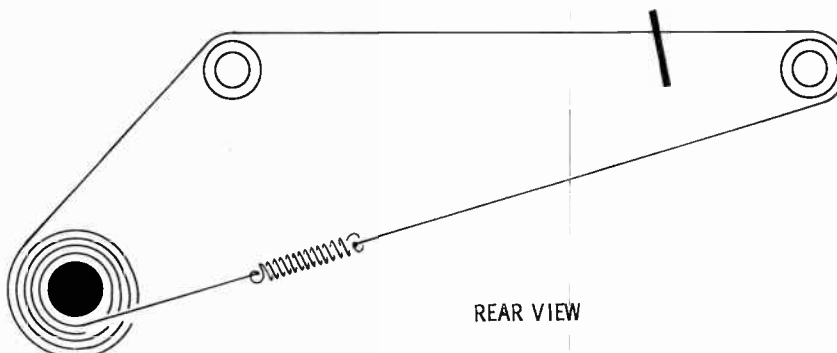
A1 thru A4..... GENERAL CEMENT #8606, 8606L, 8869.....WALSCO #2543, 2544, 2588
 A5, A6, A7..... GENERAL CEMENT #8290, 8868, 9087.....WALSCO #2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point Δ , low side to ground.	265KC (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.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and adjust A7 for maximum output.



DIAL CORD STRINGING



4 1/2 TURNS TUNING SHAFT FULLY C. C. W.

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

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	REPLACEMENT DATA		
			AMPEREX	GENERAL ELECTRIC	RCA
V1	RF Amp.	12BL6			
V2	Converter	12AD6			
			ITEM No.	USE	TYPE
			V3	Det. -AVC-AF Amp.	12FR8

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1		Driver	DS-26	GE-2	2N591	PNP
X2	8L201B	Output	DS-520	GE-3	2N301	PNP Note 1.

Note 1. When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	AUTOMATIC 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	15	20-322	AFH3-00-95	CC0012	XC3-48		FP300.83	TVL-3026.8
C1B	400	15							
C1C	100	15							

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		#28-800L	NPO-DI 39	TCZ-39	C10Q39C	CCTO-390	CNO439	10TCC-Q39
C11	40mmf		P288N-047		WMF2S47	1DP-2-473	PVC1147	2PS-S47
C12	.047 200V	#28-400-2						
C13			NPO-SI 5	TCZ-4R7	C10V5C	CCTO-050	CNO547	10TCC-V5
C14	5mmf		NPO-DI 39	TCZ-39	C10Q39C	CCTO-390	CNO439	10TCC-Q39
C15	40mmf		N750-DI 100	DTN-100	C10T1U	CCTN-101	CN7 310	10TCU-T10
C16	100mmf N750							
C17	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C18	100mmf N750		N750-DI 100	DTN-100	C10T1U	CCTN-101	CN7 310	10TCU-T10
C19	.002		BPD-002	DD-202	BYA10D2	CCD-202	B220	5HK-D20
C20	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C21	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C22	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C23	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C24	.0047 100V		P288N-0047	CPR-4700J	WMF2D47	6DP-1-472	PVC4247	8PS-D47
C25	.003		DI 3000	DD-302	BYA10D3	CCD-302	GP230	10TS-D30

Automatic Part Number.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			AUTOMATIC PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	2meg	80A1540		P2-2meg	† QJ-1756A	FA26A
B	Volume & Switch	1meg Tap @ 180K			RF1-1meg, CP015, CSR108, SWE-13		RU16T184, OS1000A, IS1500, US41

① Use Original Spring Mounting Clip.

† "CONCENTRIKIT Equivalent: K8①, Kit with Base Elements and Shafts:

B13-139, P22-100 (Panel) B13-137X, R26-112 (Rear) 76-1 (Switch)

"SNAPTROL" Equivalent: BU11 CF27①, CR32T, SF6, SR41, GC

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		AUTOMATIC PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	Ant.	①					① Part of M2
L2	RF	①					
L3	Osc.	①					
L4	Input IF	14-272	BC-350	6584	RTC-8638	TF605	
L5	Output IF	14-273	BC-424			T606	

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	AUTOMATIC PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L6	1.2amp.	.5Ω	10MH	75A6001	C-4095	TC-2	TR-155	TY17XT

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO	REPLACEMENT DATA					NOTES
		AUTOMATIC PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	6.5: 1	75A1436			TR-183		

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
		AUTOMATIC PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	24Ω Tap @ 4Ω	75A1437			TR-188		

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA	
		AUTOMATIC PART No.	QUAM PART No.
SP1	6" x 9" PM 4Ω	73-908	69A2

MISCELLANEOUS

ITEM No.	PART NAME	AUTOMATIC PART No.
M2	Tuner	
M3	Spark Plate	

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	AUTOMATIC PART No.	REPLACEMENT DATA
K1	Ant. Isolation	1.2meg, 100mmf	89-4204	Sprague PRC-9

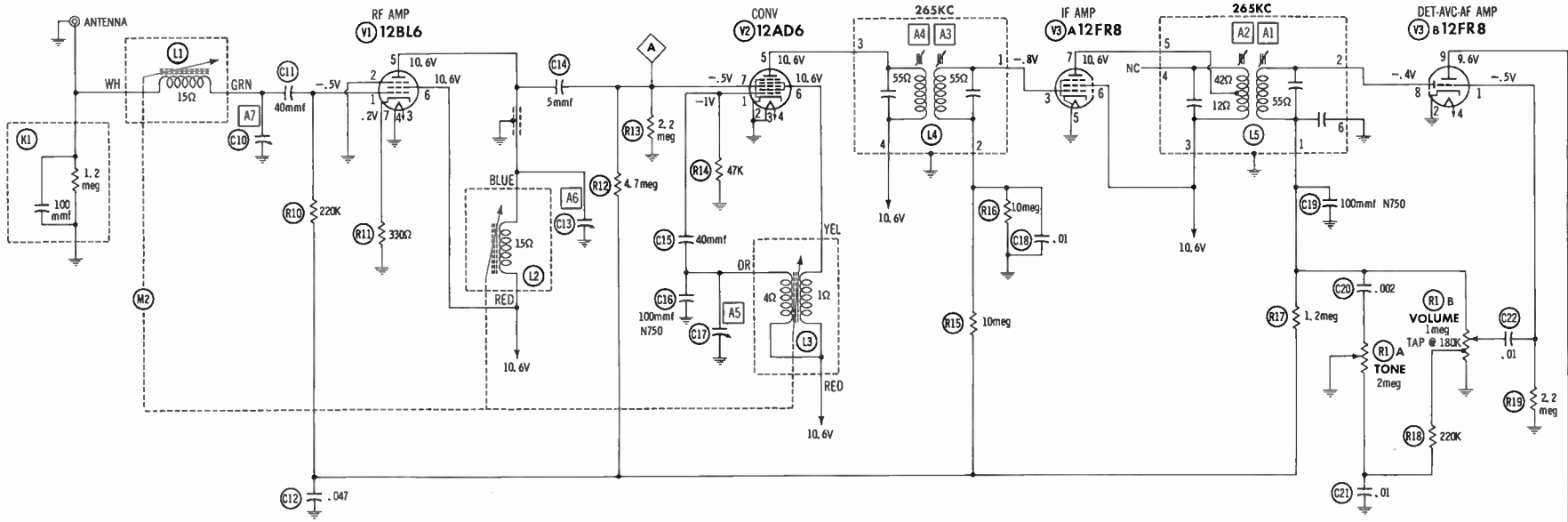
FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			AUTOMATIC PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER		
M1	SFE	7 1/2			30707.5	15507.5A	SFE 7 1/2	HDH

WIRING DATA

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

AUTOMATIC MODELS PA-3065, PT-3025

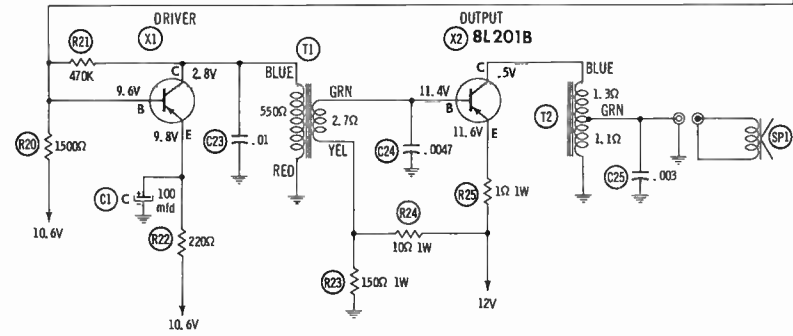
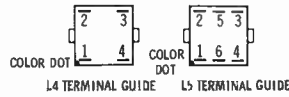


RESISTANCE MEASUREMENTS

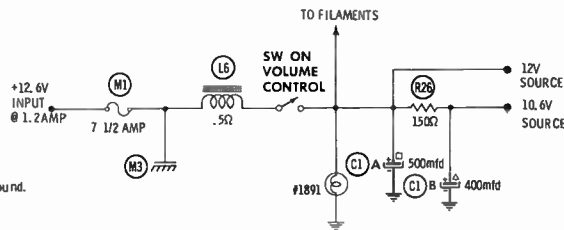
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12BL6	2meg	0Ω	Fil.	Fil.	†165Ω	†150Ω	330Ω		
V2	12AD6	47K	0Ω	Fil.	Fil.	†205Ω	†150Ω	1.7meg		
V3	12FR8	2.2meg	0Ω	6meg	Fil.	Fil.	†150Ω	†162Ω	1meg	†1650Ω

† Measured from CIA.

Resistance measurements not given for X1 & X2 because of the wide variation in internal transistor resistance.



**AUTOMATIC MODELS
PA-3065, PT-3025**



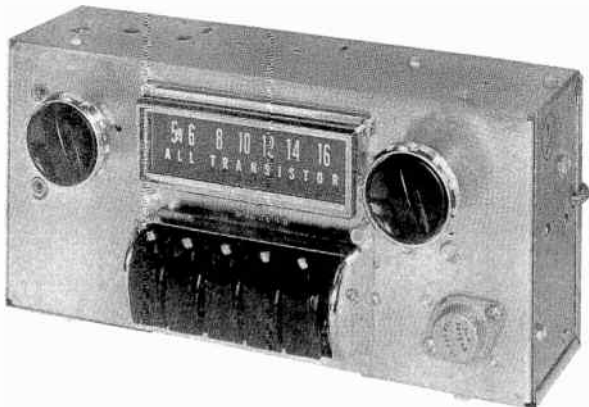
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

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

A PHOTOFAC STANDARD NOTATION SCHEMATIC
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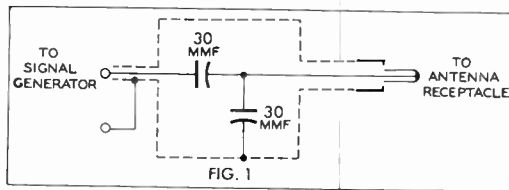
TRADE NAME : Automatic Models RAP-3070, RP-3030
 SUPPLIER : For Current Address, See Master Index
 TYPE SET : 5 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .720 Amp. @12.6 Volts DC
 TUNING RANGE : BROADCAST 540-1615KC

ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
 Use only enough generator output to provide a usable indication.
 Suggested Alignment Tools: A1 thru A4 GENERAL CEMENT: 8606, 8606L, 8869 WALSCO: 2543, 2544, 2588
 A5, A6, A7 GENERAL CEMENT: 8290, 8868, 9087 WALSCO: 2525, 2528, 2581

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. High side thru .1mf to point A, low side to ground.	262KC (400v 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.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and adjust A7 for maximum output.



PUSH-BUTTON ADJUSTMENT

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

AUTOMATIC MODELS RAP-3070, RP-3030

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

PARTS LIST AND DESCRIPTION

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

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-80†	RF Amplifier	DS-25	GE-1	2N1637	PNP
X2	6-61†	Converter	DS-25	GE-1	2N1639	PNP
X3	6-62†	IF Amplifier	DS-25	GE-1	2N1638	PNP
X4	6-53†	Driver	DS-26	GE-2	2N591	PNP
X5	8P404R	Output	DS-520	GE-3	2N301	PNP*

† Riverside Part Number.

• When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		PART No.	REPLACEMENT DATA					SPRAGUE PART No.
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	
C1A	500	16	20-2653	AFH3-00-94.5				FP300.83	TVLS-3026.14*
B	300	16							
C	100	16							
C2	25	15	20-256	PTT89	NLW25-15	MT1-10	MLV25-15	TT15X25	TE-1157.1
C3	5	15	20-505	CRE454A	NLW454A	MT1-3	MLV5-15	TT25X5	TE-1152

* 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		#28-800-2L							
C11		#28A1332							
C12	270		DI-270	DD-271	LA10T27-C4	CCD-271	GP 327	5GA-T25	
C13	100 N750		N750-DI100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10	
C14	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10	
C15	.22 3V			UK20-204	HCC25224Z			HY-325	
C16	.1		TTD-1	CK-104	H6		TA010	TG-P10	
C17	.05		TTD-05	CK-503	H5		TA150	TG-S50	

Riverside Part Number

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone	10K	80A2851	F1-10K, R14-500,			†QJ-1636A	▲UE4522-S
B	Volume & Switch	7500Ω Tap @ 5000Ω		FFS011, RFS103, AK-28, KR-4				

† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B11-116, P22-021 (Panel)
"SNAPTROL" Equivalent: BU10, CF9, SF3, CR48T, SR3, GC. B2-115K, R1-103 (Rear)
▲ "STA-LOC" Equivalent: FM14L, RU753T53, OS750A, IS1250, US41 S11 (Bushing)
78-1 (Switch)

COILS (RF-IF)

ITEM No.	USE	PART No.	REPLACEMENT DATA			NOTES
			MERIT PART No.	MILLER PART No.	STANCOR PART No.	
L1	RF Choke(6.2uh)	14-6.2	BC-585	4610	RTC-8520	① Part of M2
L2	Ant.	①				
L3	RF	①				
L4	Osc.	①				
L5	Input IF	14-2654	BC-690	6570		
L6	Output IF	14-2655	BC-691	6571	TF606	

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	720MA	.5Ω	10MH	75A3082	C-4095	TC-2	TR-155	TY17XT	

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	8:	1	75A2635			TR-184		

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	24Ω Tap	@ 8Ω	75A2636			TR-169		

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	PART NO.	REPLACEMENT DATA
K1	Biassing	390Ω, 1000Ω, 82K, .05mfd, .05mfd	89A2582C (89A2582B Alt.)	
K2	Biassing	150Ω, 1000Ω, 4700Ω, 47K, .005mfd	89A2583	
K3	Biassing	.015mfd, .02mfd 560Ω, 5600Ω, 47K, .05mfd,	89A2584A	
K4	AVC. Comp.	.05mfd, .05mfd	89A2701	
K5	Biassing	5600Ω, 180mfd 470Ω, 820Ω, 4700Ω, 12K, 27K, 270K, .002mfd	89A2585A	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			PART No.		LITTELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	AGW	4			303004		155009	AGW4	HDM

MISCELLANEOUS

ITEM No.	PART NAME	PART No.
M2	Tuner	78B2791
M3	AVC (1GD2)	
M4	AF Det. (1GD2)	
M5	Spark Plate	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA	
		PART No.	QUAM PART No.
SP1	8" X 9" PM 8Ω	73B2871	69A328

CABINETS & CABINET PARTS

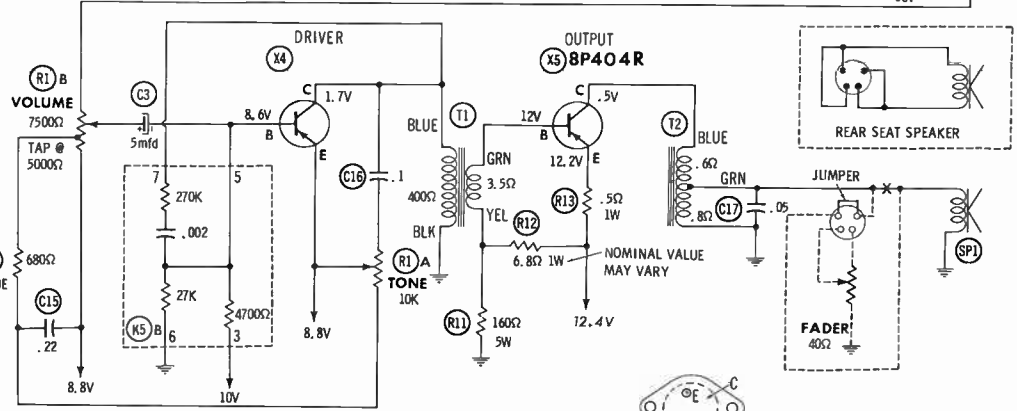
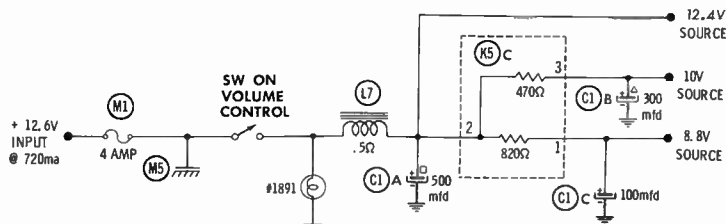
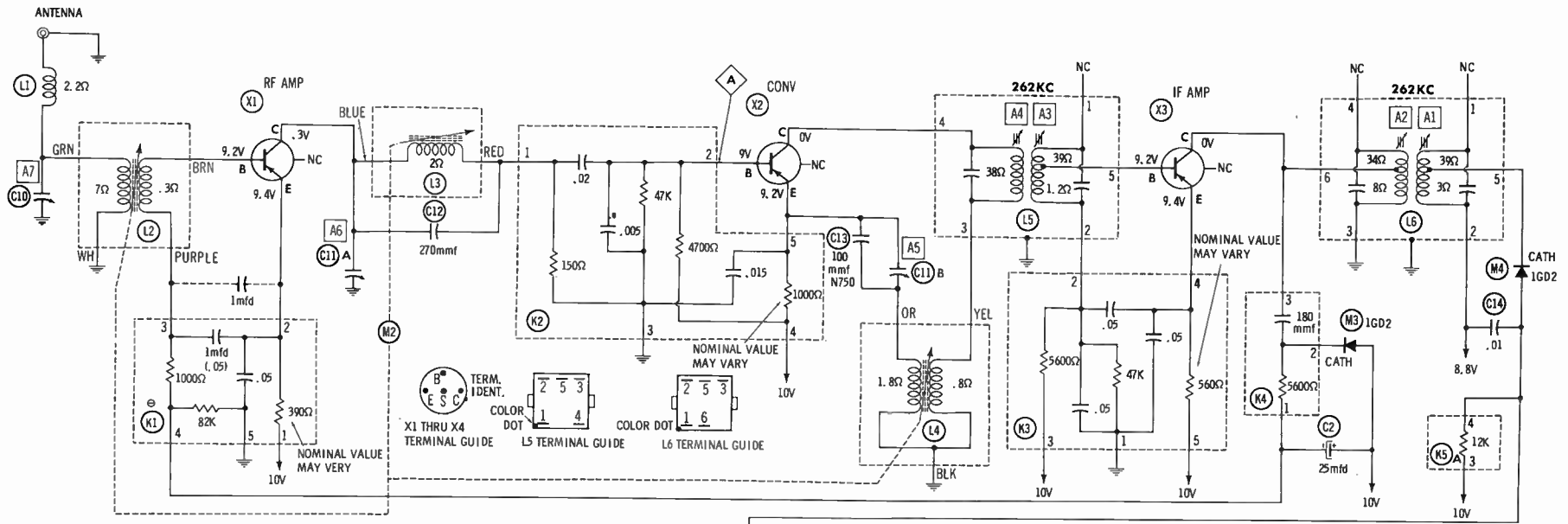
(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Dial Glass	39-8	Knob, Dummy	48A1510
Knob, Tuning or Volume	47A1514	Push Button	55A2758
Knob, Tone	47A1509		

WIRING DATA

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

AUTOMATIC MODELS RAP-3070, RP-3030

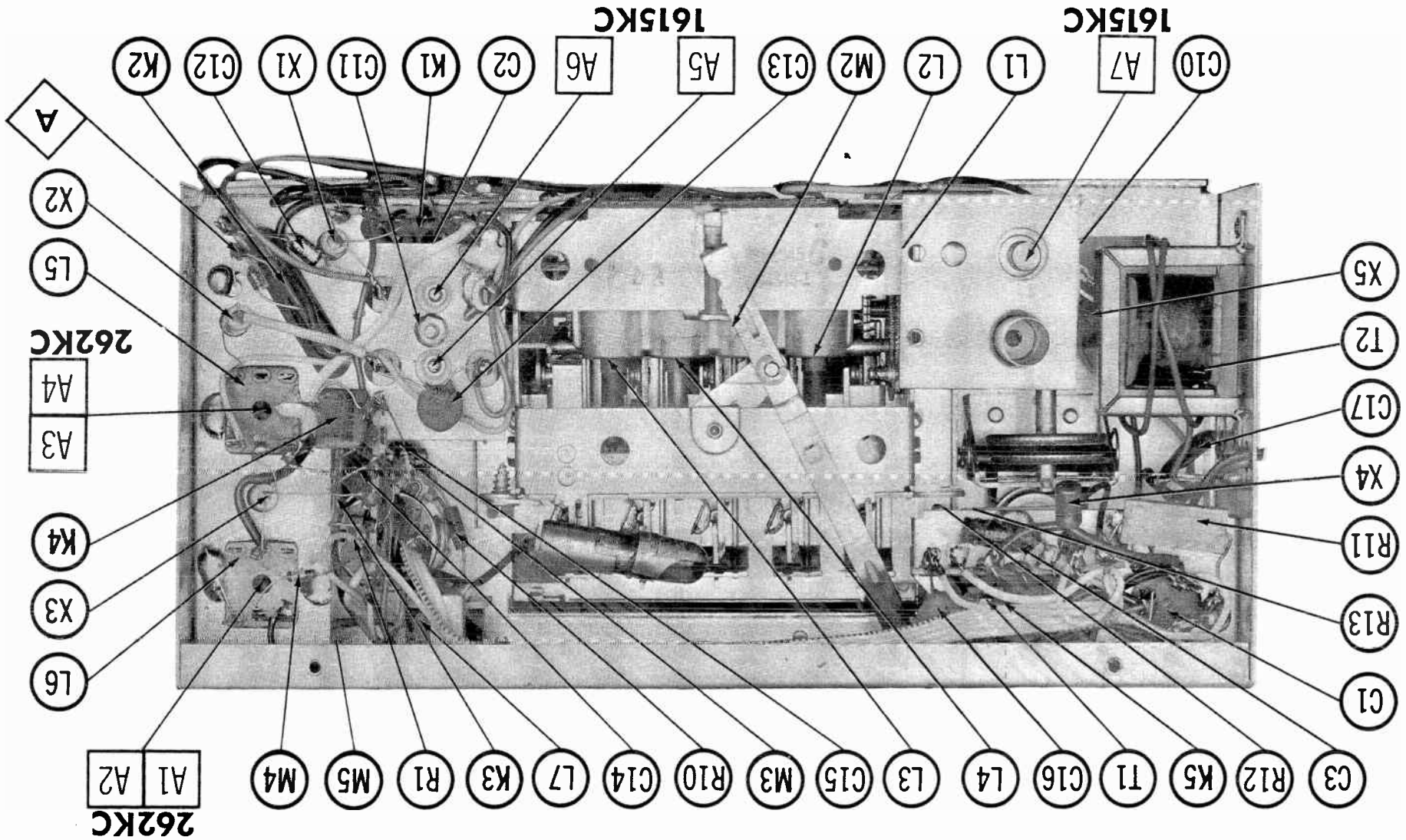


- Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.
- ⊖ See parts list for alternate value or application.
1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.
 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

AUTOMATIC MODELS RAP-3070, RP-3030

A PHOTOFAC STANDARD NOTATION SCHEMATIC with **CIRCUITRACE**
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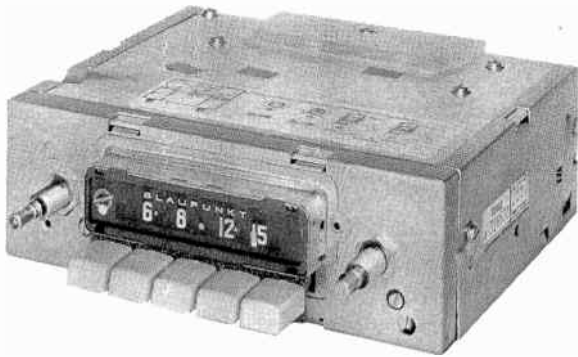






PHOTOFACT[®] with

CIRCUITRACE[®]



TRADE NAME : Blaupunkt Model Vienna (Serial #V325001)
 SUPPLIER : For Current Address, See Master Index.
 TYPE SET : 9 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .280 Amp. @ 12.6 Volts DC

 TUNING RANGE: BROADCAST 540-1615KC

ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

Use only enough generator output to provide a usable indication.

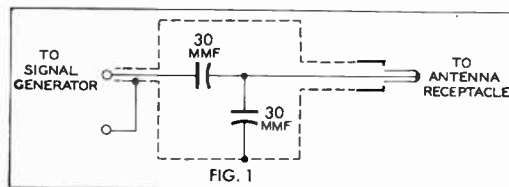
Suggested Alignment Tools:

A1 thru A5 GENERAL CEMENT: 9440 WALSCO: 2501

A6, A7, A8 GENERAL CEMENT: 8290, 8868, 9087 WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point Δ , low side to ground.	480KC (400% Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4 A5	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1615KC	"	"	A6, A7, A8	"

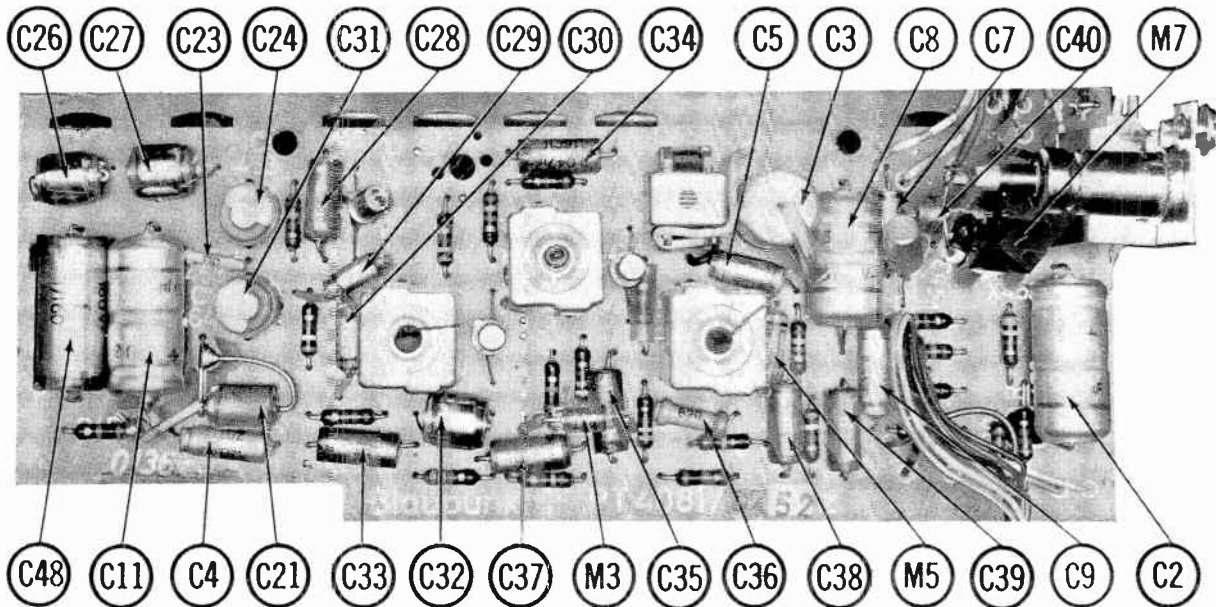
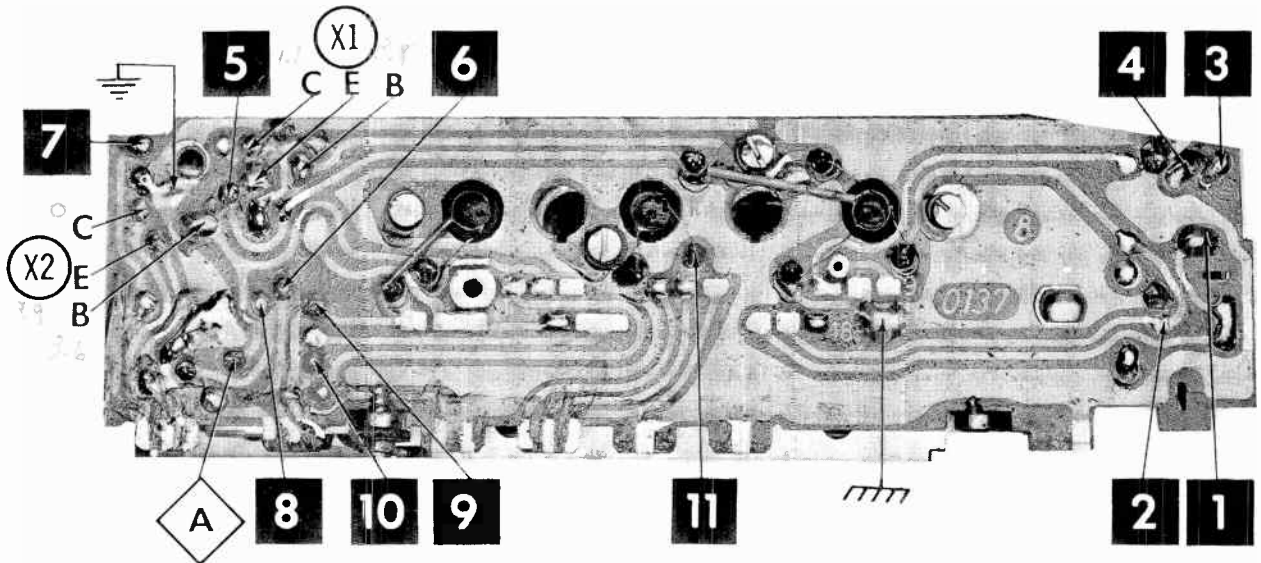
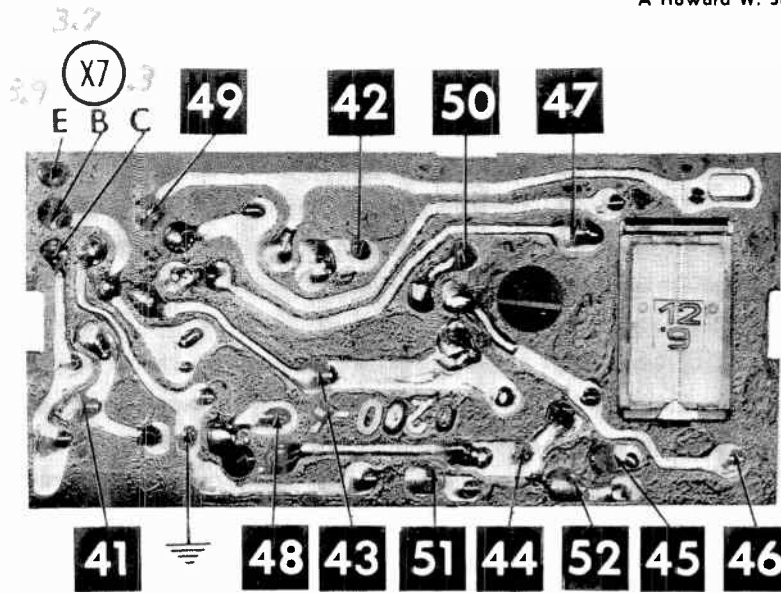
With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and adjust A8 for maximum output.



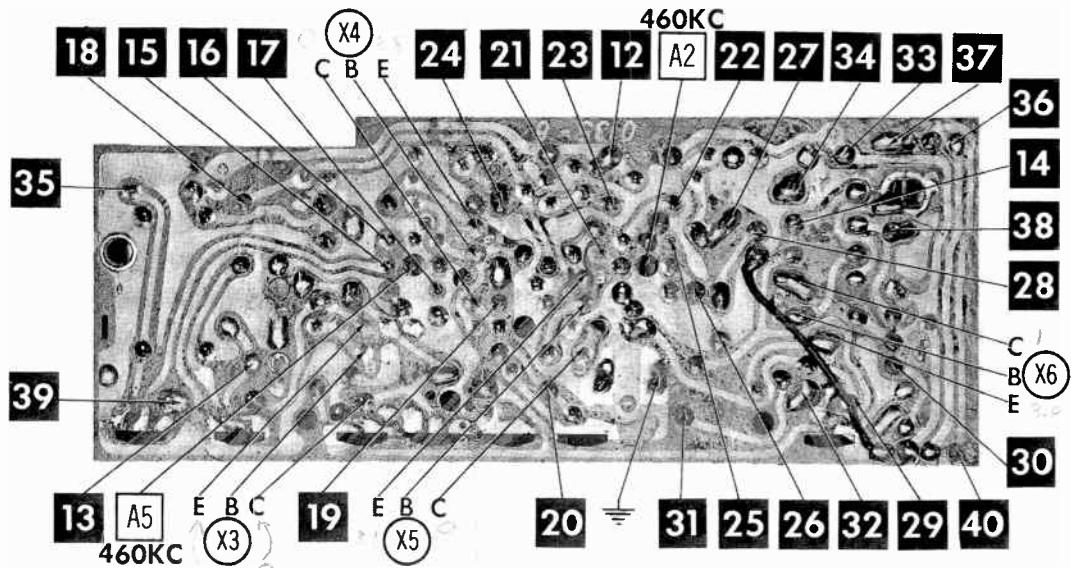
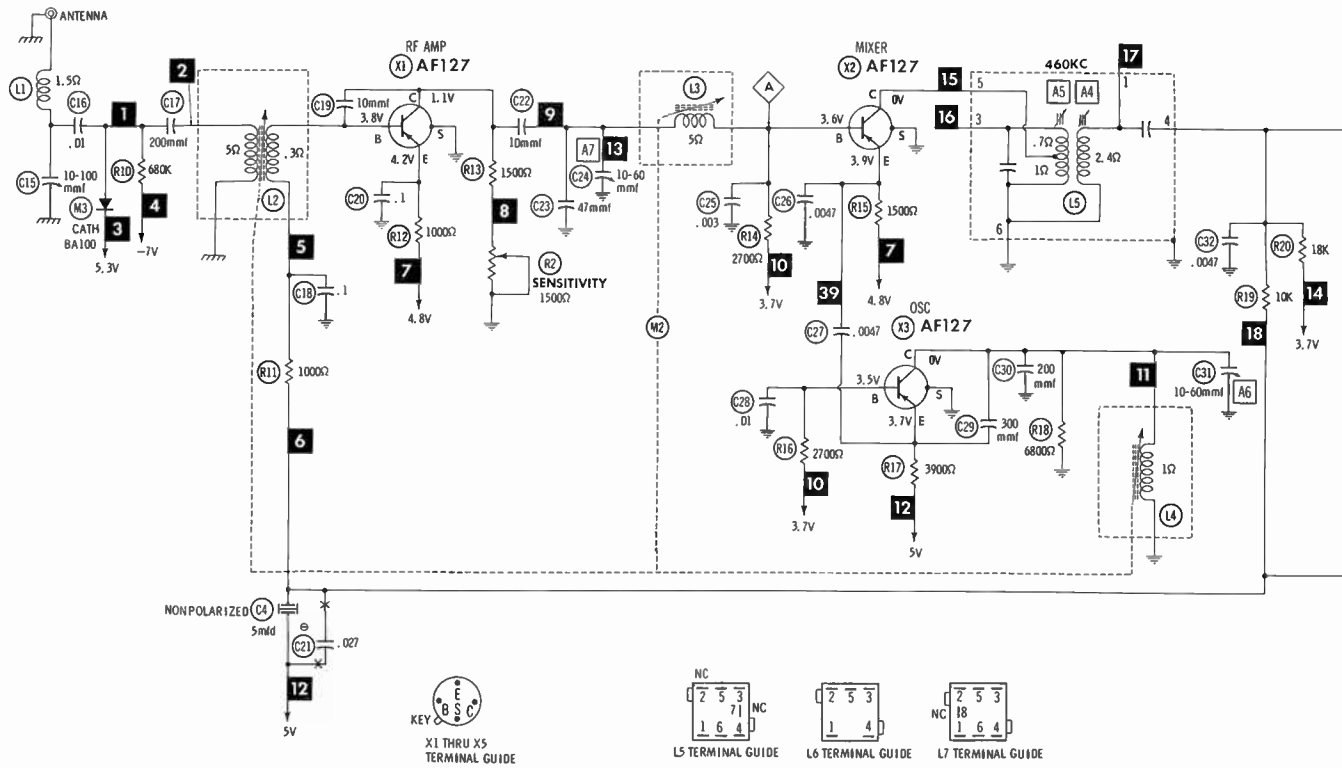
PUSH-BUTTON ADJUSTMENT

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

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



BLAUPUNKT MODEL VIENNA



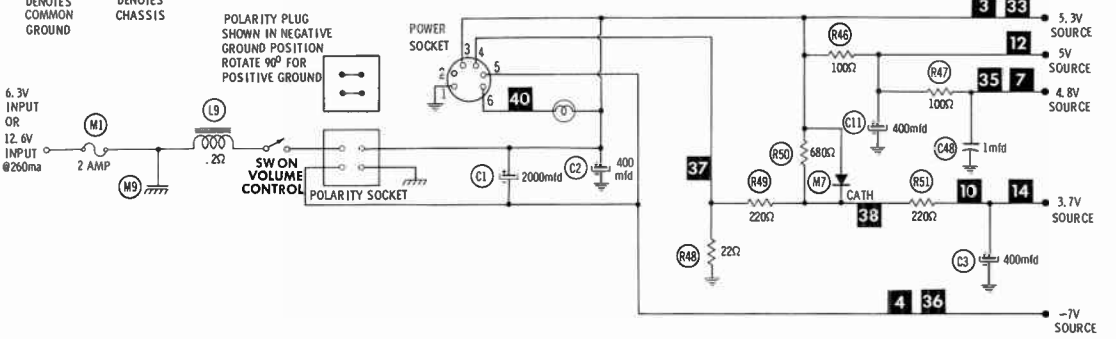
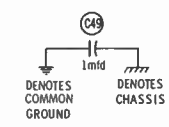
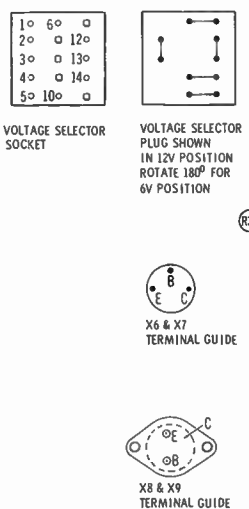
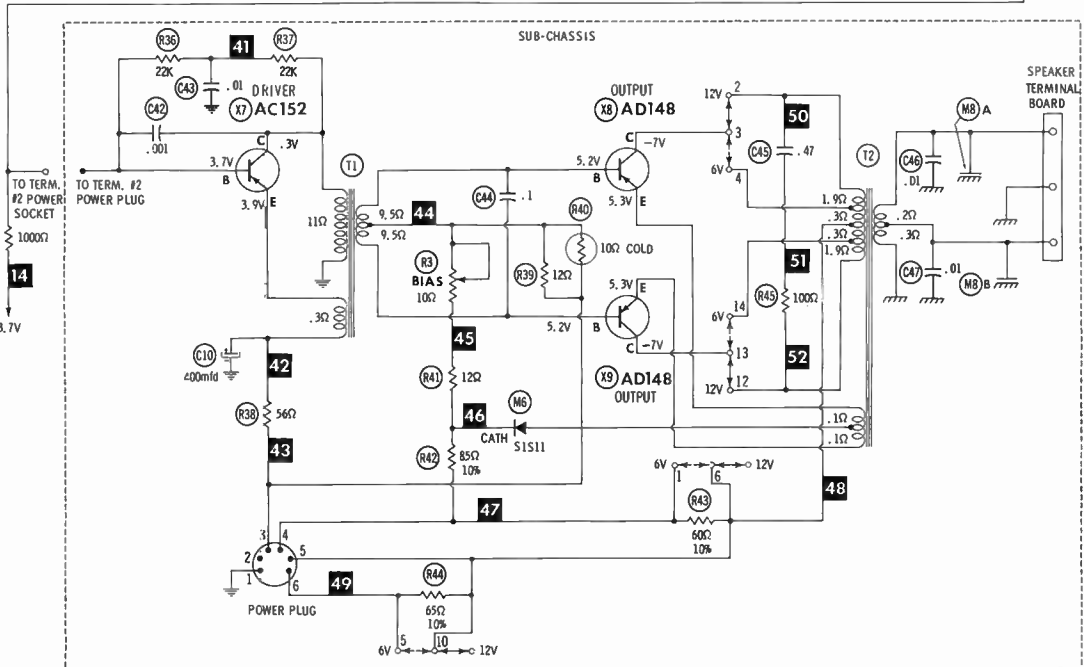
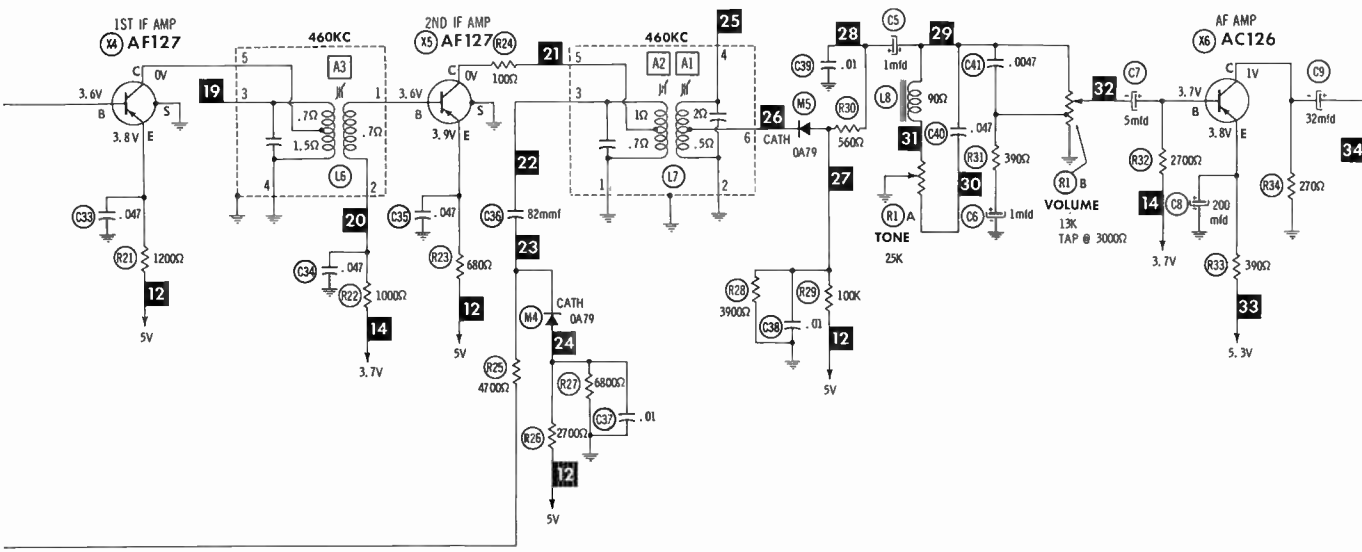
VOLTAGE MEASUREMENTS TAKEN IN 12 VOLT POSITION
 ALL RESISTORS ARE RATED 5% UNLESS OTHERWISE INDICATED

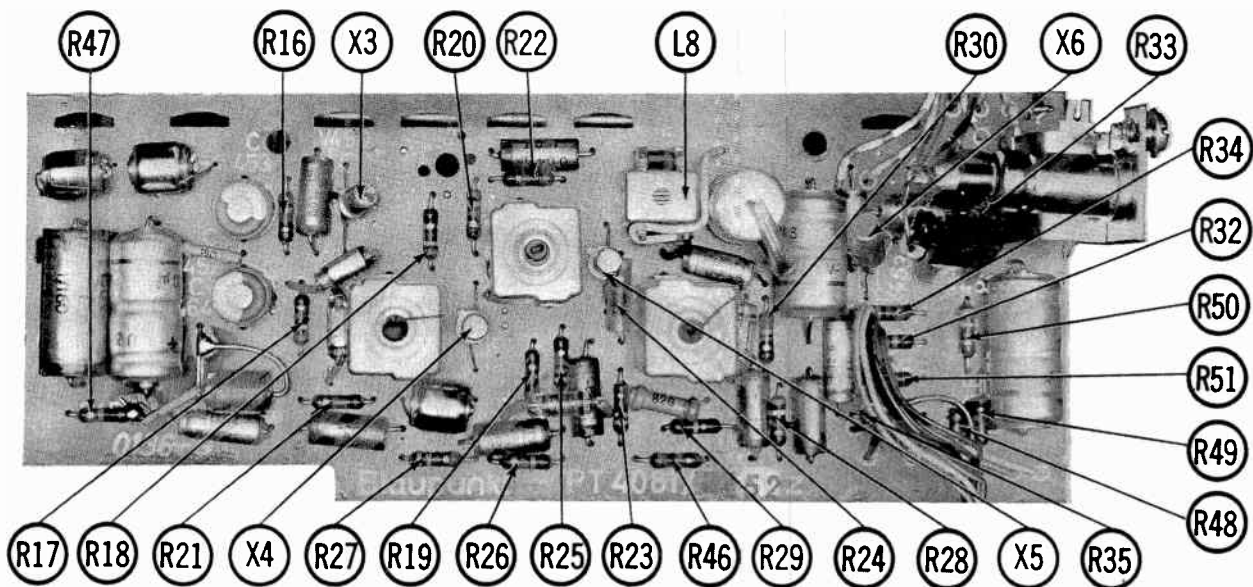
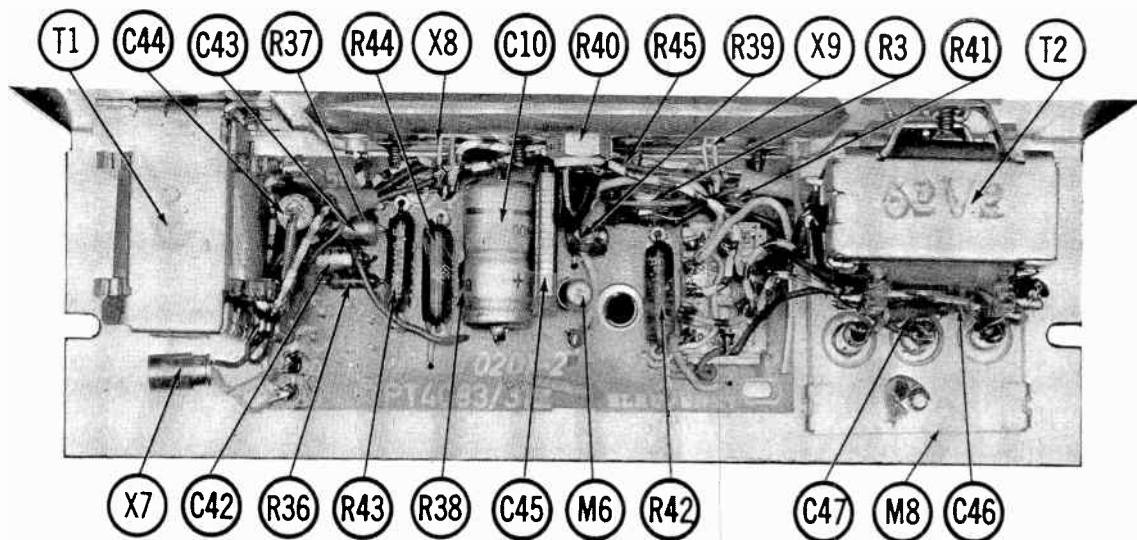
- ⊙ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise designated.
- 5. Numbers assigned to terminals may not be found on the unit.
- 6. Supply voltage maintained at rated value for voltage readings.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

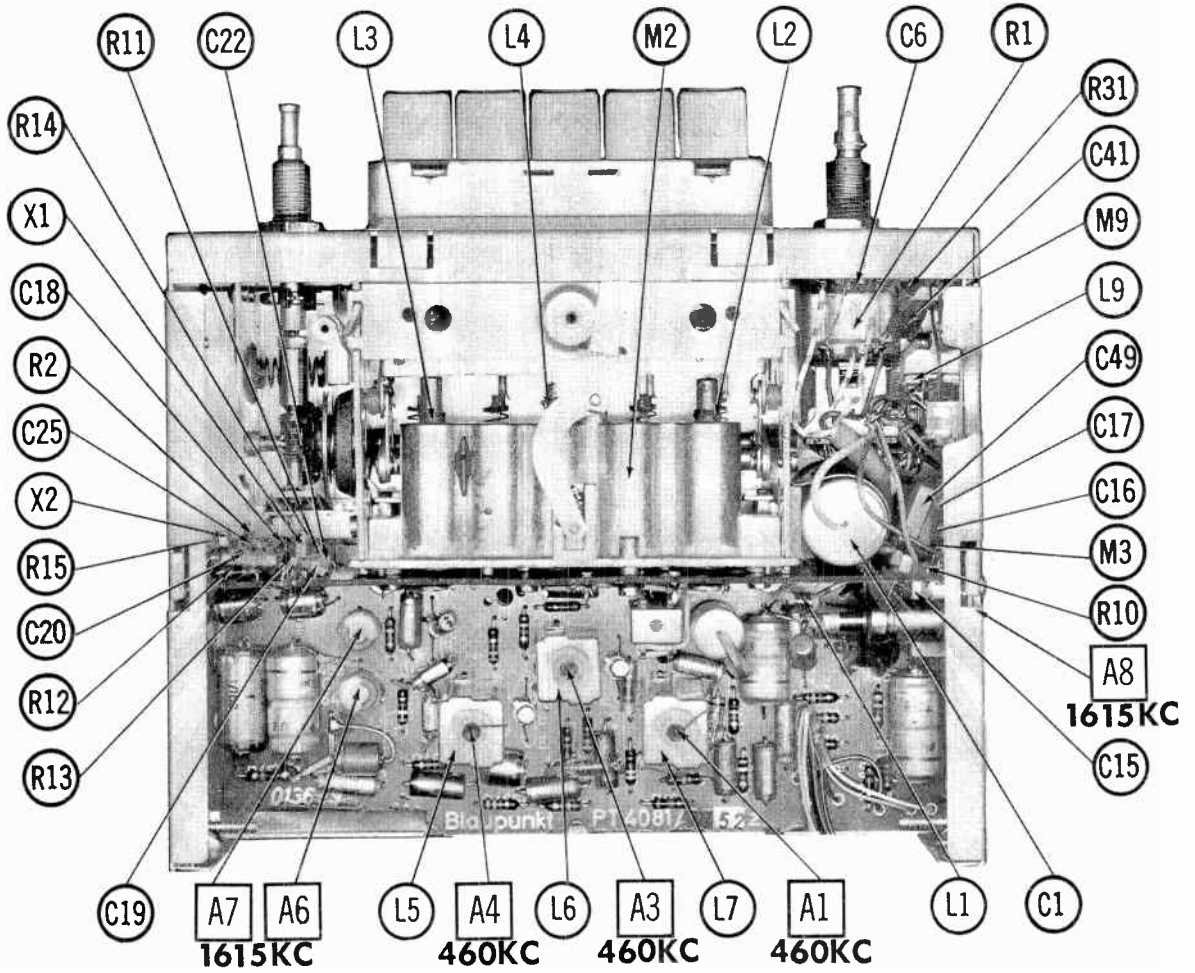
A PHOTOFACIT STANDARD NOTATION SCHEMATIC
 with **CIRCUITRACES**
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A Howard W. Sams **CIRCUITRACES** Photo

BLAUPUNKT MODEL VIENNA







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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	AF127	RF Amp.	DS-25	GE-1	2N1837	PNP
X2	AF127	Mixer	DS-25	GE-1	2N1839	PNP
X3	AF127	Osc.	DS-25	GE-1	2N1839	PNP
X4	AF127	1st IF Amp.	DS-25	GE-1	2N1838	PNP
X5	AF127	2nd IF Amp.	DS-25	GE-1	2N1838	PNP
X6	AC126	AF Amp.	DS-26	GE-2	2N591	PNP
X7	AC152	Driver	DS-26	GE-2	2N591	PNP
X8	AD148	Output	DS-520 ①	GE-3 ①	2N301 ①	PNP*
X9	AD148	Output	DS-520 ①	GE-3 ①	2N301 ①	PNP*

① Drill new mounting element holes.
 * Replace only in matched pairs.

♦ When replacing, apply silicone grease to both sides of insulators. Tighten mounting screws securely. Check bias adjustment.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	Blaupunkt PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	2000	15							
C2	400	6		CRE377A	BR500-6		BL2121	PET2320	TE-1108
C3	400	6		CRE377A	BR500-6		BL2121	PET2320	TE-1108
C4	5	15NP							
C5	1	10		PTT34	NLW1-50	MT1-1	BL1050	TT12X1	TE-1120
C6	1	10		PTT34	NLW1-50	MT1-1	BL1050	TT12X1	TE-1120
C7	5	12		CRE404A	NLW5-15	MT1-3	BL1141	TT12X5	TE-1127
C8	200	6		CRE431A	NLW200-12	MT-25	BL2030	TT15X200	TE-1119. 6
C9	32	6		CRE314A	NLW35-6	MT1-15	MLV35-15	TT12X35	TE-1092
C10	400	6		CRE377A	BR500-6		BL2121	PET2320	TE-1108
C11	400	6		CRE377A	BR500-6		BL2121	PET2320	TE-1108

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.

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.
C15	10-100		BE2S1	CPR-10000J	WMF1S1	IDP-1-103	PVC211	4PS-S10
C16	.01 400V							
C17	200 500V		P288N-1	DTZ-10	&MF1P1	IDP-2-104	PVC101	2PS-P10
C18	.1 125V		NPO-D110		C10Q1C	CCTO-100	CNO410	10TCC-Q10
C19	10 160V	①	P288N-1		WMF1P1	IDP-2-104	PVC101	2PS-P10
C20	.1 125V		BE6S27		DPM S8527	6DP-2-273	PVC6125	6PS-S27
C21	.027 160V		NPO-D110	DTZ-10	C10Q1C	CCTO-100	CNO410	10TCC-Q10
C22	10 160V		DI-47	DD-470	LA10Q47-S3	CCD-470	GP447	5GA-Q47
C23	47							
C24	10-60							
C25	.003 125V		BE6D3	CPR-3000J	DPMS8D3	6DP-1-302	PVC423	6PS-D30
C26	.0047		BPD-0047	CPR-4700J	BYA10D47	CCD-472	B247	5HK-D47
C27	.0047		BPD-0047	CPR-4700J	BYA10D47	CCD-472	B247	5HK-D47
C28	.01 400V		BE2S1	CPR-10000J	WMF1S1	IDP-1-103	PVC211	4PS-S10
C29	300 500V		DI-300	DD-301	LA10T3-C4	CCD-301	GP330	5GA-T30
C30	200 500V		DI-200	DD-201	LA10T2-S3	CCD-201	CP320	5GA-T20
C31	10-80							
C32	.0047		BPD-0047	CPR-4700J	BYA10D47	CCD-472	B247	5HK-D47
C33	.047 160V		P288N-047		WMF2S47	IDP-2-473	PVC1147	2PS-S47
C34	.047 160V		P288N-047		WMF2S47	IDP-2-473	PVC1147	2PS-S47
C35	.047 160V		P288N-047		WMF2S47	IDP-2-473	PVC1147	2PS-S47
C36	82		DI-82	DD-820	LA10Q82-S3	CCD-820	GP482	5GA-Q82
C37	.01 400V		BE2S1	CPR-10000J	WMF1S1	IDP-1-103	PVC211	4PS-S10
C38	.01 400V		BE2S1	CPR-10000J	WMF1S1	IDP-1-103	PVC211	4PS-S10
C39	.01 400V		BE2S1	CPR-10000J	WMF1S1	IDP-1-103	PVC211	4PS-S10
C40	.047 160V		P288N-047		WMF2S47	IDP-2-473	PVC1147	2PS-S47
C41	.0047 400V		BPD-0047	CPR-4700J	BYA10D47	CCD-472	B247	5HK-D47
C42	.001 125V		BE6D1	CPR-1000J	WMF1D1	6DP-1-102	PVC621	6PS-D10
C43	.01 400V		BE2S1	CPR-10000J	WMF1S1	IDP-1-103	PVC211	4PS-S10
C44	.1 160V		P288N-1		WMF1P1	IDP-2-104	PVC101	2PS-P10
C45	.47 250V		BE2P5		DPMS2P5	IDP-4-504	PVC105	2PS-P50
C46	.01 160V		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C47	.01 160V		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C48	1mfd 160V		V2161-1.0		WMF1W1	IDP-5-105	GEM61	4TM-M1
C49	1mfd 250V		V2161-1.1		WMF1W1	IDP-5-105	GEM61	4TM-M1

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Blaupunkt PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone Volume, Switch	25K 13K Tap @ 3000Ω					
R2	Sensitivity	15000Ω					
R3	Bias	10Ω					

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Blaupunkt PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (5.6uh)						① Part of M2.
L2	Ant.	①					
L3	RF	①					
L4	Osc.	①					
L5	1st IF						
L6	2nd IF						
L7	3rd IF						

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Blaupunkt PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L9	260MA	.2Ω	1.5MH						

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Blaupunkt PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L8		90Ω	450MH						

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO	REPLACEMENT DATA					NOTES
		Blaupunkt PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	1: 1						
	14: 1						

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI	SEC. 1	Blaupunkt PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	28ΩCT	5Ω Tap @2.5Ω						
	Turns	Ratio						
	PRI	SEC 2						
	7: 6:	1						

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			Blaupunkt PART No.		LITTELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1		2A 250V			211002			GMA2	

MISCELLANEOUS

ITEM No.	PART NAME	Blaupunkt PART No.	NOTES
M2	Tuner		
M3	RF Limiter		BA100
M4	AVC Limiter		OA79
M5	AF Det.		OA79
M6	Bias Limiter		S1S11
M7	Bias Limiter	E20C30	
M8A	Spark Plate		
B	Spark Plate		
M9	Spark Plate		

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.)



PHOTOFACT[®] with

CIRCUITRACE[®]

TRADE NAME: Blaupunkt Model Exportsuper 34150
 (Serial #V450001)
 Blaupunkt Model Manhattan 34150
 (Serial #V450001)

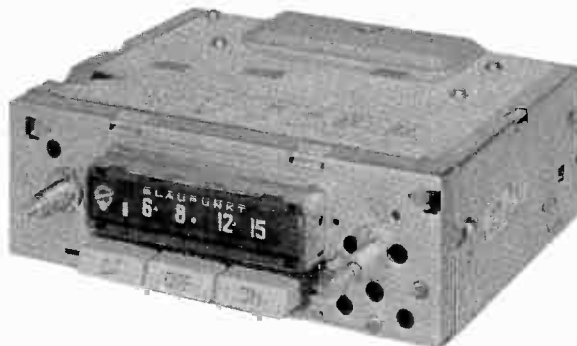
SUPPLIER: For Current Address, See Master Index.

TYPE SET: 8 Transistor AM Receiver

POWER SUPPLY: 12 or 6 Volt Storage Battery

RATING: .260 Amp. @ 12.6 or 6.3 Volts DC

TUNING RANGE: BROADCAST 540-1615KC



ALIGNMENT INSTRUCTIONS

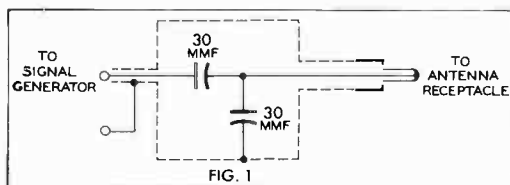
Check for specified source voltage.

Use only enough generator output to provide a usable indication.

Suggested Alignment Tools: A1 thru A4 GENERAL CEMENT: 9440 WALSCO: 2501
 A5, A6, A7 GENERAL CEMENT: 8290, 8868, 9087 WALSCO: 2525, 2528, 2587

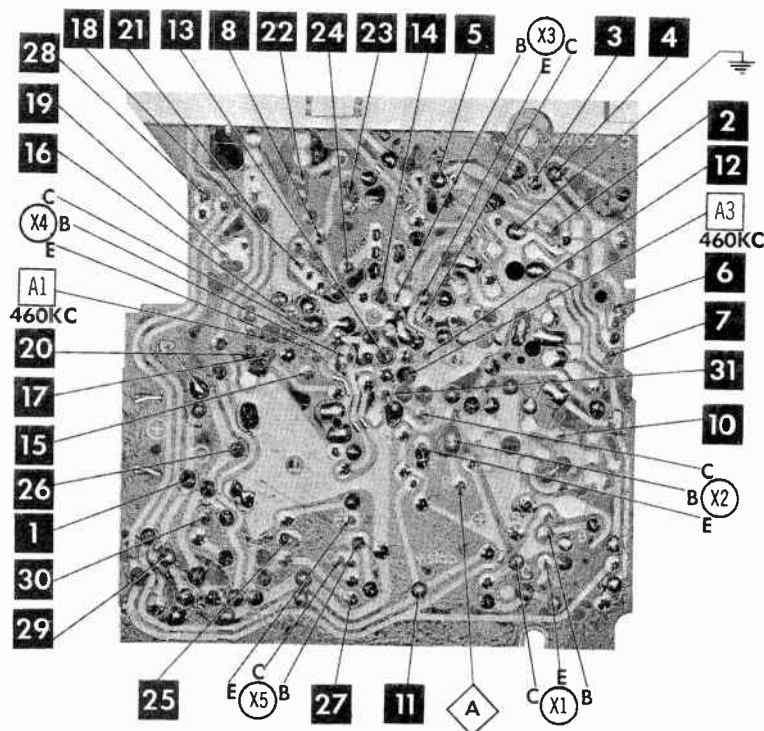
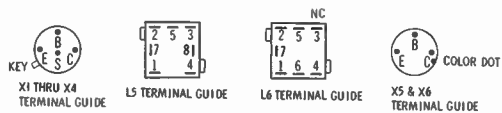
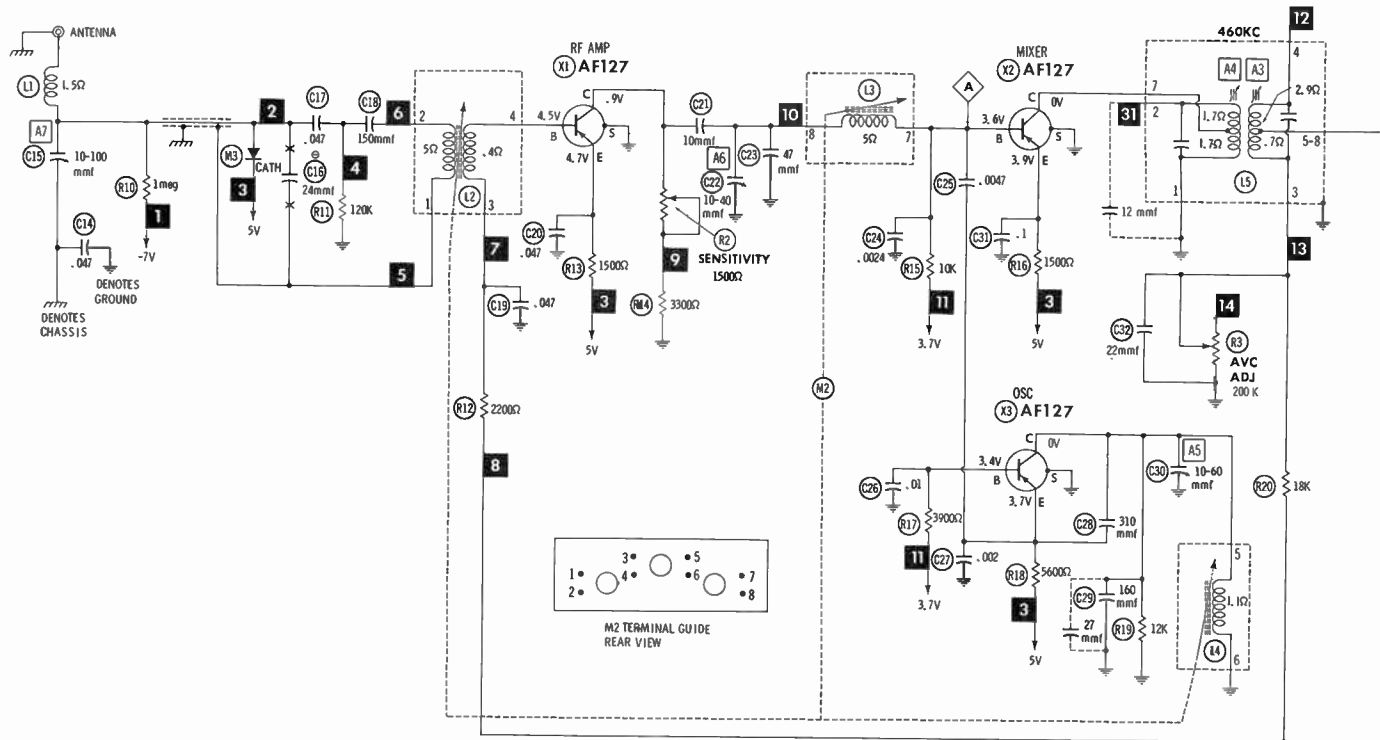
	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point Δ , low side to ground.	460KC (400% Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and adjust A7 for maximum output.



BLAUPUNKT MODELS MANHATTAN 34150, EXPORTSUPER 34150

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

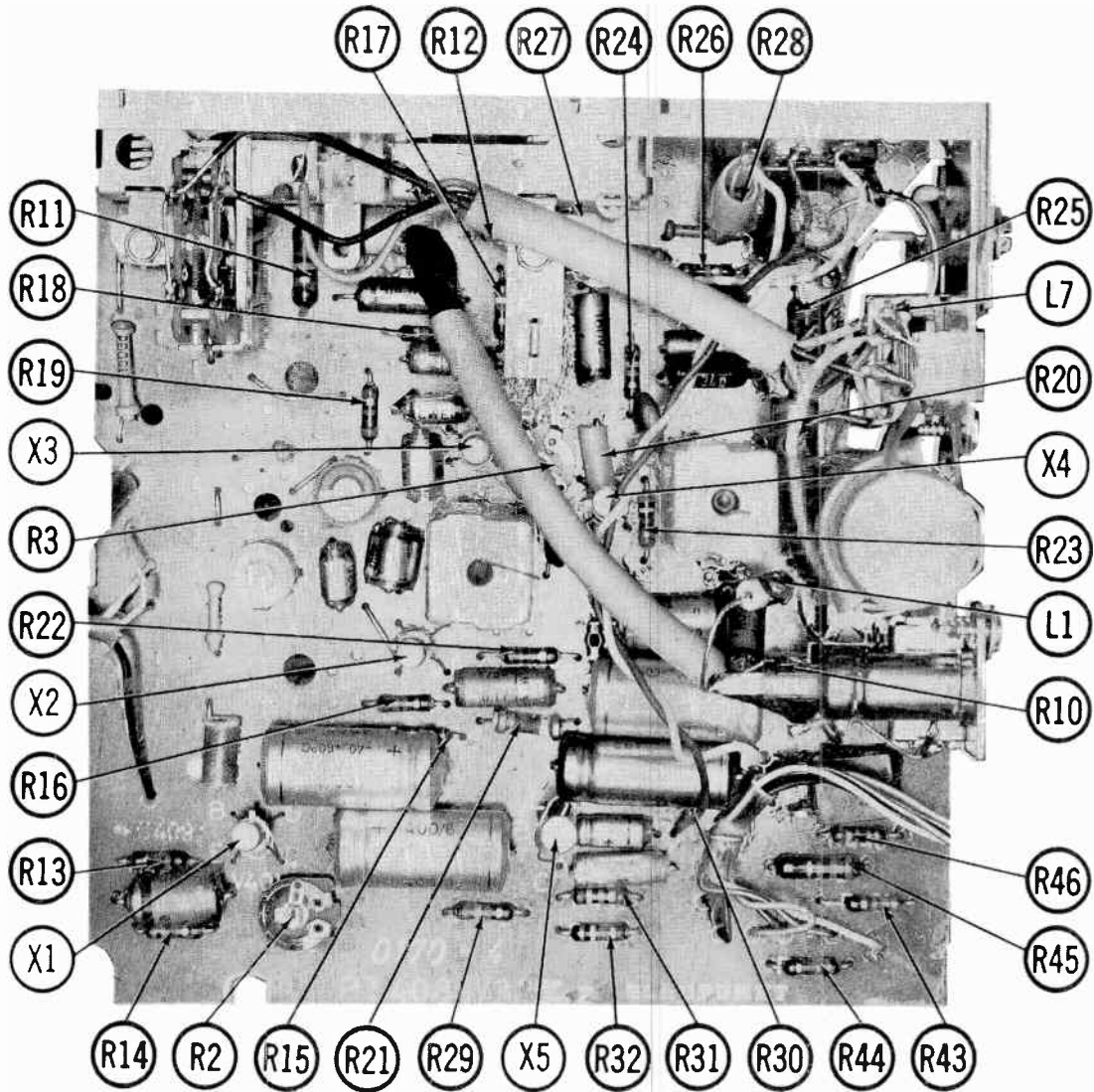
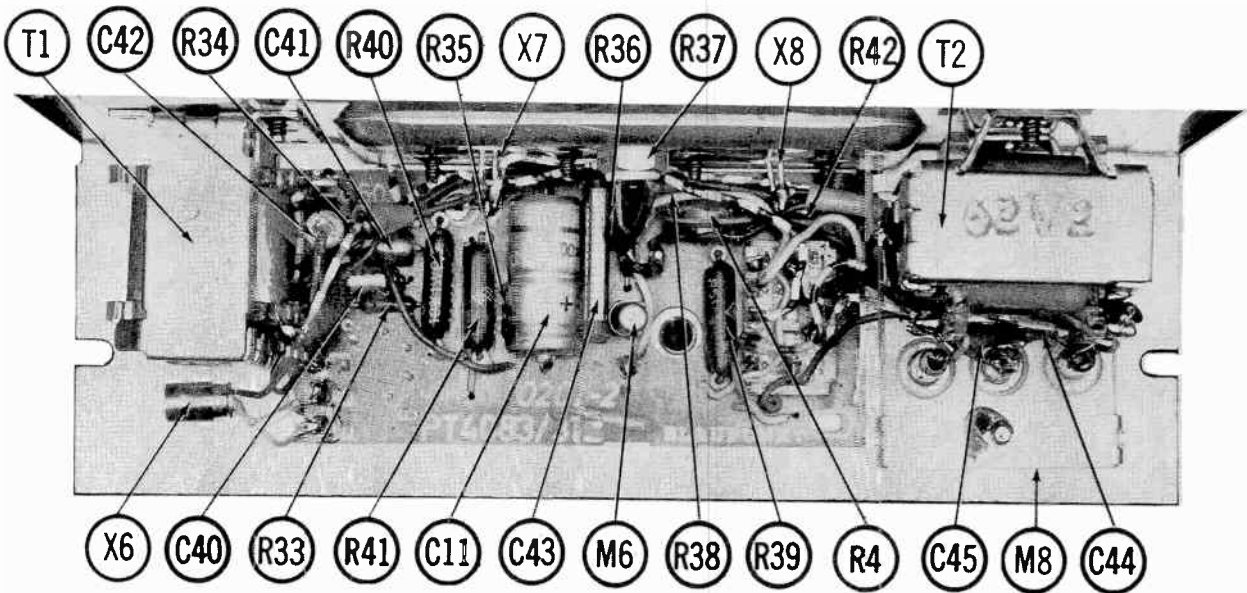


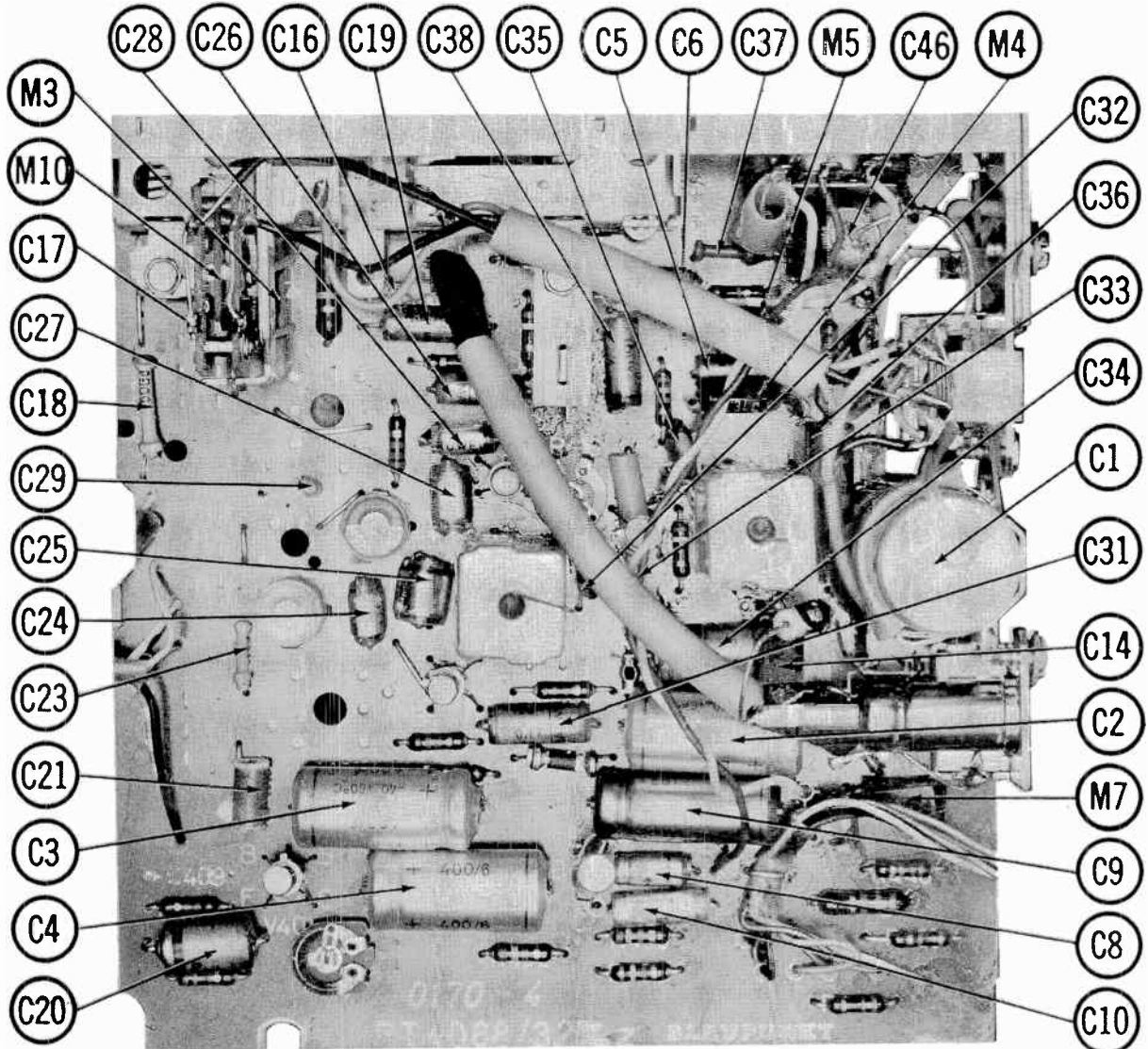
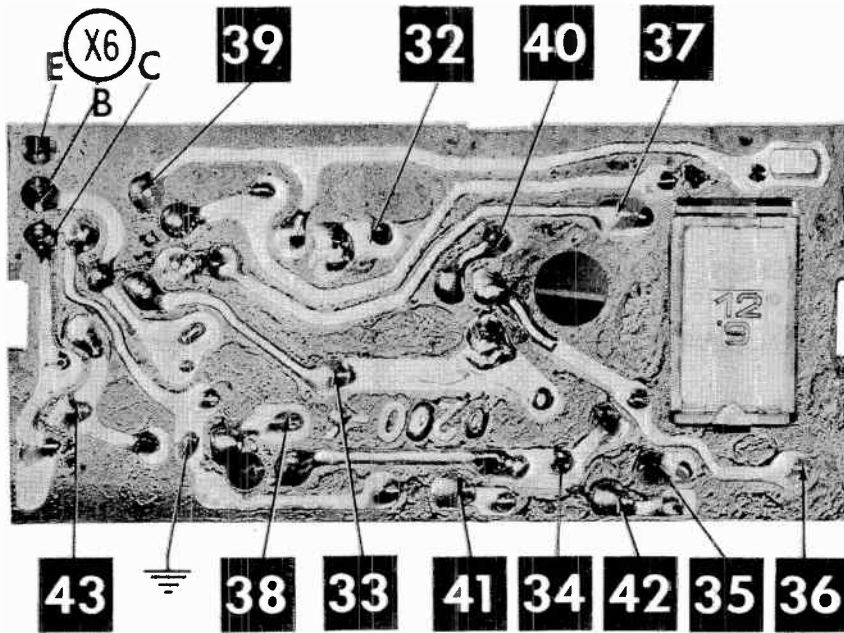
VOLTAGE MEASUREMENTS TAKEN IN 12V POSITION.
RESISTORS ARE RATED 5% UNLESS OTHERWISE INDICATED.

- ① See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise designated.
- 5. Numbers assigned to terminals may not be found on the unit.
- 6. Supply voltage maintained at rated value for voltage readings.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

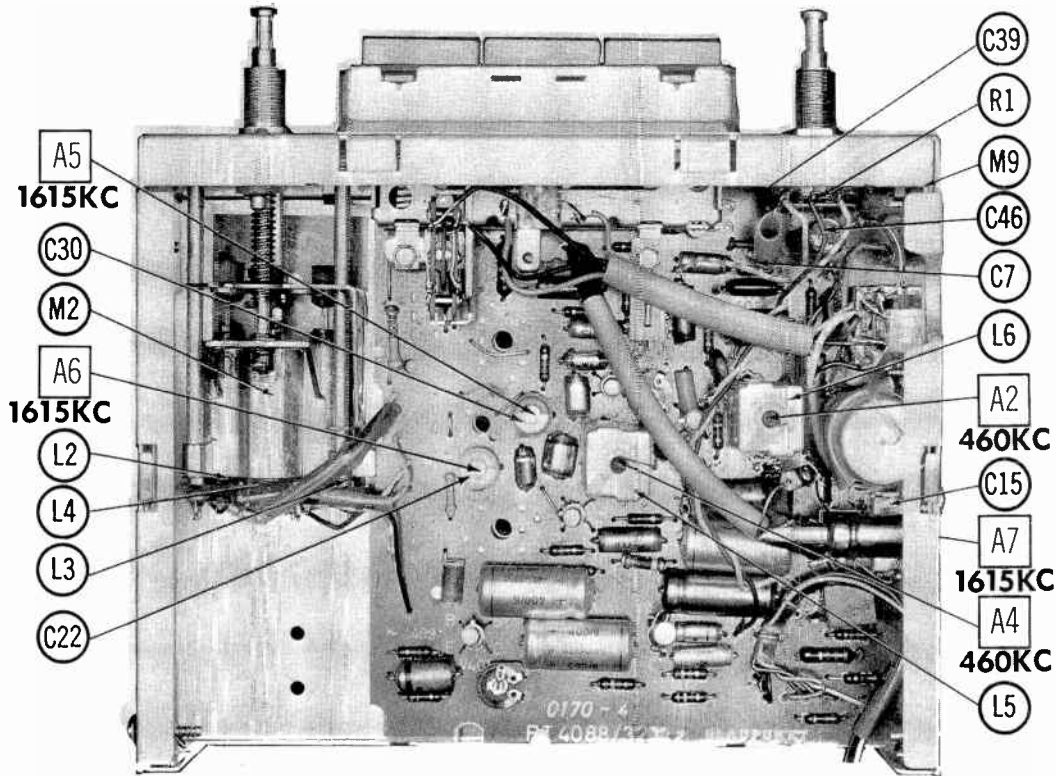
A PHOTOFACIT STANDARD NOTATION SCHEMATIC
with **Circuitrace**

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BLAUPUNKT MODELS MANHATTAN 34150, EXPORTSUPER 34150



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

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

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	AF127	RF Amp.	DS-25	GE-1	2N1637	PNP
X2	AF127	Mixer	DS-25	GE-1	2N1639	PNP
X3	AF127	Osc.	DS-25	GE-1	2N1639	PNP
X4	AF127	IF Amp.	DS-25	GE-1	2N1638	PNP
X5	AC126	AF Amp.	DS-26	GE-2	2N591	PNP
X6	AC152	Driver	DS-26	GE-2	2N591	PNP
X7	AD148	Output	DS-520 Ⓢ	GE-3 Ⓢ	2N301 Ⓢ	PNP*
X8	AD148	Output	DS-520 Ⓢ	GE-3 Ⓢ	2N301 Ⓢ	PNP*

Ⓢ Drill new mounting and element holes. Replace in matched pairs only.

* When replacing, apply silicone grease to both sides of insulators. Tighten mounting screws securely. Check bias adjustment.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	Blaupunkt PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	2000	15							
C2	400	8		CRE377A	BR500-6		BL2121	PET2320	TE-1106
C3	400	6		CRE377A	BR500-6		BL2121	PET2320	TE-1106
C4	400	6		CRE377A	BR500-6		BL2121	PET2320	TE-1106
C5	5	15NVP							
C6	1	10		PTT34	NLW1-50	MT-1-	BL1050	TT12X1	TE-1120
C7	1	10		PTT34	NLW1-50	MT1-1	BL1050	TT12X1	TE-1120
C8	5	12		CRE404A	NLW5-15	MT1-3	BL1141	TT12X5	TE-1127
C9	200	6		CRE431A	NLW200-12	MT1-25	BL2030	TT15X200	TE-1119, 6
C10	32	6		CRE314A	NLW35-6	MT1-15	MLV35-15	TT12X35	TE-1092
C11	400	6		CRE377A	BR500-6		BL2121	PET2320	TE-1106

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.

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.	
C14	.047 160V	①	P288N-047		WMF2S47	IDP-2-473	PVC1147	2PS-S47	
C15	10-100								
C16	24			NPO-DI25	DTZ-25	C10Q25C	CCTO-240	CNO425	10TCC-Q25
C17	.047 160V			P288N-047		WMF2S47	IDP-2-473	PVC1147	2PS-S47
C18	150			DI-150	DD-151	LAI0T15-S3	CCD-151	GP315	5GA-T15
C19	.047 160V			P288N-047		WMF2S47	IDP-2-473	PVC1147	2PS-S47
C20	.047			P288N-047		WMF2S47	IDP-2-473	PVC1147	2PS-S47
C21	10			NPO-DI10	DTZ-10	C10Q1C	CCTO-100	CNO410	10TCC-Q10
C22	10-40								
C23	47			DI-47	DD-470	LAI0Q47-S3	CCD-470	GP447	5GA-Q47
C24	.0024			BE6D25	CPR-2400J	DPMS6D25	6DP-1-252	PVC6225	8PS-D25
C25	.0047			BPD-0047	CPR-4700J	BYA10D47	CCD-472	B247	5HK-D47
C26	.01			BE2S1	CPR-10000J	WMF1S1	IDP-1-103	PVC211	4PS-S10
C27	.002			BE6D2	CPR-2000J	DPMS6D2	6DP-1-202	PVC622	6PS-D20
C28	310			DI-300	DD-301	LAI0T3-C4	CCD-301	GP330	5GA-T30
C29	160			DI-150	DD-151	LAI0T15-S3	CCD-151	GP315	5GA-T15
C30	10-60								
C31	.1			P288N-1		WMF1P1	IDP-1-104	PVC101	2PS-P10
C32	22			NPO-DI-22	DTZ-22	C10Q22C	CCTO-220	CNO422	10TCC-Q22
C33	7			NPO-DI6.8	DTZ-6R8	C10V68C	CCTO-6R8	CNO568	10TCC-V68
C34	.1			P288N-1		WMF1P1	IDP-1-104	PVC101	2PS-P10
C35	.20			NPO-DI20	DTZ-20	C10Q2C	CCTO-200	CNO420	10TCC-Q20
C36	.1			P288N-1		WMF1P1	IDP-1-104	PVC101	2PS-P10
C37	.0047			BPD-0047	DD-472	BYA10D47	CCD-472	B247	5HK-D47
C38	.047			P288N-047		WMF2S47	IDP-2-473	PVC1147	2PS-S47
C39	.0047			BPD-0047	DD-472	BYA10D47	CCD-472	B247	5HK-D47
C40	.001			BE6D1	CPR-1000J	WMF1D1	6DP-1-102	PVC621	6PS-D10
C41	.01			BE2S1	CPR-10000J	WMF1S1	IDP-1-103	PVC211	4PS-S10
C42	.1			P288N-1		WMF1P1	IDP-1-104	PVC101	2PS-P10
C43	.47			BE2P5		DPMS2P5	IDP-4-504	PVC105	2PS-P50
C44	.01			BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C45	.01			BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C46	.47			BE2P5		DPMS2P5	IDP-4-504	PVC105	2PS-P50

FILTER CHOKE

ITEM No.	CURRENT (Measured)	RATINGS		REPLACEMENT DATA					NOTES
		DC RES.	INDUCTANCE (0 CURRENT 1000~)	Blaupunkt PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	.280A	.2Ω	1.5MII						

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Blaupunkt PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	T1	1:	1					
	PRI.1	SEC.2						
	14:	1						

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	Blaupunkt PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	T2	28ΩCT	5Ω Tap @2.5Ω					
	Turns PRI	Ratio SEC 2						
	7:6:	1						

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Blaupunkt PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume	13K Tap @ 3000Ω					
R2	Sensitivity	1500Ω					
R3	AVC Adjust	200K					
R4	Bias	10Ω					

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			Blaupunkt PART No.		LITTELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1		2A 250V			211002			GMA2	

COILS (RF-IF)

ITEM No.	USE	REMARKS	REPLACEMENT DATA					NOTES
			Blaupunkt PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (5.6uh)	①	SW-631	4609	RTC-8519	T820	① Part of M2.	
L2	Ant	①						
L3	RF	①						
L4	Osc.							
L5	Input IF							
L6	Output IF							

MISCELLANEOUS

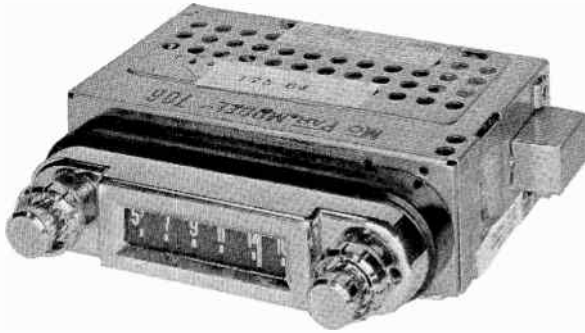
ITEM No.	PART NAME	Blaupunkt PART No.	NOTES
M2	Tuner		
M3	RF Limiter		
M4	AVC Limiter		
M5	AF Det.		
M6	Bias Limiter		
M7	Bias Limiter		
M8A	Spark Plate		
M8B	Spark Plate		
M9	Spark Plate		
M10	Tone Switch		
M11	ON-OFF Switch		

BLAUPUNKT MODELS MANHATTAN 34150, EXPORTSUPER 34150



PHOTOFACT[®] with

CIRCUTRACE[®]



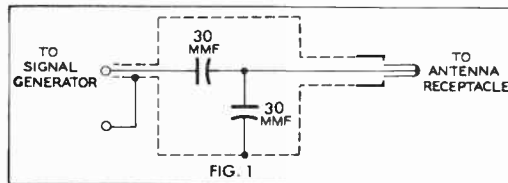
TRADE NAME : Mopar Model 706 (4TBDT) 1964 Dodge Truck
 SUPPLIER : For Current Address, See Master Index.
 TYPE SET : 5 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .920 Amp. @12.6 Volts DC
 TUNING RANGE : BROADCAST 540-1605KC

ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
 Use only enough generator output to provide a usable indication.
 Suggested Alignment Tools:

A1 thru A4 GENERAL CEMENT: 8606, 8606L, 8869 WALSCO: 2543, 2544, 2588
 A5, A6, A7 GENERAL CEMENT: 8290, 8868, 9087 WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point Δ , low side to ground.	262.5KC (400v 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 1600KC and adjust A7 for maximum output.						



REMOVAL INSTRUCTIONS

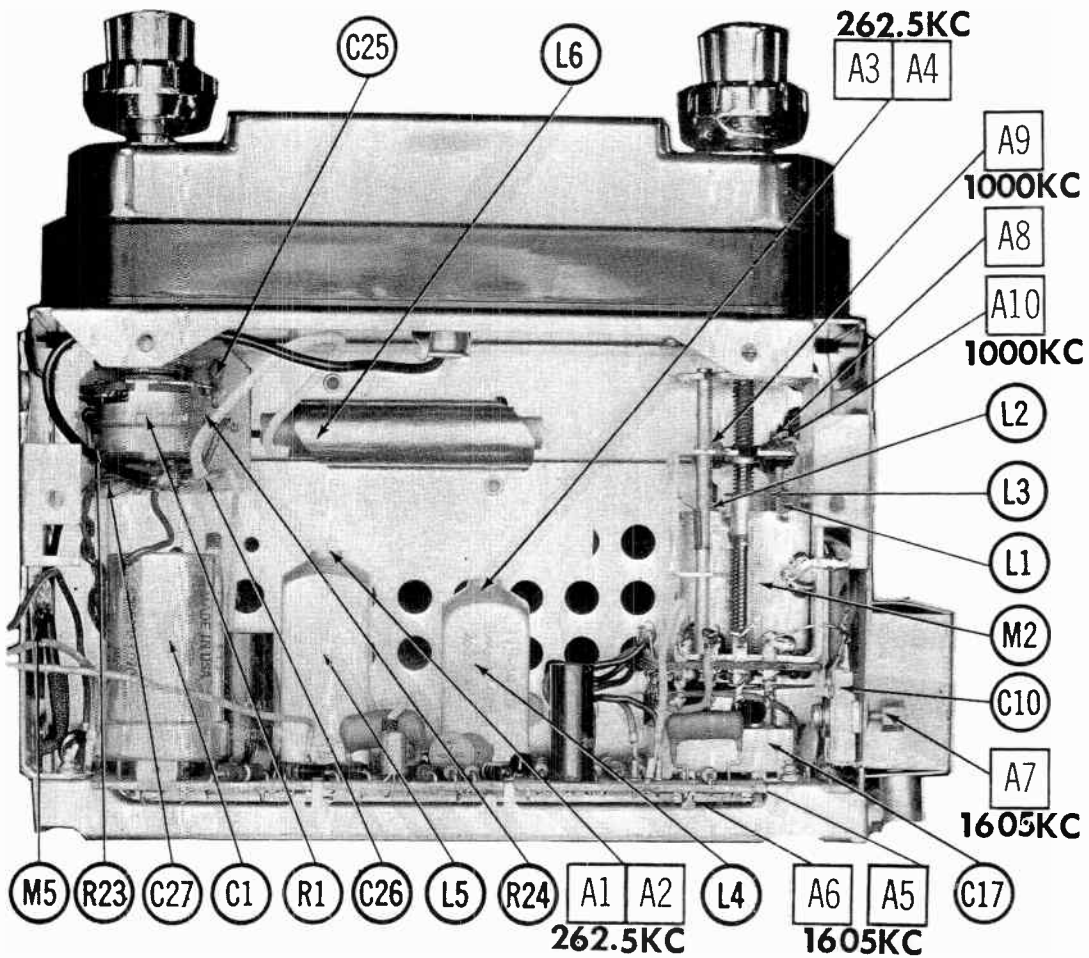
RADIO REMOVAL

1. Pull off knobs.
2. Use phillips screw driver and remove 2 screws holding escutcheon, remove escutcheon.
3. Use 9/16" wrench and remove nuts from control bushings. Remove mounting plate.
4. Disconnect Ant., "A" and speaker leads.
5. Use 7/16" wrench and remove nut from bottom brace.
6. Remove radio from under instrument panel.

SPEAKER REMOVAL

1. Use fingers and remove 4 wing nuts from speaker mounting.
2. Remove speaker from under instrument panel.

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



MOPAR MODEL 706 (4TBDT)

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

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

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES	BENDIX PART No.
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.		
X1		RF Amp.	DS-44	GE-10		NPN	2093308-0701
X2		Converter	DS-44	GE-10		NPN	2093308-0702
X3		IF Amp.	DS-44	GE-10		NPN	2093308-0703
X4		1st AF Amp.	DS-26	GE-2	2N591	PNP	2090924-0008
X5		2nd AF Amp.	DS-46	GE-10	2N649	NPN	2092609-0002
X6		Output	DS-520	GE-3	2N301	PNP*	2091859-0011

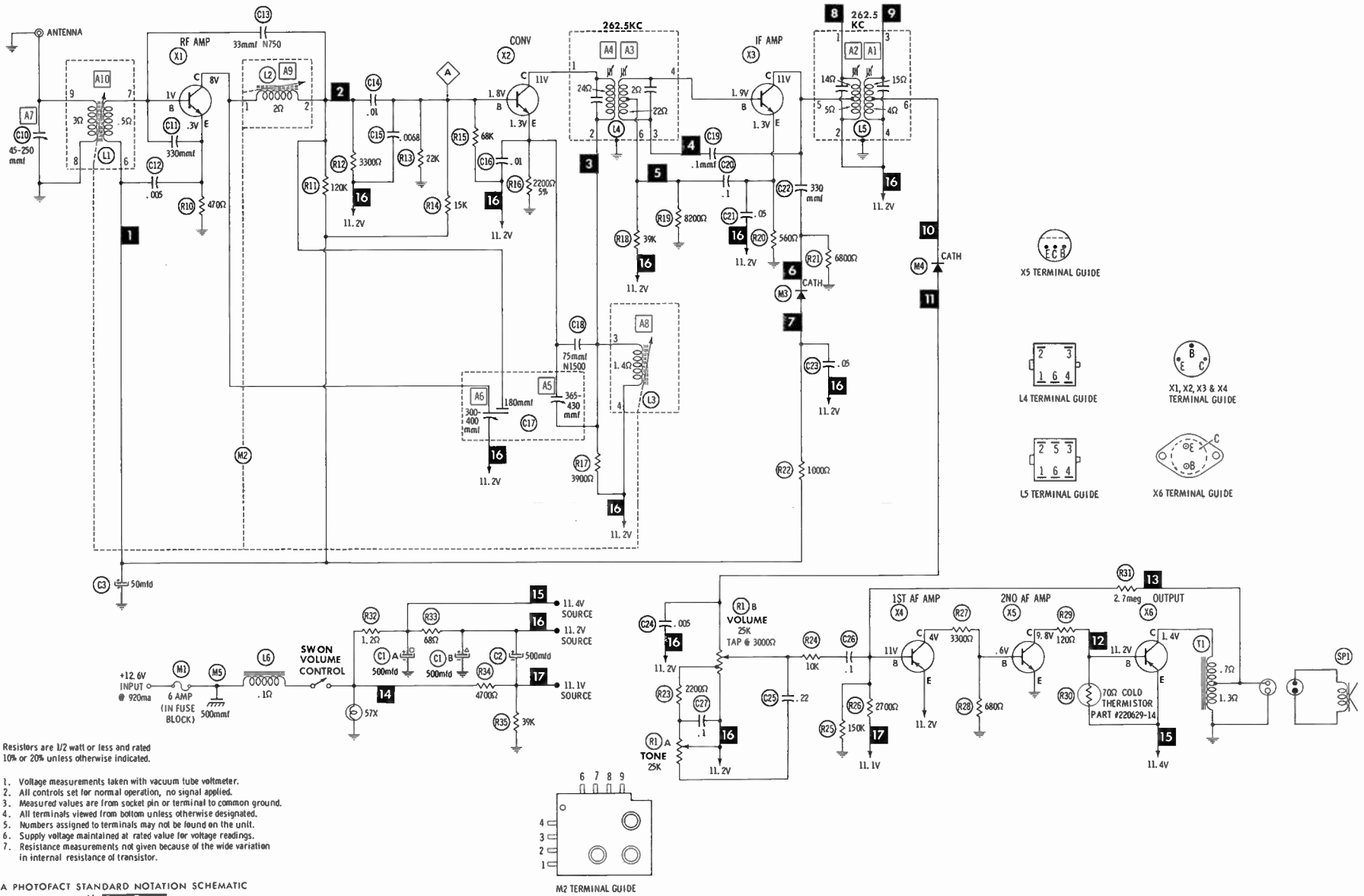
* When replacing, apply silicone grease to both sides of insulators. Tighten mounting screws securely. Check bias adjustment.

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.	MALLOY PART No.	SPRAGUE PART No.
C1A	500	16	2092983-0702	PWH2-02-40	BPC020			PEP200.65	PCLS-2177*
B	500	16	2093339-0703						
C2	500	3	2093339-0703	BCD12500	NLP450-3	MT1-26	BL211	PET290	TE-1088
C3	50	3	2093339-0701	BCD3050	NLP50-3	MT1-18	BL1410	PET1575	VL-1045

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

PARTS LIST CONT. PAGE 68

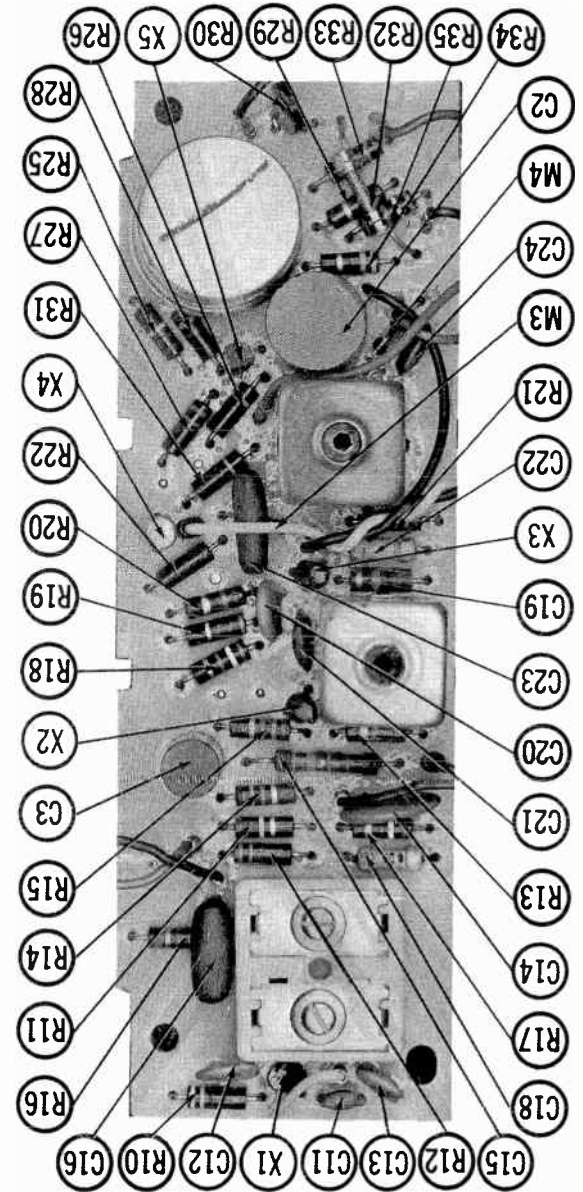
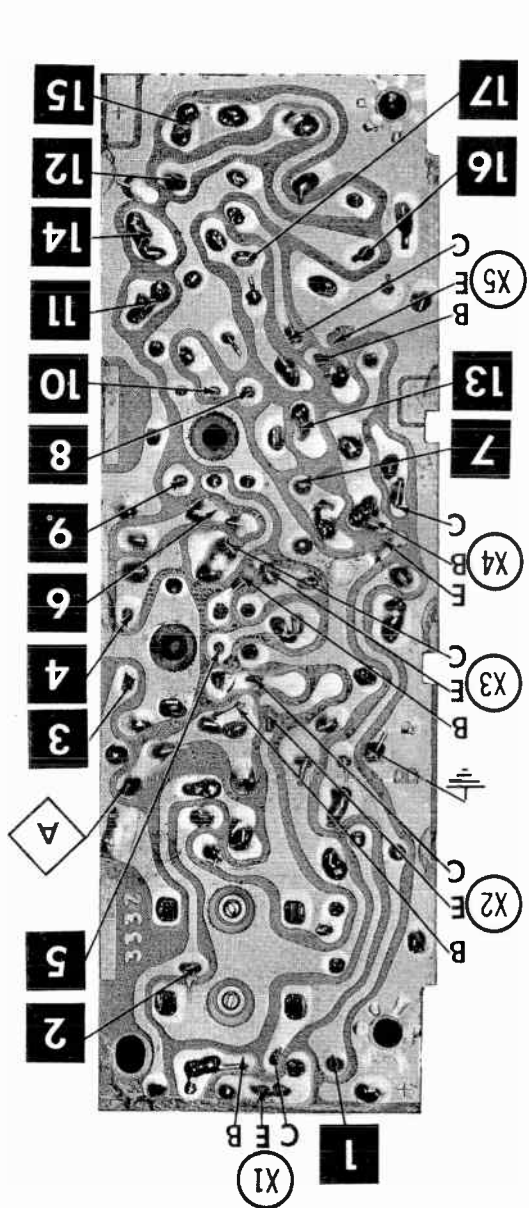
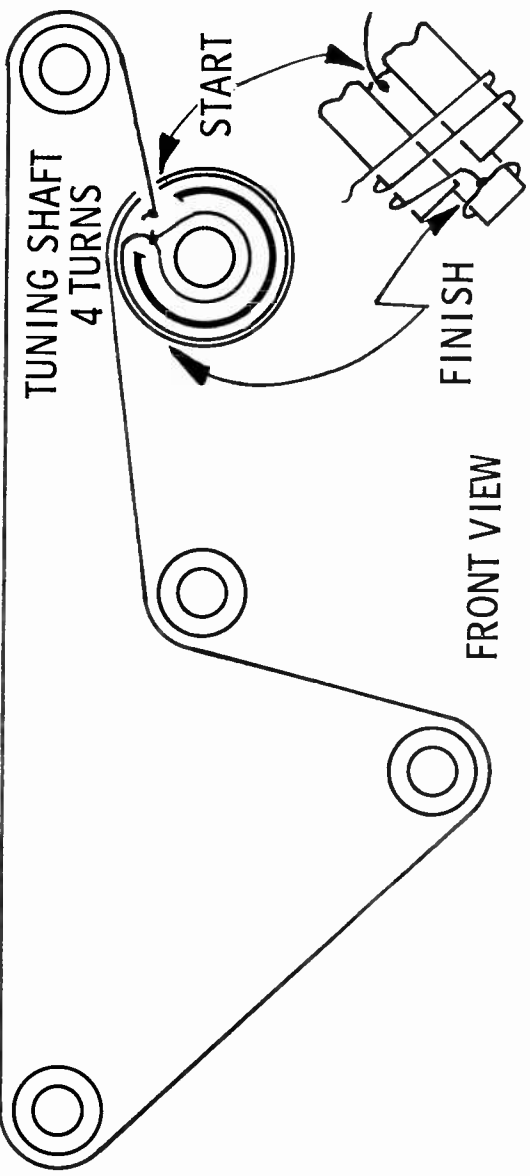


- Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.
1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.
 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFACIT STANDARD NOTATION SCHEMATIC
with **CIRCUITRACE**
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MOPAR MODEL 706 (4TBDT)

A Howard W. Sams CIRCUITRACESM Photo



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.

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	45-250	#219083-12							
C11	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33	
C12	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250	5HK-D50	
C13	33 N750		N750-DI33	DTN-33	C10Q33C	CCTN-330	CN7433	10TCU-Q33	
C14	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10	
C15	.0068		DI-6800	DD-682	BYA10D68	CCD-682	GP268	10TS-D68	
C16	.01 100V		BE2S1	CPR-10000J	WMPF1S1	1DP-1-103	FVC211	4PS-S10	
C17A	300-400		#219092-31						
C17B	180								
C17C	365-430								
C18	75 N1500	#2091700-0034							
C19	.1mmf								
C20	.1			UK20-104	HO5P1		TA010	HY320	
C21	.05 16V		TTD-05	CK-503	H5		TA150	TG-S50	
C22	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33	
C23	.05 100V		P288N-05		DPMB285	1DP-2-503	FVC215	2PS-50	
C24	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250	5HK-D50	
C25	.22 3V			UK20-204	HCC25224Z			HY-325	
C26	.1 10V			UK20-104	HO5P1		TA010	HY320	
C27	.1 10V			UK20-104	HO5P1		TA010	HY320	

Bendix Part Number.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			BENDIX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
RIA	Tone Volume/Switch	25K 25K Tap @ 3000Ω	2092467-0701				

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	Ant.	Ⓜ Ⓜ Ⓜ 2093163-0704 2093164-0704					Ⓜ Part of M2.
L2	RF						
L3	Osc.						
L4	Input IF			6522			
L5	Output IF			6523			

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L6	920ma	.1Ω	1.2MH	2092050-0008	C-4095Ⓜ	TC-1Ⓜ	TR-159 Ⓜ	TY16XTⓂ	Ⓜ Fabricate mtg.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRL	SEC.						
T1	12Ω Tap @	8Ω	2092138-0709			TR-164		

SPEAKER

ITEM No.	TYPE	RATING	REPLACEMENT DATA		NOTES
			BENDIX PART No.	QUAM PART No.	
SP1	5" X 7" PM	8Ω	2091588-0001	57A15Z8	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			BENDIX PART No.		LITTELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	AGC	6	2091811-0019	In Fuse Block	311006			AGC8	

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M2	Tuner	2093300-0702	
M3	AVC Limiter	2092055-0708	
M4	AF Det.	2092055-0001	
M5	Spark Plate	220287-20	500mmf

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Escutcheon Assembly	2091585-0002	Knob, Tone or Dummy	2092234-0001
Dial Glass	2091454-0001	Dial Pointer	2091459-0001
Knob, Tuning or Volume	2091420-0001		



TRADE NAME : Ford Model 4TBT (1964 Truck)
 4TBU (1964 Econoline)
 SUPPLIER : For Current Address, See Master Index.
 TYPE SET : 6 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .92 Amp. @ 12.6 Volts DC
 TUNING RANGE : BROADCAST 540-1605KC



ALIGNMENT INSTRUCTIONS

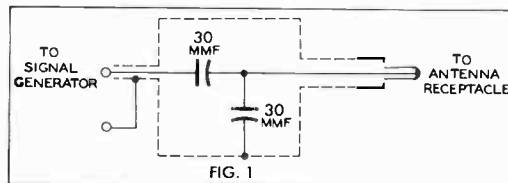
Check for specified source voltage.

Use only enough generator output to provide a usable indication.

Suggested Alignment Tools: A1 thru A4 GENERAL CEMENT: 8806, 8606L, 8869 WALSCO: 2543, 2544, 2588
 A5, A6, A7 GENERAL CEMENT: 8290, 8868, 9087 WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point A , low side to ground.	262.5KC (400v 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 1600KC and adjust A7 for maximum output.



REMOVAL INSTRUCTIONS

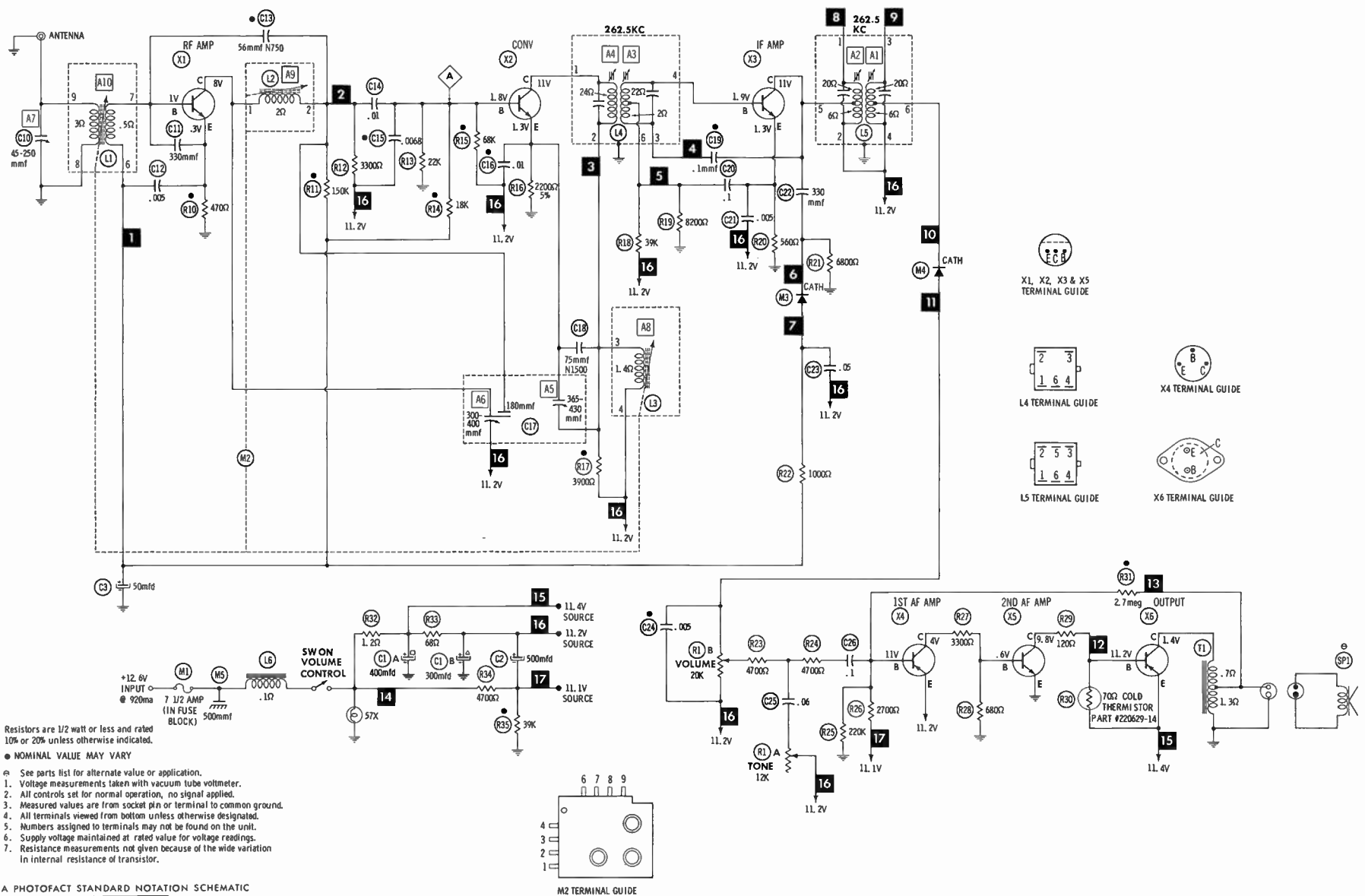
RADIO REMOVAL

1. Pull off knobs.
2. Use phillips screw driver and remove 2 screws holding escutcheon, remove escutcheon.
3. Use 9/16" wrench and remove nuts from control bushings. Remove mounting plate.
4. Disconnect Ant., "A", and speaker leads.
5. Use 7/16" wrench and remove nut from bottom brace.
6. Remove radio from under instrument panel.

SPEAKER REMOVAL

1. Use fingers and remove 4 wing nuts from speaker mounting.
2. Remove speaker from under instrument panel.

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



Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

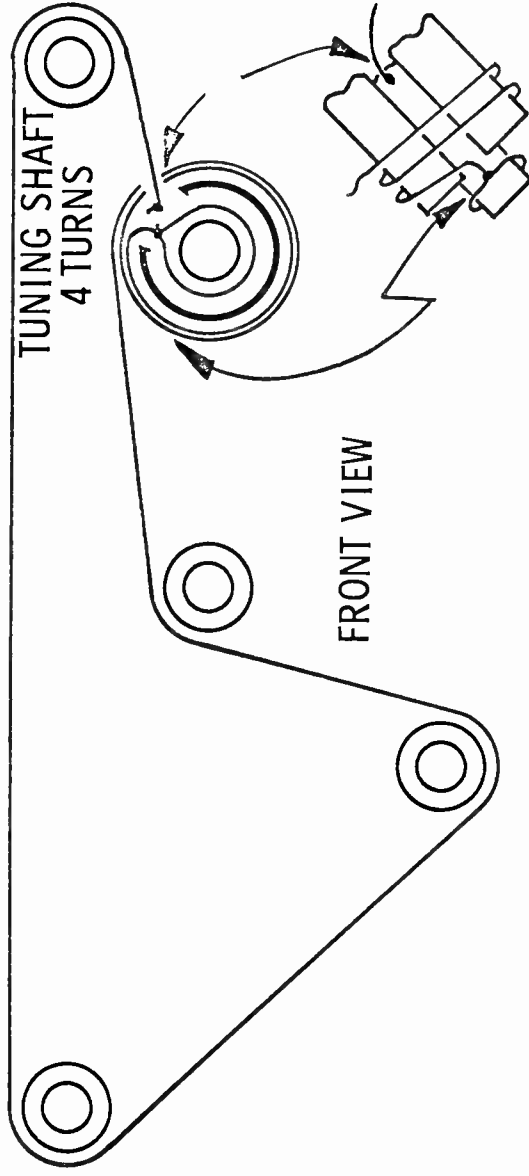
● NOMINAL VALUE MAY VARY

- Ⓜ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise designated.
- 5. Numbers assigned to terminals may not be found on the unit.
- 6. Supply voltage maintained at rated value for voltage readings.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
with **CIRCUITRACE**

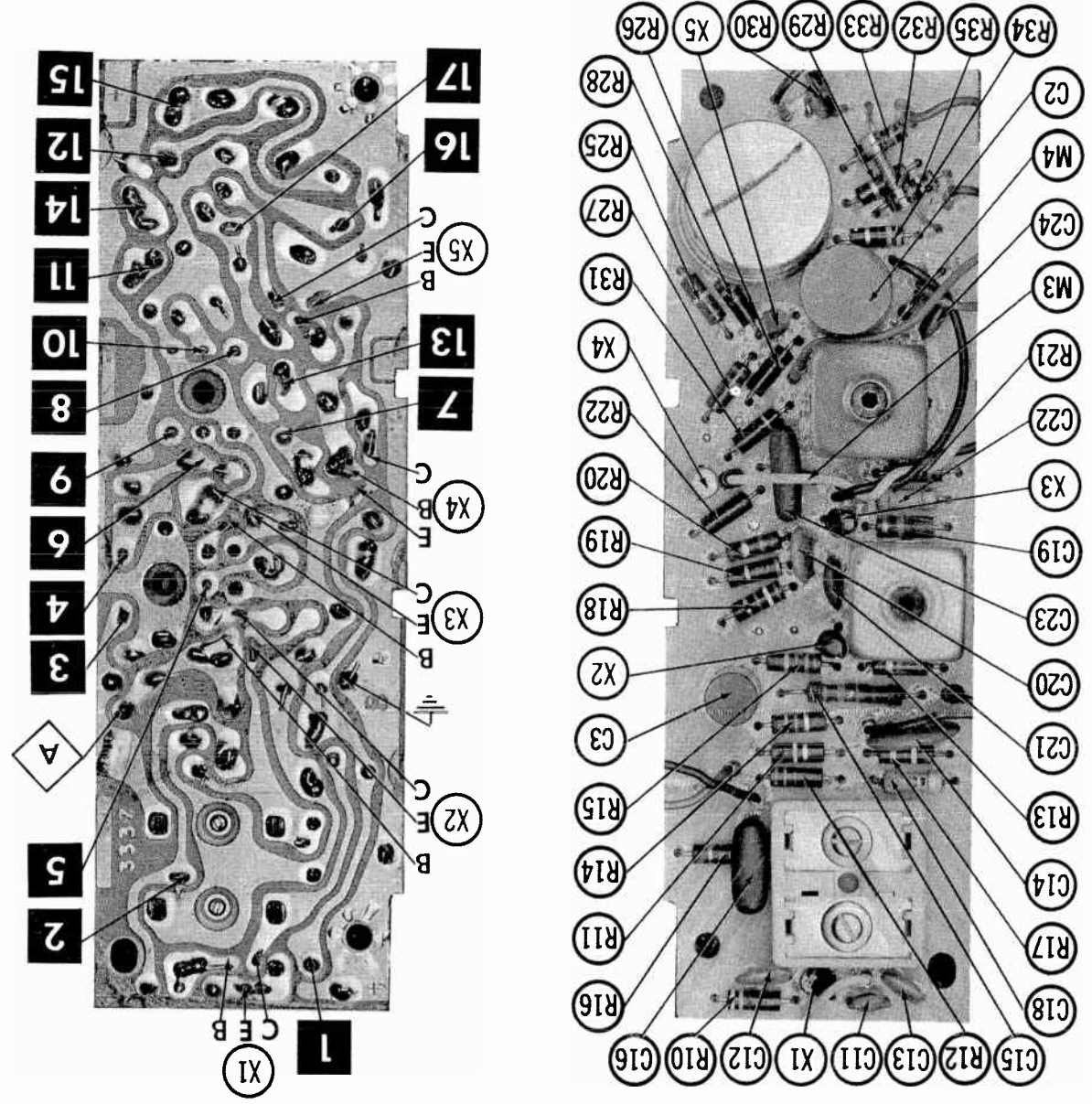
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DIAL CORD STRINGING



FORD MODELS 4TBT, 4TBU

A Howard W. Sams **CIRCUITRACE** Photo



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		RF Amp.	DS-44	GE-10		NPN	2093308-0701
X2		Conv.	DS-44	GE-10		NPN	2093308-0702
X3		IF Amp	DS-44	GE-10		NPN	2093308-0703
X4		1st AF Amp.	DS-26	GE-2	2N591	PNP	2090924-0008
X5		2nd AF Amp.	DS-46	GE-10	2N649	NPN	2092609-0002
X6		Output	DS-520	GE-3	2N301	PNP*	2091859-0011

* When replacing, apply silicon 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	400	16	2092983-0001	PWH2-02-08				PPF-300.65	PCLS-2174. M
B	300	16							
C2	500	3	2093339-0703	BCD12500	NLP450-3	MT1-26	BL2111	PET-290	TE-1088
C3	50	3	2093339-0701	BCD3050	NLP50-3	MT1-18	BL1410	PET-1575	VL-1045

* 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	45-250	#219083-12							
C11	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33	
C12	.005		BPD-005	DD-502	BYALDD5	CCD-502	B250	5HK-D50	
C13	56 N750			TCN-56		CCTN-560	CN7456	10TCU-Q56	
C14	.01		BPD-01	DD-103	BYALDS1	CCD-103	B110	5HK-S10	
C15	.0068		DI-6800	DD-682	BYALDD68	CCD-682	GP268	10TS-D68	
C16	.01 100V		BE2S1	CPR-10000J	WMFIS1	IDP-1-103	PVC211	4PS-S10	
C17A	300-400		#219092-31						
B	180								
C	365-430								
C18	75 N1500	#2091700-0034							
C19	.1 mmf								
C20	.1								
C21	.005		BPD-005	UK20-104	HO5P1	CCD-502	TA010	HY320	
C22	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33	
C23	.05 100V		P288N-05		DPMS2S5	IDP-2-503	PVC215	2PS-S50	
C24	.005		BPD-005	DD-502	BYALDD5	CCD-502	B250	5HK-D50	
C25	.06 100V		BE6S6		DPMS6S6	6DP-3-603	PVC616	6PS-D60	
C26	.1			UK20-104	HO5P1		TA010	HY320	

Bendix Part Number.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Bendix PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	12K	2093304-0701	F2-10K, R2-25K, FFS114, RFS204, AK-31, KR-4		†QJ-1806A	
B	Volume & Switch	20K					

† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B13-116(1), P17-112 (Panel)
"SNAPTROL" Equivalent: BU15(2), CF61, CR50T(2), SF10, SR44, GC. B13-120(1), R26-121 (Rear)
① Use Base Element with "PC" Terminals. QCB-5(3) (Bushing)
② Disregard Tap. 76-1 (Switch)
③ Alter bushing to meet requirements.

COILS (RF-IF)

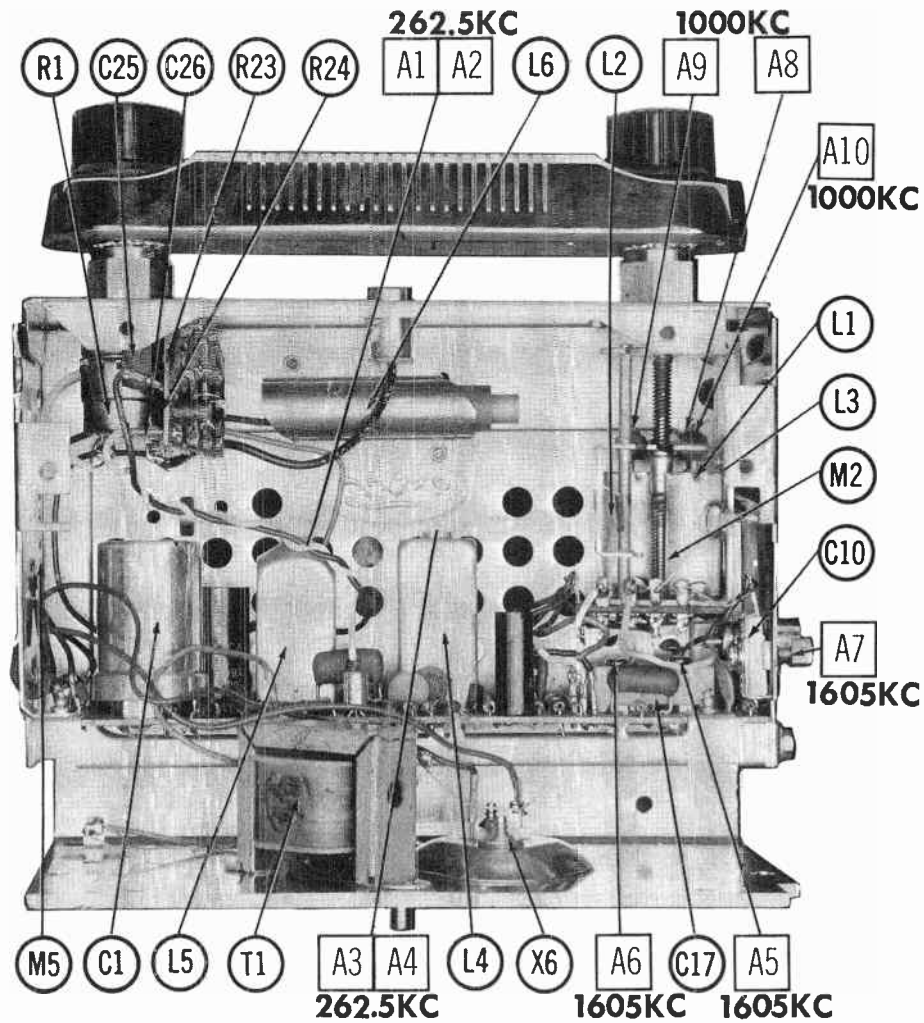
ITEM No.	USE	Bendix PART No.	REPLACEMENT DATA				NOTES
			MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	Antenna	① ① ① 2093163-0002 2093164-0003					① Part of M2.
L2	RF						
L3	Osc.						
L4	Input IF		6522				
L5	Output IF		6523				

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Bendix PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L6	920MA	.1Ω	1.2MH	2092050-008B	C-4095(1)	TR-159(1)	TC-1(1)	TY18XT(1)	① Fabricate Mtg.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	@ 8Ω	Bendix PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	12Ω Tap	@ 8Ω	2092138-0006			TR-164		



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.

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			Bendix PART No.		LITTELFUSE PART No.		8USS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	SFE	7½A	2091811-0003	In fuse block	30707.5			SFE-7½	

MISCELLANEOUS

ITEM No.	PART NAME	Bendix PART No.
M2	Tuner	2093300-0701
M3	AVC	2092055-0708
M4	AF Det.	2092055-0001
M5	Spark Plate (500mmf)	220267-20

SPEAKER

ITEM No.	TYPE		REPLACEMENT DATA		NOTES
			Bendix PART No.	QUAM PART No.	
SP1	5" X 7" PM	8Ω	2091178-0002	57A15ZB	Model 4TBT
	5" X 7" PM	8Ω	2091490-0001		Model 4TBU

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Escutcheon Assembly	2091465-0003	Knob, Volume	2092832-0001
Dial Glass	2091454-0001	Knob, Tuning	2091440-0001
Pointer	2091459-0001	Knob, Tone	2092833-0001

WIRING DATA

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



PHOTOFACT[®]



TRADE NAME : Motorola Models BK4FM 1964 Buick
 CT4FM 1964 Chevrolet
 FMA100 Universal
 OE4FM 1964 Oldsmobile
 PC4FM 1964 Pontiac

SUPPLIER : For Current Address, See Master Index.

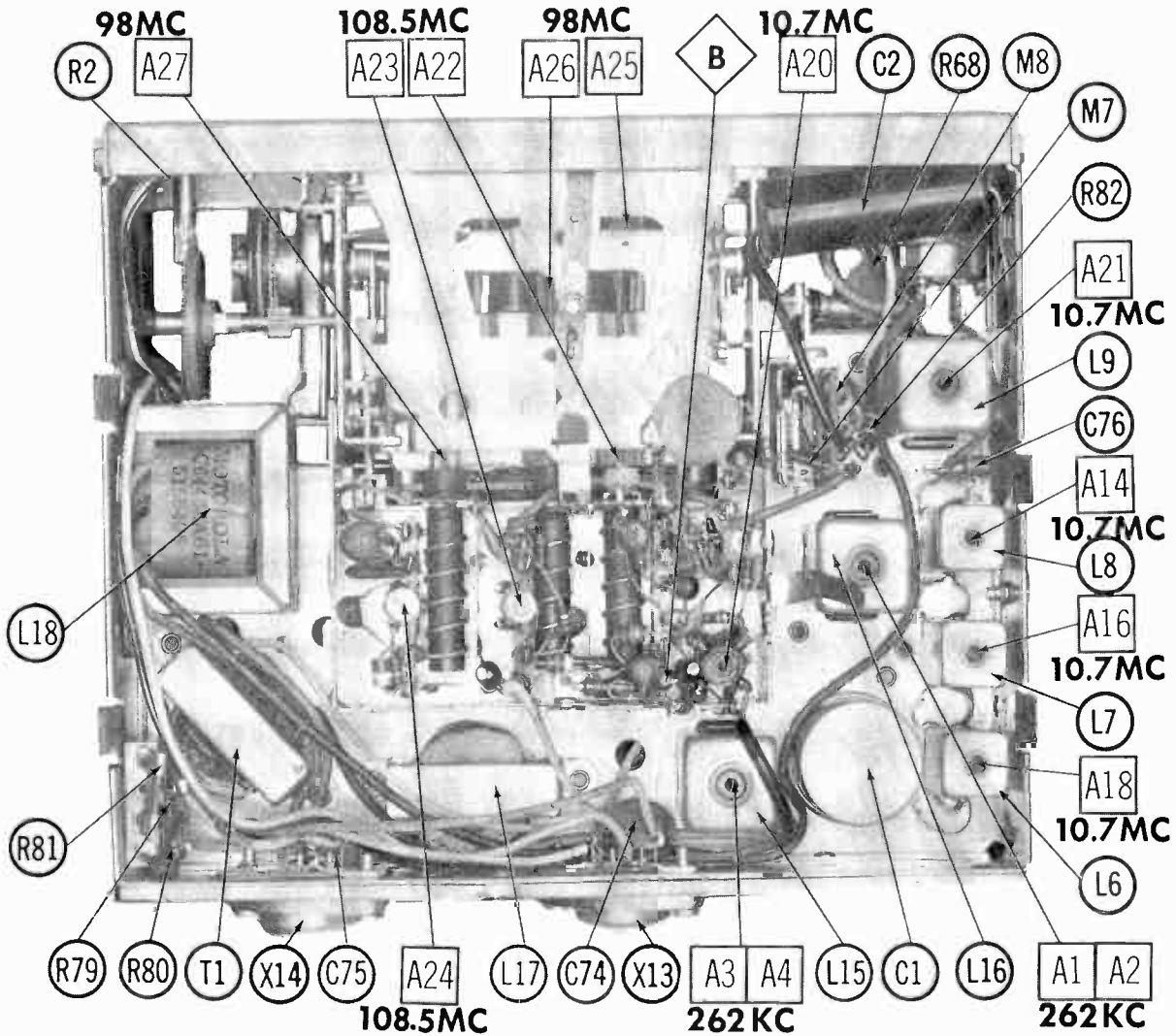
TYPE SET : 14 Transistor AM-FM Receiver

POWER SUPPLY : 12 Volt Storage Battery

RATING : .180 Amp. @ 12.6 Volts AC

TUNING RANGE : BROADCAST: 540-1615KC
 FREQ. MOD. 88-108.5MC

MOTOROLA MODELS BK4FM, CT4FM, FMA-100, OE4FM, PC4FM



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

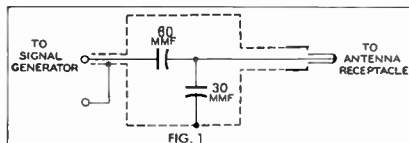
ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
 Use only enough generator output to provide a usable indication.
 Suggested Alignment Tools:
 A1 thru A4, A13, A21 GENERAL CEMENT: 8606, 8606L, 8869 WALSCO: 2543, 2544, 2588
 A5 thru A12, A14 thru A19, A22 thru A27 GENERAL CEMENT: 5009, 8728A, 8987 WALSCO: 2537X, 2536
 A20 GENERAL CEMENT: 9296, 9297, 9300 WALSCO: 2510, 2546, 2547

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point \diamond , low side to ground.	262KC (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.	1615KC	"	"	A5, A6, A7, A8	"
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.	A9, A10, A11, A12	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 A8 for maximum output.						

PUSH-BUTTON ADJUSTMENT

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



FM ALIGNMENT USING AM SIGNAL GENERATOR — SELECTOR IN FM POSITION

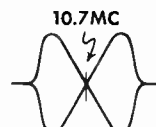
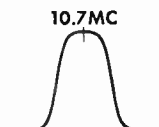
High side thru .01 to point \diamond , low side to ground.

	GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
4.	10.7MC (Unmod.)	Point of non-interference.	DC probe of VTVM to point \diamond ; common to ground.	A13, A14, A15, A16, A17, A18, A19, A20	Adjust for maximum.
5.	"	"	DC probe to point \diamond ; common to chassis.	A21	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.

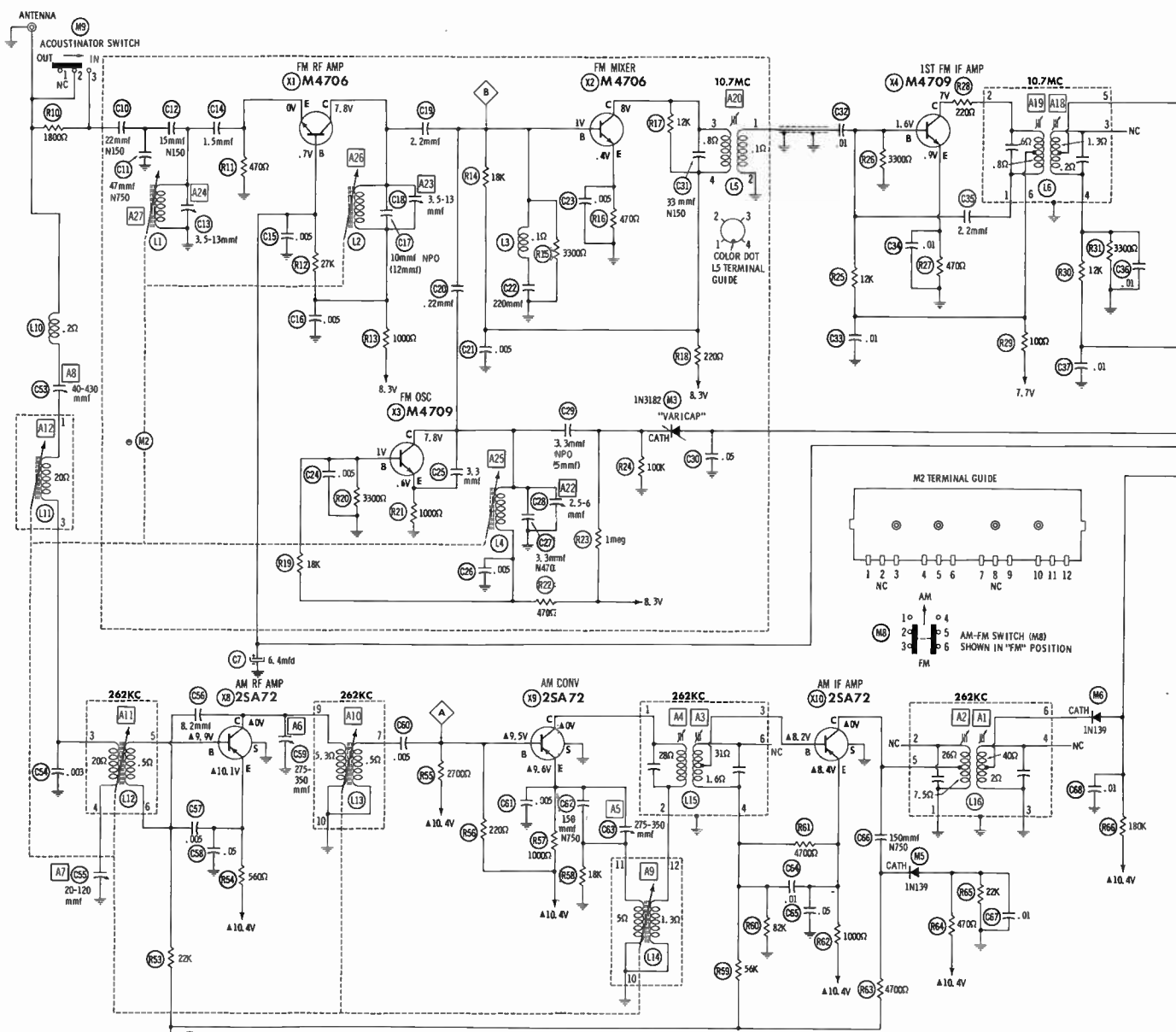
FM IF ALIGNMENT USING FM SIGNAL GENERATOR — SELECTOR IN FM POSITION

High side thru .01mfd to point \diamond , low side to ground. Use only enough marker signal to obtain indication. Use 60% frequency modulated signal with 450KC sweep. Use 120% sawtooth voltage in scope for horizontal deflection.

	GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
4.	10.7MC (450KC Swp.)	Point of non-interference	Vert. amp. of Scope to point \diamond ; low side to ground.	A13, A14, A15, A16, A17, A18, A19, A20	Disconnect stabilizing capacitor C 3 . Adjust for maximum gain and symmetry of response similar to Fig. 2 with marker as shown. Reconnect C 3 .
5.	"	"	Vert. amp. to point \diamond ; low side to	A21	Adjust A 13 (Secondary) to place marker at center of crossover lines similar to Fig. 3. Adjust A 13 (Primary) for maximum amplitude and straightness of crossover lines.
Steps 6 and 7 are not necessary unless tuner has been tampered with or associated components have been replaced. IF necessary, back tuning cores A25, A26 and A27 out of coils but not out of forms.					
Connect generator thru dummy (Fig. 1) to antenna receptacle.					
	GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
6.	108.5MC	Set at high end.	DC probe of VTVM to point \diamond ; common to ground.	A22, A23, A24	Adjust for maximum.
7.	98MC	Tuner carriage .518" from high end stop.	"	A25, A26, A27	Rock tuning and adjust for maximum. Repeat steps 6 and 7 until no further improvement can be made.



MOTOROLA MODELS BK4FM, CT4FM, FMA-100, OE4FM, PC4FM



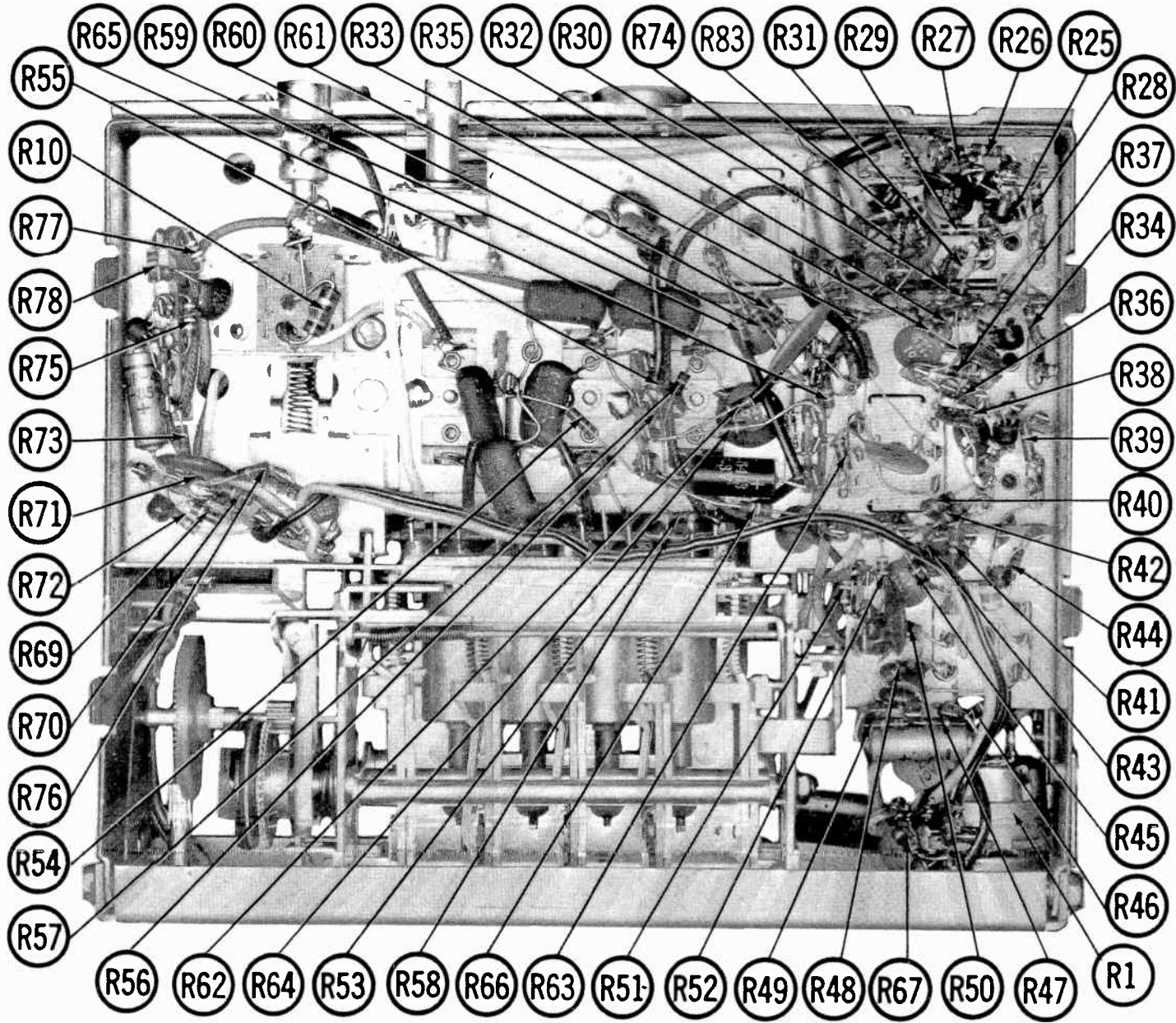
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

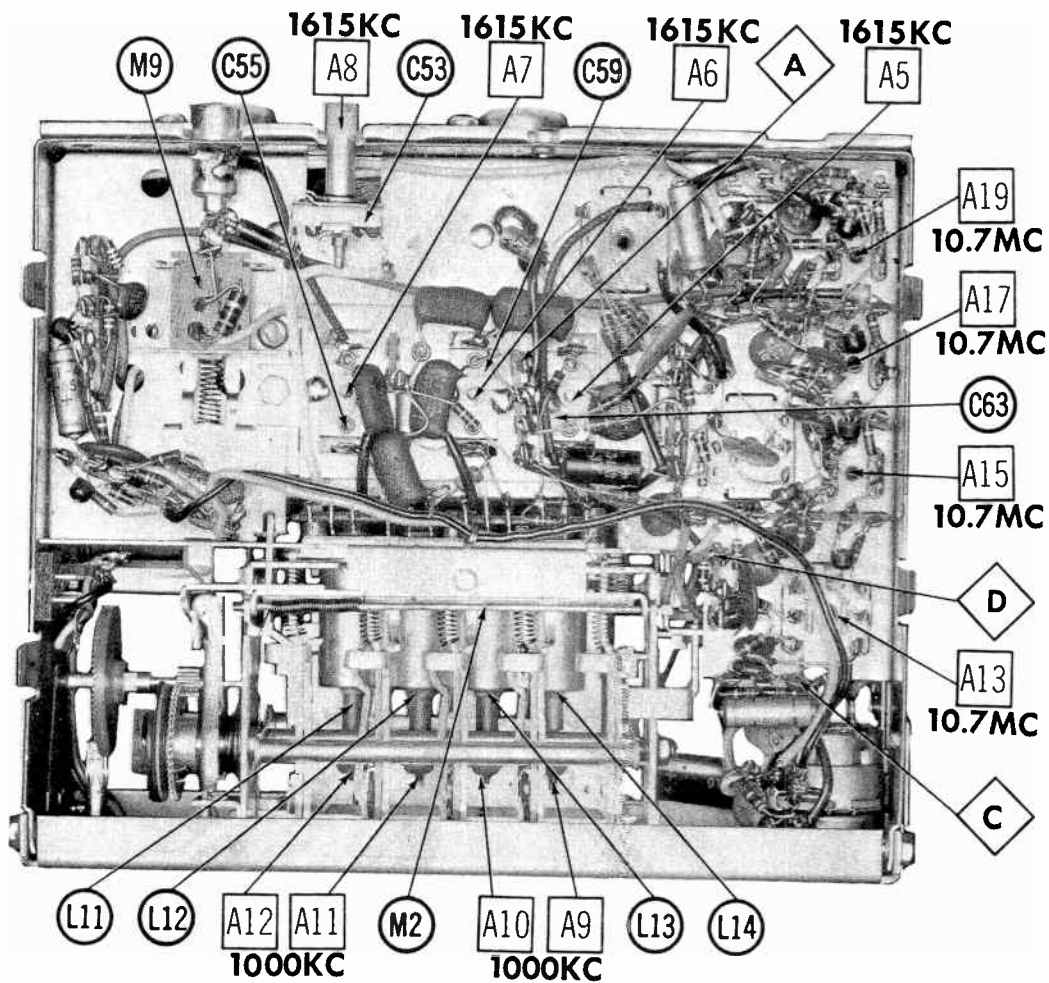
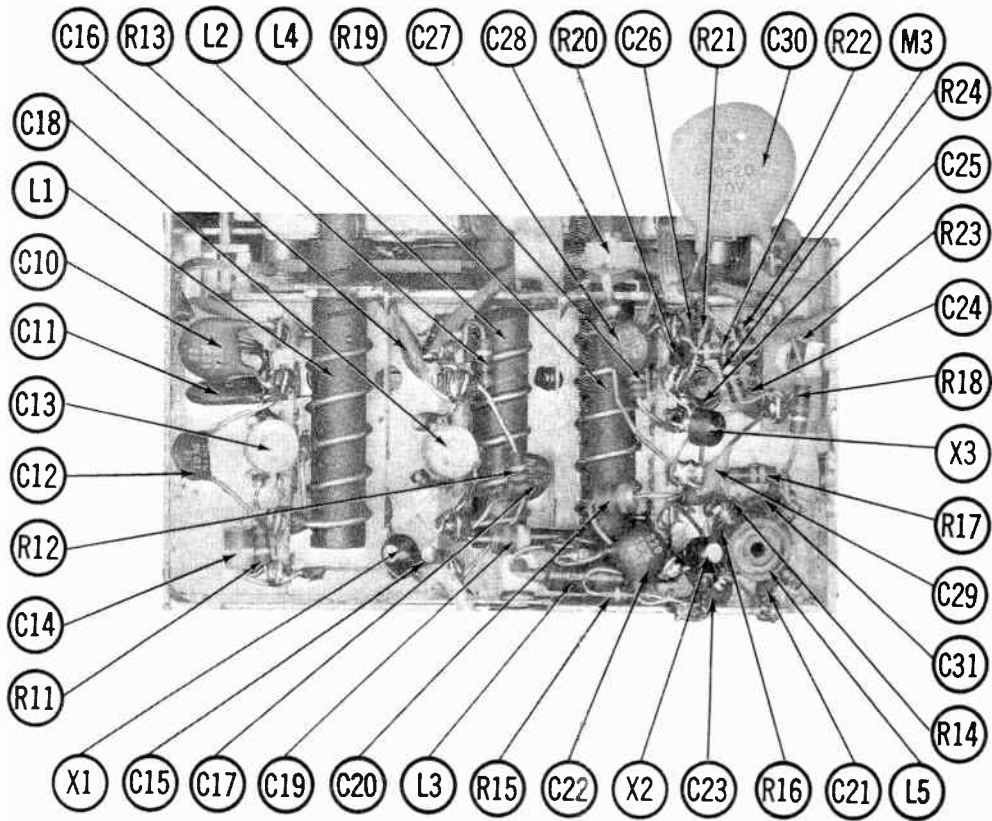
VOLTAGE MEASUREMENTS TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED. ATAKEN IN "AM" POSITION.

⊙ See parts list for alternate value or application.

1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found on the unit.
6. Supply voltage maintained at rated value for voltage readings.
7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	M4706	FM RF Amp				NPN
X2	M4706	FM Mixer				NPN
X3	M4709	FM Osc.				NPN
X4	M4709	1st FM IF				NPN
X5	M4709	2nd FM IF				NPN
X6	M4709	3rd FM IF				NPN
X7	M4709	4th FM IF				NPN
X8	2SA72	AM RF Amp	DS-25	GE-1	2N1637	PNP
X9	2SA72	AM Conv.	DS-25	GE-1	2N1639	PNP
X10	2SA72	AM IF Amp.	DS-25	GE-1	2N1638	PNP
X11	M54	AF Amp.	DS-46	GE-10	2N649	NPN
X12	M54	Driver	DS-46	GE-10	2N649	NPN
X13	SP880	Output	DS-520	GE-3	2N301	PNP
X14	SP880	Output	DS-520	GE-3	2N301	PNP

* When replacing, apply silicone grease to both sides of insulator. Tighten mounting screws securely.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	MOTOROLA 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	16	23C64722A02	AFH3-00-94.5				PPP300.18	PCLS-3026.II*
B	500	16							
C	100	16							
C2	500	16	23K544799	PRS1290	BR500-25	QT1-32	TD-500-25	TC2505	TVA-1209
C3	6.4	40	23K544697	CRE755A	NLW8-50	MT1-5	BL1471	TT100X6	TE-1303.1
C4	25	3	23K544540	PTT9	NLW25-3	MT1-10	MLV25-3	TT3X25	TE-1055
C5	6.4	40	23K544697	CRE755A	NLW8-50	MT1-5	BL1471	TT100X6	TE-1303.1
C6	6.4	40	23K544697	CRE755A	NLW8-50	MT1-5	BL1471	TT100X6	TE-1303.1
C7	6.4	40	23K544697	CRE755A	NLW8-50	MT1-5	BL1471	TT100X6	TE-1303.1

* 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.	ELMENC0 PART No.	MALLORY PART No.	SPRAGUE PART No.	
C10	22mmf N150								10TCP-Q22
C11	47mmf N750		N750-DI47	DTN-47	C10Q47U	CCTN-470	CN7447		10TCU-Q47
C12	15mmf N150								10TCP-Q15
C13	3.5-13mmf	#20B64388A01							
C14	1.5mmf		NPO-DI1.5	DTZ-1R5	C10V15C		CNO515		10TCC-V15
C15	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250		5HK-D50
C16	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250		5HK-D50
C17	10mmf NPO	(12) †	NPO-DI10	DTZ-10	C10Q1C	CCT0-100	CNO410		10TCC-Q10
C18	3.5-13mmf	#20B64388A01							
C19	2.2mmf		NPO-DI2.2	DTZ-2R2	C10V22C	CCT0-2R2	CNO522		10TCC-V22
C20	.22mmf	#21R134166							
C21	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250		5HK-D50
C22	220mmf		DI-220	DD-221	LA10T22-S3	CCD-221	GP322		10TS-T22
C23	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250		5HK-D50
C24	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250		5HK-D50
C25	3.3mmf		NPO-DI3.3	DTZ-3R3	C10V33C	CCT0-3R3	CNO533		10TCC-V33
C26	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250		5HK-D50
C27	3.3mmf N470								10TCT-V33
C28	2.5-6mmf	#20B64388A02							
C29	3.3mmf NPO	(5) †	NPO-DI3.3	DTZ-3R3	C10V33C	CCT0-3R3	CNO533		10TCC-V33
C30	.05		TTD-05	CK-503	H5		TA150		TG-S50
C31	33 N150								10TCP-Q33
C32	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C33	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C34	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C35	2.2mmf		NPO-DI2.2	DTZ-2R2	C10V22C	CCT0-2R2	CNO522		10TCC-V22
C36	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C37	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C38	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C39	5.6mmf								10TCC-V56
C40	2.2mmf		NPO-DI2.2	DTZ-2R2	C10V22C	CCT0-2R2	CNO522		10TCC-V22
C41	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C42	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C43	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C44	1.5mmf		NPO-DI1.5	DTZ-1R5	C10V15C		CNO515		10TCC-V15
C45	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C46	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C47	4.7mmf		NPO-DI4.7	DTZ-4R7	C10V47C	CCT0-4R7	CNO547		10TCC-V47
C48	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C49	330mmf		DI-330	DD-331	LA10T33-C4	CCD-331	GP333		10TS-T33
C50	330mmf		DI-330	DD-331	LA10T33-C4	CCD-331	GP333		10TS-T33
C51	330mmf		DI-330	DD-331	LA10T33-C4	CCD-331	GP333		10TS-T33
C52	.02		BPD-02	DD-203	BYA6S2	CCD-203	B120		5HK-S20
C53	40-430	200V	#20B54871A02						
C54	.003	200V	P288N-003	CPR-3000J	WFM2D33	6DP-1-302	PVC423		6PS-D30
C55	20-120	200V	#20B64413A02						
C56	8.2mmf	200V	NPO-DI8.2		LA10V8-SL		GP580		10TCC-V82
C57	.005	200V	P288N-005	CPR-5000J	DPMS-6D5	1DP-1-502	PVC625		6PS-D50
C58	.05	200V	P288N-05		DPMS-2S5	1DP-2-503	PVC215		2PS-S50
C59	275-350	200V	#20B64413A01						
C60	.005	200V	P288N-005	CPR-5000J	DPMS-6D5	1DP-1-502	PVC625		6PS-D50
C61	.005	200V	P288N-005	CPR-5000J	DPMS-6D5	1DP-1-502	PVC625		6PS-D50
C62	150mmf	N750	N750-DI150	DTN-150	C10T15U	CCTN-151	CNT7315		10TCU-T15
C63	275-350	200V	#20B64413A01						
C64	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C65	.05		TTD-05	CK-503	H5		TA150		TG-S50

MOTOROLA MODELS BK4FM, CT4FM, FMA-100, OE4FM, PC4FM

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.

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.	
C66	150mmf N750	#21S180A85	N750-DI150	DTN-150	C10T15U	CCTN-151	CN7315	10TCU-T15	
C67	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10	
C68	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10	
C69	.2		10V 3V	UK20-204	UK20-204	HCC25224Z			HY-325
C70	.47			UK10-404	UK10-404	HCC10474Z			HY-330
C71	.0033		PBD-0033	DD-332	BYA10D33	CCD-332	B233	5HK-D33	
C72	470mmf		BPD-00047	DD-471	BYA10T47	CCD-471	B347	10TS-T47	
C73	680mmf		DI-880	DD-881	JB8T88	CCD-881	GP388	10TS-T88	
C74	.03		TTD-03	CK-303				TC-S30	
C75	.03		TTD-03	CK-303				TC-S30	
C76	.01			BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C77	.01			BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10

Motorola Part Number.
 † Alternate Value.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			Motorola PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CYS-IRC PART No.	MALLORY PART No.	
R1A	Tone	100K	18C64588A01	F1-100K ^⑤			†QJ-1727A	■UE4449S
B	Volume, Switch	10K Tap @ 6000Ω	①	R16-10K, FFS201, RFS210, KR-4				
	Tone	100K	18C64412A01					
	Volume, Switch	10K Tap @ 6000Ω	②					
	Tone	100K	18B64588A04	F1-100K ^⑤ , R16-10K, FFS110, RFS203, KR-4			†† QJ-1759A	FA15L ^⑤ , RU14T53, OS1625, IS2187, US41
	Volume, Switch	10K Tap @ 6000Ω	③					
	Tone	100K	18C64588A02	F1-100K ^⑤ , R16-10K, FFS109, RFS202			††† QJ-1803A	■UE4450S
R2	Fader	150Ω @ 8000Ω	18B64588A01				WF1, SF10	
	Fader	2W	①					
	Fader	150Ω	18B64440A01				WF1, SF10	
	Fader	2W	③					
	Fader	150Ω	18C64588A02				WF1, SF3	

† "CONCENTRIKIT" Equivalent: K8^⑤ Kit with Base Elements and Shafts: B11-128, P22-203 (Panel)
 ■ "STA-LOC" Equivalent: FA15L^⑤, RU14T153, OS2028, IS2625, US41. E19-116X, R1-218 (Rear)
 †† "CONCENTRIKIT" Equivalent: K8^⑤ Kit with Base Elements and Shafts: B11-128, P22-121 (Panel)
 ■ "STA-LOC" Equivalent: FA15L, RU14T53, OS1562A, IS2125, US41. B19-116X, R9-202 (Rear)
 ††† "CONCENTRIKIT" Equivalent: K8^⑤ Kit with Base Elements and Shaft: B11-128, P17-118 (Panel)
 B19-116X, R9-202 (Rear)
 76-1 (Switch)

- ① Used in Models BK4FM, CT4FM
- ② Used in Model FMA100
- ③ Used in Model OE4FM
- ④ Used in Model PC4FM
- ⑤ Use original spring mounting clips.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Motorola PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	FM Ant.	24B64403A01					① Part of M2 or coils and mounting plate assembly Part #1V42300A84.
L2	FM RF	24B64403A02					
L3	IF Trap (1uh)	24A64389A01	BC-561	4602	RTC-8515	T855	
L4	FM Osc.	24B64403A01					
L5	1st FM IF	24C64390A01					
L6	2nd FM IF	24C64392A01					
L7	3rd FM IF	24C64392A01					
L8	4th FM IF	24C64392A01					
L9	Ratio Detector	24D64391A01					
L10	RF Choke (1.5uh)	24A64389A02	BC-562	4604	RTC-8516	T856	
L11	1st AM Ant.	①					
L12	2nd AM Ant.	①					
L13	AM RF	①					
L14	AM Osc.	①					
L15	1st AM IF	24B64613A01		6570			
L16	2nd AM IF	24B64613A03		6571			

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Motorola PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L17	180MA	.3Ω	3MH	25K543844 (25K544798)	C-4095	TC-1	TR-159	TY16XT	

CHOKE (AUDIO OUTPUT)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		Motorola PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L18	120MH	25C64404A01					

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.

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
			Motorola	MERIT	STANCOR	THORDARSON	TRIAD	
			PART No.	PART No.	PART No.	PART No.	PART No.	
T1	8.5:	1	25B64405A01					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES	
		Motorola PART No.	QUAM PART No.		
SP1	4" X 10" PM	40Ω	50C64373A02	410A2Z40	Models BK4FM, PC4FM Model CT4FM Model FMA-100 Model OE4FM
	6" X 9" PM	40Ω	1D84591A01	69A2Z40	
	5" X 7" PM	40Ω	50D84729A01	57A1Z40	
	4" X 10" PM	40Ω	1D64562A03	410A2Z40	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			Motorola PART No.		LITTELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	7AG	4A	65R131812 ①	In Fuse Block	30307.5			AGW7½	
	3AG	4A	65R61688 ②	In Fuse Block	312004			AGC4	
	AGA	5	65R122345 ③	1V64964A32	301005	155004		AGA5	HAF

- ① Used in Models BK4FM, OE4FM, PC4FM.
- ② Used in Model CT4FM.
- ③ Used in Model FMA100.

MISCELLANEOUS

ITEM No.	PART NAME	Motorola PART No.	NOTES
M2	Tuner	77D42509A03	AFT-476 (Models BK4FM, CT4FM) Less Pushbuttons.
	Tuner	77D42501A01	AFT-467 (Model FMA100) Includes Pushbuttons.
	Tuner	77D42509A01	AFT-473 (Model OE4FM) Includes Pushbuttons.
	Tuner	77D42509A02	AFT-474 (Model PC4FM) Includes Pushbuttons.
M3	AM Tuning Coil Ass'y	1V42300A84	
M4	Varicap	48A42383A01	(1N3182)
M5	AFC Limiter	48C134587	(1N139)
M6	AVC Limiter	48C134587	(1N139)
M7	AM Detector	48C134587	(1N139)
M8	Zener Diode	48A40458A06	(1N756A)
M9	Selector Switch	40B64417A01	
M9	Acoustinator Switch	40B64393A01	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Model BK4FM		Model OE4FM	
Escutcheon	13D64589A01	Escutcheon	13D64513A01
Dial Scale	34B64402A01	Dial Scale	34B64400A01
Knob, Tuning or Volume	36B64558A01	Knob, Tuning or Volume	36C64437A01
Knob, Tone or Fader	36B64553A01	Knob, Tone	36C64433A02
Pushbutton, Second & Fourth	38C41815A01	Knob, Fader	36C64433A01
Pushbutton, Third	38C41815A02	Pushbutton, Second & Fourth	38C42384A01
Pushbutton, AM/FM	38C41815A03	Pushbutton, Third	38C42384A04
Pushbutton, Acoustinator	38C41515A04	Pushbutton, AM/FM	38C42384A07
Dial Pointer	52C42062A09	Pushbutton, Acoustinator	38C42384A08
Model CT4FM		Dial Pointer	52C42062A08
Model FMA100		Model PC4FM	
Escutcheon	13D64589A01	Escutcheon	13D64561A01
Dial Scale	34B64402A01	Dial Scale	34B64401A01
Knob, Tuning or Volume	36B64514A01	Knob, Tuning or Volume	36B64428A01
Knob, Tone or Fader	36B64598A01	Knob, Tone or Dummy	36B64429A01
Pushbutton, Second or Fourth	38C41815A01	Pushbutton, Second & Fourth	38C44097A01
Pushbutton, Third	38C41815A02	Pushbutton, Third	38C44097A03
Pushbutton, AM/FM	38C41815A03	Pushbutton, AM/FM	38C44097A05
Pushbutton, Acoustinator	38C41515A04	Pushbutton, Acoustinator	38C44097A06
Dial Pointer	52C42062A02	Dial Pointer	52C42062A08
Escutcheon	13C64661A01		
Dial Scale	34B64416A01		
Knob, Tuning or Volume	36B543382		
Knob, Tone	36B543398		
Knob, Dummy	36K543399		
Pushbutton, Second, Third & Fourth	1V64965A20		
Pushbutton, AM/FM	1V64957A96		
Pushbutton, Acoustinator	1V64957A97		
Dial Pointer	52C42062A07		

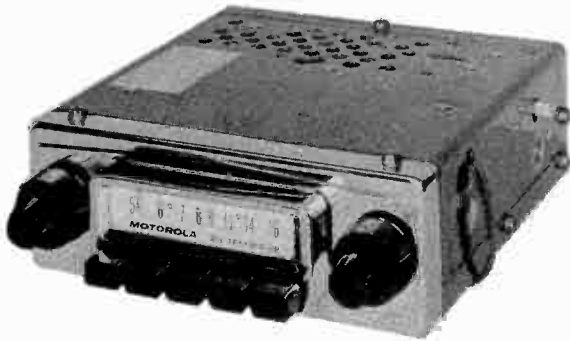
WIRING DATA

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

MOTOROLA MODELS BK4FM, CT4FM, FMA-100, OE4FM, PC4FM



PHOTOFACT[®]



TRADE NAME : Motorola Model 524
 SUPPLIER : Motorola Inc., 9401 W. Grand Avenue,
 Franklin Park, Illinois
 TYPE SET : 5 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .500 Amp. @ 12.6 VDC
 TUNING RANGE : BROADCAST 540-1615KC

MOTOROLA MODEL 524

ALIGNMENT INSTRUCTIONS

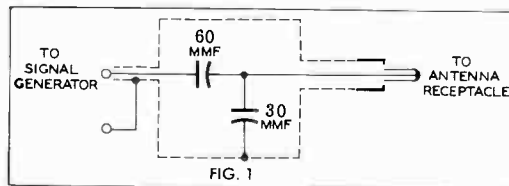
Check for specified source voltage.
 Use only enough generator output to provide a usable indication.

Suggested Alignment Tools:

- A1 thru A4 GENERAL CEMENT #8606, 8606L, 8869
 WALSCO # 2543, 2544, 2588
 A5 thru A8 GENERAL CEMENT # 8290, 8868, 9087
 WALSCO #2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point Δ , low side to ground.	262KC (400v 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.	1615KC	"	"	A5, A6, A7, A8	"
Step 3 is not necessary unless tuner has been tampered with or associated components have been replaced. IF necessary, back tuning cores (A9, A10, A11, A12) 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.	A9, A10, A11, A12	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 A8 for maximum output.



PUSH-BUTTON ADJUSTMENT

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

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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2SA72	RF Amp.	DS-25	GE-1	2N1837	PNP
X2	2SA72	Converter	DS-25	GE-1	2N1839	PNP
X3	2SA72	IF Amp.	DS-25	GE-1	2N1838	PNP
X4	MN53	Driver	DS-26	GE-2	2N591	PNP
X5	SP891	Output	DS-520	GE-3	2N301	PNP ①

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	MOTOROLA 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	16	23B543279	AFH3-00-95	CCOO12	XC3-48	TMT3002	WP300.85	TVL-3028.8
C1B	500	16							
C1C	100	16							
C2	25	3	23K544540	PTT9	NLW25-3	MT1-10	MLV25-3	TT3X25	TE-1055
C3	5	3	23K544541	PTT4	NLW5-15	MT1-3	MLV5-12	TT6X5	TE-1052.2

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	40-430		#20B544017						
C11	.003	200V		P288N-003	CPR-3000J	WMF2D33	6DP-1-302	PVC-423	6PS-D30
C12	20-120		#20K541014						
C13	4.7			NPO-DI4.7	DTZ-4R7	C10V47C	CCO-4R7	CNO-547	10TCC-V47
C14	.005			BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C15	.05	200V		P288N-05		DPMS2S5	1DP-2-503	PVC-215	2PS-S50
C16	20-120		#20K544594						
C17	.005	200V		P288N-005	CPR-5000J	DPMS6D5	1DP-1-502	PVC-625	6PS-D50
C18	.01	100V		BE2S1	CPR-10000J	WMF1S1	1DP-1-103	PVC-211	4PS-D10
C19	100	N750		N750-DI100	DTN-100	C10T1U	CCTN-101	CN7-310	10TCU-T10
C20	310-390		#20K541700						
C21	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C22	.05			TTD-05	CK-503	H5		TA-150	TG-S50
C23	180	N750				C10T18U		CN7-318	10TCU-T18
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	.05			TTD-05	CK-503	H5		TA-150	TG-S50
C27	100			DI-100	DD-101	LA10T1-S3	CCD-101	GP-310	5GA-T10
C28	.03			TTD-03	CK-303				TG-S30
C29	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10

Motorola Part Number

CONTROLS

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

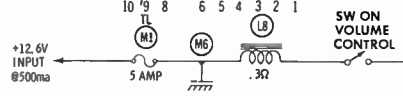
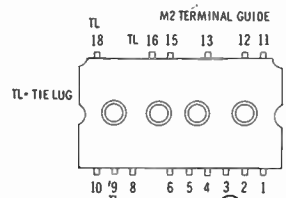
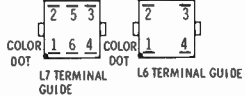
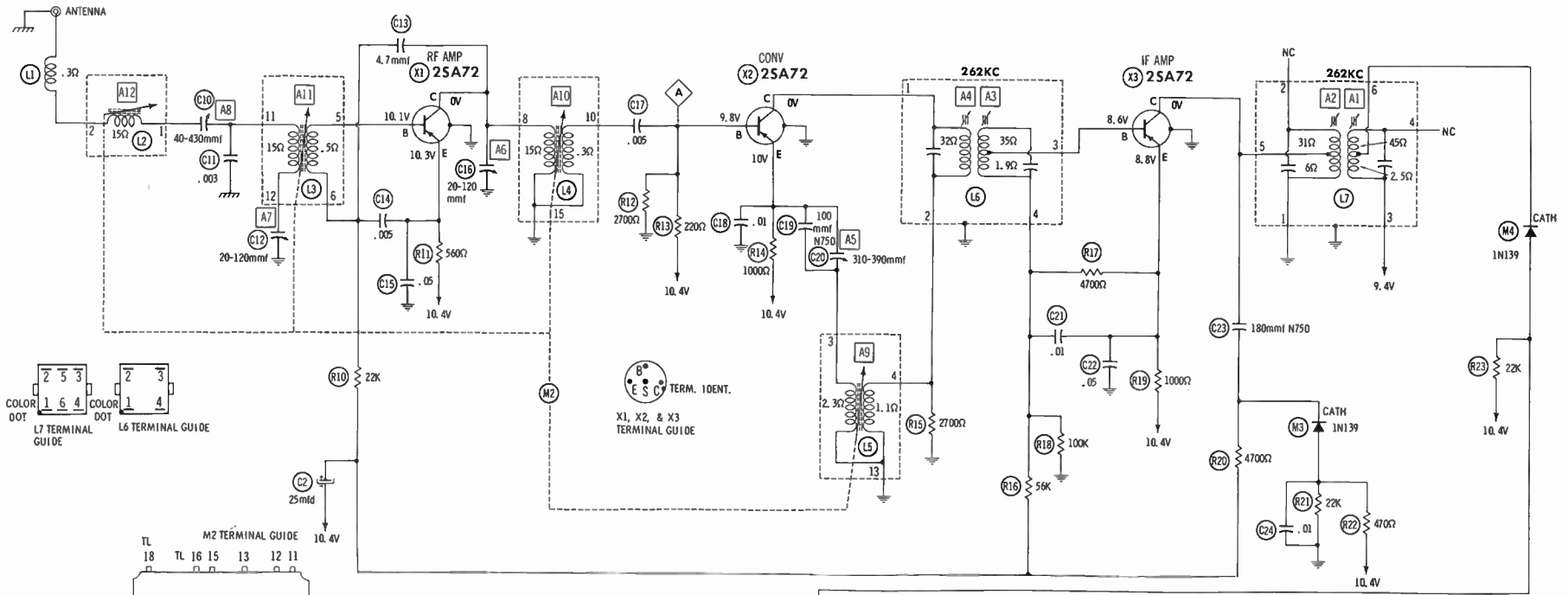
ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			MOTOROLA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone	100K	18C64734A03	F2-100K, R1-10K			† QJ-1624A	■ UE4434-S
B	Volume, Switch	10K		FFS015, RFS106				
R2	Bias	300Ω 2W W W	18C64735A08	AK31 ①, KR4	U39-300		112-300	VW-300

① Alter Bushing to meet Requirements. "SNAPTROL" Equivalent BU6, ① CF52, CR5, SF3, SR39, GC
 † "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B13-138, P21-029 (Panel)
 "SNAPTROL" Equivalent: BU6, ① CF52, CR5, SF5, SR40, GC. B11-118, R9-110 (Rear)
 ■ "STA-LOC" Equivalent: FF15A, RU14L, OS875A, IS1312, U841 78-1 (Switch) S45 ① (Bushing)

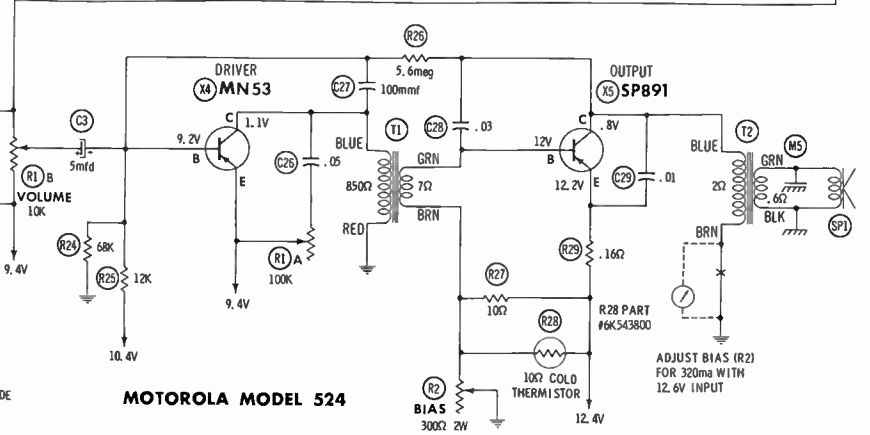
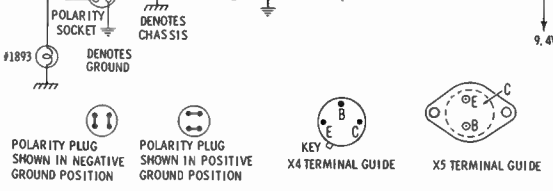
COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		MOTOROLA PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke(1.8uh)	24B64785A03	BC-562	74F186AP	RTC-8516	T810	① Part of M2 or coils & Mtg. Plate Assy. Part #1V40800A80
L2	1st Ant.	25K563896 ①					
L3	2nd Ant.	24B40431A02 ①					
L4	RF	24B40431A01 ①					
L5	Osc.	24B40817A01 ①					
L6	Input IF	24B64861A03	BC-690	6557			
L7	Output IF	24B64861A02	BC-691	6556			

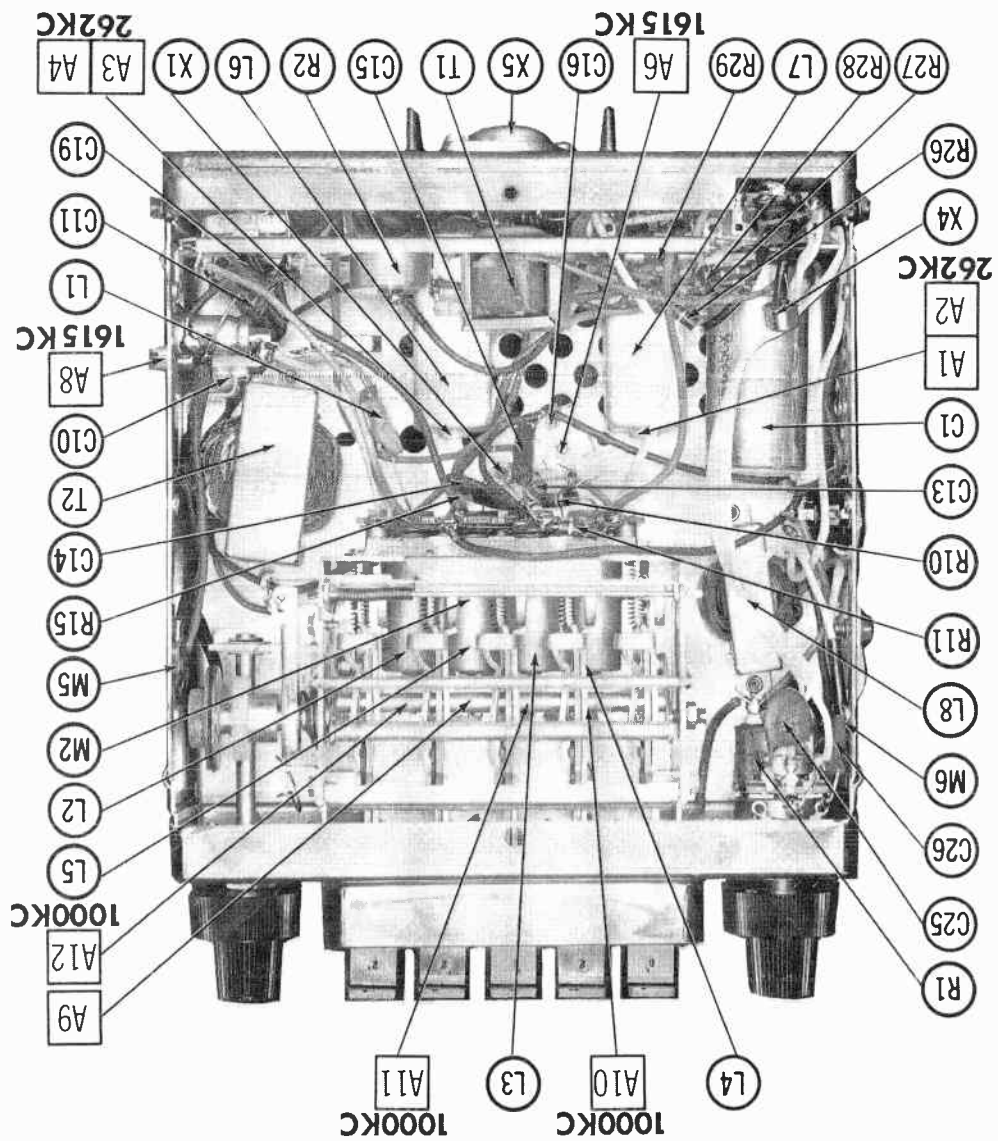
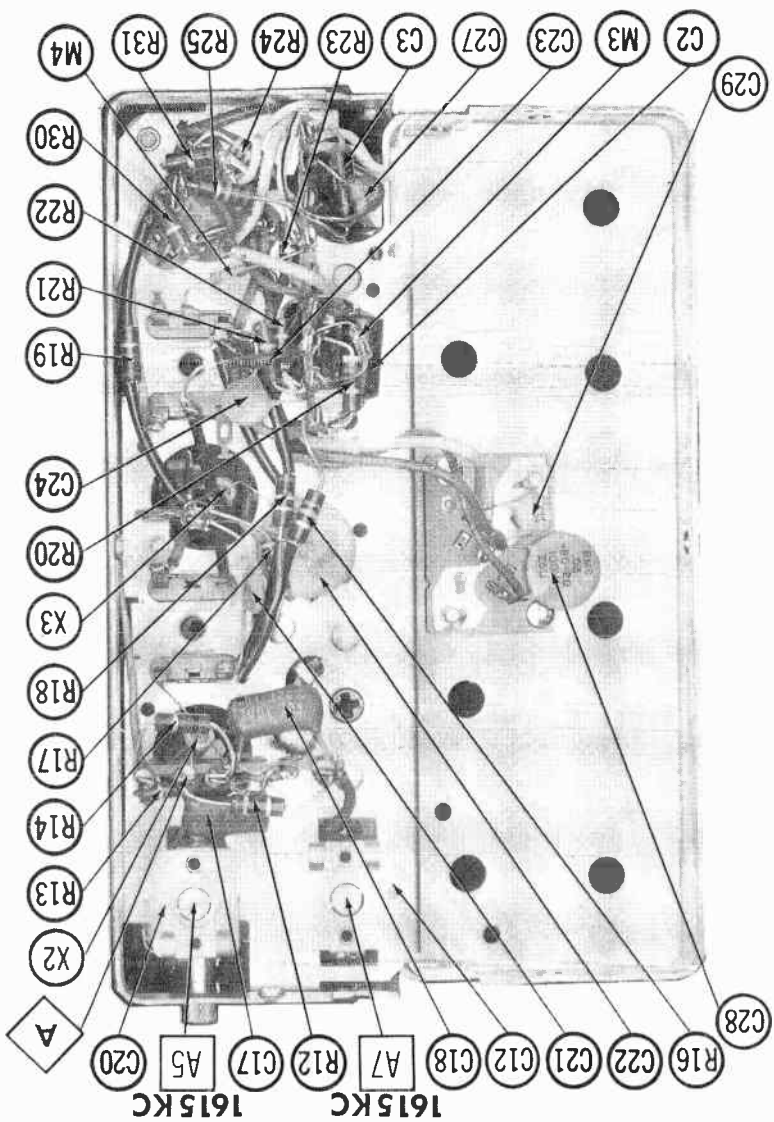
MOTOROLA MODEL 524



VOLTAGES TAKEN WITH POLARITY PLUG IN NEGATIVE GROUND POSITION
 See parts list for alternate value or application.
 1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.
 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.
 Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.



A PHOTOFAC STANDARD NOTATION SCHEMATIC
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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.

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L8	500ma	.4Ω	3.2MH	25B64839A01	C-4095	TC-1	TR-157	TY16XT	

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	19:	1	25K544612			TR-190		

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	22Ω	3.2Ω	25C543445			TR-304	TY29X	

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
				MOTOROLA PART No.	QUAM PART No.	
SP1	5" X 7"	PM	3-2Ω	50C541964	57A21	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			MOTOROLA PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	LAG	5 Amp.	65R122345	9K543179	301005	155004	AGA5	HMF

MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M2	Tuner	77D565083	AT381
M3	AVC (Diode)	48C134587	1N139
M4	AF Det. (Diode)	48C134587	1N139
M5	Spark Plate	64K530177	
M6	Spark Plate	64K530177	

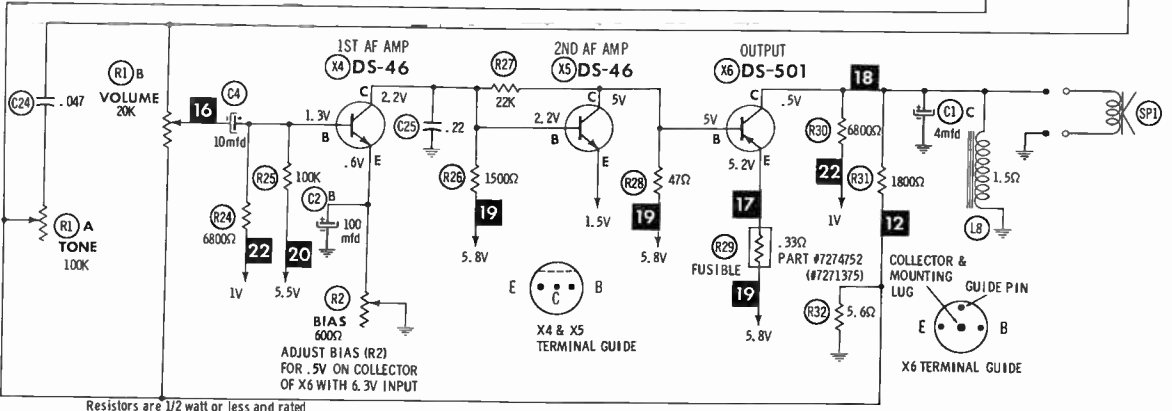
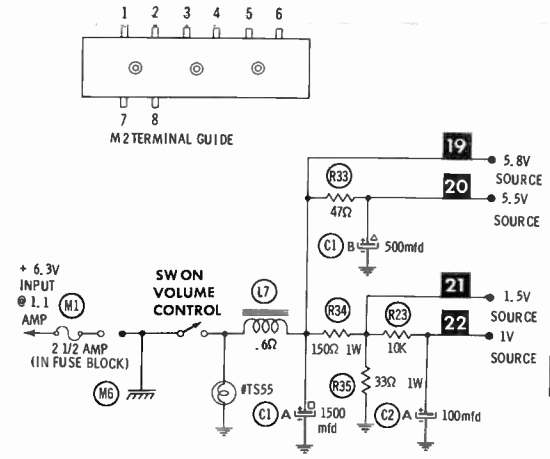
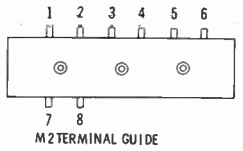
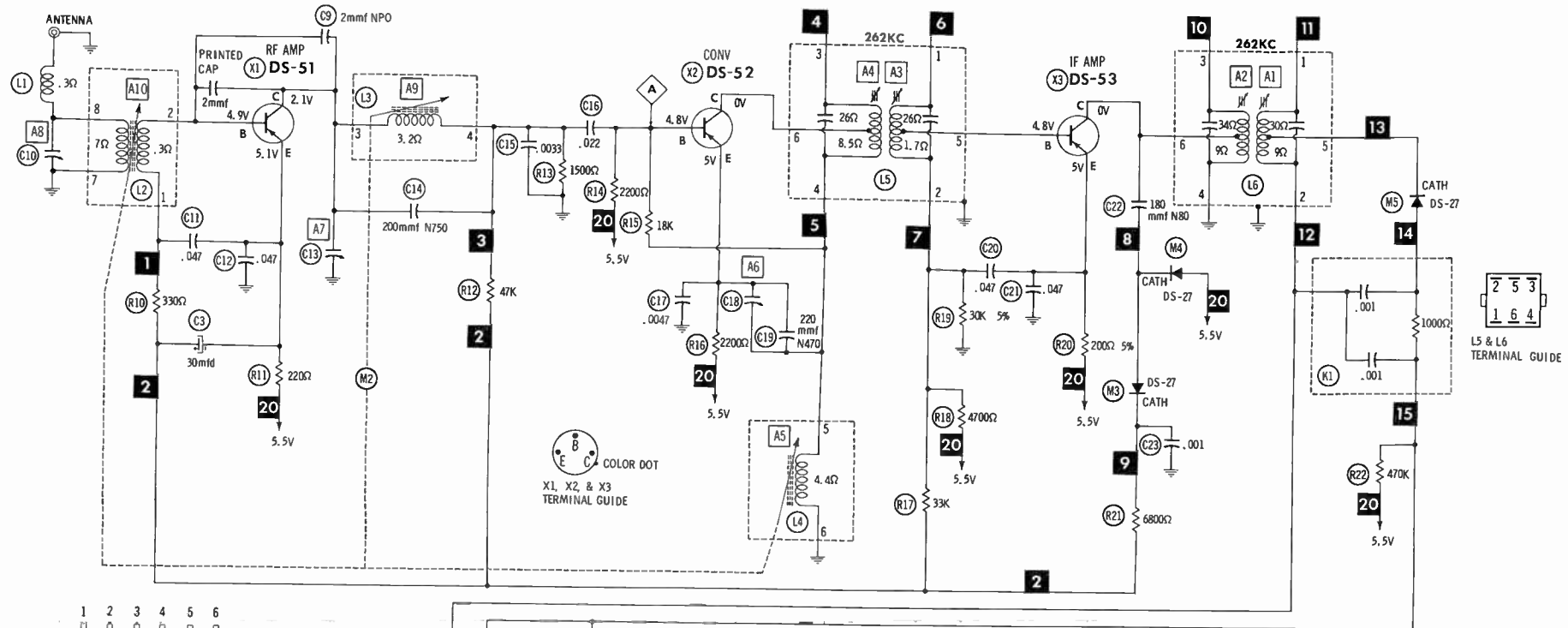
CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Escutcheon	13C543880	Knob, Dummy	36K543878
Dial Scale	34B64793A01	Pushbutton	1V64965A20
Knob, Tuning or Volume	36B543876	Pointer	1B40961A01
Knob, Tone	36B543877		

WIRING DATA

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

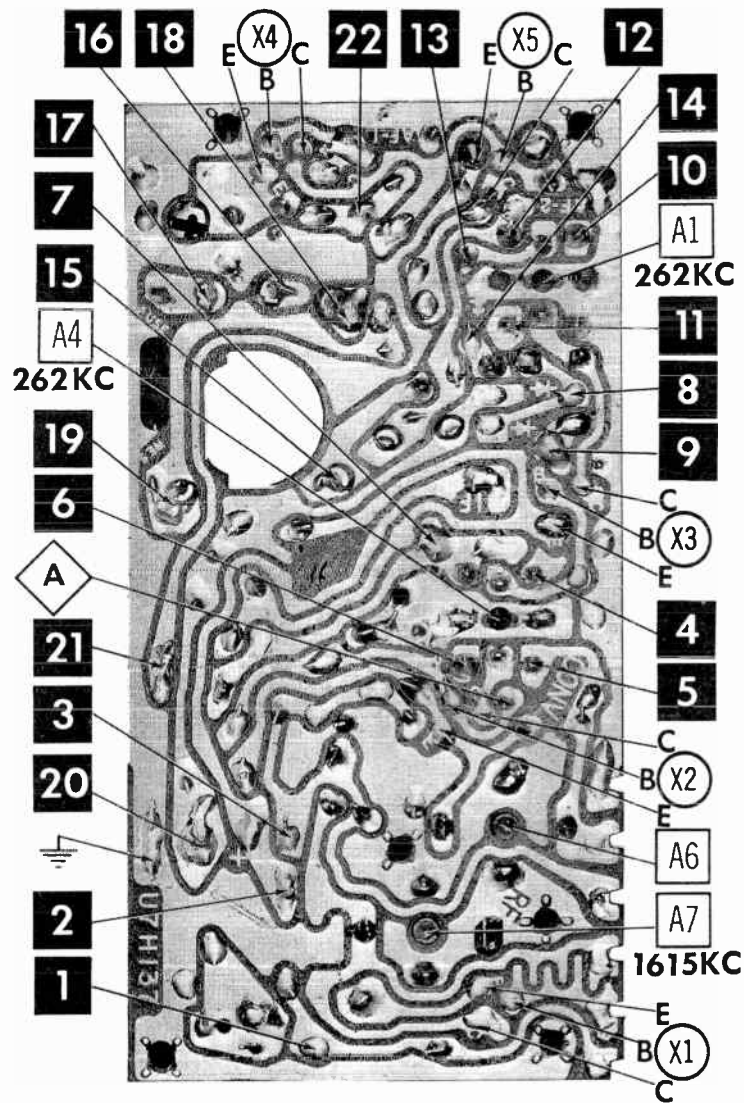
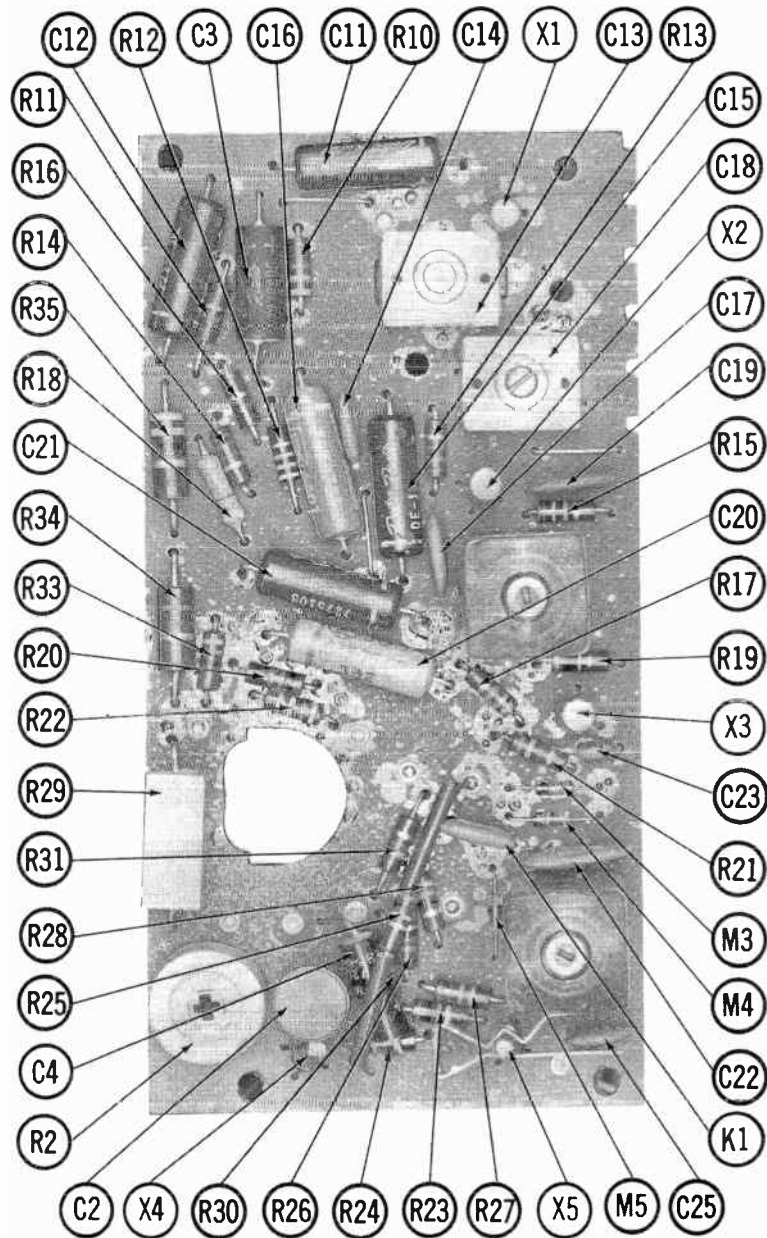


- Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.
1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.
 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

OPEL MODEL 980886

A PHOTOFAC STANDARD NOTATION SCHEMATIC with **CIRCUTRACE**

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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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	DS-51	RF Amplifier	DS-25	GE-1	2N1837	PNP
X2	DS-52	Converter	DS-25	GE-1	2N1839	PNP
X3	DS-53	IF Amplifier	DS-25	GE-1	2N1838	PNP
X4	DS-46	1st AF Amplifier	DS-46	GE-10	2N649	NPN
X5	DS-46	2nd AF Amplifier	DS-46	GE-10	2N649	NPN
X6	DS-501	Output	DS-501	GE-4	2N442	PNP

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	DELCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	1500	8	7290484	AFH3-54-20					TVLS-3019*
B	500	8							
C	4	11.3RMS							
C2A	100	4	7286539	BCD4X100100				PET2150	VLS-2120*
B	100	4							
C3	30	6	7279896	PTT27	NLW30-15	MT1-13	MLV30-6	TT6X30	TE-1092
C4	10	12	7283834	PTT53	NLW10-15	MT1-5	BL1241	TT12X10	TL-1128

* 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.
C9	2	NPO	NPO-DI2.2	DTZ-2R2	C10V22C	CCT0-2R2	CNO522	10TCC-V22
C10		#7286377						
C11	.047	75V	P288N-047		WMF2S47	IDP-2-473	PVC-1147	2PS-S47
C12	.047	75V	P288N-047		WMF2S47	IDP-2-473	PVC-1147	2PS-S47
C13		#7287935						
C14	200	N750	N750-DI200	DTN-200	C10T2U	CCTN-201	CN7320	10TCU-T20
C15	.0033	75V	P288N-0033	CPR-3300J	WMF1D33	8DP-1-332	PVC4233	6PS-D33
C16	.022	75V	BE2S22		WMF1S22	IDP-1-223	PVC1122	2PS-S22
C17	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B247	5HK-D47
C18		#7281933						
C19	220	N470						10TCT-T22
C20	.047	75V	P288N-047		WMF2S47	IDP-2-473	PVC1147	2PS-S47
C21	.047	75V	P288N-047		WMF2S47	IDP-2-473	PVC1147	2PS-S47
C22	180	N80						
C23	.001		BPD-001	DD-102	BYA10D1	CCD-102	B210	5HK-D10
C24	.047	75V	P288N-047	DD-203	WMF2S47	IDP-2-473	PVC1147	2PS-S47
C25	.22	12V	P488N-022		PM4S22	4DP-2-223	GEM4122	4TM-S22

Delco Part Number.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			DELCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone	100K	7289877	F1-100K,			TQJ-1754A	▲UE4486-S
B	Volume & Switch	20K		R2-25K, FFS011, RFS105, AK-28①, KR-4				
R2	Bias	600Ω 2W	7286801	V-800	U39-800	110-800		FL-800

① Alter bushing to meet requirements.

② Disregard Tap.

† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B11-128, P22-021 (Panel)
B13-120, R16-106 (Rear)

▲ "SNAPTROL" Equivalent: BU8①, CF13, CR50T②, SF2, SR4, GC.
948 (Bushings)
78-1 (Switch)

▲ "STA-LOC" Equivalent: FO15L, RU24A, OS750A, 1S1375, US41

COILS (RF-IF)

ITEM No.	USE	DELCO PART No.	REPLACEMENT DATA				NOTES
			MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke	7281948	BC-565	4610	RTC-8920	T859	① Part of M2.
L2	Ant	①					
L3	RF	①					
L4	Osc.	①					
L5	Input IF	1221858		8542		TA853	
L6	Output IF	1221857		8543		TA853	

FILTER CHOKE

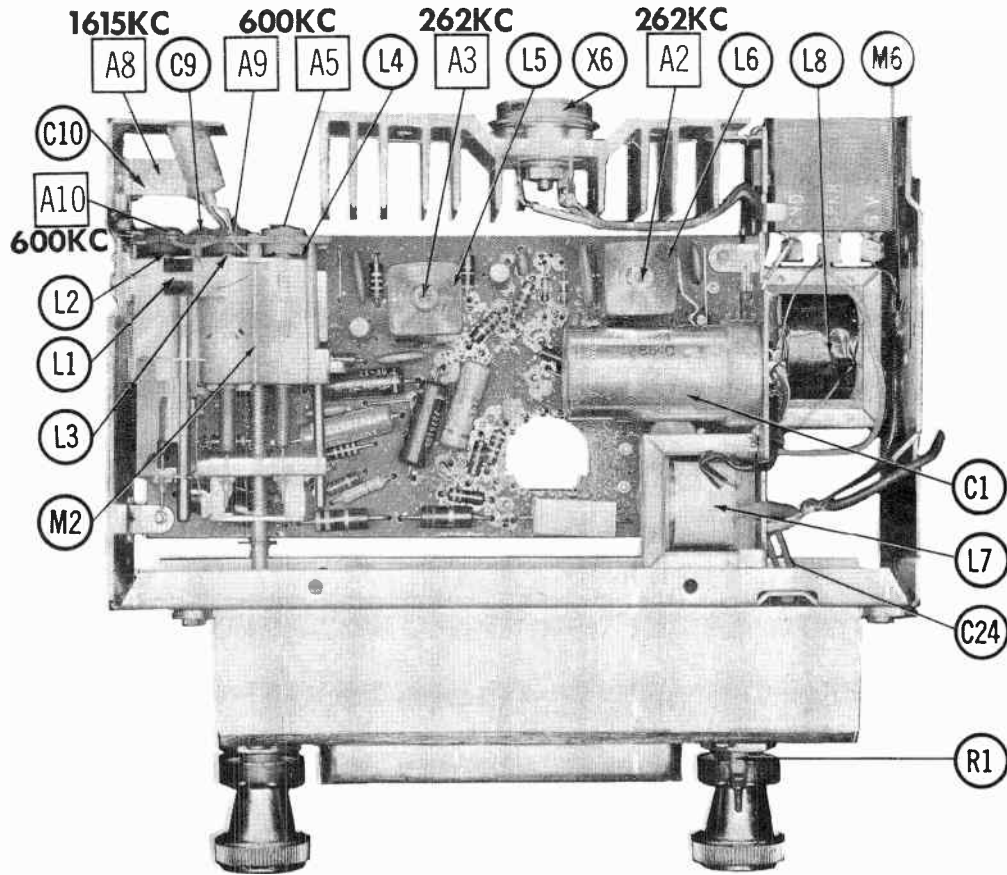
ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	1.1Amp.	.6Ω	8MH	1221823	C-4095	TC-2	TR-154	TY17XT	

CHOKE (AUDIO OUTPUT)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L8	29MH	7282278					

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	DELCO PART NO.	REPLACEMENT DATA
K1	Det. Comp.	1000Ω, .001mfd, .001mfd	7287253	



PARTS LIST AND DESCRIPTION (CONTINUED)

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			DELCO PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	AGW	2½		7289857	30302.5	155009	AGW2½	HDH

MISCELLANEOUS

ITEM No.	PART NAME	DELCO PART No.	NOTES
M2	Tuner Coil Assy.	7287957	
M3	AVC Diode		DS-27
M4	AVC Diode		DS-27
M5	AF Det. Diode		DS-27
M6	Spark Plate	7271564	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA	
		DELCO PART No.	QUAM PART No.
SP1	4" X 10" PM 4Ω	7289820	48A2

CABINETS & CABINET PARTS

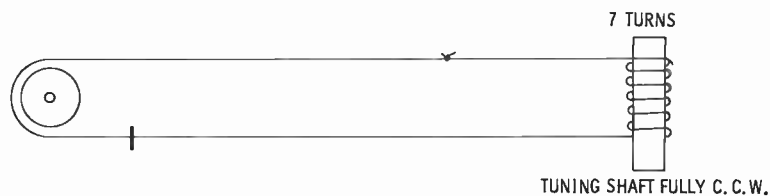
(When Ordering Specify Model, Chassis & Color)

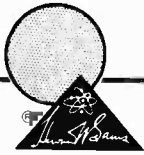
ITEM	PART No.	ITEM	PART No.
Escutcheon	1222134	Knob, Dummy	7274892
Knob, Tuning or Volume	1363435	Pointer	7284556
Knob, Tone	7274893		

WIRING DATA

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

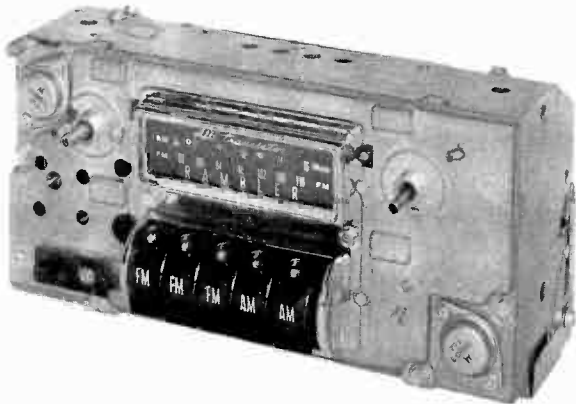
DIAL CORD STRINGING





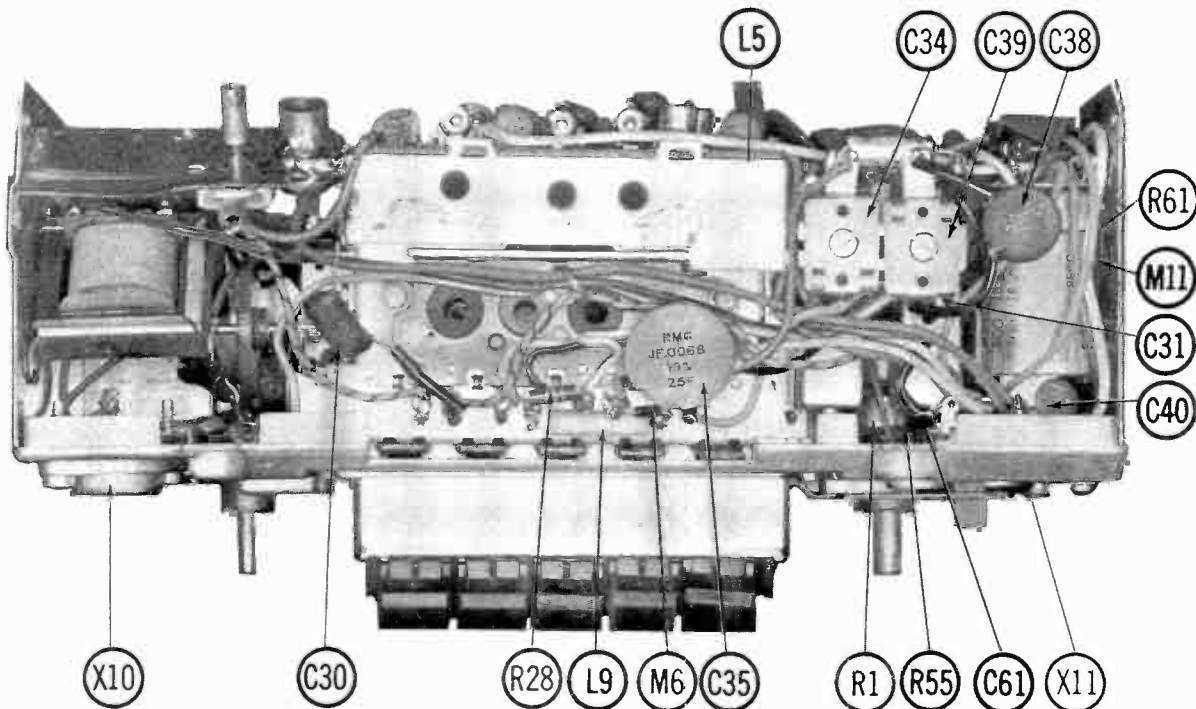
PHOTOFACT[®] with

CIRCUITRACE[®]



TRADE NAME : Rambler Model AF4TMR (1964)
 SUPPLIER : For Current Address, See Master Index.
 TYPE SET : 11 Transistor AM-FM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .920 Amp. @ 12.6 Volts DC
 TUNING RANGE: BROADCAST 540-1615KC
 FREQ. MOD. 88-108MC

RAMBLER MODEL AF4TMR



REMOVAL INSTRUCTIONS

RADIO

1. Pull off knobs.
2. Disconnect Ant. Lead "A" Lead, & Speaker Leads.
3. Use 5/8" wrench and remove nuts from Control Bushing.
4. Remove Radio from under instrument panel.

SPEAKER

1. Use 3/8" wrench & remove nuts from Speaker Bracket.
2. Remove speaker from under instrument panel.

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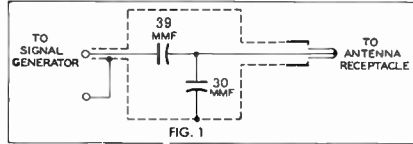
ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
Use only enough generator output to provide a usable indication.
Suggested Alignment Tools:
A1 thru A12, A14 thru A19, A21 thru A28 GENERAL CEMENT: 5009, 8987, 8728A WALSCO: 2531X, 2538
A13, A20 GENERAL CEMENT: 8608, 8608L, 8869 WALSCO: 2543, 2544, 2588

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. High side thru .1mf to point \diamond , low side to ground.	262KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4, A5, A6	Adjust for maximum.
2. Thru dummy (Fig. 1) to antenna receptacle.	1615KC	"	"	A7, A8, A9	"
Step 3 is not necessary unless tuner has been tampered with or associated components have been replaced. IF necessary, back tuning cores (A10, A11, A12) 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.	A10, A11, A12	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 1000KC and adjust A9 for maximum output.					

PUSH-BUTTON ADJUSTMENT

1. Pull button up.
2. Tune manually to desired station.
3. Press button down.
4. Repeat for remaining buttons.



FM ALIGNMENT USING AM SIGNAL GENERATOR — SELECTOR IN FM POSITION

High side thru dummy (Fig. 2) to Ant. Receptacle, low side to ground.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
4. 10.7MC (Unmod.)	Point of non-interference.	DC probe of VTVM to point \diamond ; common to ground.	A13, A14, A15, A16, A17, A18, A19	Adjust for maximum.
5. "	"	DC probe to point \diamond ; common to	A20	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.

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

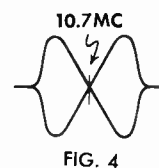
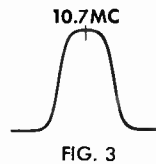
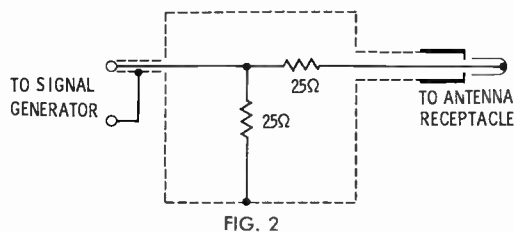
High side thru dummy (Fig. 2) to Ant. Receptacle, low side to ground. Use only enough marker signal to obtain indication. Use 60v frequency modulated signal with 450KC sweep. Use 120v sawtooth voltage in scope for horizontal deflection.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
4. 10.7MC (450KC Swp.)	Point of non-interference	Vert. amp. of Scope to point \diamond ; low side to ground.	A13, A14, A15, A16, A17, A18, A19	Disconnect stabilizing capacitor C 4. Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown. Reconnect C 4.
5. "	"	Vert. amp. to point \diamond ; low side to	A20	Adjust A13 (Secondary) to place marker at center of crossover lines similar to Fig. 2. Adjust A19 (Primary) for maximum amplitude and straightness of crossover lines.

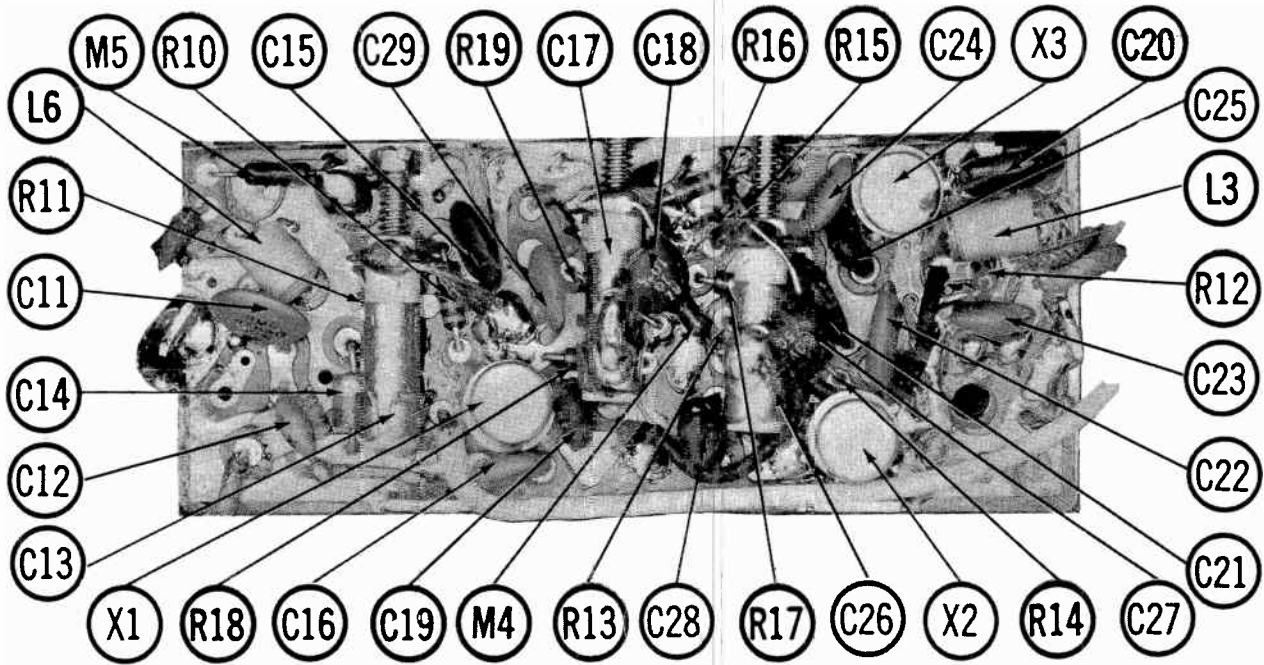
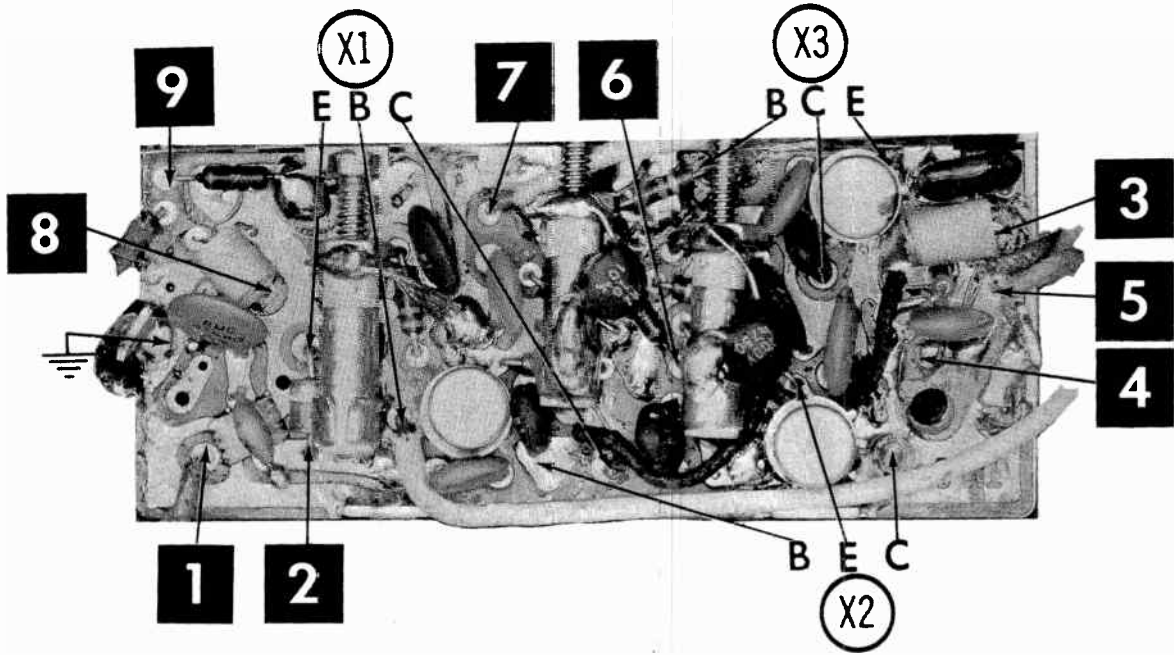
FM RF ALIGNMENT

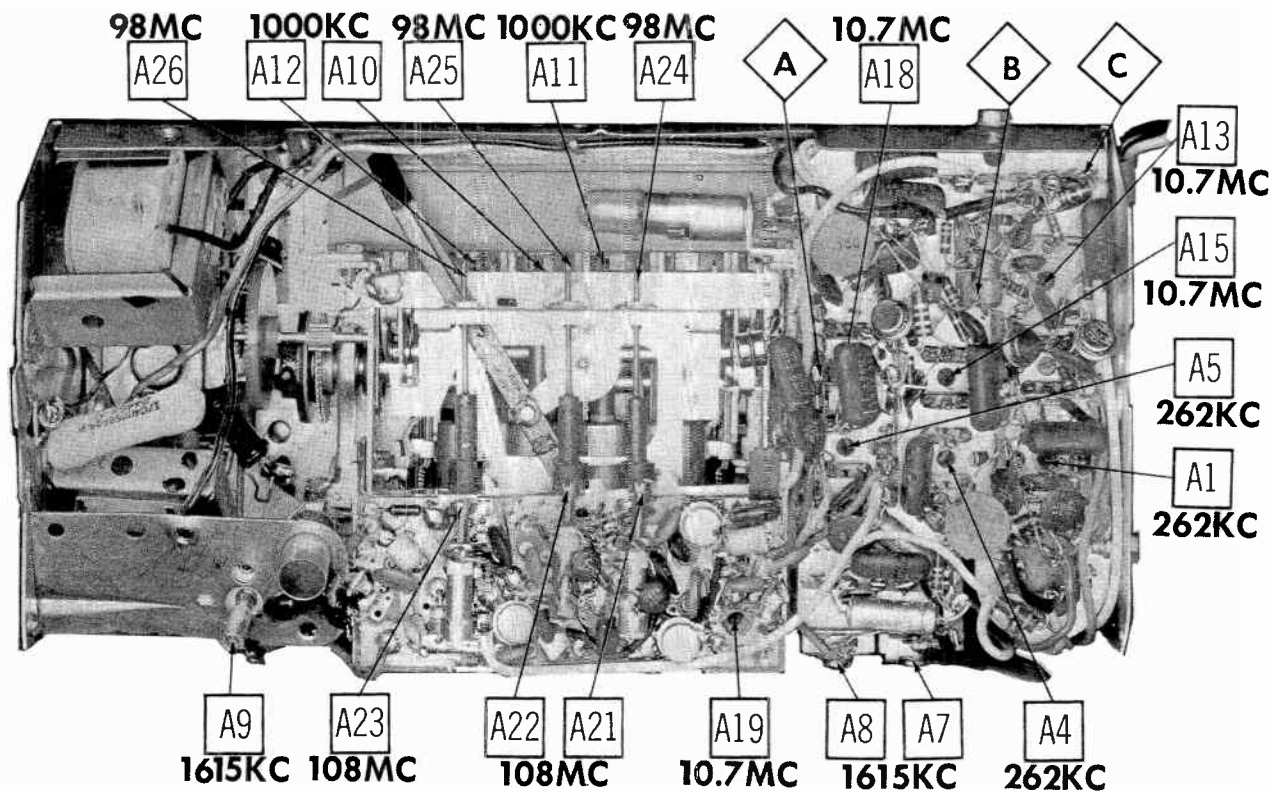
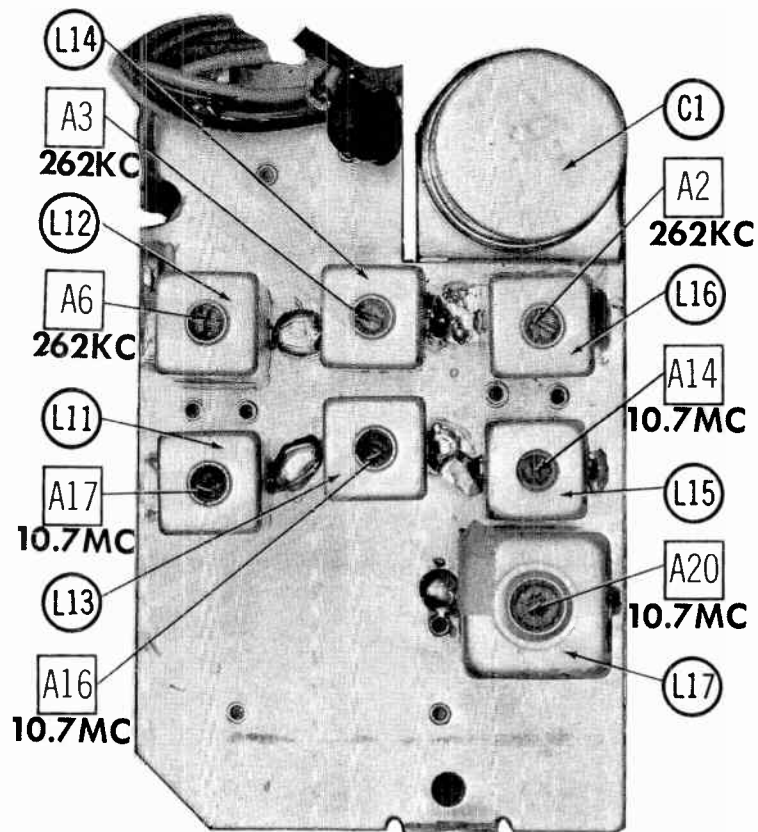
Connect generator across antenna terminals with 120Ω carbon resistors in series with each lead.

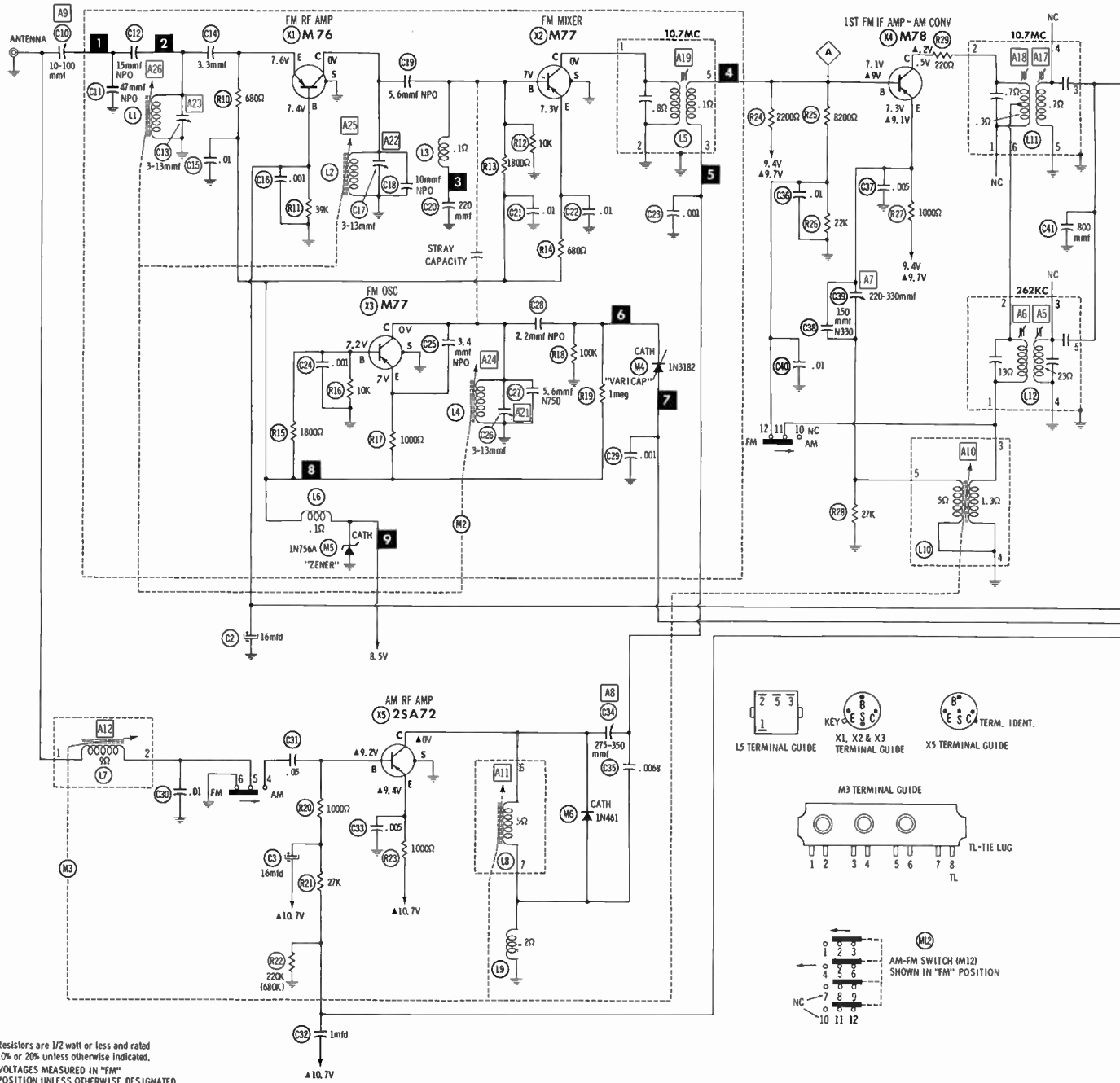
GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
6. 108MC	Set at 108MC	DC probe of VTVM to point \diamond ; common to ground.	A21, A22, A23	Adjust for maximum.
Step 7 is not necessary unless tuner has been tampered with or associated components have been replaced. If necessary, back tuning cores (A24, A25, A26) out of coils but not out of forms. Repeat step 6.				
7. 98MC	Tune to signal.	"	A24, A25, A26	Rock tuning and adjust for maximum.



RAMBLER MODEL AF4TMR







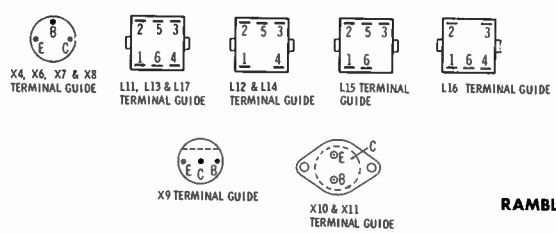
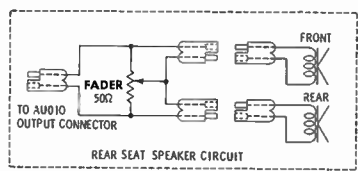
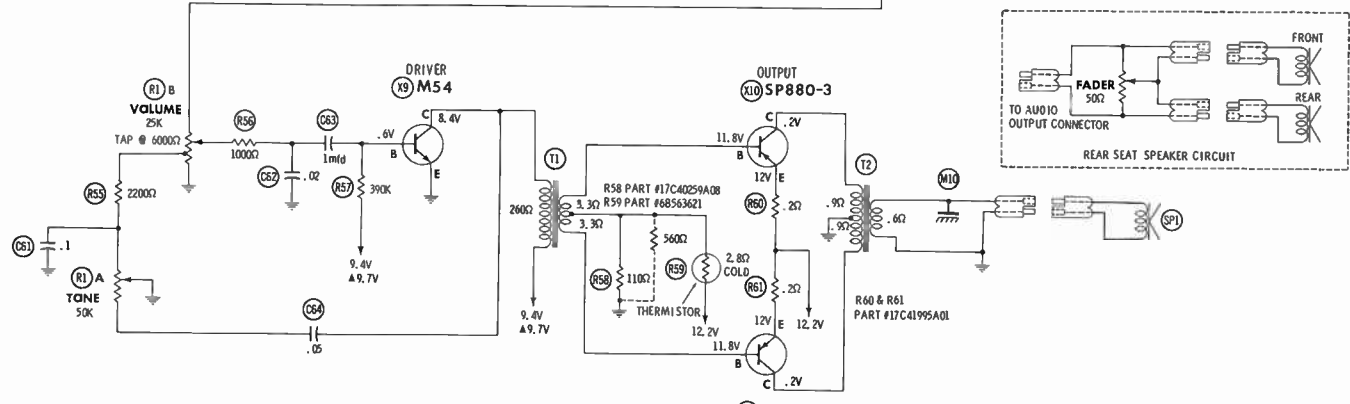
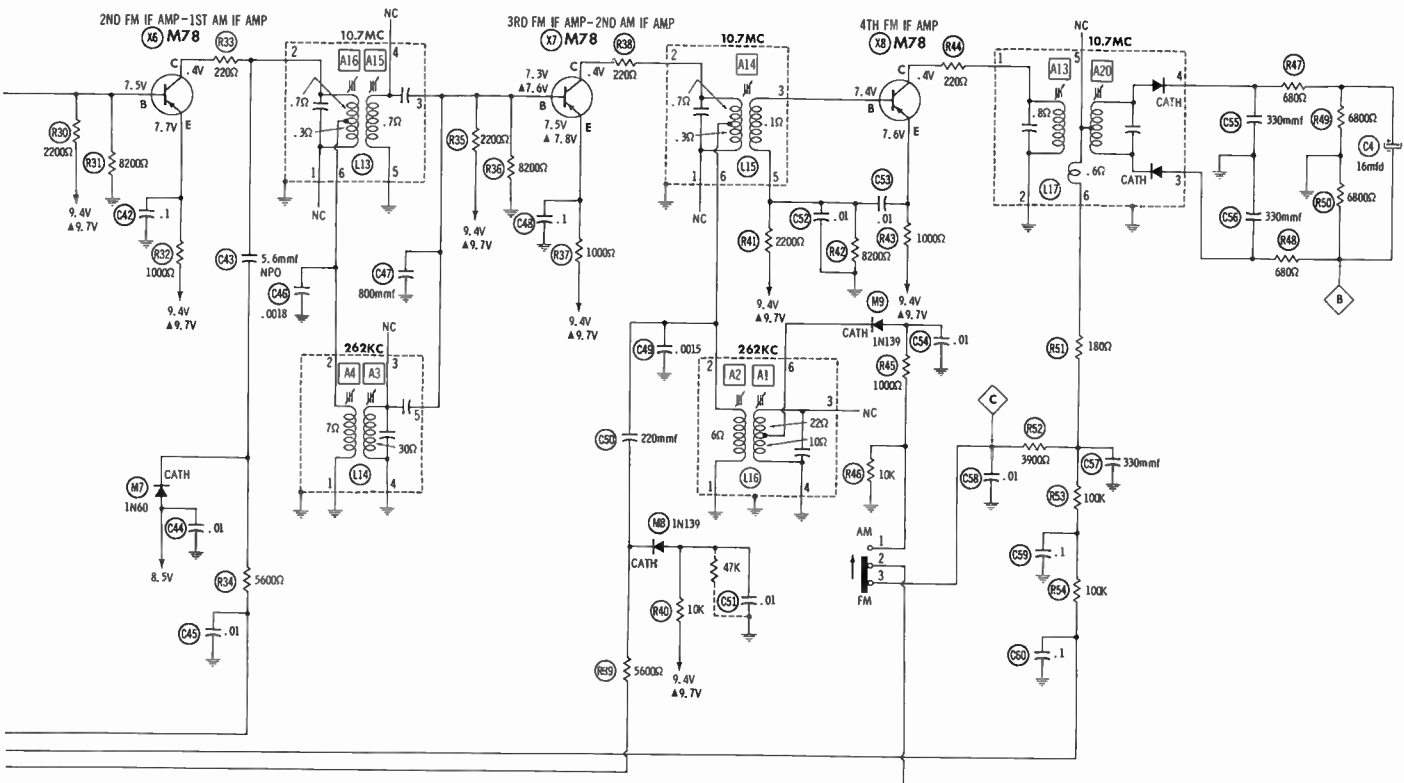
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated. VOLTAGES MEASURED IN "FM" POSITION UNLESS OTHERWISE DESIGNATED.

▲ MEASURED IN "AM" POSITION.

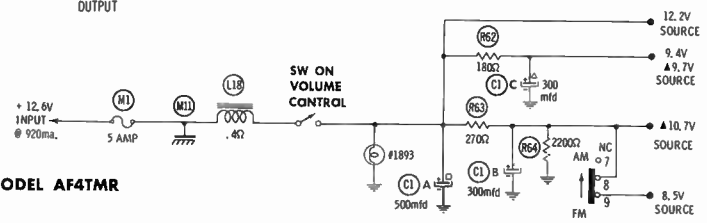
1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found on the unit.
6. Supply voltage maintained at rated value for voltage readings.
7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

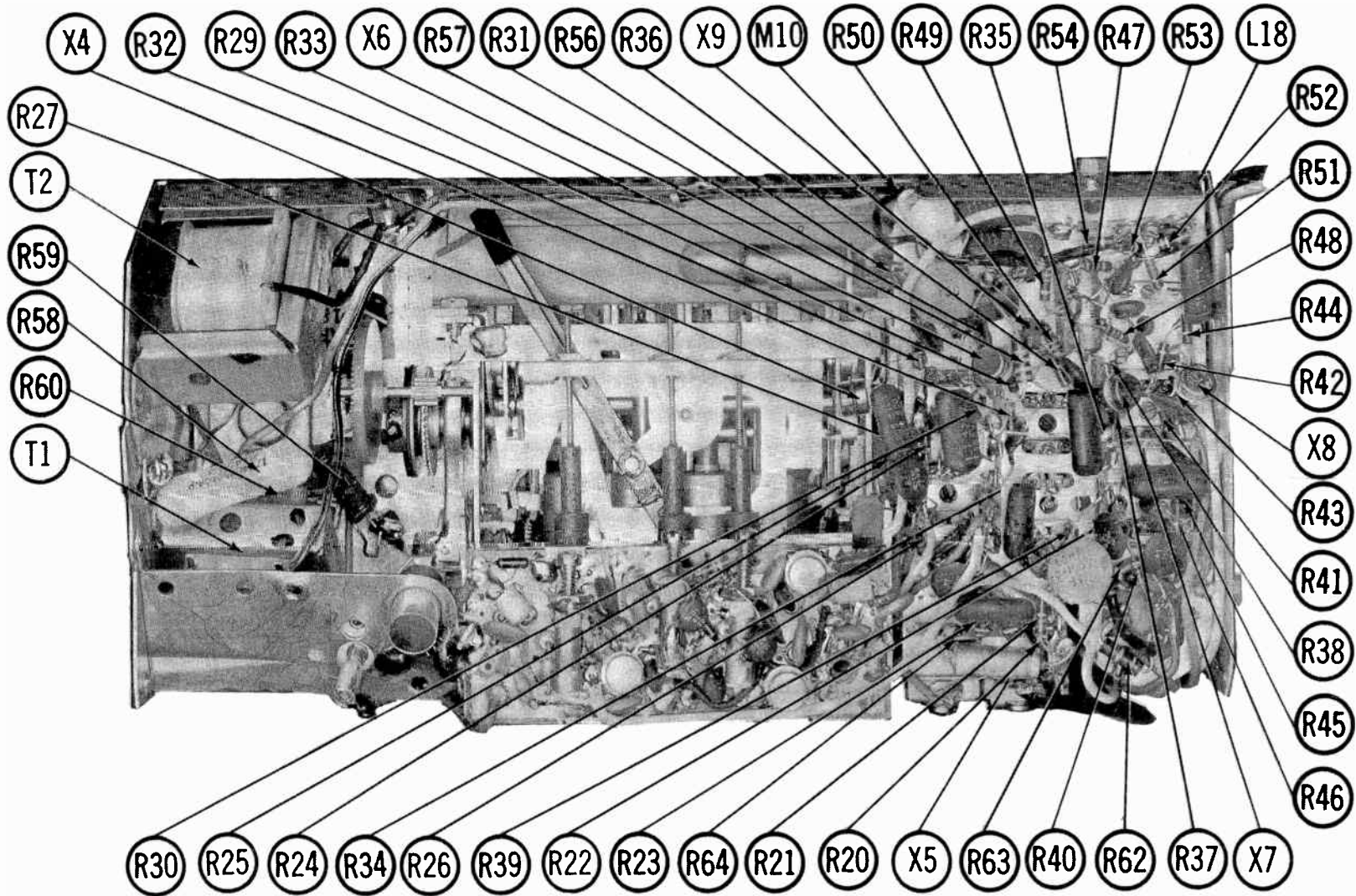
A PHOTOFAC STANDARD NOTATION SCHEMATIC with CIRCUITRACE

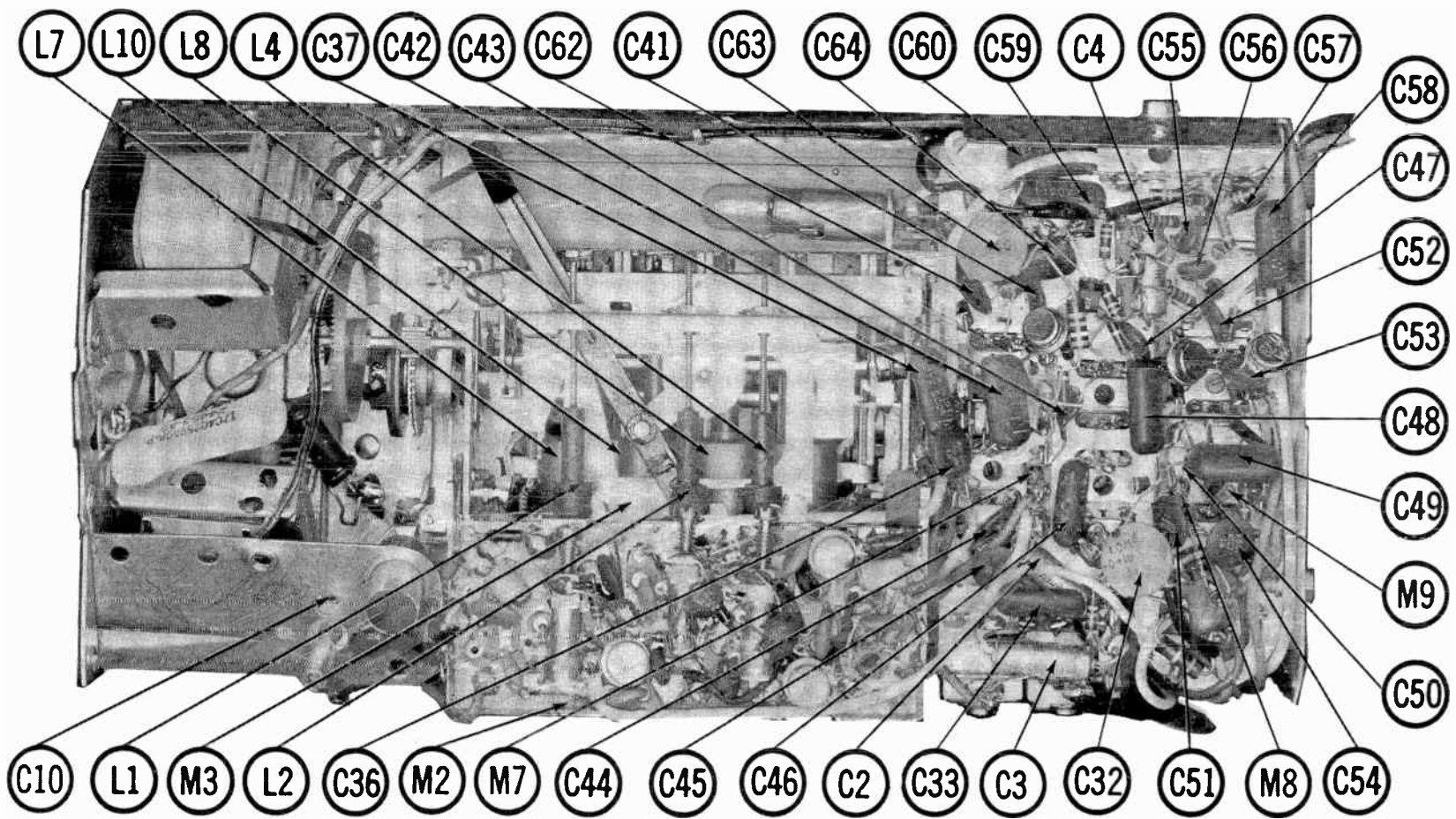
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RAMBLER MODEL AF4TMR







RAMBLER MODEL AF4TMR

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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	M76	FM RF Amp.	DS-41		2N1177	PNP
X2	M77	FM Mixer	DS-42		2N1179	PNP
X3	M77	FM Osc.	DS-42		2N1179	PNP
X4	M78	1st FM IF/AM Conv.	DS-35		2N1180	PNP
X5	2SA72	AM RF Amp.	DS-25	GE-1	2N1837	PNP
X6	M78	2nd FM IF/1st AM IF	DS-37		2N1180	PNP
X7	M78	3rd FM IF/2nd AM IF	DS-37		2N1180	PNP
X8	M78	4th FM IF	DS-38		2N1180	PNP
X9	M54	Driver	DS-46	GE-10	2N649	NPN
X10	SP880-3	Output	DS-520	GE-3	2N301	PNP
X11	SP880-3	Output	DS-520	GE-3	2N301	PNP

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		Motorola PART No.	REPLACEMENT DATA					SPRAGUE PART No.
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	
C1A	500	16	23C41652A03						TVLS-3026.13
C1B	300	16							
C1C	4300	16							
C2	16	16	23C41928A13 (23C41928A06)	CRE609A	NLW15-25	MT1-11	MLV15-25	TT25X15	TL-1156
C3	16	16	23C41928A13 (23C41928A06)	CRE609A	NLW15-25	MT1-11	MLV15-25	TT25X15	TL-1156
C4	16	16	23C41928A13 (23C41928A06)	CRE609A	NLW15-25	MT1-11	MLV15-25	TT25X15	TL-1156

* 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	10-100	#20B42237A01							
C11	47 NPO		NPO-DI47	DTZ-47	C10Q47C	CCTO-470	CNO447		10TCC-Q47
C12	15 NPO		NPO-DI15	DTZ-15	C10Q15C	CCTO-150	CNO415		10TCC-Q15
C13	3-13	#20C42367A01							
C14	3.3		NPO-DI3.3	DTZ-3R3	C10V33C	CCTO-3R3	CNO533		10TCC-V33
C15	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C16	.001		BPD-001	DD-102	BYA10D1	CCD-102	B210		5HK-D10
C17	3-13	#20C42367A01							
C18	10 NPO		NPO-DI10	DTZ-10	C10Q1C	CCTO-100	CNO410		10TCC-Q10
C19	5.6 NPO								10TCC-V56
C20	220		DI-220	DD-221	LA10T22-S3	CCD-221	GP322		10TS-T22
C21	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C22	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C23	.001		BPD-001	DD-102	BYA10D1	CCD-102	B210		5HK-D10
C24	.001		BPD-001	DD-102	BYA10D1	CCD-102	B210		5HK-D10
C25	3.4 NPO		NPO-DI3.3	DTZ-3R3	C10V33C	CCTO-3R3	CNO533		10TCC-V33
C26	3-13	#20C42367A01							
C27	5.6 N750								10TCU-V56
C28	2.2 NPO		NPO-DI2.2	DTZ-2R2	C10V22C	CCTO-2R2	CNO522		10TCC-V22
C29	.001		BPD-001	DD-102	BYA10D1	CCD-102	B210		5HK-D10
C30	.01 100V		BE2S1	CPR-1000J	WMF1S1	1DP-1-103	PVC211		4PS-S10
C31	.05 100V		P288N-05		DPMS2S5	1DP-2-503	PVC215		2PS-S50
C32	1mfd 3V			UK-105	HCC3105P				HY-135
C33	.005 100V		P288N-005	CPR-5000J	DPMS6D5	1DP-1-502	PVC625		6PS-D50
C34	275-350	#20B42253A02							
C35	.0088		DI-0088	DD-682	BYA10D68	CCD-682	GP268		10TS-D68
C36	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C37	.005 100V		P288N-005	CPR-5000J	DPMS6D5	1DP-1-502	PVC625		6PS-D50
C38	150 N330								10TS-T15
C39	220-330	#20B42253A01							
C40	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C41	800		DI-820	DD-821	LA10T82-C4	CCD-821	B382		10TS-T82
C42	.1 100V		P288N-1		WMF1P1	1DP-2-104	PVC101		2PS-P10
C43	5.6 NPO								10TCC-V56
C44	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C45	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C46	.0018 100V		BE6D18	CPR-1800J	PM6D18	18DP-2-182			6PS-D18
C47	800		DI-820	DD-821	LA10T82-C4	CCD-821	B382		10TS-T82
C48	.1 100V		P288N-1		WMF1P1	1DP-2-104	PVC101		2PS-P10
C49	.0015 100V		P288N-0015	CPR-1500J	DPMS6D15	6DP-1-152	PVC6215		6TM-D15
C50	220		DI-220	DD-221	LA10T22-S3	CCD-221	GP322		10TS-T22
C51	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C52	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C53	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C54	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-S10
C55	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333		10TS-T33
C56	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333		10TS-T33
C57	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333		10TS-T33
C58	.01 100V		BE2S1	CPR-10000J	WMF1S1	1DP-1-103	PVC211		4PS-S10
C59	.1 100V		P288N-1		WMF1P1	1DP-2-104	PVC101		2PS-P10
C60	.1 100V		P288N-1		WMF1P1	1DP-2-104	PVC101		2PS-P10
C61	.1 100V		P288N-1		WMF1P1	1DP-2-104	PVC101		2PS-P10
C62	.02		BPD-02	DD-203	BYA6S2	CCD-203	B120		5HK-S20
C63	1 3V		UK-105	HCC3105P			B347		HY-135
C64	.05 100V		P288N-05		DPMS2S5	1DP-2-503	PVC215		2PS-S50

Motorola Part Number.

CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA					
			Motorola PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
RIA B	Tone Volume & Switch	50K 25K Tap @ 6000Ω	18C4076A08					

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.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Motorola PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	FM Ant.	24B42305A01 ①	BC-561	4602	RTC-8515	T855	① Part of M2 ② Part of M3
L2	FM RF	24B42305A02 ①					
L3	10.7MC Trap(1uh)	24C40788A08					
L4	FM Osc.	24B42305A01 ①					
L5	1st FM IF	24D42424A01	BC-562	4604	RTC-8516	T856	
L6	RF Choke (.82uh)	24C40788A09					
L7	AM Ant						
L8	AM RF						
L9	RF Choke (1.5uh)	24C40788A04					
L10	AM Osc.						
L11	2nd FM IF	24D42425A01					
L12	1st AM IF	24D42413A01					
L13	3rd FM IF	24D42425A01					
L14	2nd AM IF	24D42413A02					
L15	4th FM IF	24D42425A01					
L16	3rd AM IF	24D42413A03					
L17	Ratio Detector	24D42427A01					

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Motorola PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L18	920 MA	.4Ω	3MH	25C42385A06	C-4095	TC-1	TR-157	TY6XT	

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Motorola PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	8:	1	25D42045A07					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Motorola PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	20Ω CT	6Ω	25D42101A05	A-2743	TA-12	TR-300	TY-29XT	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		Motorola PART No.	QUAM PART No.	
SP1	6" x 9" PM 8Ω	50C42114A01	69A2Z8	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			Motorola PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	AGA	5A	85R122345	9C41095A11	301005	155004A	AGA5	HAF

MISCELLANEOUS

ITEM No.	PART NAME	Motorola PART No.	NOTES
M2	FM Tuner Printed Board	77D42310A01	AFT-485. (Less Printed Board) Complete (Less Tuning Cores)
M3	AM Coils and Mtg. Plate Assembly	84P40059A23	
M4	Varicap	24P40059A18	1N3182 1N756A 1N461 1N60 1N139
M5	Zener Diode	48A42363A01	
M6	AM RF Limiter	48A40458A06	
M7	AFC Diode	48C40524A02	
M8	AVC Diode	48C42428A01	1N139
M9	AM Det. Diode	48C134587	
M10	Spark Plate	48C134587	
M11	Spark Plate	85K561872	
M12	Selector Switch	84K535152	
		40C42037A02	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Escutcheon	13P40059A16	Knob, Selector	38C42231A01
Dial Scale	34B42313A01	Push Button (AM)	38P40059A21
Knob, Volume or Tuning	38C42284A01	Push Button (FM)	38P40059A22
Knob, Tone	38C42233A01	Pointer Assembly	52P40059A17

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 6530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire	Use BELDEN No. 6885
Rear Seat Speaker Extension Cable	Use BELDEN No. 6782 (Stranded) Coded Parallel Leads
Bonding Strap	Use BELDEN No. 6861 (3/8 In.) or 6870 (3/4 In.)

RAMBLER MODEL AF4TMR



PHOTOFACT[®]



TRADE NAME : Riverside Models FJB-16584A, 61-16584A
 (1963 Rambler)
 SUPPLIER : For Current Address, See Master Index
 TYPE SET : 5 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .720 Amp. @12.6 Volts DC
 TUNING RANGE : BROADCAST 540-1615KC

RIVERSIDE MODELS FJB-16584A, 61-16584A

ALIGNMENT INSTRUCTIONS

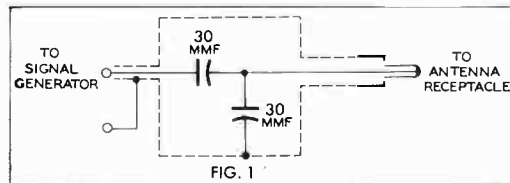
Check for specified source voltage.

Use only enough generator output to provide a usable indication.

Suggested Alignment Tools: A1 thru A4 GENERAL CEMENT: 8606, 8606L, 8869 WALSCO: 2543, 2544, 2588
 A5, A6, A7 GENERAL CEMENT: B290, 8868, 9087 WALSCO: 2525, 2528, 2581

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point Δ , low side to ground.	262KC (400v 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.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and adjust A7 for maximum output.



PUSH-BUTTON ADJUSTMENT

1. Pull button up.
2. Tune manually to desired station.
3. Press button **down firmly**.
4. Repeat for remaining buttons.

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

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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	8-80†	RF Amplifier	DS-25	GE-1	2N1837	PNP
X2	8-81†	Converter	DS-25	GE-1	2N1839	PNP
X3	8-82†	IF Amplifier	DS-25	GE-1	2N1838	PNP
X4	8-53†	Driver	DS-28	GE-2	2N591	PNP
X5	8P-404R	Output	DS-520	GE-3	2N301	PNP*

† Riverside Part Number.

* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	Riverside 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	18	20-2853	AFH3-00-94.5				FP300.83	TVLS-3026.14*
C1B	300	18							
C1C	100	18							
C2	25	15	20-256	PTT89	NLW25-15	MT1-10	MLV25-15	TT15X25	TE-1157.1
C3	5	15	20-505	CRE454A	NLW454A	MT1-3	MLV5-15	TT25X5	TE-1152

* 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		#28-800-2L							
C11		#28A1332							
C12	270		DI-270	DD-271	LA10T27-C4	CCD-271	GP327	5GA-T25	
C13	100 N750		N750-DI100	DTN-100	C10TIU	CCTN-101	CN7310	10TCU-T10	
C14	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10	
C15	.22 3V			UK20-204	HCC25224Z			HY-325	
C16	.1		TTD-1	CK-104	H6		TA010	TG-P10	
C17	.05		TTD-05	CK-503	H5		TA150	TG-S50	

Riverside Part Number

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			Riverside PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
RLA	Tone	10K	80A2951	F1-10K, R14-700,			TQJ-1636A	AUE4522-S
B	Volume & Switch	7500Ω Tap @ 5000Ω		FFS011, RFS103, AK-28, KR-4				

† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B11-118, P22-021 (Panel)

"SNAPTROL" Equivalent: BU10, CF9, SF3, CR48T, SR3, GC.

* "STA-LOC" Equivalent: FM14L, RU753 T53, OS750A, 1S1250, US41

S11 (Bushing)

78-1 (Switch)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Riverside PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.2uh)	14-6.2					
L2	Ant.	①					
L3	RF	②					
L4	Osc.	③					
L5	Input IF	14-2654	BC-880	8570			
L6	Output IF	14-2655	BC-891	8571		TF606	

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Riverside PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	720MA	.5Ω	10MH	75A3082	C-4095	TC-2	TR-155	TY17XT	

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Riverside PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Riverside PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	Riverside PART No.	REPLACEMENT DATA
K1	Biassing	390Ω, 1000Ω, 82K, .05mfd, .05mfd	89A2582C	
K2	Biassing	150Ω, 1000Ω, 4700Ω, 47K, .005mfd	(89A2582B Alt.)	
K3	Biassing	.015mfd, .02mfd 560Ω, 5600Ω, 47K, .05mfd,	89A2583	
K4	AVC Comp.	.05mfd, .05mfd	89A2584A	
K5	Biassing	5600Ω, 180mfd 470Ω, 820Ω, 4700Ω, 12K, 27K, 270K, .002mfd	89A2701	
			89A2585A	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			Riverside PART No.		LITTELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	AGW	4			303004	155009	AGW4	HDE	

MISCELLANEOUS

ITEM No.	PART NAME	Riverside PART No.
M2	Tuner	78B2791
M3	AVC (1GD2)	
M4	AF Det. (1GD2)	
M5	Spark Plate	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA	
		Riverside PART No.	QUAM PART No.
SP1	8" X 9" PM 8Ω	73B2871	89A328

CABINETS & CABINET PARTS

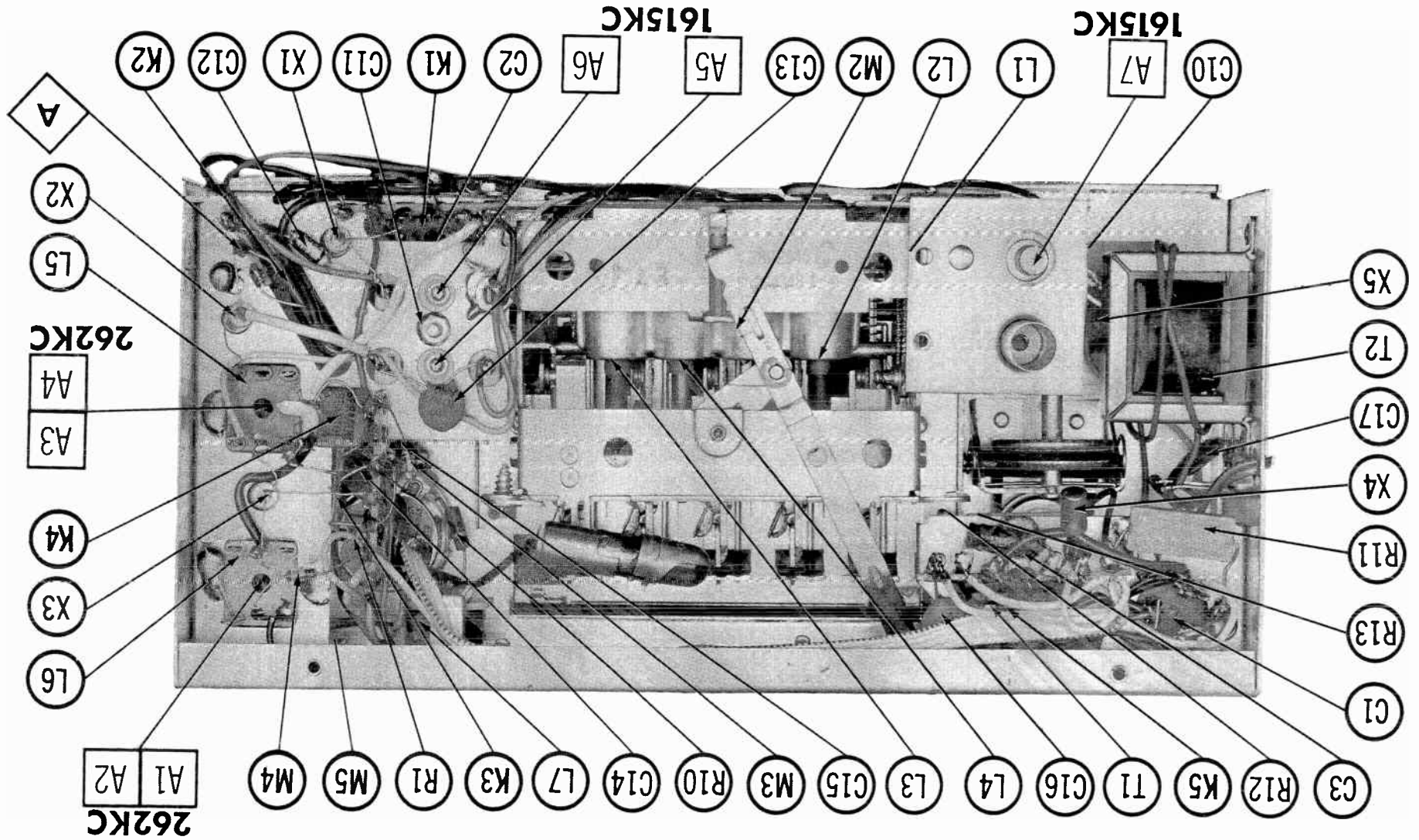
(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Dial Glass	39-8	Knob, Dummy	48A1510
Knob, Tuning or Volume	47A1514	Push Button	55A2758
Knob, Tone	47A1509		

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 6530 (Solid) Available in 12 Colors
	8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap	Use BELDEN No. 8681 (3/8 in.) or 8670 (3/4 in.)

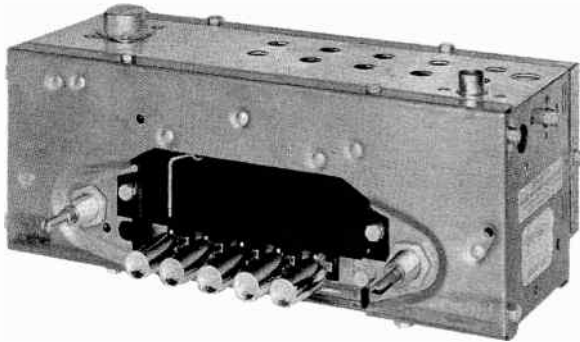
RIVERSIDE MODELS FJ8-16584A, 61-16584A





PHOTOFACT[®] with

CIRCUITRACE[®]



TRADE NAME : Soundex Models DAP-864T--64 Dodge Dart
 DOP-864T--64 Dodge
 PLP-464T--64 Plymouth
 VAP-464T--64 Valiant

SUPPLIER : For Current Address, See Master Index.

TYPE SET : 5 Transistor AM Receiver

POWER SUPPLY : 12 Volt Storage Battery

RATING : .680 Amp. @12.6 Volts DC

TUNING RANGE : BROADCAST 540-1615KC

SOUNDEX MODELS DAP-864T, DOP-864T, PLP-464T, VAP-464T

ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
 Use only enough generator output to provide a usable indication.
 Suggested Alignment Tools:

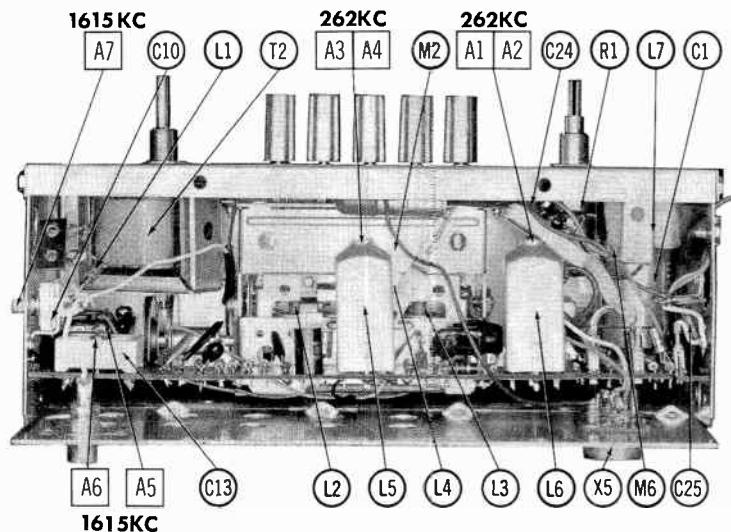
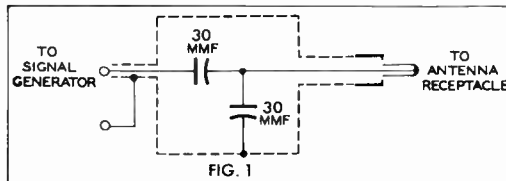
A1 thru A4 GENERAL CEMENT: 8606, 8606L, 8869 WALSCO: 2543, 2544, 2588
 A5, A6, A7 GENERAL CEMENT: 8290, 8868, 9087 WALSCO: 2525, 2528, 2587

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. High side thru .1mfd to point Δ , low side to ground.	262KC (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.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near-1400KC and adjust A7 for maximum output.

PUSH-BUTTON ADJUSTMENT

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



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

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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2N1637	RF Amp.	DS-25	GE-1	2N1637	PNP
X2	2N1639	Converter	DS-25	GE-1	2N1639	PNP
X3	2N1638	IF Amp.	DS-25	GE-1	2N1638	PNP
X4	2N591	Driver	DS-26	GE-2	2N591	PNP
X5	2N301	Output	DS-520	GE-3	2N301	PNP*

* When replacing, apply silicone grease to both sides of insulators. Tighten mounting screws securely. Check bias adjustment.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		PART No.	REPLACEMENT DATA					NOTES
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	
C1A	▲300	16	C-66	PWH3-00-95		XC3-48		PFP300,18	PCL6-3026,12*
B	■500	16							
C	□100	16							
C2	25	15	C-53	BCD15025	NLP25-15	MT1-14	BL1441	PET1570	VL-1170
C3	5	15	C-54	BCD15005	NLP5-15	MT1-3	BL1141	PET1535	VL-1164

* 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		#TR-5A	BPD-0033	DD-332	BYA10D33	CCD-332	B233	5HK-D33
C11	.003		P288N-047		WMP2S47	1DP-2-473	PVC1147	2PS-847
C12	.047	100V						
C13A		#TR-14						
B								
C14	270		DI-270	DD-271	LA10T27-C4	CCD-271	GP327	5GA-T27
C15	.02		BPD-02	DD-203	BYA6S2	CCD-203	B120	5HK-S20
C16	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B247	5HK-D47
C17	.015	100V	P288N-015		WMP2S15	4DP-1-153	PVC2115	4PS-S15
C18	100	N750	N750-DI100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10
C19	.05	100V	P288N-05		DPMS2S5	1DP-2-503	PVC215	2PS-S50
C20	.01	100V	P288N-1		WMP1P1	1DP-2-104	PVC101	2PS-P10
C21	180		DI-180	DD-181	LA10T18-S3	CCD-181	GP318	5GA-T18
C22	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C23	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33
C24	.1	200V	P288N-1		WMP1P1	1DP-2-104	PVC101	2PS-P10
C25	.003	(.05)†	BPD-0033	DD-332	BYA10D33	CCD-332	B233	5HK-D33

Soundex Part Number.

† Alternate Value.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Soundex PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	25K	VC10T	F1-25K, R2-10K, FFS015, RFS107, AK28 ①, KR4		† QJ-1767A	
B							
R2	Volume Bias	10K 500Ω 2W	PT1	V-500	U39-500	110-600	PFL-600

① Alter bushing to meet requirements.

② Ignore Tap.

† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B11-120, P21-029 (Panel)

B13-116, R20-112 (Rear)

"SNAPTROL" Equivalent: BU10 ①, CF11, CR49T ②, SFS, SR41, GC.

S40 (Bushings)

76-1 (Switch)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Soundex PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.8uh)	TF-14	BC565	74F686AP	RTC-8520	T859	① Part of M2.
L2	Ant.	①					
L3	RF	①					
L4	Osc.	①					
L5	Input IF	TF-31					
L6	Output IF	TF-30					

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Soundex PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L7	.680	.3Ω	3MH	TF-6C	C-4095	TC-1	TR-156	TY16XT

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO	REPLACEMENT DATA					NOTES
		Soundex PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	13:1	TF-34					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Soundex PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	25Ω Tap	@3-4Ω	TF-2FA				TR-168	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES	
		Soundex PART No.	QUAM PART No.		
SP1	8" X 9" PM 7" PM	3-4Ω 3-4Ω	SK-2AW SK-24W	69A3 7A21	Used in Models DAP-865T, VAP-464T. Used in Model PLP-464T

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA				
			Soundex PART No.	LITTELFUSE PART No.		BUSS PART No.	
				FUSE	HOLDER		FUSE
M1	3AG	7½ 32V		In Fuse Block	31107.5		AGC7½

MISCELLANEOUS

ITEM No.	PART NAME	Soundex PART No.	NOTES
M2	Tuner	TUN-28T	
M3	RF Limiter		1N295
M4	AVC Limiter		1N295
M5	AF Det.		1N295
M6	Spark Plate	SPK-P-2	

WIRING DATA

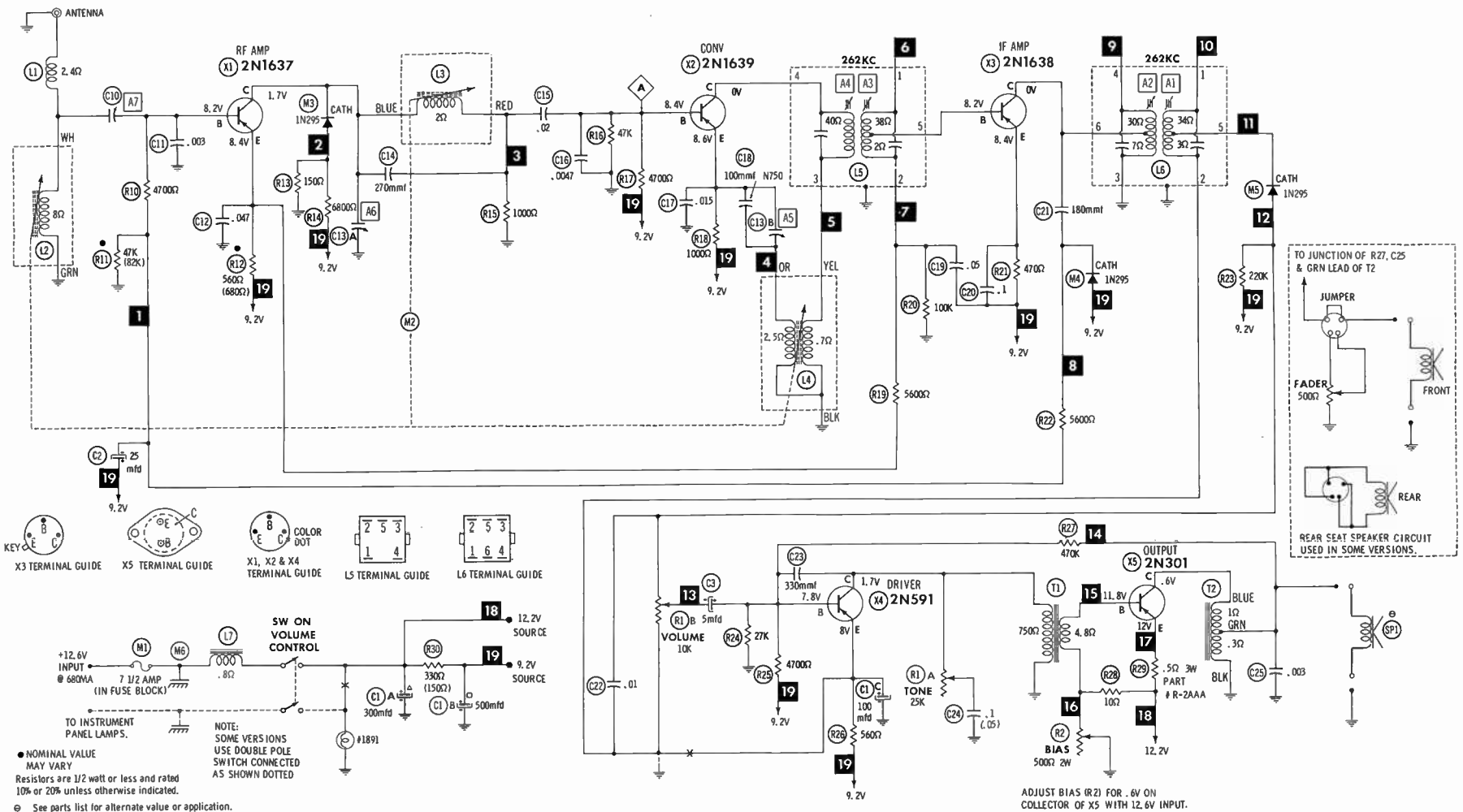
General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in 12 Colors
8524 (Stranded) Available in 12 Colors

Shielded Hook-up Wire Use BELDEN No. 8885

Rear Seat Speaker Extension Cable Use BELDEN No. 8782 (Stranded) Coded Parallel Leads

Bonding Strap Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)

SONDEX MODELS DAP-864T, DOP-864T, PLP-464T, VAP-464T



**SOUNDEX MODELS DAP-864T, DOP-864T,
PLP-464T, VAP-464T**

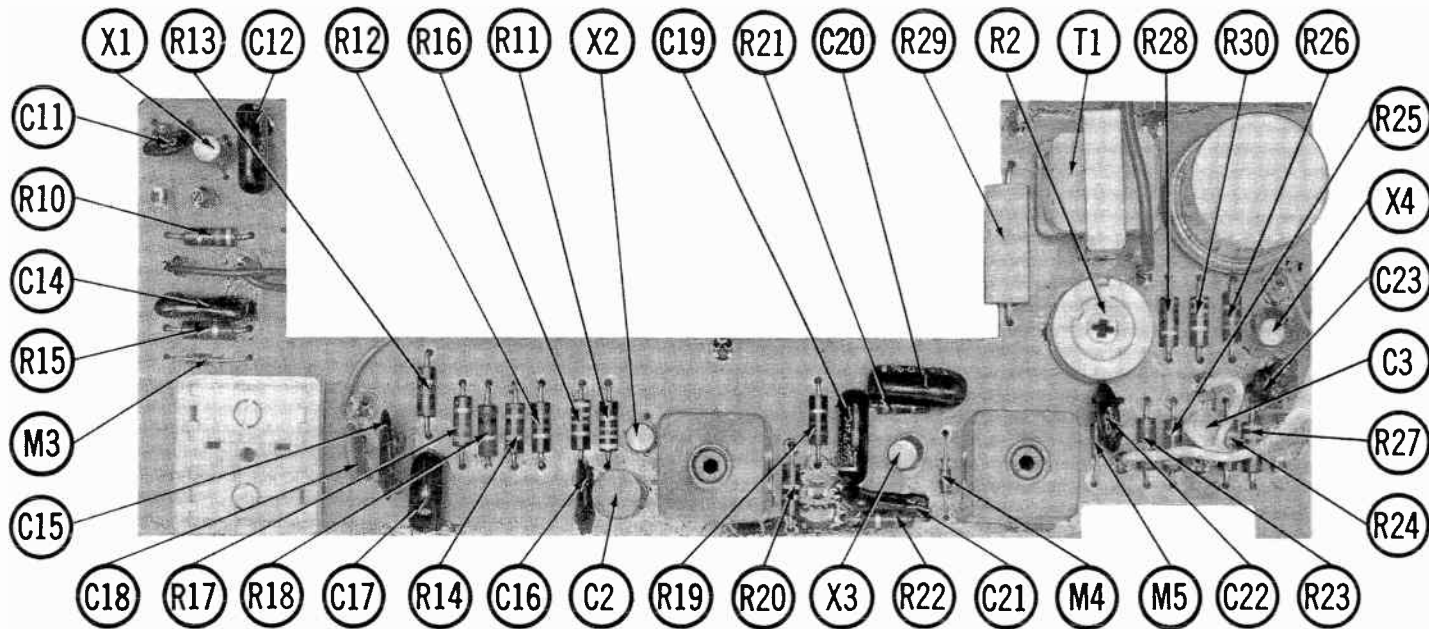
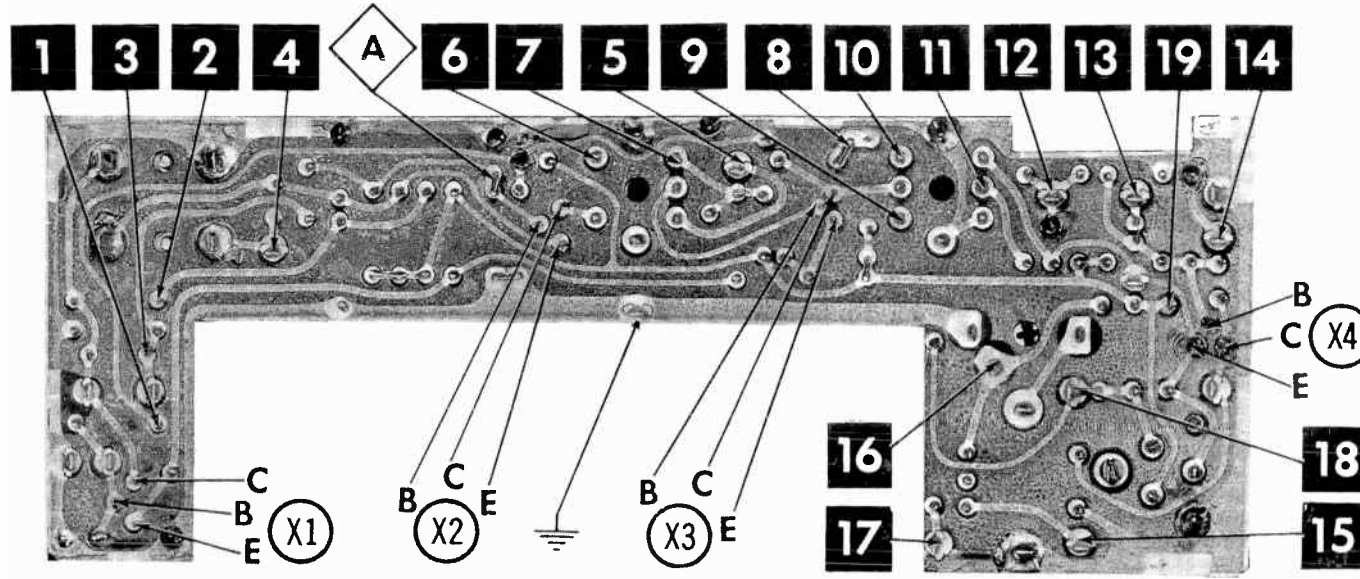
● NOMINAL VALUE MAY VARY

Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

- ⊙ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise designated.
- 5. Numbers assigned to terminals may not be found on the unit.
- 6. Supply voltage maintained at rated value for voltage readings.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFACIT STANDARD NOTATION SCHEMATIC
with **CIRCUITRACE**

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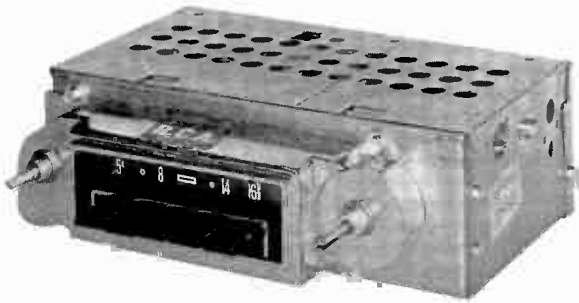


SOUNDEX MODELS DAP-8641, DOP-8641, PLP-4641, VAP-4641



PHOTOFACT[®] with

CIRCUITRACE[®]



TRADE NAME : Soundex Models CEP-764T (1964 Chevelle)
 CHP-164T (1964 Chevrolet)

SUPPLIER : For Current Address, See Master Index.

TYPE SET : 5 Transistor

POWER SUPPLY : 12 Volt Storage Battery

RATING : .720 Amp. @ 12.6 Volts DC

TUNING RANGE : BROADCAST 540-1615KC

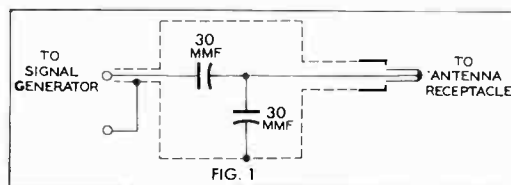
ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
 Use only enough generator output to provide a usable indication.
 Suggested Alignment Tools:

A1 thru A4 GENERAL CEMENT: 8606, 8606L, 8869 WALSCO: 2543, 2544, 2588
 A5, A6, A7 GENERAL CEMENT: 8290, 8868, 9087 WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point Δ , low side to ground.	262KC (400v 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.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.

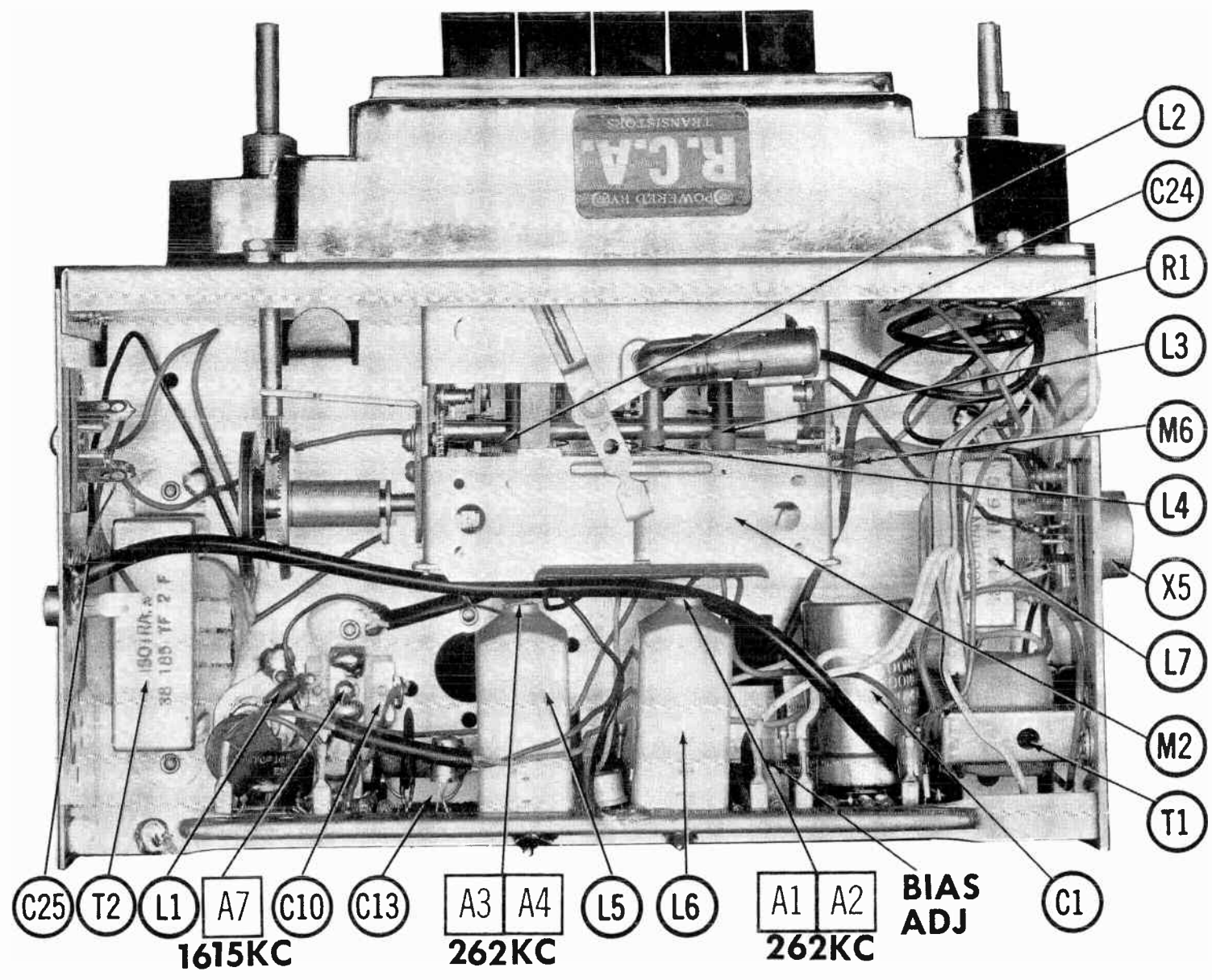


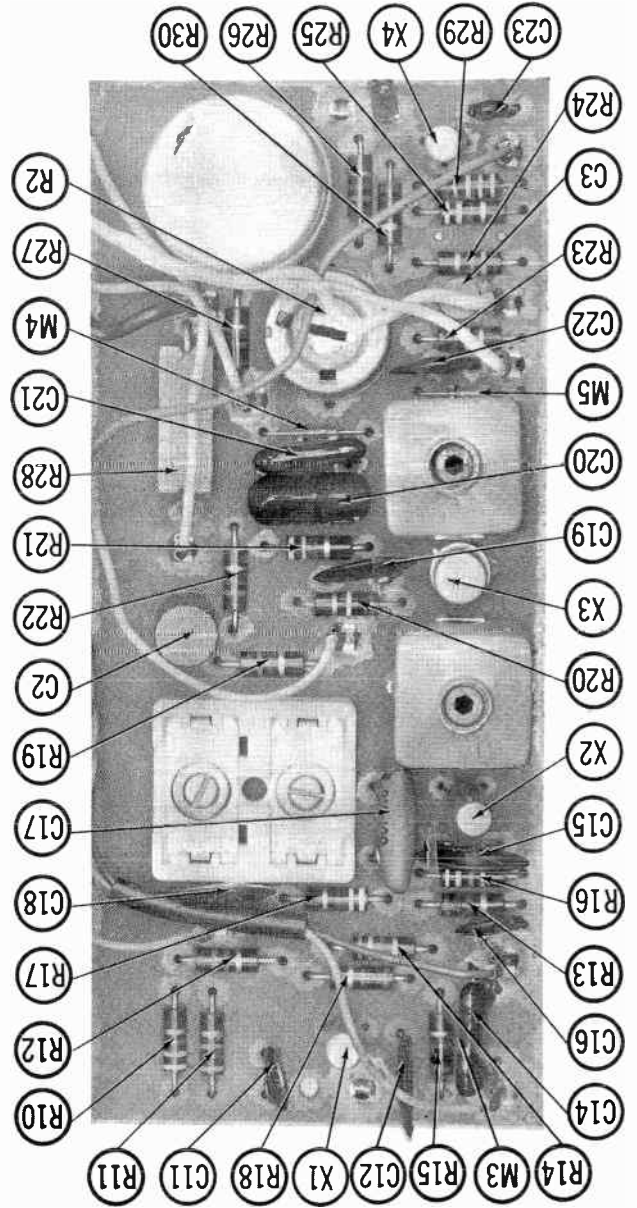
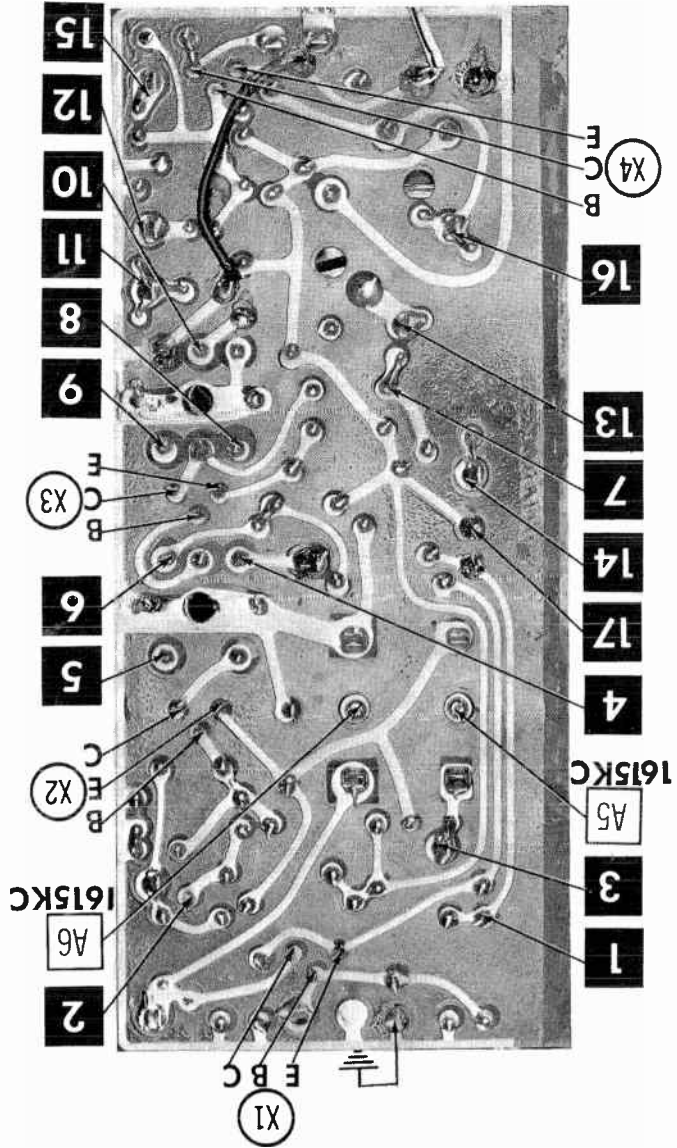
PUSH-BUTTON ADJUSTMENT

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

SOUNDEX MODELS CEP-764T, CHP-164T

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





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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2N1837	RF Amp.	DS-25	GE-1	2N1837	PNP
X2	2N1839	Converter	DS-25	GE-1	2N1839	PNP
X3	2N1838	IF Amp.	DS-25	GE-1	2N1838	PNP
X4	2N591	Driver	DS-26	GE-2	2N591	PNP
X5	2N301	Output	DS-520	GE-3	2N301	PNP*

* When replacing, apply silicone grease to both sides of insulators. Tighten mounting screws securely. Check bias adjustment.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	Soundex PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	▲300	16	C-86	PWH3-00-95	CCOO12	XC3-48		PFP300.18	PCLS-3026.12*
B	■500	16							
C	100	16							
C2	25	15	C-53	BCD15025	NLP25-15	MT1-14	BL1441	PET1570	VL-1170
C3	5	15	C-54	BCD15005	NLP5-15	MT1-3	BL1141	PET1535	VL-1164

* 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		#TR-5A							
C11	.003		BPD-0033	DD-332	BYA10D33	CCD-332	B233	5HK-D33	
C12	.047	100V	P288N-047		WMF2S47	1DP-2-473	PVC1147	2PS-S47	
C13A		#TR-14							
B									
C14	270		DI-270	DD-271	LA10T27-C4	CCD-271	GP327	5GA-T27	
C15	.02		BPD-02	DD-203	BYA6S2	CCD-203	B120	5HK-S20	
C16	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B247	5HK-D47	
C17	.015	100V	P288N-015		WMF2S15	4DP-1-153	PVC2115	4PS-S15	
C18	100	N750	N750-DI 100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10	
C19	.05	100V	P288N-05		DPMS2S5	1DP-2-503	PVC215	2PS-S50	
C20	.1	100V	P288N-1		WMF1P1	1DP-2-104	PVC101	2PS-P10	
C21	180		DI-180	DD-181	LA10T18-S3	CCD-181	GP318	5GA-T18	
C22	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10	
C23	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33	
C24	.1	200V	P288N-1		WMF1P1	1DP-2-104	PVC101	2PS-P10	
C25	.003	(.05) †	BPD-0033	DD-332	BYA10D33	CCD-332	B233	5HK-D33	

Soundex Part Number.
 † Alternate Value.

CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA					
			Soundex PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone	25K	VC14T	F1-25K, R2-10K		†QJ-1774A		
B	Volume, Switch	10K		FFS012, RFS106, AK26 †, KR4				
R2	Bias	500Ω 2W	PT-1	V-500	U39-500	110-800	PFL-600	

① Alter bushing to meet requirements.

② Disregard Tap.

† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B11-120, P22-021 (Panel)
 B13-116, R1-108 (Rear)
 "SNAPTROL" Equivalent: Bu8 †, CF11, CR49T †, SF3, SR40, GC.
 S46 (Bushings)
 76-1 (Switch)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Soundex PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.8uh)	TF-14	BC-565	74F68AP	RTC-8520	T859	① Part of M2.
L2	Ant.	①					
L3	RF	①					
L4	Osc.	①					
L5	Input IF	TF-31					
L6	Output IF	TF-30					

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Soundex PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L7	.720Amp	.3Ω	3MH	TF-8C	C-4095	TC-1	TR-156	TY16XT

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO	REPLACEMENT DATA					NOTES
		Soundex PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	14: 1	TF-1C					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Soundex PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	25Ω Tap @	3-4Ω	TF-2F				TR-168	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES	
		Soundex PART No.	QUAM PART No.		
SP1	4" X 10" PM 6" X 9" PM	3-4Ω 3-4Ω	SK-4XW SK-2AW	410A2 89A3	Used in Model: CEP-764T Used in Model: CHP-164T

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA							
			Soundex PART No.		LITTELFUSE PART No.		BUSS PART No.			
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER		
M1	3AG	7½ 32V		In Fuse Block		31107.5			AGC7½	

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M2	Tuner	TUN-35 T	
M3	RF Limiter		1N295
M4	AVC Limiter		1N295
M5	AF Det.		1N295
M6	Spark Plate	SPK-P-2	

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 6530 (Solid) Available in 12 Colors 6524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire	Use BELDEN No. 8685
Rear Seat Speaker Extension Cable	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap	Use BELDEN No. 8661 (3/8 In.) or 8870 (3/4 In.)



PHOTOFACT[®] with

CIRCUITRACE[®]

TRADE NAME : Soundex Models CTP-264T (1964 Comet)
 FAP-264T (1964 Falcon)
 FOP-264T (1964 Ford)

SUPPLIER : For Current Address, See Master Index.

TYPE SET : 5 Transistor AM Receiver

POWER SUPPLY : 12 Volt Storage Battery

RATING : .720 Amp @ 12.6 Volts DC

TUNING RANGE : BROADCAST 540-1615KC



ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

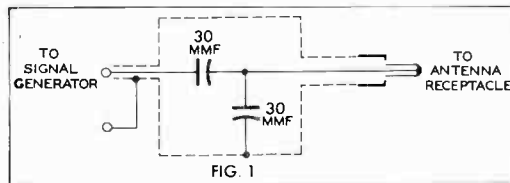
Use only enough generator output to provide a usable indication.

Suggested Alignment Tools:

A1 thru A4 GENERAL CEMENT: 8606, 8606L, 8869 WALSCO: 2543, 2544, 2588
 A5, A6, A7 GENERAL CEMENT: 8290, 8868, 9087 WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point Δ , low side to ground.	262KC (400 ν 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.	1615KC	"	"	A5, A6, A7	"

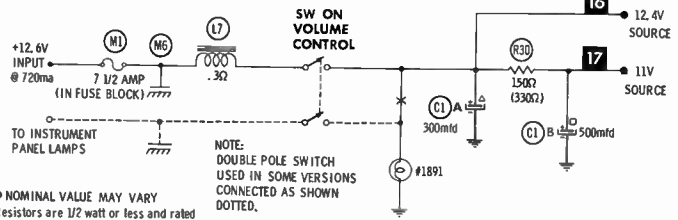
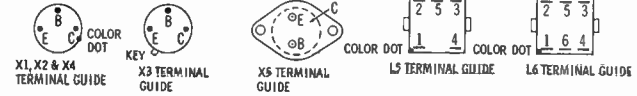
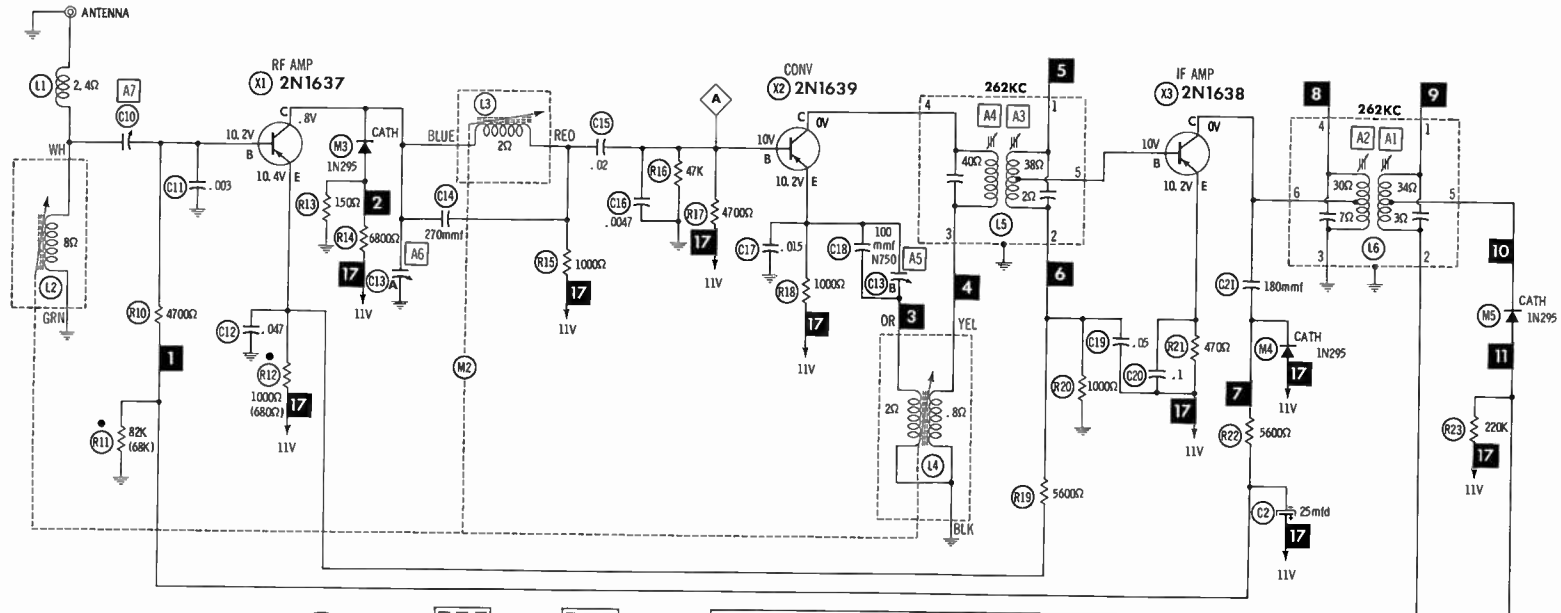
With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.



PUSH-BUTTON ADJUSTMENT

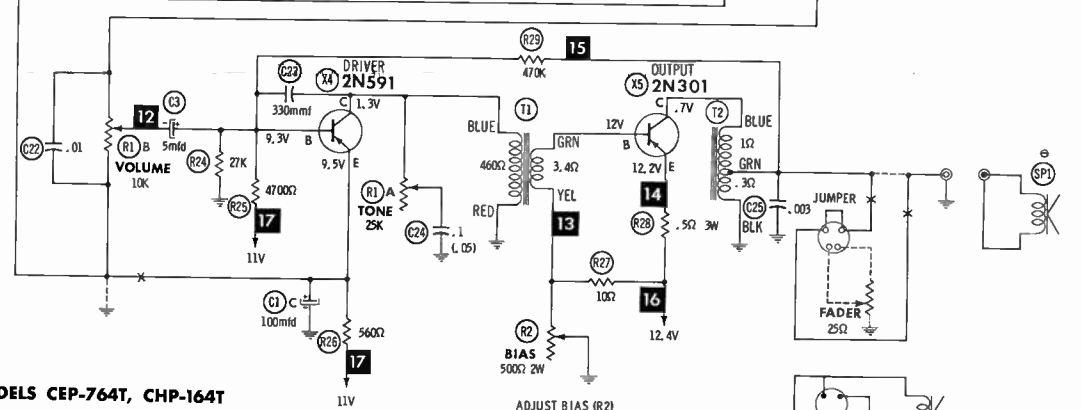
1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.

SOUNDEX MODELS CTP-264T, FAP-264T, FOP-264T

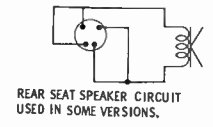


- NOMINAL VALUE MAY VARY
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.
- See parts list for alternate value or application.
 - 1. Voltage measurements taken with vacuum tube voltmeter.
 - 2. All controls set for normal operation, no signal applied.
 - 3. Measured values are from socket pin or terminal to common ground.
 - 4. All terminals viewed from bottom unless otherwise designated.
 - 5. Numbers assigned to terminals may not be found on the unit.
 - 6. Supply voltage maintained at rated value for voltage readings.
 - 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

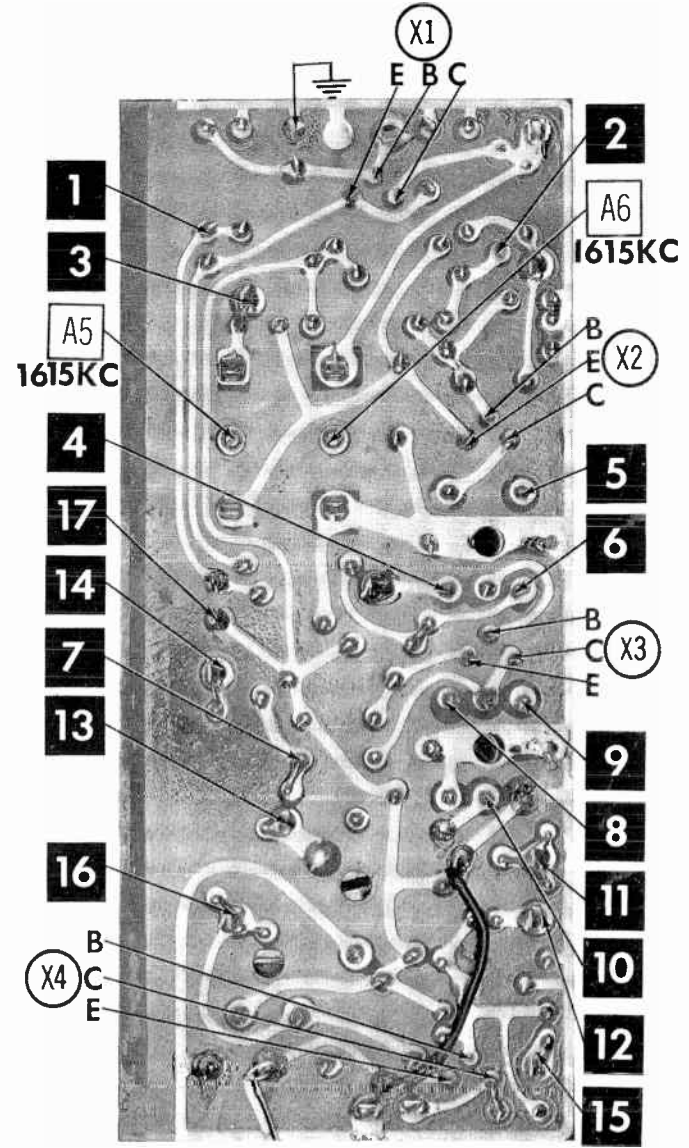
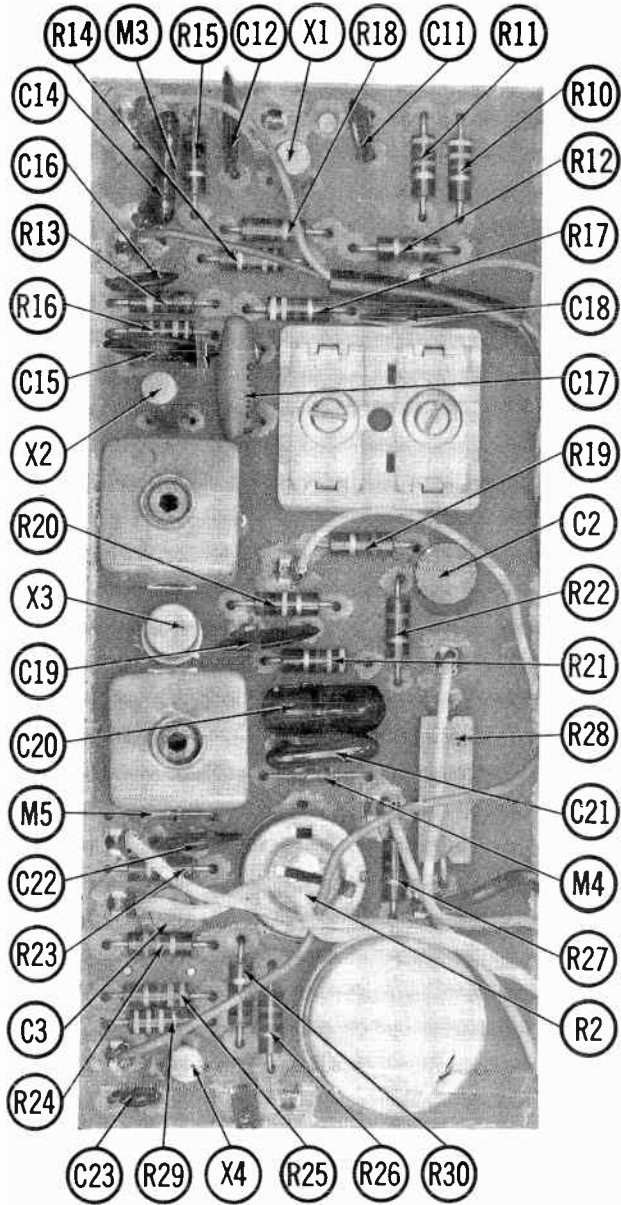
SOUNDEX MODELS CEP-764T, CHP-164T
SOUNDEX MODELS CTP-264T, FAP-264T



ADJUST BIAS (R2) FOR .7V ON COLLECTOR OF X5 WITH 12.6V INPUT.



A PHOTOFAC STANDARD NOTATION SCHEMATIC with **CIRCUITRACE**
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SOUNDSEX MODELS CTP-2641, FAP-2641, FOP-2641

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

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. 8865
Bonding Strap	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2N1637	RF Amp.	D6-25	GE-1	2N1637	PNP
X2	2N1839	Converter	DS-25	GE-1	2N1839	PNP
X3	2N1838	IF Amp.	DS-25	GE-1	2N1838	PNP
X4	2N591	Driver	DS-26	GE-2	2N591	PNP
X5	2N301	Output	DS-520	GE-3	2N301	PNP*

* When replacing, apply silicone grease to both sides of insulators. Tighten mounting screws securely. Check bias adjustment.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	Soundex PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	300	16	C-68	PWH3-00-95	CCOO12	KC3-48		PPF300.18	PCLS-3026.12*
B	500	16							
C	100	16							
C2	25	15	C-53	BCD15025	NLP25-15	MT1-14	BL1441	PET1570	VL-1170
C3	5	15	C-54	BCD15005	NLP5-15	MT1-3	BL1141	PET1535	VL-1164

* 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	.003	#TR-5A	BPD-0033	DD-332	BYA10D33	CCD-332	B233	5HK-D33
C11	.047	100V	P288N-047		WFMF2S47	1DP-2-473	PVC1147	2PS-S47
C12	.015	#TR-14						
C13A								
B								
C14	270		DI-270	DD-271	LA10T27-C4	CCD-271	GP327	5GA-T27
C15	.02		BPD-02	DD-203	BYA6S2	CCD-203	B120	5HK-S20
C16	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B247	5HK-D47
C17	.015	100V	P288N-015		WFMF2S15	4DP-1-153	PVC2115	4PS-S15
C18	100	N750	N750-DI 100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10
C19	.05	100V	P288N-05		DFMS2S5	1DP-2-503	PVC215	2PS-S50
C20	.1	100V	P288N-1		WFMF1P1	1DP-2-104	PVC101	2PS-P10
C21	180		DI-180	DD-181	LA10T18-S3	CCD-181	GP318	5GA-T18
C22	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C23	330	200V	DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33
C24	.1	200V	P288N-1		WFMF1P1	1DP-2-104	PVC101	2PS-P10
C25	.003	(.05)†	BPD-0033	DD-332	BYA10D33	CCD-332	B233	5HK-D33

Soundex Part Number
† Alternate Value.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Soundex PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-RC PART No.	MALLORY PART No.
R1A	Tone	25K	VC-16T				
B	Volume	10K					
R2	Bias	500Ω 2W	PT-1	V-500	U39-500	110-600	PFL-600

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Soundex PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.8uh)	TF-14	BC-565	74F686AP	RTC-8520	T859	① Part of M2.
L2	Ant.	①					
L3	RF	②					
L4	Osc.	③					
L5	Input IF	TF-31					
L6	Output IF	TF-30					

FILTER CHOKE

ITEM No.	RATINGS		REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Soundex PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L7	.720Amp	.3Ω	3MH	TF-6C	C-4095	TC-1	TR-156	TY16XT

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Soundex PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	14:	1	TF-1C					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Soundex PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	25Ω Tap @	3-4Ω	TF-2F				TR-188	

SPEAKER

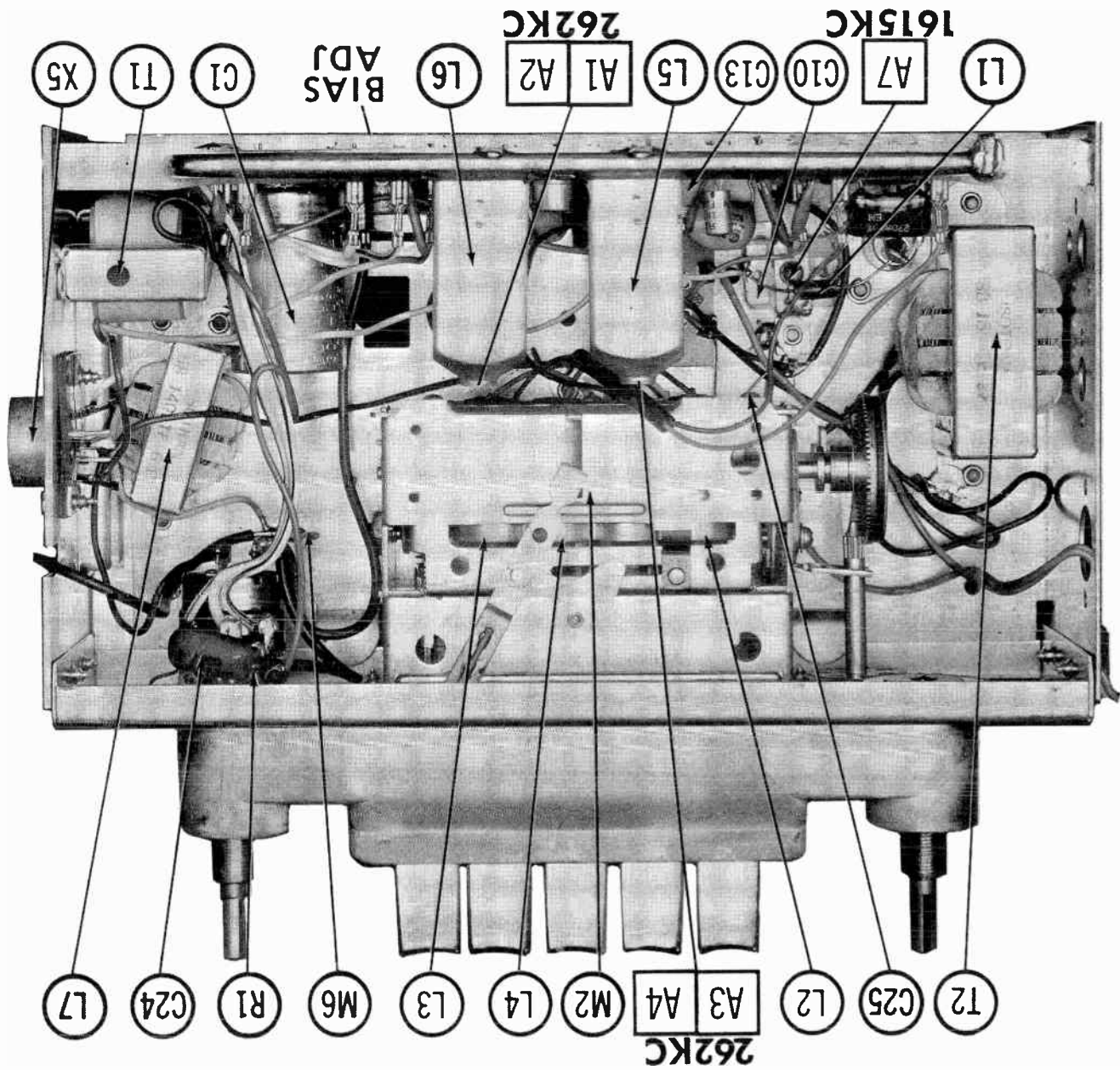
ITEM No.	TYPE	REPLACEMENT DATA		NOTES	
		Soundex PART No.	QUAM PART No.		
SP1	5" X 8" PM 6" X 10" PM	3-4Ω 3-4Ω	SK-21W SK-23W	58A15 610A1	Model: CTP-264T, FAP-264T Model: FOP-264T

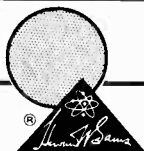
FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA				
			Soundex PART No.		LITTELFUSE PART No.		
			FUSE	HOLDER	FUSE	HOLDER	
M1	3AG	7½ 32V	In Fuse Block		31107.5		BUSS PART No. AGC7½

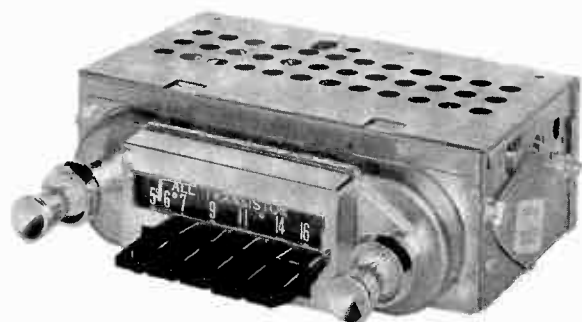
MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M2	Tuner	TUN-25T	
M3	RF Limiter		1N295
M4	AVC Limiter		1N295
M5	AF Det.		1N295
M6	Spark Plate	SPK-P-2	





PHOTOFACT®



TRADE NAME : Soundex Model CHP-564T (1964 Chevy II)
 SUPPLIER : For Current Address, See Master Index.
 TYPE SET : 5 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .680 Amp @ 12.6 Volts DC
 TUNING RANGE : BROADCAST 540-1615KC

SOUNDEX MODEL CHP-564T

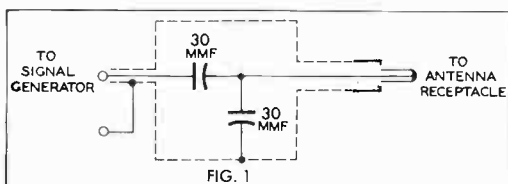
ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
 Use only enough generator output to provide a usable indication.
 Suggested Alignment Tools:

A1 thru A4 GENERAL CEMENT: 8806, 8806L, 8869 WALSCO: 2543, 2544, 2588
 A5, A6, A7 GENERAL CEMENT: 8290, 8868, 9087 WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point Δ , low side to ground.	262KC (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.	1615KC	"	"	A5, A6, A7	"

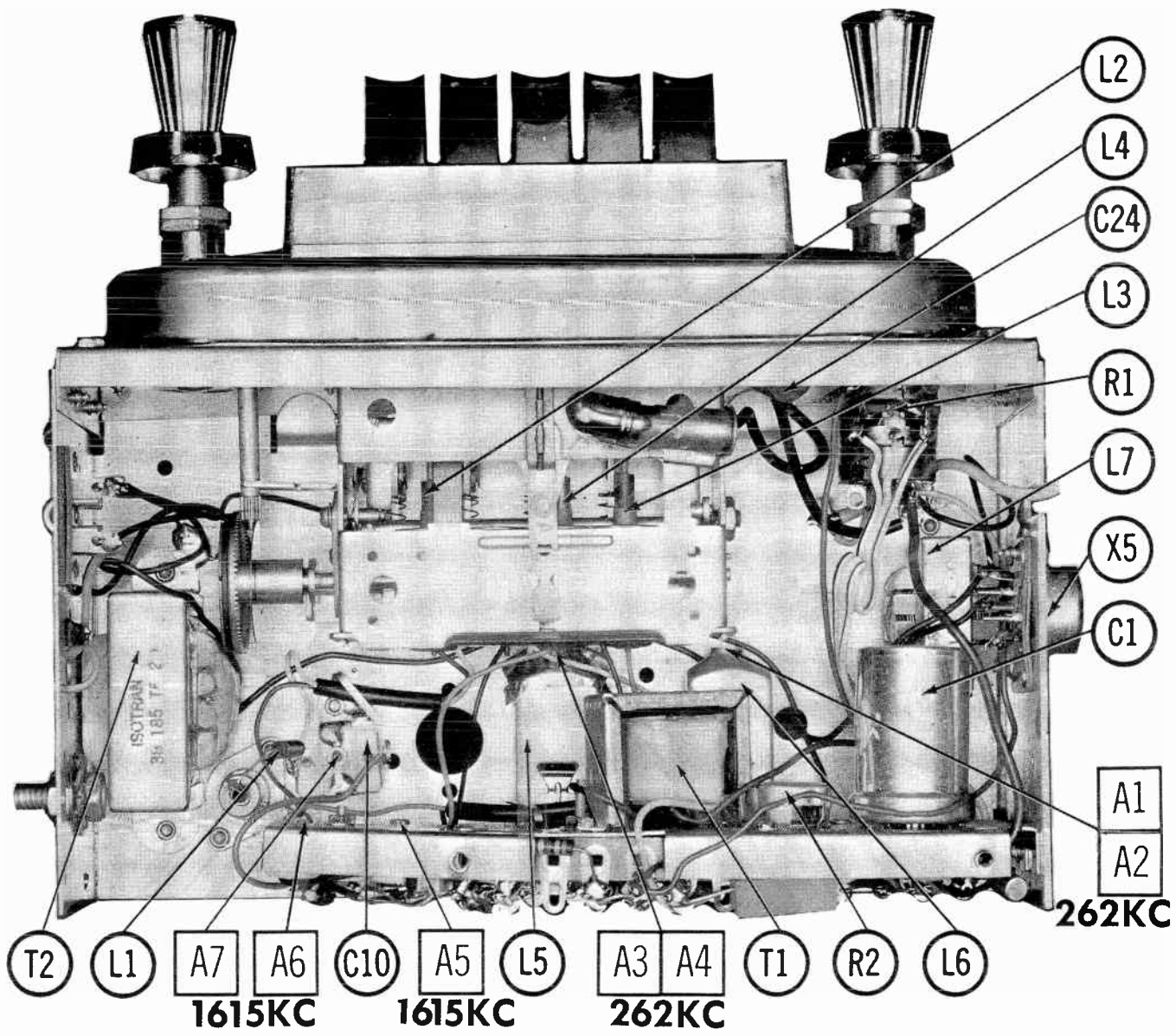
With radio installed in car and antenna fully extended, tune in a weak station near-1400KC and adjust A7 for maximum output.



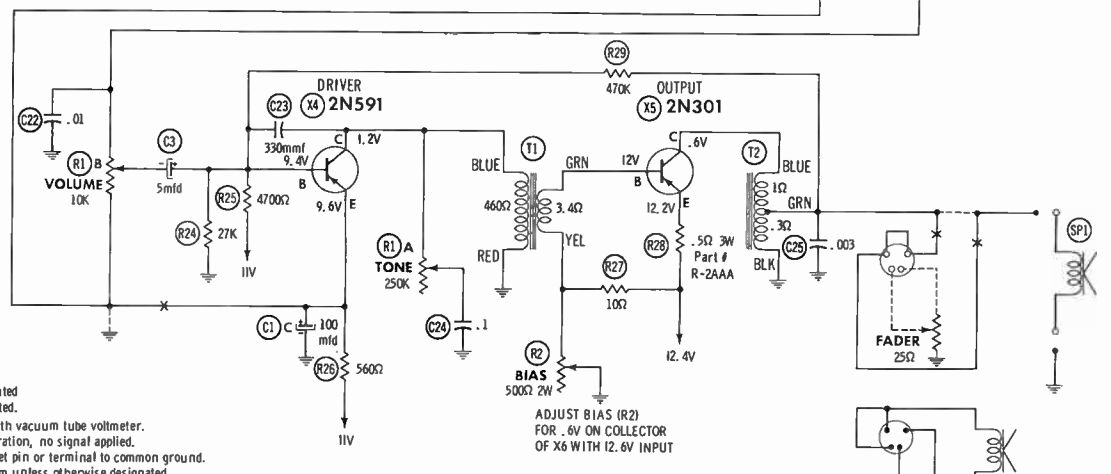
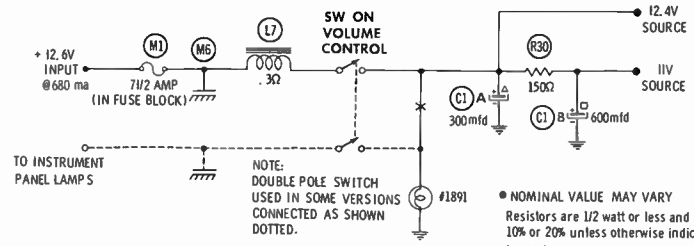
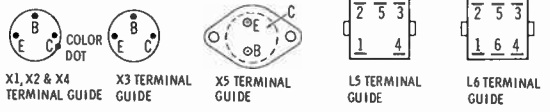
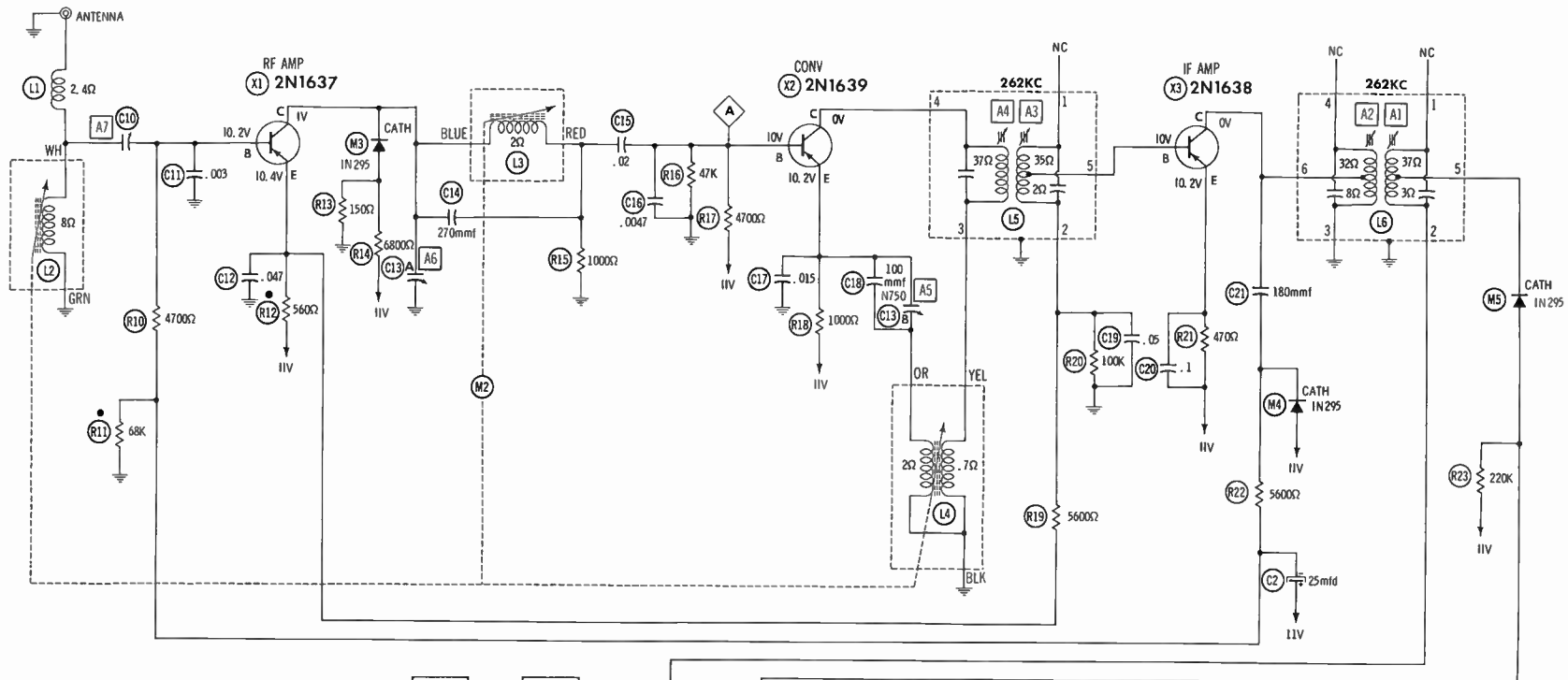
PUSH-BUTTON ADJUSTMENT

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

HOWARD W. SAM'S & CO., INC. Indianapolis 6, Indiana



SOUNDEX MODEL CHP-564T

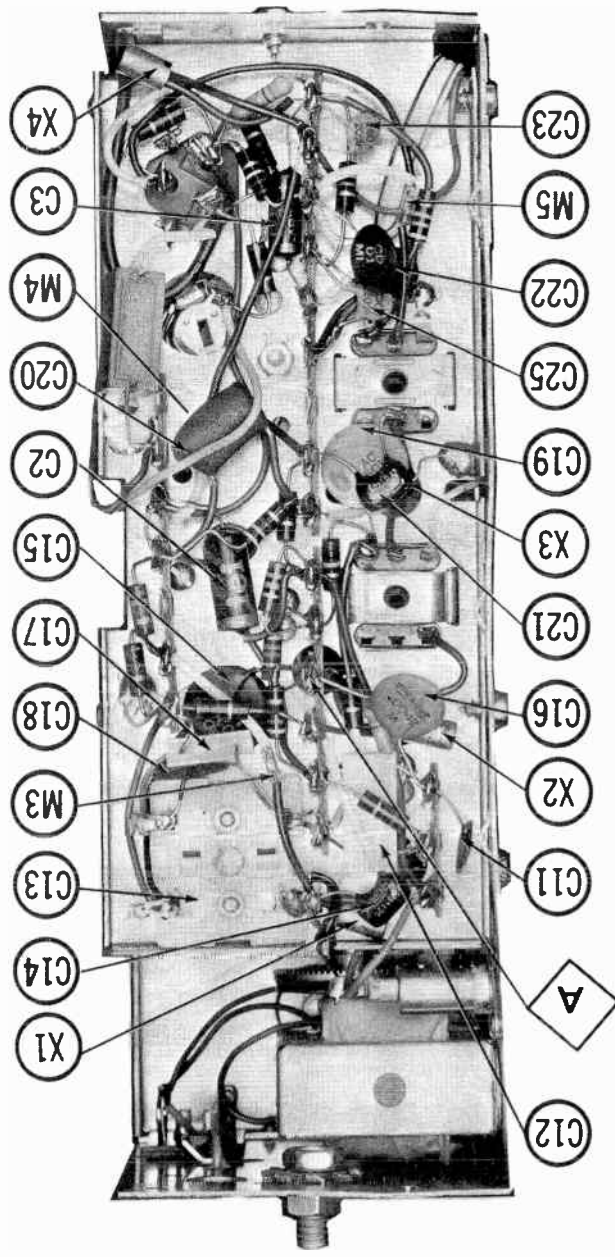
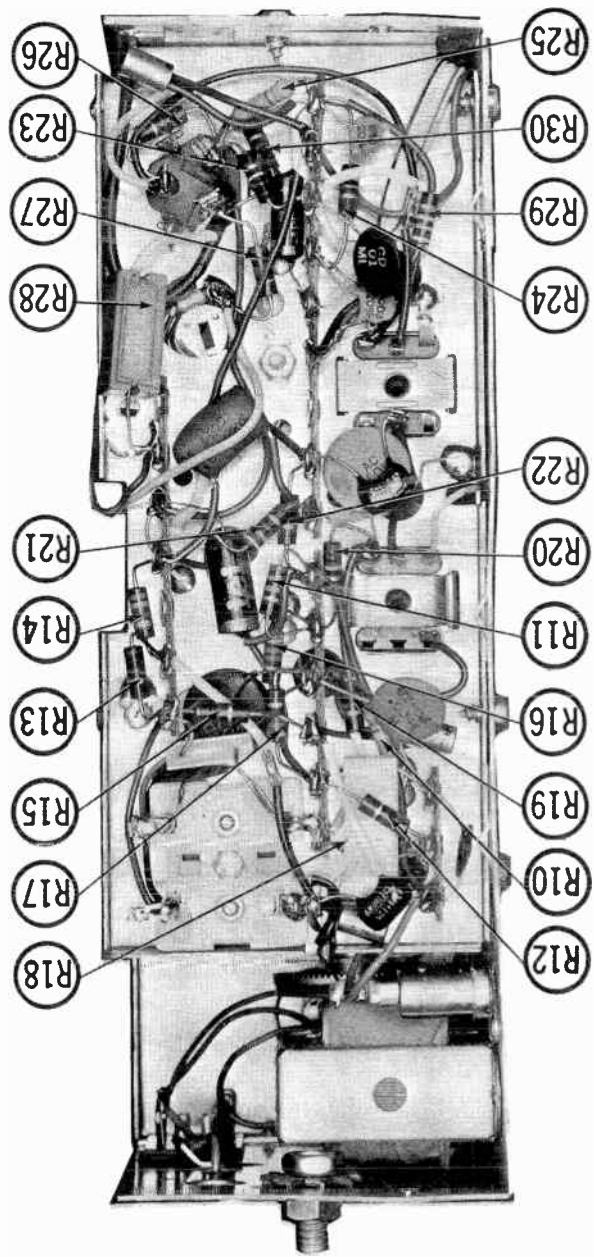


A PHOTOFACIT STANDARD NOTATION SCHEMATIC
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- NOMINAL VALUE MAY VARY
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.
1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.
 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

SOUNDEX MODEL CHP-564T

NOTE:
REAR SEAT SPEAKER
CIRCUIT USED IN
SOME VERSIONS.



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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2N1637	RF Amp.	DS-25	GE-1	2N1637	PNP
X2	2N1639	Converter	D8-25	GE-1	2N1639	PNP
X3	2N1638	IF Amp.	D8-25	GE-1	2N1638	PNP
X4	2N591	Driver	DS-26	GE-2	2N591	PNP
X5	2N301	Output	DS-501	GE-3	2N301	PNP*

* When replacing, apply silicone grease to both sides of insulators. Tighten mounting screws securely. Check bias adjustment.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REMARKS	REPLACEMENT DATA					NOTES
	CAP.	VOLT.		Soundex PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	
C1A	▲300	18	C-46	AFH3-0045.4	CCOO12	XC3-48		WP300.85	TVLS-3028.7*
B	■600	16							
C	100	16							
C2	25	16	C-35	PTT82	NLW25-25	MT1-14	BL1550	TT25X25	TL-1157.1
C3	5	16							

* 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	.003	#TR5A-1	DI-3000	DD-302	LA10D3-C4	CCD-302	GP230	5GA-D30	
C11	.047		#TR-8	P288N-047		WMF2S47	1DP-2-473	PVC1147	2PS-547
C12	200V								
C13A									
C14	270	200V	DI-270	DD-271	LA10T7-C4	CCD-271	GP327	5GA-T27	
C15	.02		BPD-02	DD-203	BYA6S2	CCD-203	B120	5HK-S20	
C16	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B247	5HK-D47	
C17	.015		P288N-015		WMF2S15	4DP-1-153	PVC2115	4PS-S15	
C18	100		N750-DI 100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10	
C19	.05		TTD-05	CK-503	H5		TA150	TG-S50	
C20	.1		P288N-1		WMF1P1	1DP-2-104	PVC101	2PS-P10	
C21	180		DI-180	DD-181	LA10T18-S3	CCD-181	GP318	5GA-T18	
C22	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10	
C23	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33	
C24	.1		P288N-1		WMF1P1	1DP-2-104	PVC101	2PS-P10	
C25	.003		DI-3000	DD-302	LA10D3-C4	CCD-302	GP230	5GA-D30	

Soundex Part Number.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Soundex PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	250K	VC-3T			† QJ-1775A	
B	Volume, Switch	10K					
R2	Bias	500Ω	PT-1	V-500	U39-500	110-800	PFL-800
		2W					

† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B13-130, P17-129 (Panel)
 "SNAPTROL" Equivalent: BU8 ①, CF23, CR49T ②, SF16, SR17, GC. B13-116, R9-208 (Rear)
 S9 ① (Bushing) 76-1 (Switch)

① Alter Bushing to meet requirement.
 ② Disregard Tap.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Soundex PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.8uh)	TF-14	BC-565	74F886AP	RTC-8520	T859	① Part of M2.
L2	Ant.	①					
L3	RF	①					
L4	Osc.	①					
L5	Input IF	TF-27		6570			
L6	Output IF	TF-28		6571			

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Soundex PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L7	680ma	3Ω	3MH	TF-6C	C-4095	TC-1	TR-186	TY16XT

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO	REPLACEMENT DATA					NOTES
		Soundex PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	14.4:1	1	TF-1C				

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Soundex PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	25Ω Tap @	3-4Ω	TF-2F				TR-188	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		Soundex PART No.	QUAM PART No.	
SP1	4" X 10" PM	3-4Ω	SK-4XW	410A2

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA				
			Soundex PART No.		LITTELFUSE PART No.		BUSS PART No.
			FUSE	HOLDER	FUSE	HOLDER	
M1	3AG	7½A 32V	In Fuse Block		31107.5		AGC7½

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M2	Tuner	TUN-25T	
M3	RF Limiter		1N295
M4	AVC Limiter		1N295
M5	AF Det.		1N295
M6	Spark Plate	SPK-P-2	

WIRING DATA

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

SONDEX MODEL CHP-564T



PHOTOFACT[®]

TRADE NAME : Soundex Models FLP-264T (1964 Fairlane)
 MEP-264T (1963-64 Mercury)

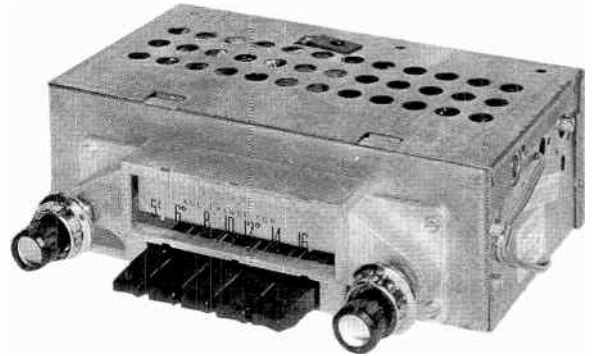
SUPPLIER : For Current Address, See Master Index.

TYPE SET : 5 Transistor AM Receiver

POWER SUPPLY : 12 Volt Storage Battery

RATING : .680 Amp. @ 12.6 Volts DC

TUNING RANGE : BROADCAST 540-1615KC



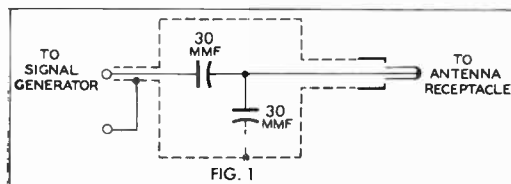
ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
 Use only enough generator output to provide a usable indication.
 Suggested Alignment Tools:

A1 thru A4	GENERAL CEMENT: 8606, 8606L, 8869	WALSCO: 2543, 2544, 2588
A5, A6, A7	GENERAL CEMENT: 8290, 8868, 9087	WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point A , low side to ground.	262KC (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.	1615KC	"	"	A5, A6, A7	"

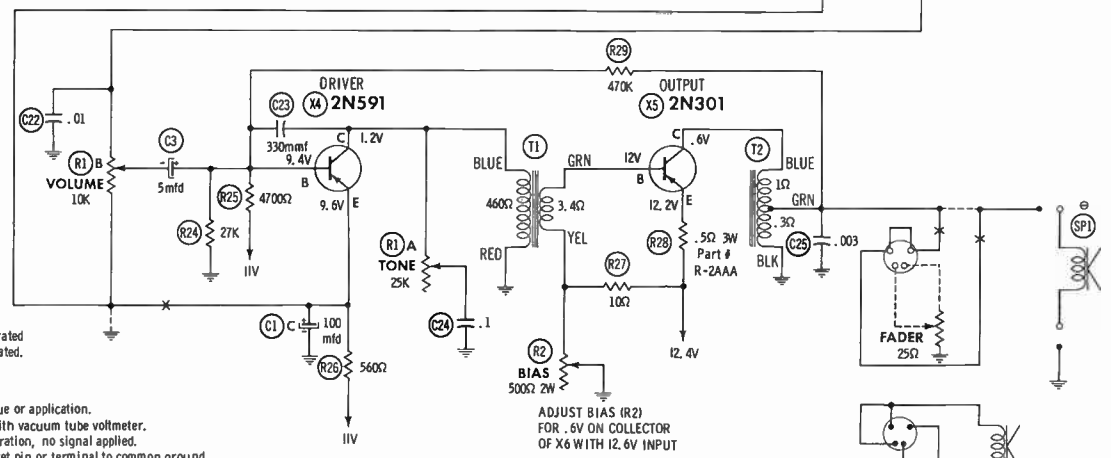
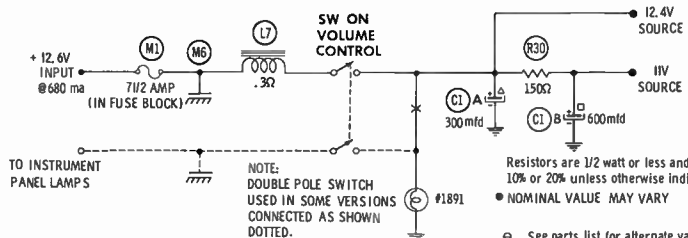
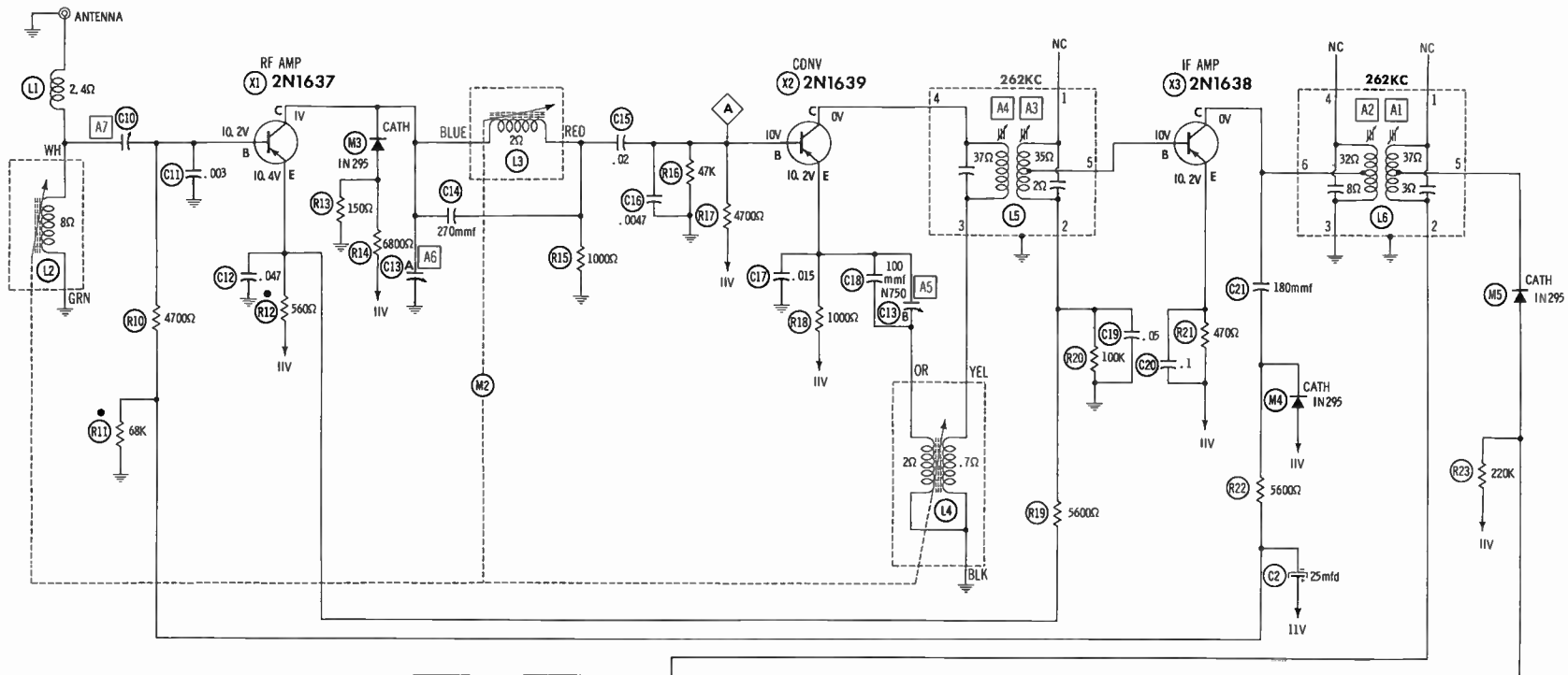
With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.



PUSH-BUTTON ADJUSTMENT

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

SOUNDEX MODELS FLP-264T, MEP-264T



SOUNDEX MODELS FLP-264T, MEP-264T

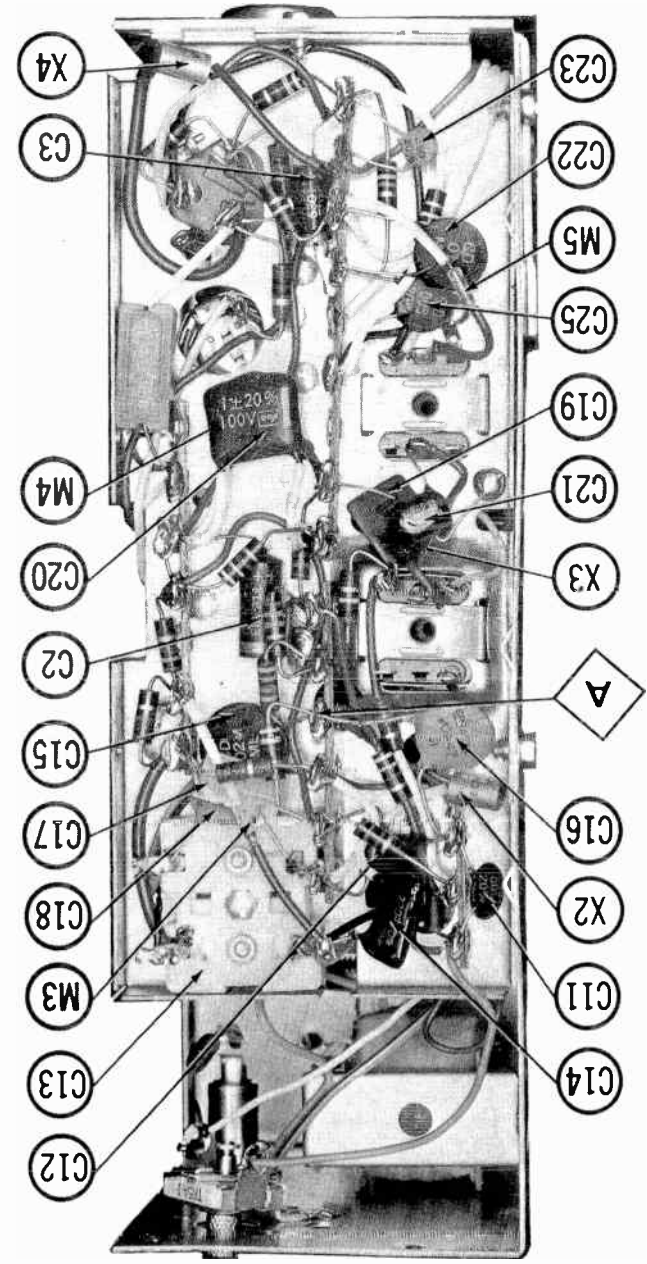
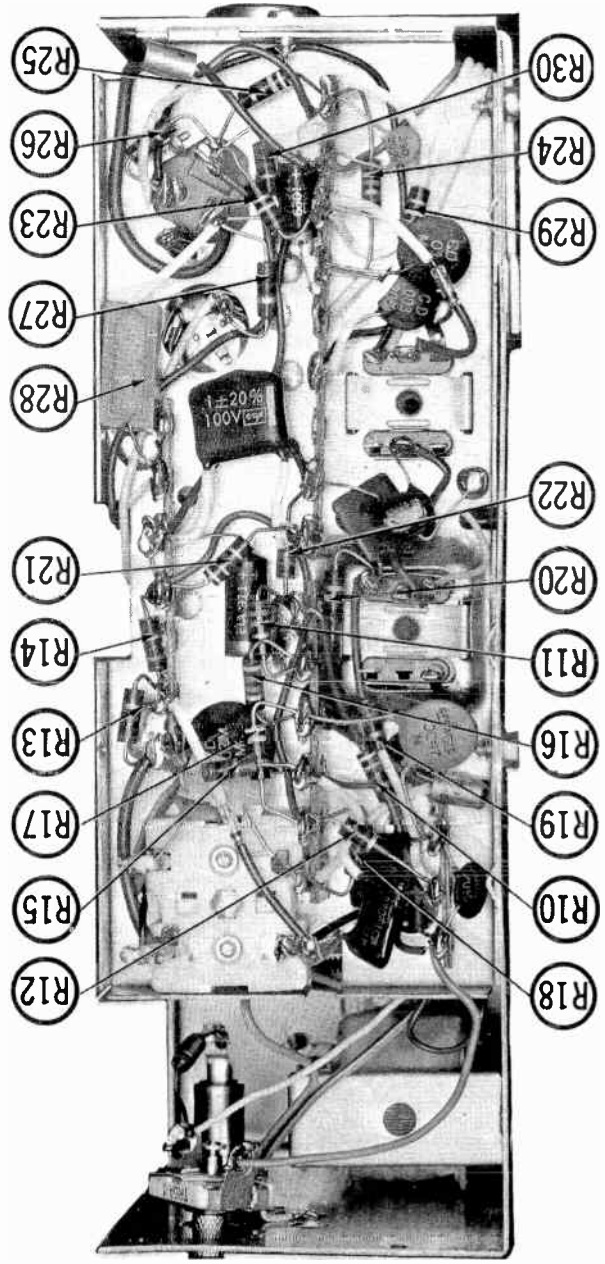
A PHOTOFAC STANDARD NOTATION SCHEMATIC
©Howard W. Sams & Co., Inc. 1964

Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.
• NOMINAL VALUE MAY VARY

- ⊖ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise designated.
- 5. Numbers assigned to terminals may not be found on the unit.
- 6. Supply voltage maintained at rated value for voltage readings.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

NOTE: REAR SEAT SPEAKER CIRCUIT USED IN SOME VERSIONS.

SOUNDEX MODELS FLP-264T, MEP-264T



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

General-use Unshielded Hook-up Wire	Use BELDEN No. 6530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2N1637	RF Amp.	DS-25	GE-1	2N1637	PNP
X2	2N1639	Converter	DS-25	GE-1	2N1639	PNP
X3	2N1638	IF Amp.	DS-25	GE-1	2N1638	PNP
X4	2N591	Driver	DS-28	GE-2	2N591	PNP
X5	Zn301	Output	DS-501	GE-3	2N301	PNP*

* When replacing, apply silicone grease to both sides of insulators. Tighten mounting screws securely. Check bias adjustment.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	Soundex PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	▲300	18	C-46	AFH3-00-95.4	CCOO12	XCS-48		WP300.85	TVLS-9026.7*
B	■600	18							
C	100	18							
C2	25	18	C-35	PTT82	NLW25-25	MT1-14	BL1550	TT25X25	TL-1157.1
C3	5	18	C-36	PTT77	NLW6-25	MT1-3	BL1250	T25X25	TL-1152

* 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	.003	#TR5A-1	DI-3000	DD-302	LA10D3-C4	CCD-302	GP230	5GA-D30	
C11	.047		P288N-047		WMF2847	IDP-2-473	PVC1147	2PS-S47	
C12	200V								
C13A		#TR-8							
B									
C14	270		DI-270	DD-271	LA10T27-C4	CCD-271	GP327	5GA-T27	
C15	.02		BPD-02	DD-203	BYA6S2	CCD-203	B120	5HK-S20	
C16	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B247	5HK-D47	
C17	.015		200V	P288N-015		WMF2815	4DP-1-153	PVC2115	4PS-S15
C18	100		N750	N750-DI 100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10
C19	.05			TTD-05	CK-503	H5		TA150	TG-S50
C20	.1		200V	P288N-1		WMF1P1	IDP-2-104	PVC101	2PS-P10
C21	180			DI-180	DD-181	LA10T18-S3	CCD-181	GP318	5GA-T18
C22	.01			BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C23	330			DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33
C24	.1		200V	P288N-1		WMF1P1	IDP-2-104	PVC101	2PS-P10
C25	.003			DI-3000	DD-302	LA10D3-C4	CCD-302	GP230	5GA-D30

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Soundex PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone Volume, Switch Bias	25K	VC-1TT				
B		10K					
R2		500Ω	PT-1	V-500	U39-500	110-800	PFL-600
		2W					

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Soundex PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.8uh)	TF-14	BC-585	74F086AP	RTC-8520	T859	① Part of M2.
L2	Ant.	①					
L3	RF	①					
L4	Osc.	①					
L5	Input IF	TF-27		6570			
L6	Output IF	TF-28		6571			

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Soundex PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	680ma	.3Ω	3MH	TF-8C	C-4095	TC-1	TR-156	TY16XT	

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Soundex PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	14:4	1	TF-1C					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Soundex PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	25Ω Tap	@ 3-4Ω	TF-2F			TR-188		

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES	
		Soundex PART No.	QUAM PART No.		
SP1	5" X 8" PM 6" X 10" PM	3-4Ω 3-4Ω	SK-21W SK-23W	58A15 61A01	Model FLP-264T Model MEP-264T

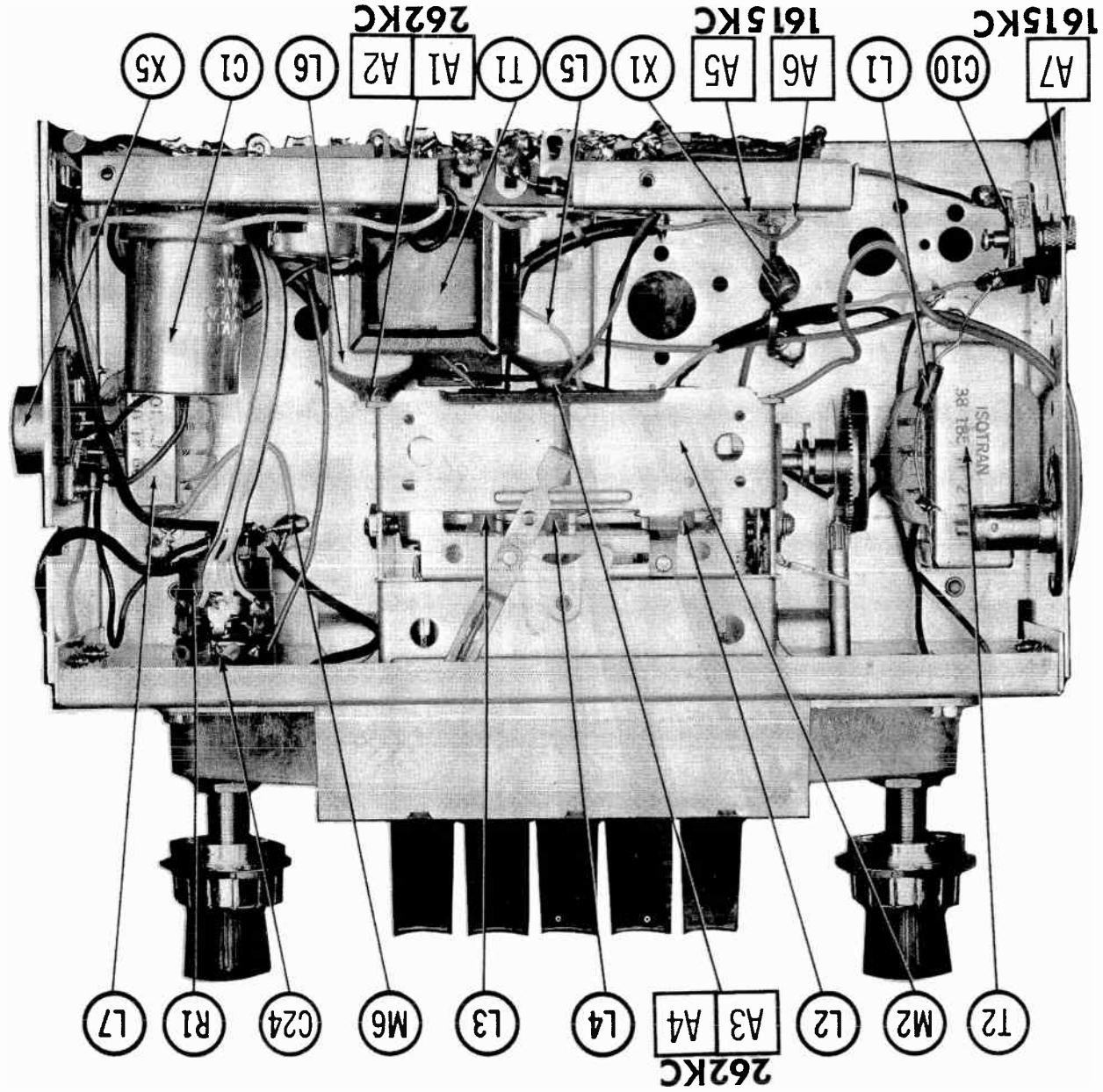
FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			Soundex PART No.	LITTELFUSE PART No.		BUSS PART No.			
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	SAG	7½A 32V		In Fuse Block		31107.5		AGC7½	

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M2	Tuner	TUN-32T	
M3	RF Limiter		1N295
M4	AVC Limiter		1N295
M5	AF Det.		1N295
M6	Spark Plate	SPK-P-2	

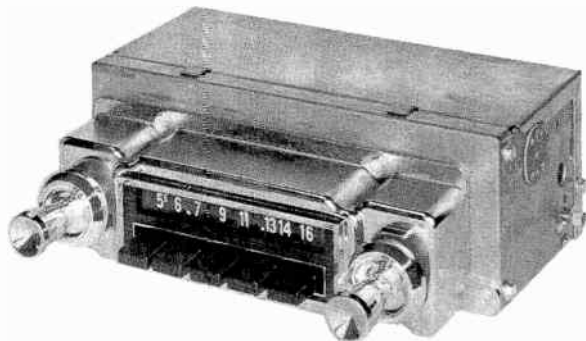
SOUNDEX MODELS FLP-264T, MEP-264T





PHOTOFACT[®] with

CIRCUITRACE[®]



TRADE NAME : Tenna Models

AM-63M/PB	60-63 Rambler American	FO-63M/PB	63 Ford
BU-63PB	63 Buick	ME-63PB	63 Mercury
CH-63M/PB	62-63 Chevy II	MR-63PB	62-63 Meteor
CH-63M/PB	63 Chevrolet	OF-63PB	61-63 F-85
CHT-63M	63 Chevrolet Truck	PO-63PB	63 Pontiac
CO-63M/PB	60-63 Corvair	OL-63PB	63 Oldsmobile
CM-63PB	63 Comet	PL-63PB	62-63 Plymouth
CR-63PB	63 Chrysler	RA-63PB	63 Rambler
DA-63PB	63 Dodge Dart	SP-63PB	63 Buick Special
DO-63PB	63 Dodge	TE-63PB	63 Tempest
FA-63M/PB	60-63 Falcon	VA-63PB	61-63 Valiant
FL-63M/PB	62-63 Fairlane	880-63PB	62-63 Dodge 880

SUPPLIER : For Current Address, See Master Index.

TYPE SET : 5 Transistor AM Receiver

POWER SUPPLY : 12 Volt Storage Battery

RATING : .60 Amp. @12.6 Volts DC

TUNING RANGE : BROADCAST 540-1615KC

ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

Use only enough generator output to provide a usable indication.

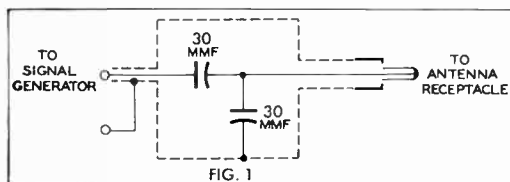
Suggested Alignment Tools: A1 thru A4 GENERAL CEMENT: 8606, 8606L, 8669 WALSCO: 2543, 2544, 2588
 A5, A6, A7 GENERAL CEMENT: 8290, 8868, 9087 WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point Δ , low side to ground.	262KC (400v 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.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.

PUSH-BUTTON ADJUSTMENT

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



TENNA MODEL 1963 Custom Series

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

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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2N2788 (2N1837)	RF Amp.	DS-25	GE-1	2N1837	PNP
X2	2N1789 (2N1839)	Converter	DS-25	GE-1	2N1839	PNP
X3	2N1790 (2N1838)	IF Amp.	DS-25	GE-1	2N1838	PNP
X4	2N591	Driver	DS-26	GE-2	2N591	PNP
X5	2N155 (2N257)	Output	DS-520	GE-3	2N301	PNP*

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.	TENNA 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	18	111001-097	PWH2-02-40	BPC010	KC2-45		PFP200.65	PCLS-2177*
B	500	18							
C2	10	15	111002-001	CRE457A	NLW10-15	MT1-5	MLV10-15	TT15X10	TE-1155
C3	10	15	111002-001	CRE457A	NLW10-15	MT1-5	MLV10-15	TT15X10	TE-1155
C4	100	3	111002-013	CRE223A	NLW100-3	MT1-21	MLV100-3	TT3X110	TE-1059.5

* 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	5-80mmf	#110000-013							
C11	.0047 200V		BE8D47	CPR-4700J	WMF1D47	8DP-1-472	PVC4247	6PS-D47	
C12	.047 100V		P288N-047		WMF2S47	1DP-2-473	PVC1147	2PS-S47	
C13	2mmf		NPO-DI2.2	DTZ-2R2	C10V22C	CCT0-2R2	CNO522	10TCC-V22	
C14	.01 200 V		BE251	CPR-1000J	WMF1S1	1DP-1-103	PVC211	4PS-S10	
C15	.047 100V		P288N-047		WMF2S47	1DP-2-473	PVC1147	2PS-S47	
C18A	475-875mmf	#110000-025							
B	375-445mmf								
C17	.01 200V		BE2S1	CPR-1000J	WMF1S1	1DP-2-103	PVC211	4PS-S10	
C18	.02 200V		BE2S2		PM2S2	1DP-1-203	PVC212	2PS-S20	
C19	.68 N750		N750-DI68	DTN-68	C10Q88U	CCTN-680	CN7468	10TCU-Q68	
C20	.047 100V		P288N-047		WMF2S47	1DP-2-473	PVC1147	2PS-S47	
C21	.047 100V		P288N-047		WMF2S47	1DP-2-473	PVC1147	2PS-S47	
C22	220mmf		DI-220	DD-221	LA10T22-S3	CCD-221	GP322	10TS-T22	
C23	.047 100V		P288N-047		WMF2S47	1DP-2-473	PVC1147	2PS-S47	
C24	.003		BPD-0033	DD-332	BYA10D33	CCD-332	B233	5HK-D33	
C25	.047 100V		P288N-047		WMF2S47	1DP-2-473	PVC1147	2PS-S47	
C26	.003		BPD-0033	DD-332	BYA10D33	CCD-332	B233	5HK-D33	
C27	.5 50V		BE2P5		DPMS2P5	1DP-4-504	PVC105	2PS-P50	

Tenna Part Number.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			TENNA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone	50K	145000-194	F1-50K, R2-500				
B	Volume Switch (Models: CH-63M, CH-63PB)	5000Ω	①	FFS010, RFS010, KR-4, AK-28			↑ QJ-1642A	▲ UE4515-S
R2	Bias	500Ω	145000-134	V-500	U39-500		110-500	PFL800
R3	Fader (Models: CH-63M, CH-63PB)	40Ω 2W	145000-186				↑↑ QJ-1691-A	

Models	Part No.	Models	Part No.
① AM-63M, AM-63PB	145000-141	① FO-63M, FO-63PB, ME-63PB	145000-193
① OF-63PB, SP-63PB, TE63PB	145000-144	① PO-63PB	145000-195
① CH-63M, CH-63PB, FA-63M, CO-63M, CO-63PB, CM-63PB, FA-63PB	145000-146	① CR-63PB	145000-196
① FL-63M, FL-63PB, MR-63PB	145000-149	① RA-63PB	145000-500
① DA-63PB, DO-63PB, PL-63PB, VA-63PB	145000-176	② CR-63PB	145000-119
① BU-63PB, OL-63PB	145000-191	② OF-63PB, SP-63PB, TE-63PB	145000-121
① 880-63PB	145000-192	② BU-63PB, OL-63PB	145000-163
		② 880-63PB	145000-164
		② CH-63PB	145000-187
		② PO-63PB	145000-188

† "CONCENTRIKIT" Equivalent: K2 Kit with base Elements and Shafts: B11-123, P22-021 (Panel)
 B13-114, R1-100 (Rear)
 S47 (Bushing)
 78-1 (Switch)

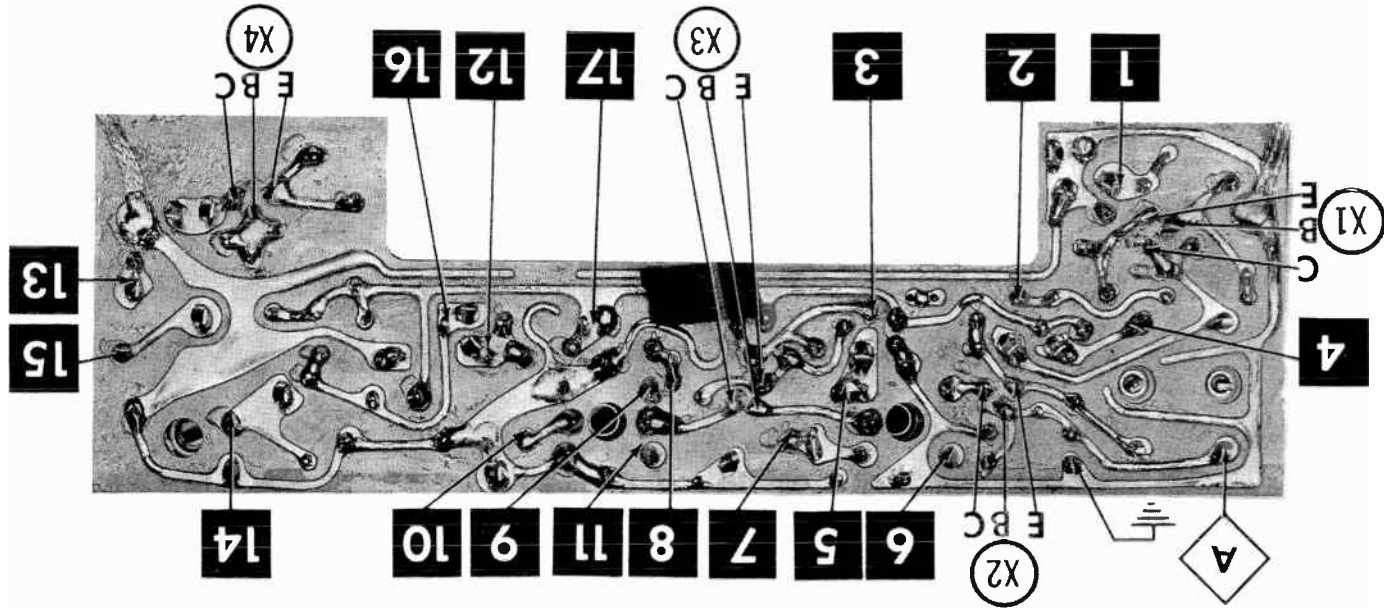
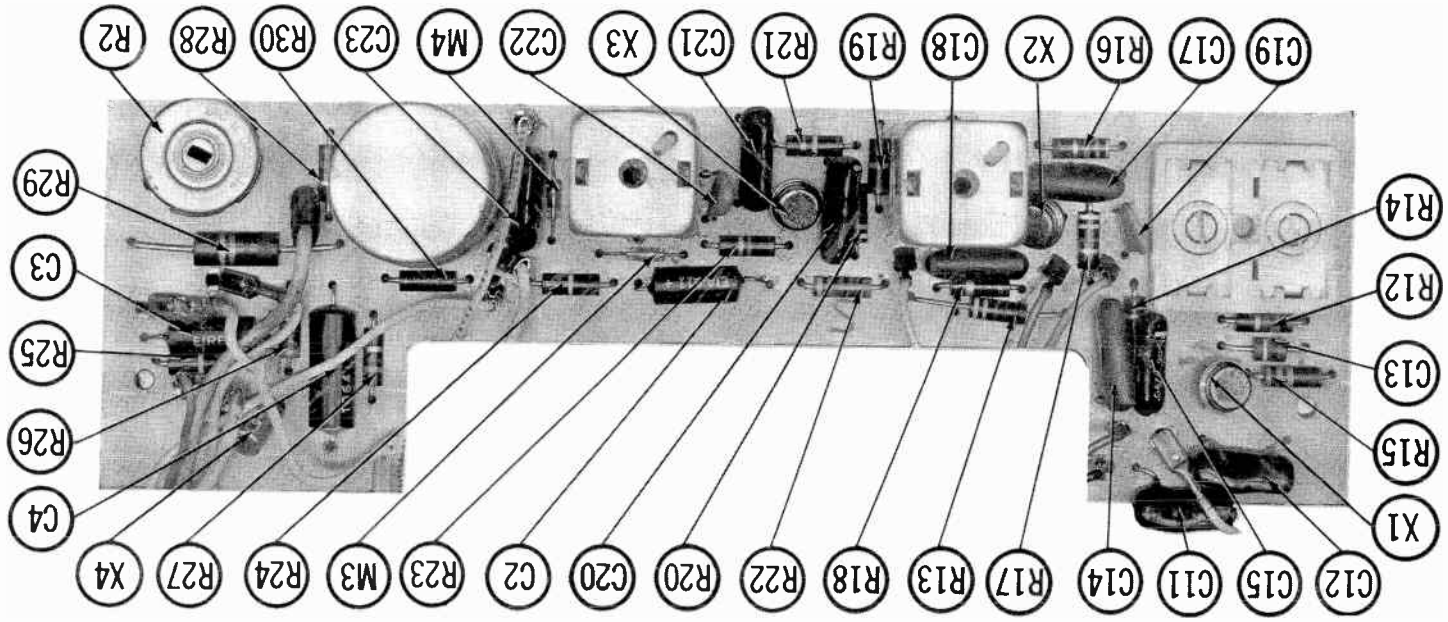
†† "CONCENTRIKIT" Equivalent: K3 Kit with base Elements and Shafts: W11-050, P3-028, QCB-6
 "SNAPTROL" Equivalent: BU8-WFL8, SF2.

▲ "STA-LOC" Equivalent: FG54L, RU53A, OS625, 1S1125, US41

PARTS LIST CONTINUED ON PAGE 136

TENNA MODEL 1963 Custom Series

TENNA MODEL 1963 Custom Series



A Howard W. Soms CIRCUITRACE® Photo

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.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		TENNA PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (5.8uh)	114199-000	SW-631	4609	RTC-8519	T959	① Part of M2.
L2	Antenna	①					
L3	RF	②					
L4	Osc.	③					
L5	Input IF	114000-217					
L6	Output IF	114000-218					

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	TENNA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	600MA	.5Ω	8MH	161000-001	C-4095	TC-2	TR-155	TY17XT	

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	TENNA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	5, 5:	1	161000-171					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	TENNA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	30Ω	8Ω	161000-185					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		TENNA PART No.	QUAM PART No.	
SP1	6 X 9 PM 8Ω 6 X 9 PM 8Ω	155009-111	69A2Z8	Models: CH-63M, CH-63PB, CO-63M, CO-63PB, 880-63PB. Model: CR-63PB. Models: AM-63M, AM-63PB, CM-63PB, FA-63M, FA-63PB. Models: CI-63M, CI-63PB, OF-63PB, PO-63PB, TE-63PB, BU-63PB, SP-63PB. Models: DA-63PB, DO-63PB, PL-63PB, VA-63PB. Models: FL-63M, FL-63PB, MR-63PB. Models: OL-63PB Models: RA-63PB Models: FO-63M, FO-63PB, ME-63PB.
		155099-113		
		155000-051		
		155009-107		
		155009-114		
		166009-120		
		155009-123		
		155009-127		
		155009-129		

FUSES

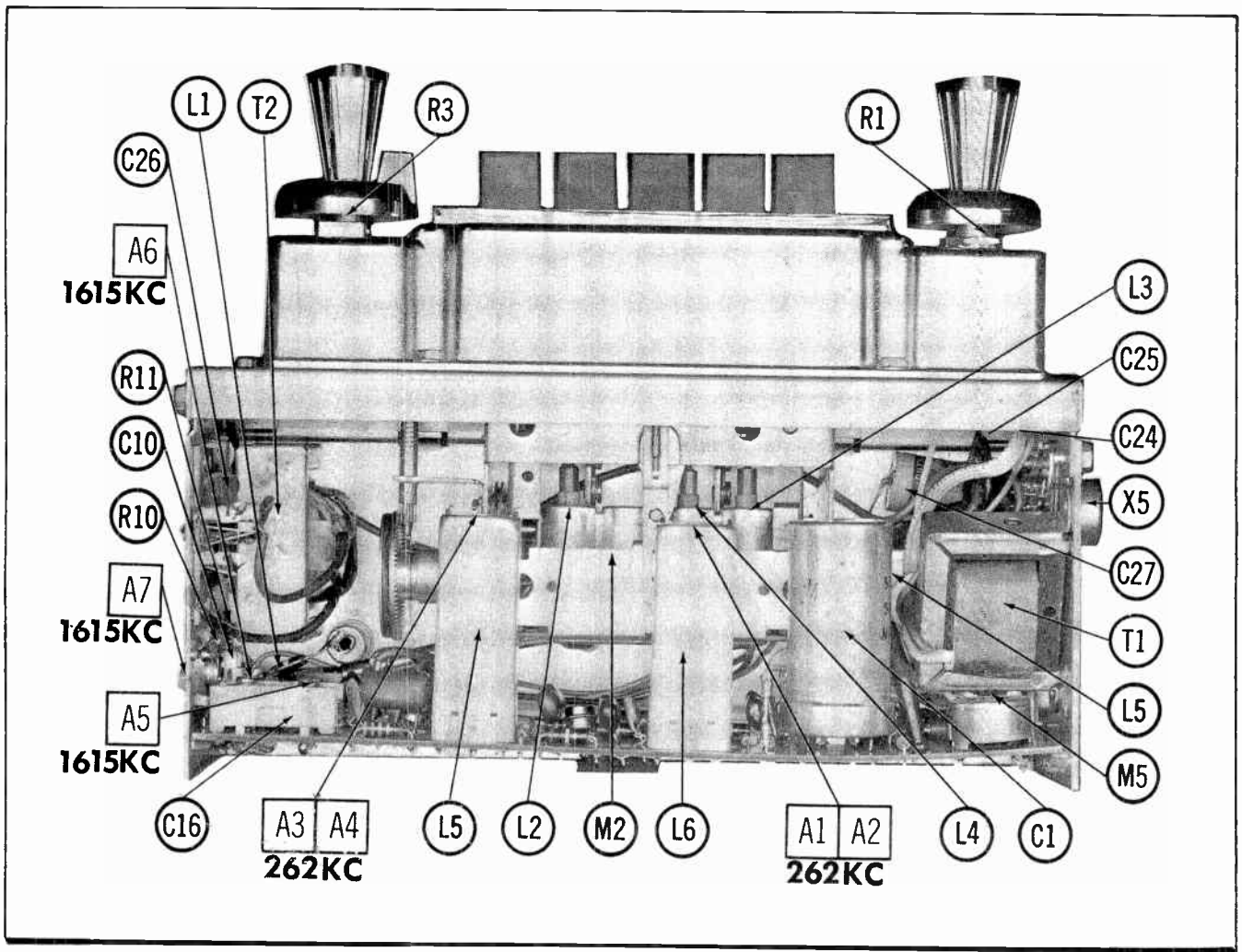
ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			TENNA PART No.		LITTELFUSE PART No.		8USS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	3AG	5A 32V	555020-028	In fuse block	311005			AGC5	

MISCELLANEOUS

ITEM No.	PART NAME	TENNA PART No.	NOTES
M2	Tuner	164000-073	Models: BU-63PB, CH-63PB, OL-63PB Model: AM-63 Models: CI-63PB-CO-63PB, OF-63PB, SP-63PB, TE-63PB Models: CM-63PB, FA-63PB. Model: FA-63M. Models: CI-63M, CO-63M. Models: DA-63PB, DO-63PB, PL-63PB, VA-63PB. Models: FL-63PB, FO-63PB, ME-63PB, MR-63PB. Model: 880-63PB. Model: CH-63M. Model: AM-63M. Model: PO-63PB. Models: FL-63M, FO-63M. Model: CR-63PB. Model: RA-63PB.
		164000-060	
		164000-062	
		164000-064	
		164000-065	
		164000-066	
		164000-067	
		164000-071	
		164000-074	
		164000-075	
		164000-077	
		164000-078	
		164000-079	
		164000-080	
		164000-081	
M3	AVC	162002-039	1N295A
M4	AF Detector	162002-039	1N295A
M5	Spark Plate	110000-021	

WIRING DATA

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



CABINETS & CABINET PARTS
(When Ordering Specify Model, Chassis & Color)

ITEM	PART NO.	MODEL																						
		AM-63P B	BU-63P B	C11-63P B	CH-63P B	CO-63P B	CH-63P B	CR-63P B	DA-63P B	DC-63P B	FA-63P B	FL-63P B	FO-63P B	ME-63P B	MR-63P B	OF-63P B	OL-63P B	PL-63P B	PO-63P B	RA-63P B	SP-63P B	TE-63P B	VA-63P B	880-63P B
Pushbutton	107000-067							X																X
Pushbutton	107000-079			X	X											X					X	X		
Pushbutton	107000-080			X	X											X					X	X		
Pushbutton	107000-081			X	X											X					X	X		
Pushbutton	107000-082			X	X											X					X	X		
Pushbutton	107000-083			X	X											X					X	X		
Pushbutton	107000-087				X																			
Pushbutton	107000-088				X																			
Pushbutton	107000-089				X																			
Pushbutton	107000-090					X																		
Pushbutton	107000-091					X																		
Pushbutton	107000-092	X																						
Pushbutton	107000-095						X			X														
Pushbutton	107000-096						X			X														
Pushbutton	107000-097						X			X														
Pushbutton	107000-098						X			X														
Pushbutton	107000-099						X			X														
Pushbutton	107000-100								X															
Pushbutton	107000-101																							
Pushbutton	107000-105											X	X	X										
Pushbutton	107000-106															X								
Pushbutton	107000-107							X									X							
Pushbutton	107000-108										X													
Pushbutton	107000-109																							
Pushbutton	107000-110																							X
Pushbutton	107000-111																							X
Pushbutton	107000-112																							X
Pushbutton	107000-113																							X
Pushbutton	107000-114																							X
Pushbutton	107000-115	X																						

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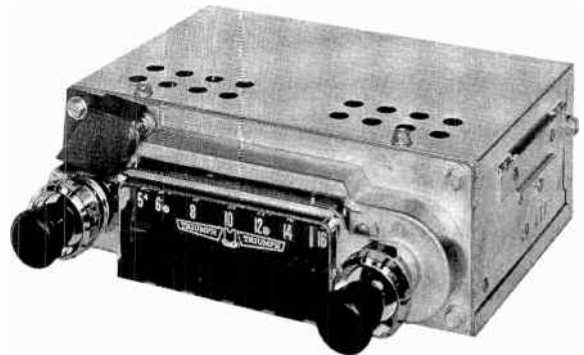
CABINETS & CABINET PARTS
(When Ordering Specify Model, Chassis & Color)

ITEM	PART NO.	MODEL																										
		AM-63M	AM-63PB	BU-63PB	CI1-63M	CH-63M	CH-63PB	CHT-63M	CO-63M	CO-63PB	CM-63PB	CR-63PB	DA-63PB	DD-63PB	FA-63M	FA-63PB	FL-63PB	FD-63M	FD-63PB	ME-63PB	MR-63PB	OF-63PB	OL-63PB	PL-63PB	PO-63PB	RA-63PB	SP-63PB	TE-63PB
Escutcheon	125000-068										X	X											X					X
Escutcheon	125000-088							X																				
Escutcheon	125000-092								X																			
Escutcheon	125000-124																				X					X	X	
Escutcheon	125000-222															X	X				X							
Escutcheon	125000-229																X	X	X									
Escutcheon	125000-237																									X		
Escutcheon	125000-238																								X			
Bezel	125000-061									X					X													
Bezel	125000-062													X														
Bezel	125000-074				X			X																				
Bezel	125000-076																											X
Bezel	125000-094								X																			
Bezel	125000-116																			X						X	X	
Bezel	125000-138	X	X																									
Bezel	125000-182											X												X				
Bezel	125000-194				X																							
Bezel	125000-220														X	X				X								
Bezel	125000-224																			X			X					
Bezel	125000-227											X																X
Bezel	125000-228									X																		
Bezel	125000-230																X	X										
Bezel	125000-232							X																				
Bezel	125000-233					X																						
Bezel	125000-236																							X				
Bezel	125000-239			X																					X			
Dial Glass	122000-072											X											X					
Dial Glass	122000-102	X	X																									
Dial Glass	122000-104			X				X																				
Dial Glass	122000-106								X																			
Dial Glass	122000-108								X				X	X														
Dial Glass	122000-112				X																			X				
Dial Glass	122000-114																			X						X	X	
Dial Glass	122000-122										X																	X
Dial Glass	122000-127													X	X					X								
Dial Glass	122000-129																				X							
Dial Glass	122000-132																											X
Dial Glass	122000-134															X	X											
Dial Glass	122000-135				X	X																						
Dial Glass	122000-137																			X								
Dial Glass	122000-138																								X			
Dial Glass	122000-139									X																		
Dial Glass	122000-140		X																									
Knob, Tuning or Volume	134000-082														X	X												
Knob, Tuning or Volume	134000-099																						X					X
Knob, Tuning or Volume	134000-103												X	X														
Knob, Tuning or Volume	134000-132																				X							
Knob, Tuning or Volume	134000-136																				X							
Knob, Tuning or Volume	134000-138																									X		
Knob, Tuning or Volume	134000-141																											X
Knob, Tuning or Volume	134000-142			X	X	X	X	X	X										X									
Knob, Tuning or Volume	134000-148																				X							
Knob, Tuning or Volume	134000-173	X	X																									
Knob, Tuning or Volume	134000-206																									X		
Knob, Tuning or Volume	134000-223											X																
Knob, Tuning or Volume	134000-224										X																	
Knob, Tuning or Volume	134000-225									X																		
Knob, Tuning or Volume	134000-227																X	X										
Knob, Tuning or Volume	134000-232																						X					
Knob, Tuning or Volume	134000-235																								X			
Knob, Tuning or Volume	134000-236			X																								
Knob, Tone, Dummy or Fader	134000-083									X				X	X	X	X			X								
Knob, Tone, Dummy or Fader	134000-084				X	X			X	X																		
Knob, Tone, Dummy or Fader	134000-100											X	X										X					X
Knob, Tone, Dummy or Fader	134000-106																											X
Knob, Tone, Dummy or Fader	134000-115																								X	X		
Knob, Tone, Dummy or Fader	134000-117	X	X																									
Knob, Tone, Dummy or Fader	134000-135																				X							
Knob, Tone, Dummy or Fader	134000-222																					X						
Knob, Tone, Dummy or Fader	134000-226									X																		
Knob, Tone, Dummy or Fader	134000-228																X	X										
Knob, Tone, Dummy or Fader	134000-229						X	X																				
Knob, Tone, Dummy or Fader	134000-232																			X								
Knob, Tone, Dummy or Fader	134000-234																							X				
Knob, Tone, Dummy or Fader	134000-237		X																									



PHOTOFACT[®] with CIRCUITRACE[®]

TRADE NAME: Triumph Model 4TBTR (V-350) (1964)
 SUPPLIER: For Current Address, See Master Index.
 TYPE SET: 6 Transistor AM Receiver
 POWER SUPPLY: 12 Volt Storage Battery
 RATING: .85 Amp. @ 12.6 Volts DC
 TUNING RANGE: BROADCAST 540-1805KC



ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

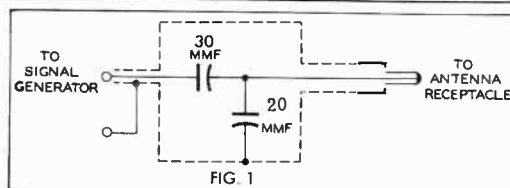
Use only enough generator output to provide a usable indication.

Suggested Alignment Tools: A1 thru A4 GENERAL CEMENT: 8606, 8606L, 8869 WALSCO: 2543, 2544, 2588
 A5, A6, A7 GENERAL CEMENT: 8290, 8868, 9087 WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point A , low side to ground.	282.5KC (400v 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 1600KC and adjust A7 for maximum output.						

PUSH-BUTTON ADJUSTMENT

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



REMOVAL INSTRUCTIONS

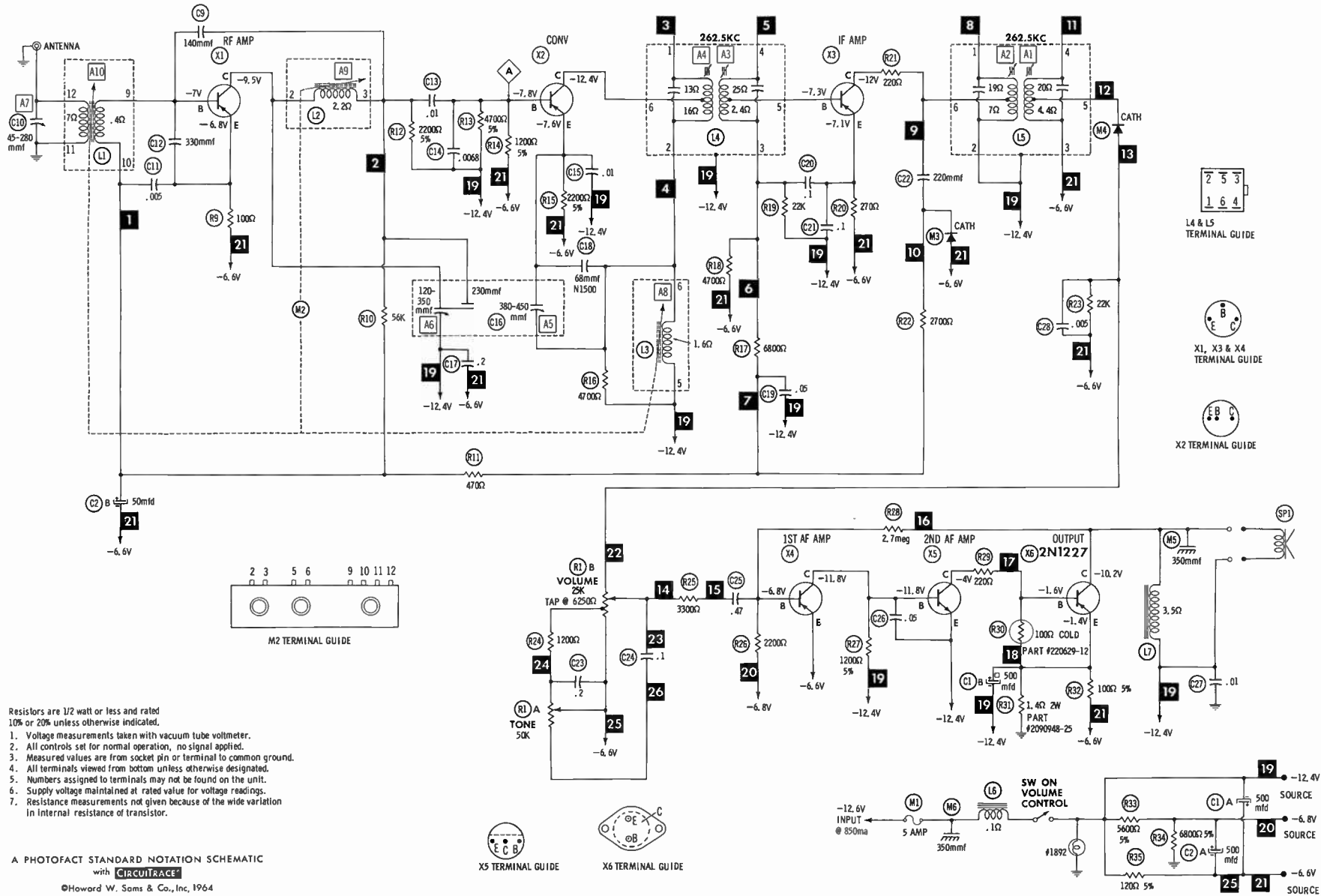
RADIO REMOVAL

1. Pull off knobs.
2. Use 11/16" wrench and remove nuts from control bushing.
3. Remove trim plate.
4. Disconnect Ant., "A" and Speaker leads.
5. Use 7/16" wrench and remove nut from rear brace.
6. Remove radio from under instrument panel.

SPEAKER

1. Use 5/16" wrench and remove 4 metal screws from speaker mounting.
2. Remove speaker from under instrument panel.

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



- Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.
1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.
 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

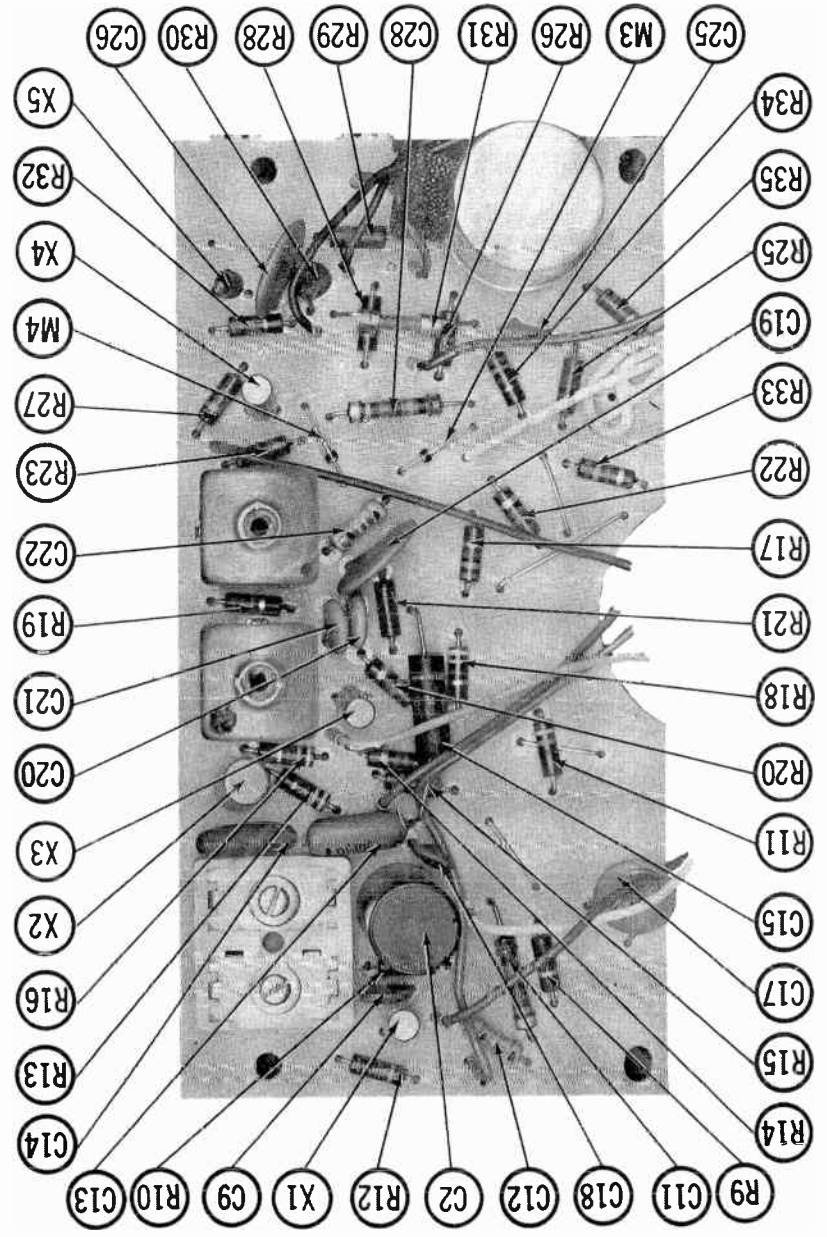
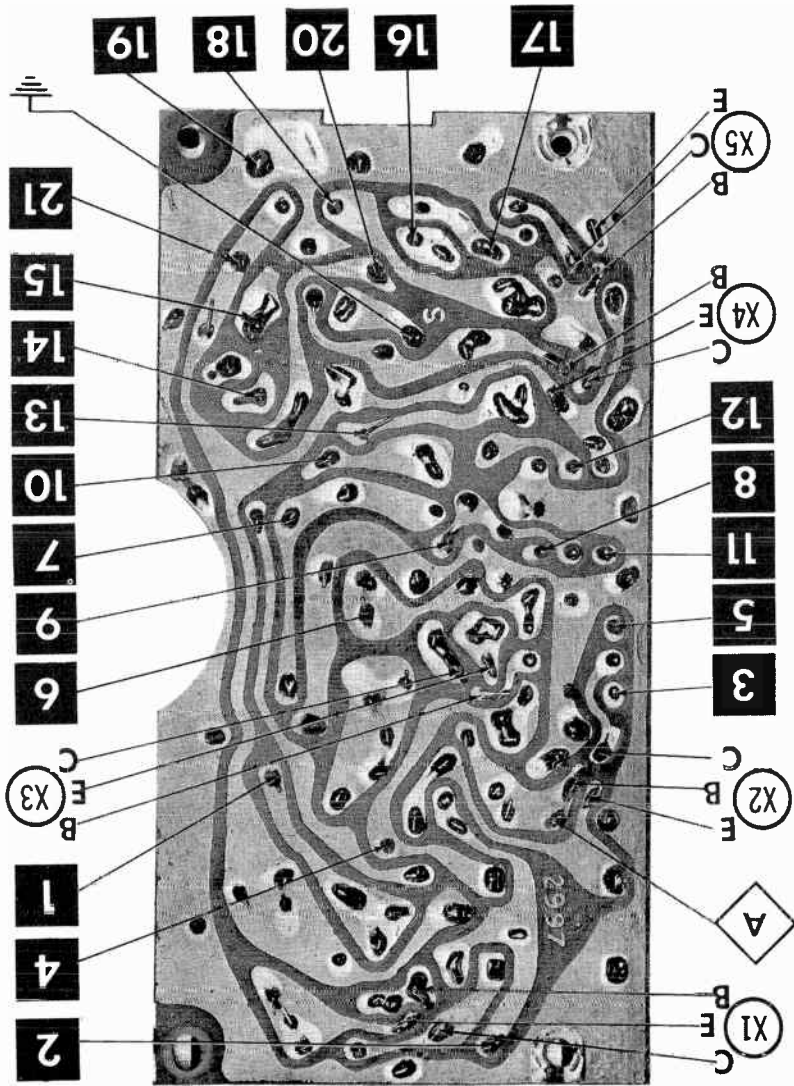
A PHOTOFAC STANDARD NOTATION SCHEMATIC with CIRCUITRACE

©Howard W. Sams & Co., Inc. 1964

TRIUMPH MODEL 4TBR (V-350)

TRIUMPH MODEL 4TBTR (V-350)

A Howard W. Sams CIRCUITRACE® Photo



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		RF Amp.	DS-25	GE-1	2N1837	PNP	2091241-15
X2		Conv.	DS-25	GE-1	2N1839	PNP	2091241-13
X3		IF Amp.	DS-25	GE-1	2N1838	PNP	2091241-14
X4		1st AF Amp.	DS-28	GE-2	2N591	PNP	2090924-8A
X5		2nd AF Amp.	DS-46	GE-10	2N649	PNP	2092609-1
X6	2N1227	Output	DS-520	GE-3	2N301	PNP*	

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		Bendix PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
	CAP.	VOLT.							
C1A	500	16	220353-30	PWH2-02-40				PFP-20.65	PCLS-2161.5*
B	500	8							
C2A	500	3	2092246-1	BCD3X50050				PET-290	VLS-2116*
B	50	3							

* 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.
C9	140		DI-150	DD-151	LA10T15-S3	CCD-151	GP315	5GA-T15
C10	45-280	#2091221-8						
C11	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250	5HK-D50
C12	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33*
C13	.01 100V		BE2S1	CPR-10000J	WMF1S1	1DP-1-103	PVC211	4PS-S10*
C14	.0068 100V		BE6D68	CPR-6800J	WMF1D68	6DP-1-662	PVC4268	6PS-D68*
C15	.01 100V		BE2S1	CPR-10000J	WMF1S1	1DP-1-103	PVC211	4PS-S10*
C16A	120-350	#219092-23						
B	230							
C	380-450							
C17	.2 10V			UK20-204	HCC25224Z			HY-325
C18	68 N1500			TCL-68				
C19	.05		TTD-05	CK-503	H5		TA150	TG-850
C20	.1 10V		TTD-1	CK-104	H6		TA010	TG-P10
C21	.1 10V		TTD-1	CK-104	H6		TA010	TG-P10
C22	220		DI-220	DD-221	LA10T22-S3	CCD-221	GP322	10TS-T22*
C23	.2 10V			UK20-204	HCC25224Z			HY-325
C24	.1 10V		TTD-1	CK-104	H6		TA010	TG-P10
C25	.47 3V			UK10-404	HCC10474Z			HY-330
C26	.05		TTD-05	CK-503	H5		TA150	TG-850
C27	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C28	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250	5HK-D50

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

Bendix Part Number.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Bendix PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	50K	2091258-4	F1-50K①		†QJ-1752A	FA54L ②
B	Volume & Switch	25K 6250Ω		R14-25K, PFS111 RFS203, KR-4			RU253T53, OS1687, 1S2187, US41

① Use Original Tab Mounting Plate.

† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B11-123, P17-123 (Panel)
B19-119K, R9-202 (Rear)

"SNAPTROL" Equivalent: BU7, CF12, CR50T, SF13, SR49, GC.

76-1 (Switch)

COILS (RF-IF)

ITEM No.	USE	Bendix PART No.	REPLACEMENT DATA				NOTES
			MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	Antenna	①					① Part of M2 and Coil Assembly (Part Number 2090131-61)
L2	RF	①					
L3	Osc.	①					
L4	Input IF	2091217-8		6520		TE634	
L5	Output IF	2091218-7		6521			

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Bendix PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L6	850MA	.1Ω	240MH	2092050-14					

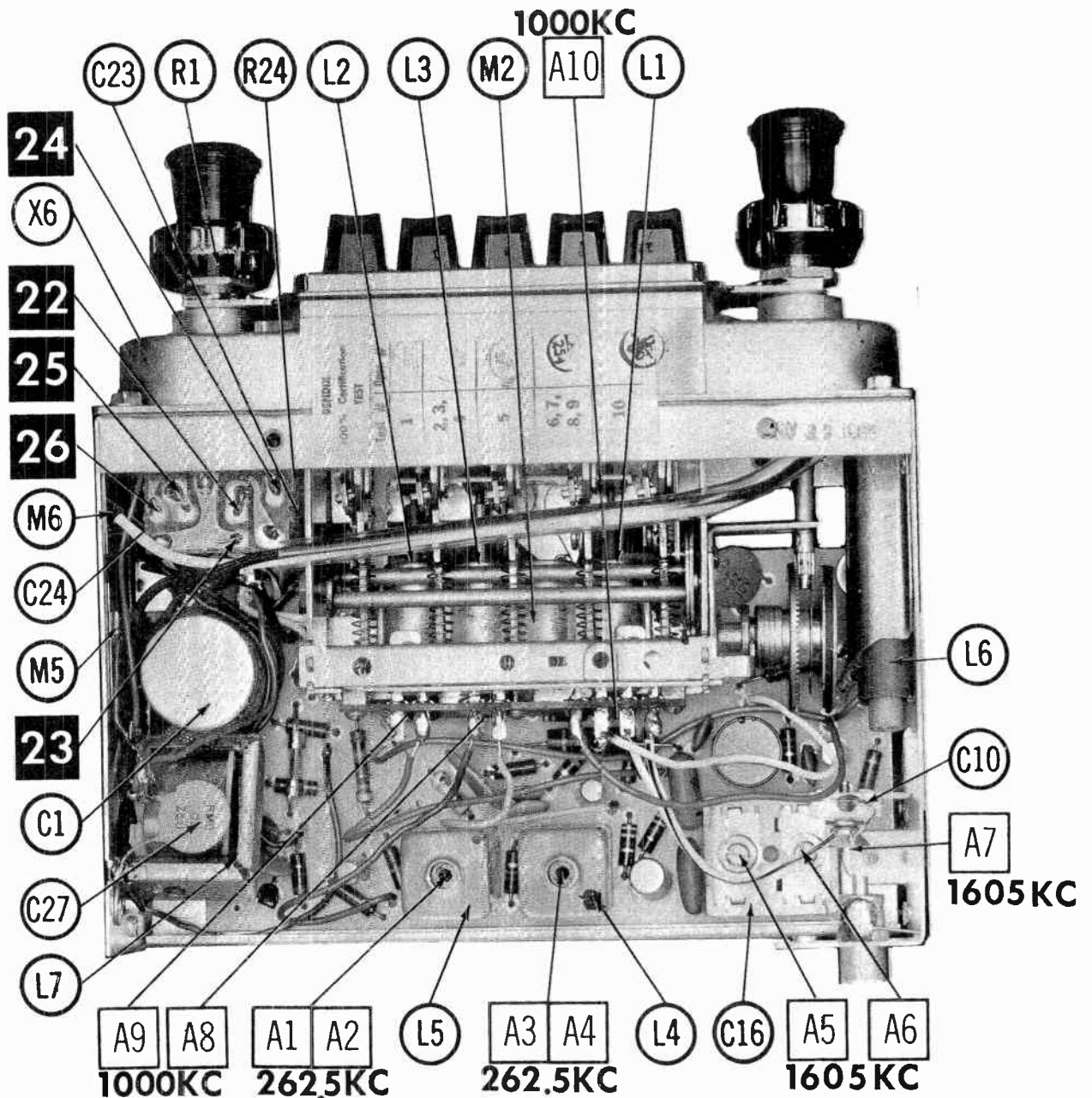
CHOKE (AUDIO OUTPUT)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		Bendix PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	50MH	2092245-5					

SPEAKER

ITEM No.	TYPE	RESISTANCE	REPLACEMENT DATA		NOTES
			Bendix PART No.	QUAM PART No.	
SP1	5" X 7" PM	20Ω	2092481-3	57A1Z20	

TRIUMPH MODEL 418TR (V-350)



TRIUMPH MODEL 41BTR (V-350)

PARTS LIST AND DESCRIPTION (CONTINUED)
FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			Bendix PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	1AG	5A 32V			301005	155004	AGA5	HAF

MISCELLANEOUS

ITEM No.	PART NAME	Bendix PART No.	NOTES	
M2	Tuner	2092732-7	Complete	
	Tuner Coil Assy.	2090131-61		
M3	AVC Diode	2092055-1		
M4	AF Det. Diode	2092055-1		
M5	Spark Plate	2093050-1		(350mmf)
M6	Spark Plate	2093050-1		(350mmf)

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Escutcheon (Includes Dial Glass)	2092709-1	Knob, Tone or Dummy	2092235-1
Dial Glass	2092474-2	Push Button	2092224-2
Knob, Tuning or Volume	2091244-2	Pointer Assembly	2090129-34

WIRING DATA

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



PHOTOFACT[®] with

CIRCUITRACE[®]



TRADE NAME : Truetone Model DC4203
 SUPPLIER : For Current Address, See Master Index.
 TYPE SET : 8 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .700Amp. @ 12.6 Volts DC
 TUNING RANGE : BROADCAST 540-1615KC

TRUETONE MODEL DC4203

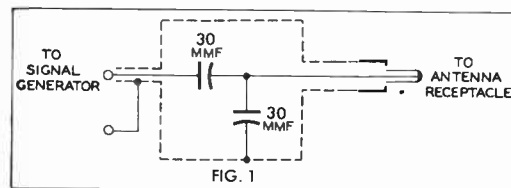
ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
 Use only enough generator output to provide a usable indication.
 Suggested Alignment Tools:

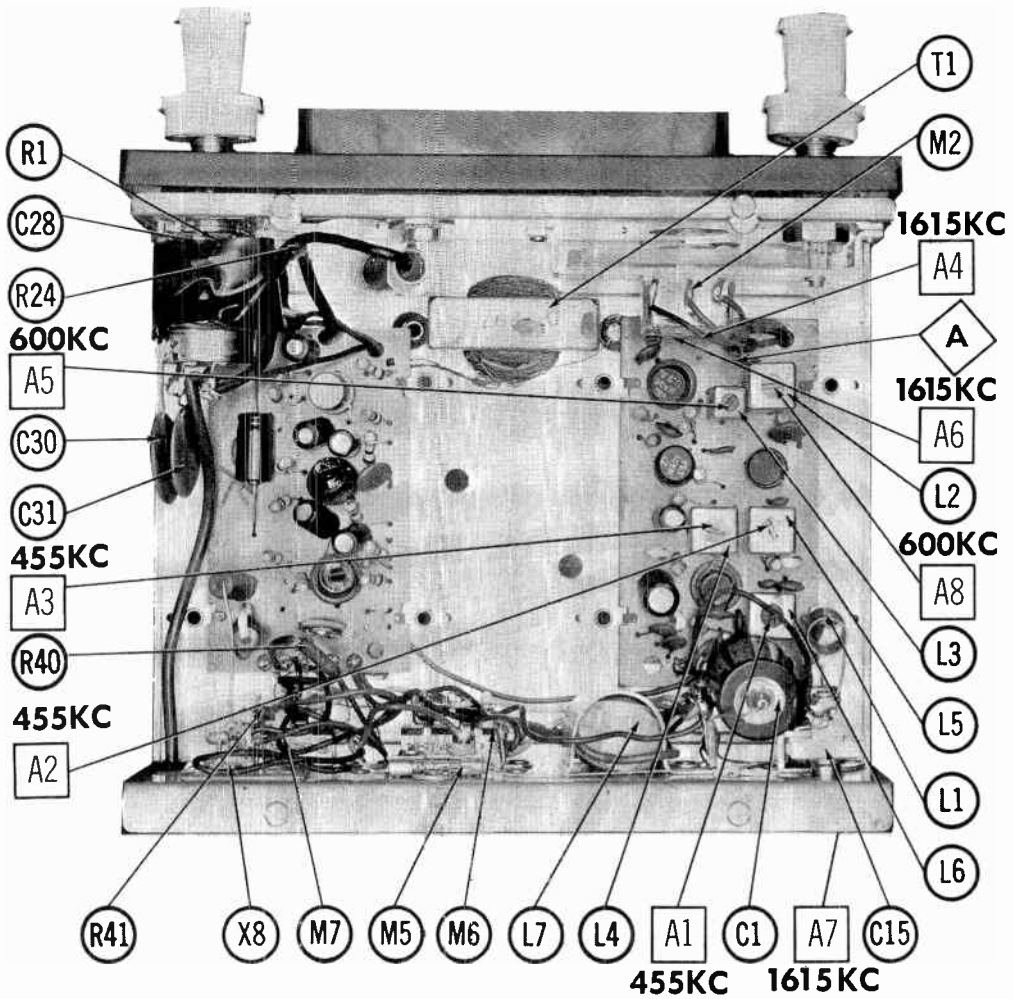
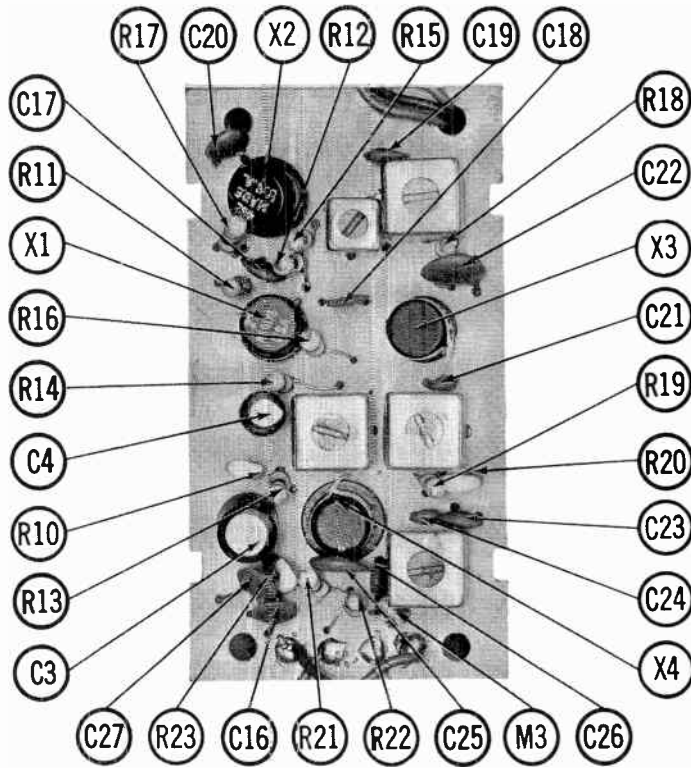
A1 thru A8 GENERAL CEMENT: 9440 WALSCO: 2501

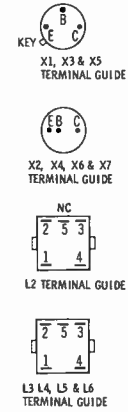
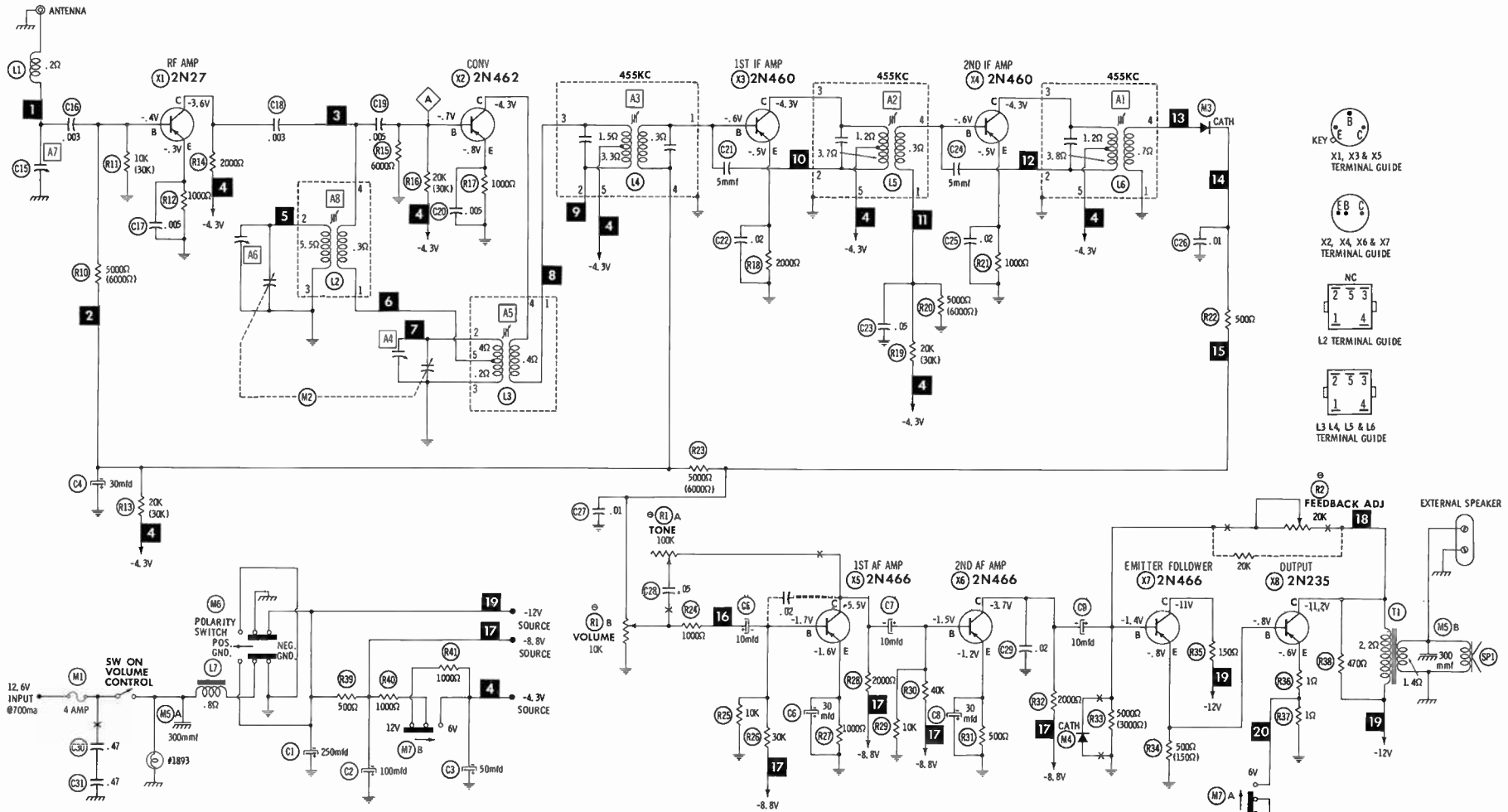
	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point \diamond , low side to ground.	455KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3,	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1615KC	"	"	A4, A6, A7	"
3.	Thru dummy (Fig. 1) to antenna receptacle.	600KC	Tune to Signal.	Output Meter across voice coil.	A5, A8	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 A7 for maximum output.



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



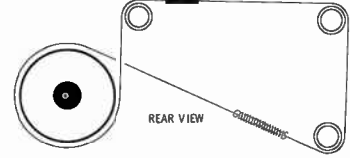


VOLTAGE MEASUREMENTS TAKEN IN 12V NEGATIVE GROUND POSITION.
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

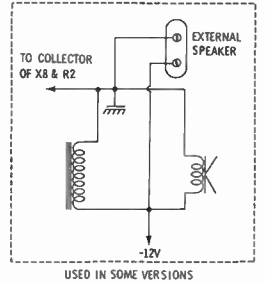
- ⊙ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise designated.
- 5. Numbers assigned to terminals may not be found on the unit.
- 6. Supply voltage maintained at rated value for voltage readings.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

⊕ DENOTES COMMON GROUND

⊞ DENOTES CHASSIS

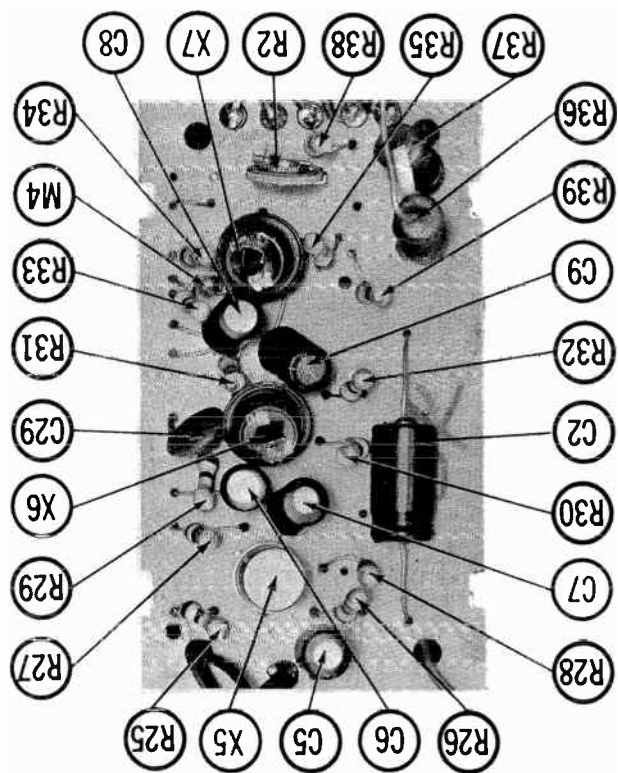
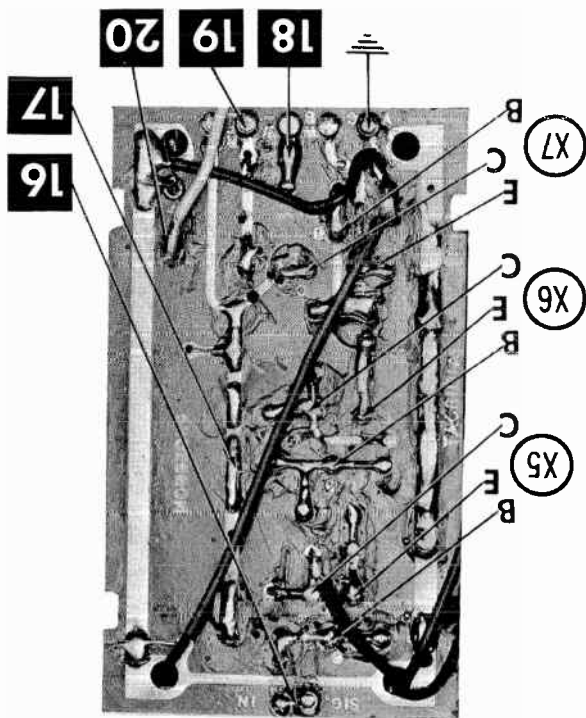
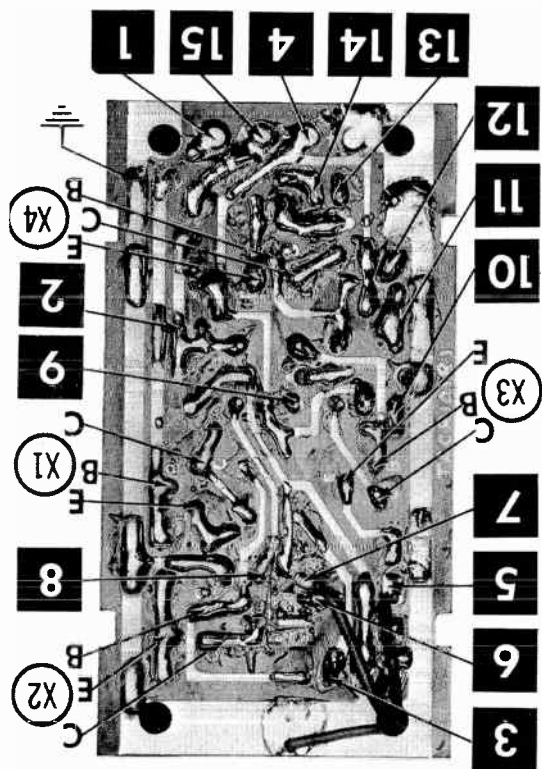


TRUETONE MODEL DC4203



A PHOTOFACIT STANDARD NOTATION SCHEMATIC with CIRCUITTRACE

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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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2N27	RF Amp.	DS-25	GE-1	2N1837	PNP
X2	2N462	Converter	DS-25	GE-1	2N1839	PNP
X3	2N460	1st IF	DS-25	GE-1	2N1838	PNP
X4	2N460	2nd IF	DS-25	GE-1	2N1838	PNP
X5	2N466	1st AF Amp.	DS-26	GE-2	2N591	PNP
X6	2N466	2nd AF Amp.	DS-26	GE-2	2N591	PNP
X7	2N466	Emitter Follower	DS-26	GE-2	2N591	PNP
X8	2N235	Output	DS-520	GE-3	2N301	PNP

* When replacing, apply silicone grease to both sides of insulators. Tighten mounting screws securely. Check bias adjustment.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	Truetone PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	250	15	250-15	CRE481A	BR250-15	MT1-25	BL1241	TT15X200	TE-1164
C2	100	10	①	CRE423A	NLW125-10	MT1-19	BL1731	TT12X100	TE-1119.3
C3	50	12	VF-501	BCD12050	NLP50-15	MT1-16	BL1640	PET1575	VL-1174
C4	30	6	VF-301	BCD8035	NLP30-6	MT1-13	BL1321	TT6X30	VL-1092
C5	10	15	②	BCD15010	NLP10-15	MT1-5	BL1241	PET1780	VL-1187
C6	30	6	VF-301	BCD8035	NLP30-6	MT1-13	BL1321	TT6X30	VL-1092
C7	10	15	②	BCD15010	NLP10-15	MT1-5	BL1241	PET1780	VL-1187
C8	30	6	VF-301	BCD8035	NLP30-6	MT1-13	BL1321	TT6X30	VL-1092
C9	10	15	②	BCD15010	NLP10-15	MT1-5	BL1241	PET1780	VL-1187

① Some versions may use a 250mfd @ 15V.
 ② Some versions may use a 5mfd @ 6V.

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENC0 PART No.	MALLORY PART No.	SPRAGUE PART No.
C15	.003	#AR-TC						
C16	.005		BPD-005	DM-302	BYA10D5	CCD-502	B250	5HK-D50
C17	.003		BPD-005	DD-502	BYA10D5	CCD-502	B250	5HK-D50
C18	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250	5HK-D50
C19	.005		NPO-D15.0	DTZ-4R7	C10V47C	CCTO-050	CNO547	10TCC-V50
C20	.005		BPD-02	DD-203	BYA6S2	CCD-203	B120	5HK-S20
C21	.02		NPO-D12.2	DTZ-2R2	C10V22C	CCTO-2R2	CNO622	10TCC-V22
C22	.05		NPO-D15.0	DTZ-4R7	C10V47C	CCTO-050	CNO547	10TCC-V50
C23	.02		BPD-02	DD-203	BYA6S2	CCD-203	B120	5HK-S20
C24	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C25	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C26	.05		TTD-05	CK-503	H†	TA150		TG-S50
C27	.02		BPD-02	DD-203	BYA6S2	CCD-203	B120	5HK-S20
C28	.47	10V	BPD-02	UK10-404	HCC10474Z			HY-330
C29	.47	10V	BPD-02	UK10-404	HCC10474Z			HY-330

Truetone Part Number.

CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA				
			Truetone PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	100K					
R2	Volume, Switch Feedback, Adjust	10K 20K	①			QJ-1815A †	

† "CONCENTRIKIT" Equivalent: K7 Kit with Base Elements and Shafts: B11-128, P23-100 (Panel)
 "SNAPTROL" Equivalent: BU6, CF13, CR49T ② SF6, SR41, GC. B13-116, R26-112 (Rear)
 ① Not used in some versions. 76-1 (Switch)
 ② Do not use Tap.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Truetone PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke(1uh)	AR-LC	BC-581	4802	RTC-8515	T855	
L2	RF	AR-RFC					
L3	Osc.	AR-OC					
L4	1st IF	AR-1F					
L5	2nd IF	AR-2F					
L6	3rd IF	AR-3F					

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Truetone PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	700ma	.8Ω	1.5MH	AR-FC	C-4095 ①	TC-1 ②	TR-159 ③	TY16XT ④	④ Fabricate.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Truetone PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	30Ω	8Ω						

SPEAKER

ITEM No.	TYPE	RATING	REPLACEMENT DATA		NOTES
			Truetone PART No.	QUAM PART No.	
SP1	4" X 6" PM	8Ω	AR-S	46A07Z8	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			Truetone PART No.	LITTELFUSE PART No.	BUSS PART No.	FUSE	HOLDER	FUSE
M1	SFE	4A	AR-F	AR-FL	307004	155004A	SFE-4	HAF

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M2	Tuning Gang	AK-TK	
M3	AF Det.		
M4	Bias Reg.		
M5A	Spark Plate	SD-300	300mmf
B	Spark Plate		300mmf
M6	Polarity SW	AR-PS	
M7	Voltage SW	AR-VSS	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Front Plate	AR-FP	Knob, Tuning	AR-TK
Dial Scale	AR-DS	Knob, Tone	AR-VKR
Knob, Volume	AR-VK	Knob, Dummy	AR-TRK

WIRING DATA

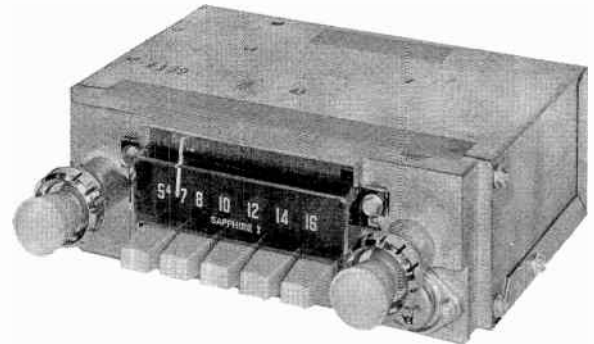
General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in 12 Colors
 8524 (Stranded) Available in 12 Colors
 Shielded Hook-up Wire Use BELDEN No. 8885
 Rear Seat Speaker Extension Cable Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
 Bonding Strap Use BELDEN No. 8661 (3/8 In.)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



PHOTOFACT® with

CIRCUITRACE®

TRADE NAME : Volkswagen Models 4TMVG(Karmann Ghia)
4TMVT(Volkswagen-Transporter)
4TMVW(Volkswagen-Sedan)
SUPPLIER : For Current Address, See Master Index.
TYPE SET : 6 Transistor AM Receiver
POWER SUPPLY : 6 Volt Storage Battery
RATING : .570 Amp. @6.3 Volts DC
TUNING RANGE: BROADCAST 540-1615KC



ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

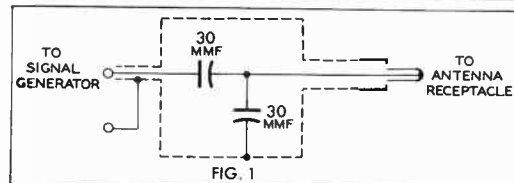
Use only enough generator output to provide a usable indication.

Suggested Alignment Tools: A1 thru A10 GENERAL CEMENT: 5009, 8987, 8728A WALSCO: 2531X, 2536

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point Δ , low side to ground.	262KC (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.	1615KC	"	"	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 1000KC and adjust A7 for maximum output.						

PUSH-BUTTON ADJUSTMENT

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



REMOVAL INSTRUCTIONS

Models 4TMVG, 4TMVW RADIO REMOVAL

1. Pull off knobs.
2. Use 11/16" wrench and remove nuts from control bushings.
3. Remove trim plate.
4. Thru trunk opening, use 7/16" wrench and remove nut from rear brace.
5. Disconnect Ant., "A", and Speaker leads.
6. Remove radio thru trunk opening.

SPEAKER

1. Use 5/16" wrench and remove 4 metal screws from speaker mounting.
2. Remove speaker thru trunk opening.

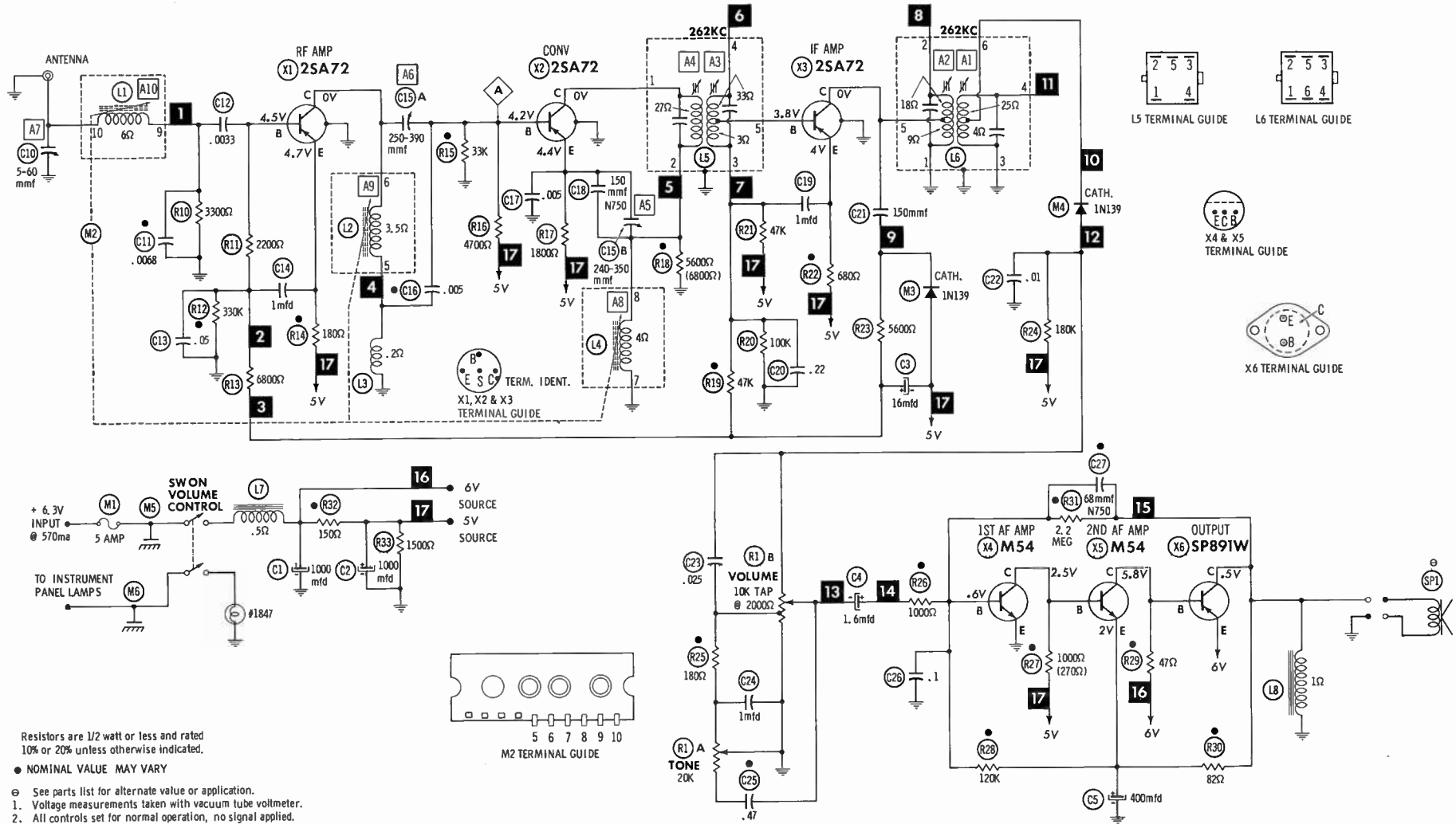
Model 4TMVT RADIO REMOVAL

1. Pull off knobs.
2. Use 11/16" wrench and remove nuts from control bushing.
3. Remove trim plate.
4. Disconnect Ant., "A" and Speaker leads.
5. Use 7/16" wrench and remove nut from rear brace.
6. Remove radio from under instrument panel.

SPEAKER

1. Use 5/16" wrench and remove 4 metal screws from speaker mounting.
2. Remove speaker from under instrument panel.

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



Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

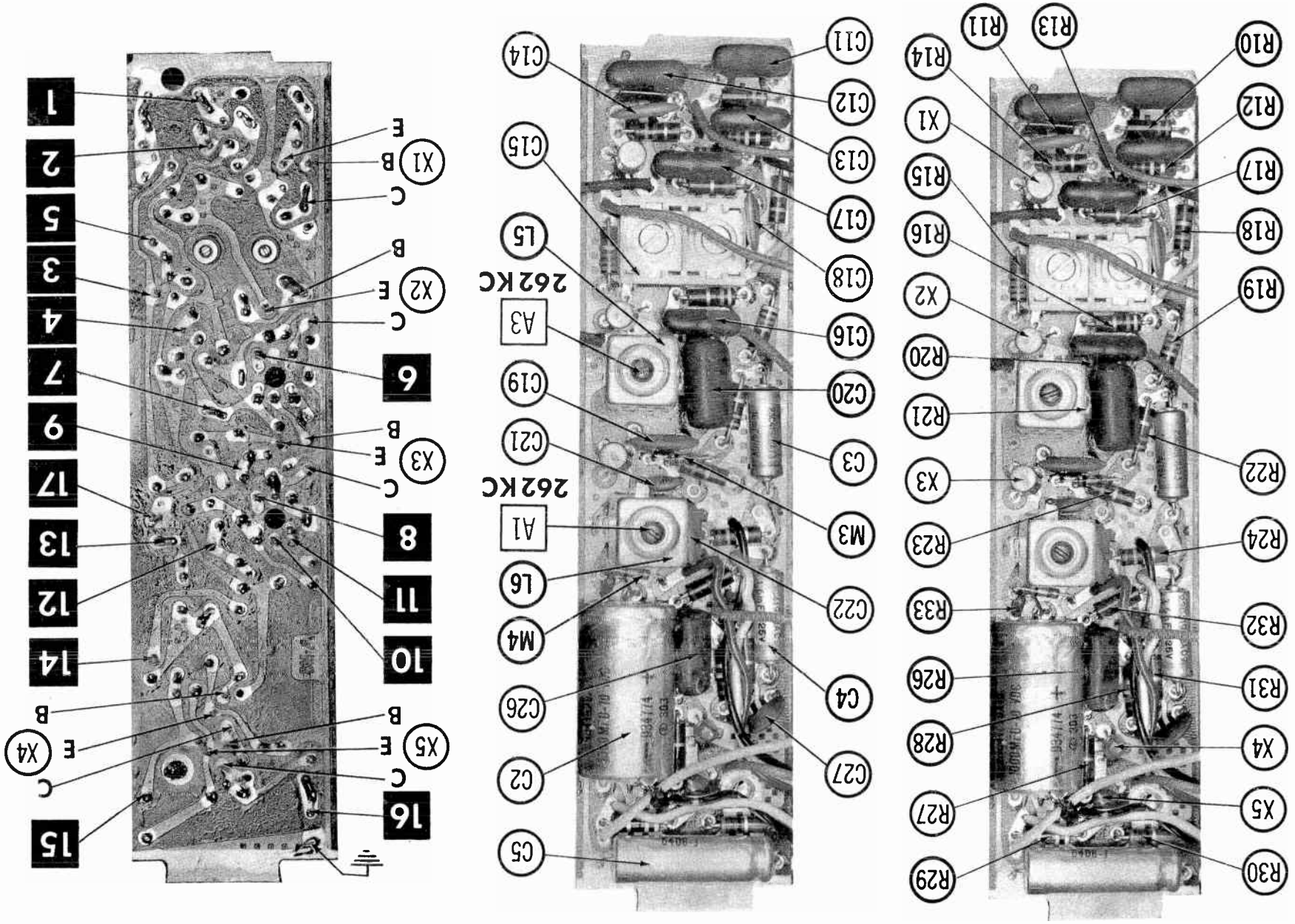
• NOMINAL VALUE MAY VARY

- ⊖ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise designated.
- 5. Numbers assigned to terminals may not be found on the unit.
- 6. Supply voltage maintained at rated value for voltage readings.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFAC STANDARD NOTATION SCHEMATIC with **CIRCUITRACE**

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VOLKSWAGEN MODELS 4TMVG, 4TMVT, 4TMVW



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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2SA72	RF Amplifier	DS-25	GE-1	2N1637	PNP
X2	2SA72	Converter	DS-25	GE-1	2N1639	PNP
X3	2SA72	IF Amplifier	DS-25	GE-1	2N1638	PNP
X4	M54	1st AF Amplifier	DS-46	GE-10	2N649	PNP
X5	M54	2nd AF Amplifier	DS-46	GE-10	2N649	PNP
X6	SP891W	Output	DS-520	GE-3	2N301	PNP*

*When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	MOTOROLA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	1000	10	23C41928A10	PRS1180	BR1000-12	QT1-32	BL-2430		TVAS-1128*
C2	1000		23C41928A10	PRS1180	BR1000-12	QT1-32	BL-2430		
C3	18	16	23C41928A13 (23C41928A06)	CRE809A	NLW15-25	MT1-11	MLV15-25	TT25X15	TL-1156
C4	1.8	25	23C41928A09 (23C41928A05)	CRE801A	NLW2-50	MT1-1	BL-1180	TT50X2	TL-1201
C5	400	10	23C41928A16 (23C41928A15)	PRS1170	BR500-15	QT1-30	BL-2340	TC1505	TVA-1182

* 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	5-80	#20B40944A05							
C11	.0068 100V		P288N-0068	CPR-8800J	WMF2D88	6DP-1-682	PVC4268	6PS-D68	
C12	.0033 100V		P288N-0033	CPR-3300J	WMF1D33	6DP-1-332	PVC4233	6PS-D33	
C13	.05 100V		P288N-05		DPMS2S5	1DP-2-503	PVC215	2PS-S50	
C14	1mfd 3V			UK-105	HCC3105P			HY-135	
C15A	250-390	#20C40481A07							
C16	.005 100V		P288N-005	CPR-5000J	DPMS6D5	1DP-1-502	PVC825	6PS-D50	
C17	.005 100V		P288N-005	CPR-5000J	DPMS6D5	1DP-1-502	PVC825	6PS-D50	
C18	150 N750		N750-D150	DTN-150	C10T15U	CCTN-151	CN7315	10TCU-T15	
C19	1mfd 3V			UK-105	HCC3105P			HY-135	
C20	.22 100V		P288N-22		DPMS2P22	1DP-3-244	PVC1022	2PS-P22	
C21	150		DI-150	DD-151	LA10T15-S3	CCD-151	GP315	5GA-T15	
C22	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10	
C23	.025		TTD-025	CK-253	H4		TA125	TG-S25	
C24	1mfd 3V			UK-105	HCC3105P			HY-135	
C25	.47 10V			UK10-404	HCC10474Z			HY-S30	
C26	.1 100V		P288N-1		WMF1P1	1DP-2-104	PVC101	2QS-P10	
C27	68 N750		N750-D168	DTN-68	C10Q68U	CCTN-680	CN7468	10TCU-Q68	

Motorola Part Number

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			MOTOROLA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone	20K	18C4234A01					FA24L①
B	Volume, Switch	10K Tap @2000Ω						RU14T63, OS1437A, 1S2000, US42

① Use original spring mounting clip.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		MOTOROLA PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	Ant						① Part of M2 or coils & Plate assembly Part #1V42300A95.
L2	RF						
L3	Image Trap (1.5uh)	24C40788A11	BC-562	4804	RTC-8516	T856	
L4	Osc.						
L5	Input IF	24D42517A01					
L6	Output IF	24D42517A02					

FILTER CHOKE

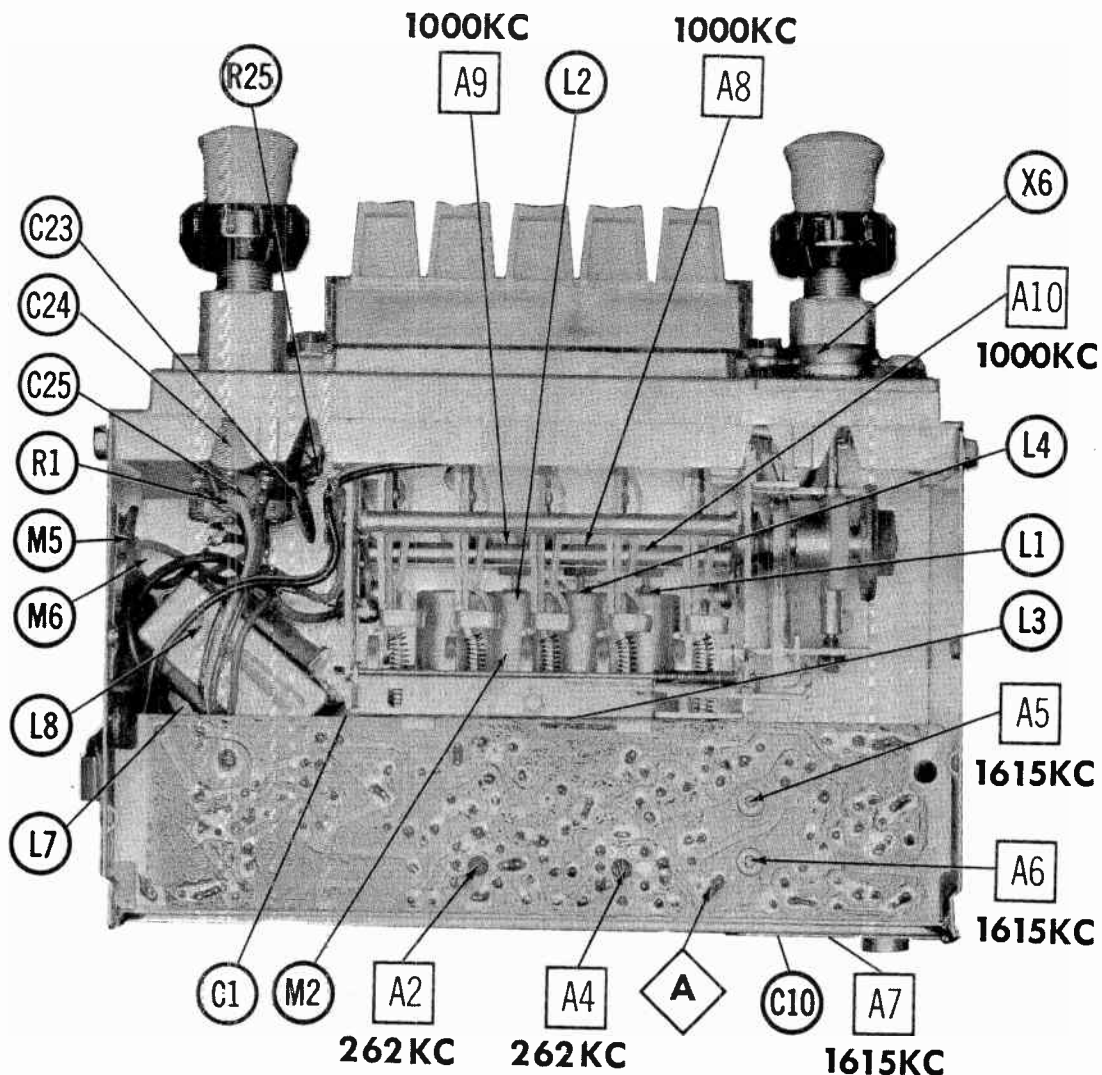
ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	.570A	.5Ω	11MH	25D42032A07	C-4095	TC-2	TR-154	TY17XT	

CHOKE (AUDIO OUTPUT)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L8	18MH	25D42101A06					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MOTOROLA PART No.	QUAM PART No.	
SP1	5" PM 6Ω 6" PM 8Ω	50C42528A01 50C42528A01	5A15Z8	Models 4TMVG/W Model 4TMVT



VOLKSWAGEN MODELS 41MVG, 41MVT, 41MWW

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.

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			Motorola PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	AGA	5	#5R12234E	9C41095A14	30I005	155004A	AGA5	HAF

MISCELLANEOUS

ITEM No.	PART NAME	Motorola PART No.	NOTES
M2	Tuner Coils & Plate Assy.	77D42372A01 1V42300A95	AT-468
M3	AVC Diode	48C134587	1N139
M4	AF Det. Diode	48C134587	1N139
M5	Spark Plate	64A41668A01	
M6	Spark Plate	64A41668A01	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Dial Scale	34C42349A01	Push Button	38B42343A01
Knob, Tuning or Volume	36B42400A01	Pointer Assembly	52B42600A01
Knob, Tone or Dummy	38B42396A01		

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap	Use BELDEN No. 8681 (3/8 in.) or 8670 (3/4 in.)

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