

SAMS PHOTOFACT[®]



AUTO RADIO SERIES



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HOWARD W. SAMS

Indianapolis 6, Indiana

SAMS PHOTOFACT[®] AUTO RADIO SERIES

VOLUME

21

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

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AUTO RADIO SERIES
VOLUME 21

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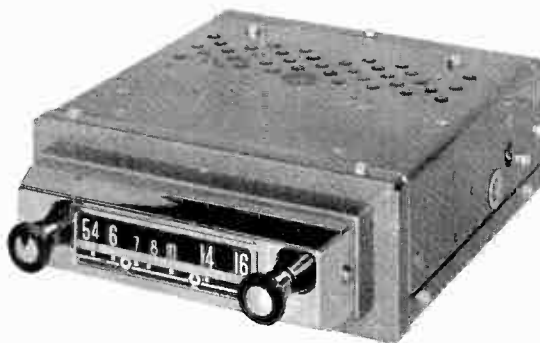
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PHOTOFACT[®]

TRADE NAME : Automatic Model EM29
 SUPPLIER : Automatic Radió Mgr. Co., Inc.
 122 Brookline Ave., Boston 15, Mass.
 TYPE SET : 3 Tube, 2 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .9 Amp. @ 12.6VDC
 TUNING RANGE : BROADCAST 540 - 1615KC



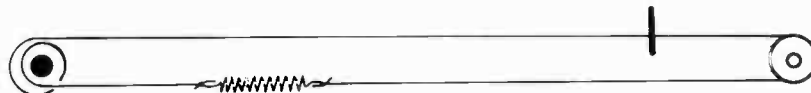
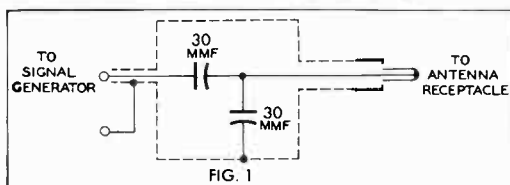
ALIGNMENT INSTRUCTIONS

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 thru 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.	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.	1615KC	"	"	A5, A6, A7	"

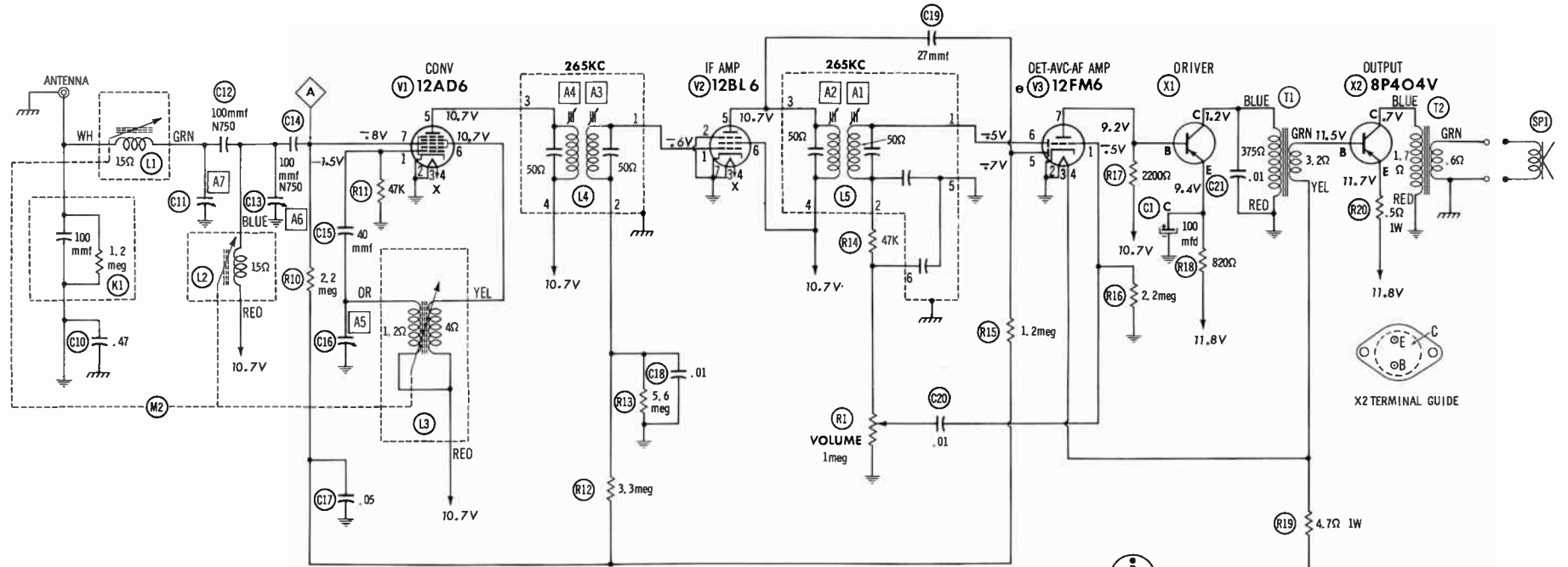
With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and adjust A7 for maximum output.



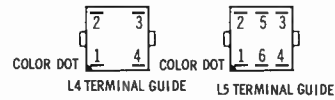
DIAL CORD STRINGING

AUTOMATIC MODEL EM29

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



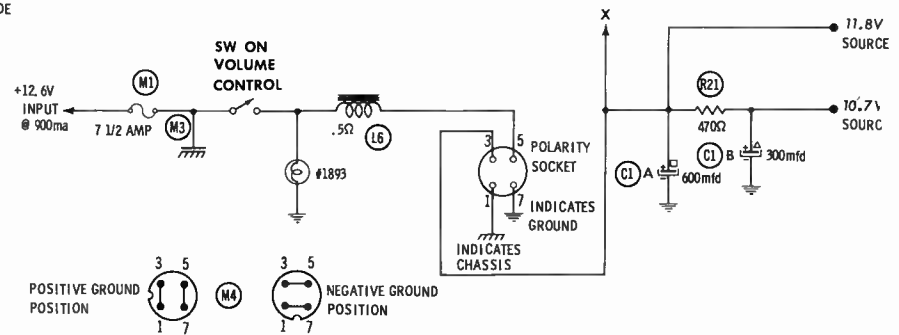
- ⊖ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise 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.



RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
V1	12AD6	47K	0Ω	FIL	FIL	†530Ω	†470Ω	11meg
V2	12BL6	5.6meg	0Ω	FIL	FIL	†530Ω	†470Ω	0Ω
V3	12FM6	2.2meg	0Ω	FIL	FIL	10meg	1.5meg	†2800Ω

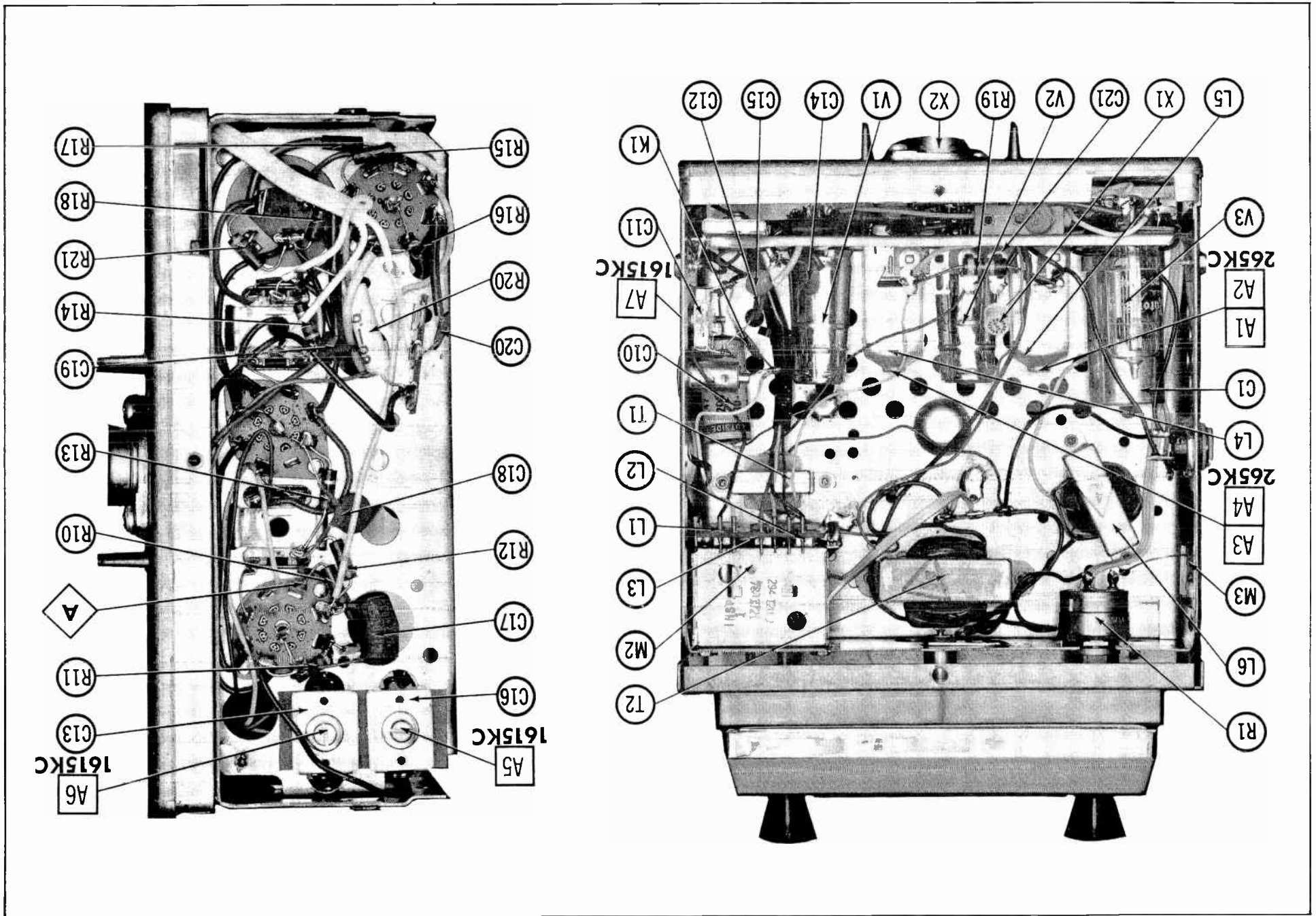
† MEASURED FROM PIN 3 OF POLARITY SOCKET.



A PHOTOFAC STANDARD NOTATION SCHEMATIC
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AUTOMATIC MODEL EM29

AUTOMATIC MODEL EM29



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

AMPEREX		GENERAL ELECTRIC		RCA		RAYTHEON		SYLVANIA	
ITEM No.	USE	TYPE		ITEM No.	USE	TYPE			
V1	Converter	12AD6		V3	Det.-AVC-AF Amp.	12FM6 (12AE6)*			
V2	IF Amplifier	12BL6							

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.	
L6	900ma	.5Ω	10MH	75A1269	C-4095	TC-2	TR-155	TY17XT	

TRANSISTORS

* Alternate

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-63	Driver	DS-26	GE-2	2N591	PNP
X2	8P404V	Output	DS-520	GE-3	2N301	PNP (Note 1)

Note 1. When replacing, apply silicone 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	600	15	20-327	AFH3-00-95.4	B0045			WP300, 87	PCLS-3026.10*
C1B	300	15			BR250-15				
C1C	100	15							

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

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C10	.47 200V	#28-800-2	P288N-47		PM2P47	2DP-5-474	PVC-2047	2PS-P47
C11	100 N750		N750-DI 100	DTN-100	C10T1U	CCTN-101	CN7-310	10TCU-T10
C12	100 N750		N750-DI 100	DTN-100	C10T1U	CCTN-101	CN7-310	10TCU-T10
C13	100 N750	#28-400-4	DI-39	DD-390	LA10Q39-63	CCD-390	GP439	5GA-Q39
C14	40							
C15	40							
C16	.05 100V	#28-461	P288N-05		PM2S5	1DP-2-503	PVC-215	2PS-S50
C17	.01		BPD-01	DD-103	BYA10S1	B-110	CN7-427	5HK-S10
C18	.01		DD-103	TCN-27		CCD-103	B-110	10TCU-Q27
C19	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C20	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C21	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10

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.
R1	Volume & Switch	1meg	80A1720	B-70-S, AK-26	A47-1meg-Z, FS-3, XB-2, SWE-13		U53, EB158, US-26

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	Ant.	①					
L3	Osc.	①					
L4	Input IF	14-265X	BC-350	6584	RTC-8638	T604	
L5	Output IF	14-267X	BC-354	6585	RTC-8640	T606	

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.	TRIAD PART No.	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		AUTOMATIC PART No.	QUAM PART No.	
SP1	5" PM 3-4Ω	73A1275	5A07R	

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	AUTOMATIC PART No.	REPLACEMENT DATA
X1	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	SFE	7½A	108-100		30707.5	15507.5	SFE-7½	HMH

MISCELLANEOUS

ITEM No.	PART NAME	AUTOMATIC PART No.	NOTES
M2	Tuner	78A1721	
M3	Spark Plate		
M4	Polarity Plug	45-959	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Knob, Volume or Tuning	47B319-1	Pointer	84A158

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 : Bendix Models 3BCH (1963 Chevrolet)
 3BCH2 (1963 Chevy II)

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

TYPE SET : 6 Transistor AM Receiver

POWER SUPPLY : 12 Volt Storage Battery

RATING : .75 Amp @ 12.6 VDC

TUNING RANGE : BROADCAST 540 - 1605KC

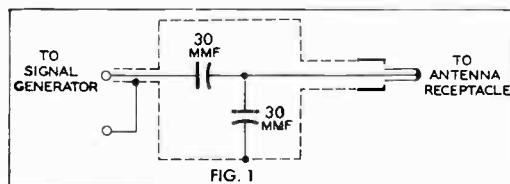


ALIGNMENT INSTRUCTIONS

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 thru 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.	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.						

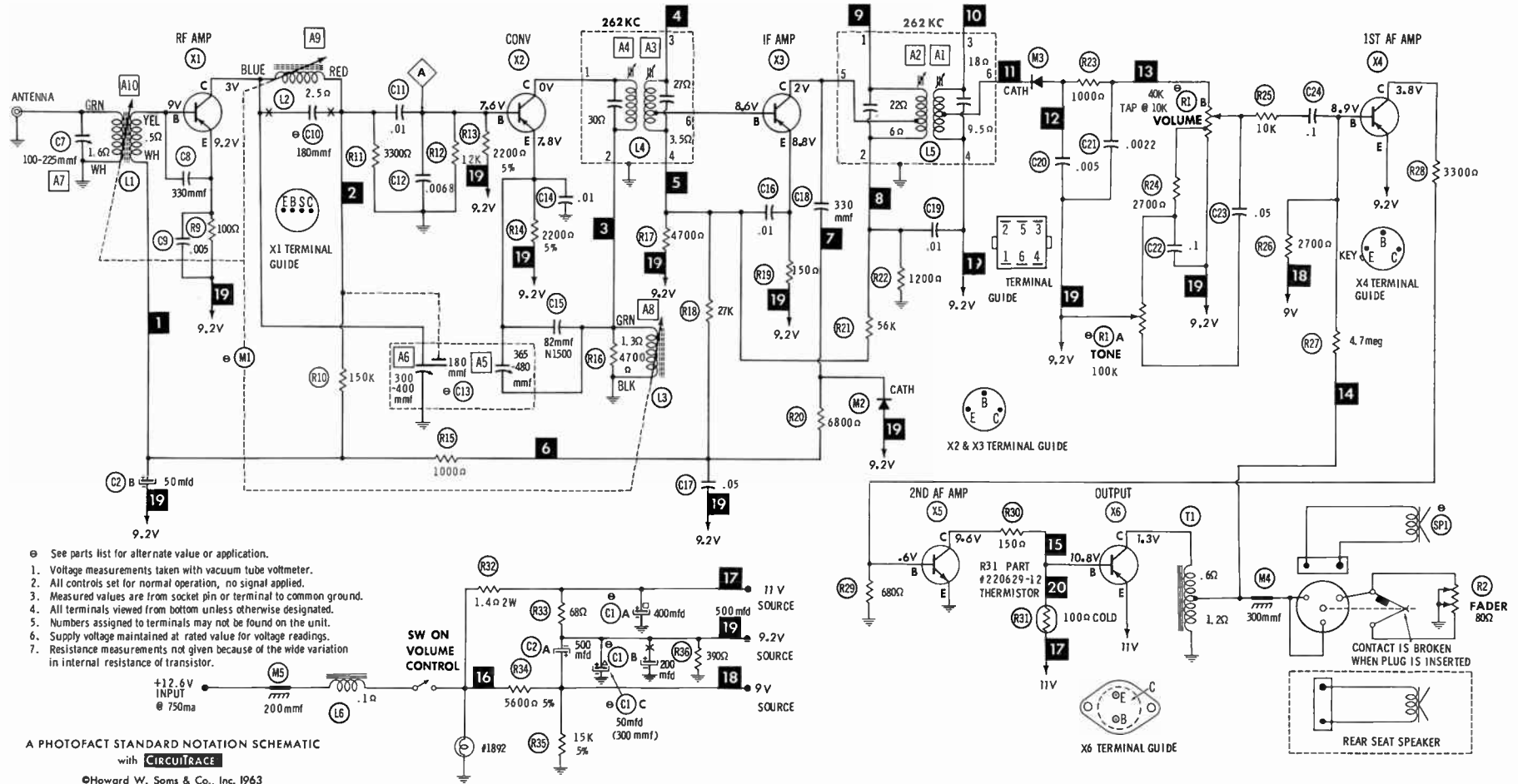


PUSH-BUTTON ADJUSTMENT

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

BENDIX MODELS 3BCH, 3BCH2

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	BENDIX PART No.
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.		
X1		RF Amp.	DS-25	GE-1	2N1637	PNP	2091241-15A
X2		Conv.	DS-25	GE-1	2N1639	PNP	2091241-13A
X3		IF Amp.	DS-25	GE-1	2N1638	PNP	2091241-14
X4		1st AF Amp.	DS-26	GE-2	2N591	PNP	2090924-8A
X5		2nd AF Amp.	DS-44	GE-8		NPN	2092609-2
X6	2N1227	Output	DS-520	GE-3	2N301	PNP (Note 1)	2091859-8

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		BENDIX PART No.	REPLACEMENT DATA					
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	400	16	220353-32 ①	PWH3-00-93		XC3-48		FFP-300.6	PCL-3026.5
B	200	16							
C	50	16	2092246-1	BCD3X50050				PET-2160	
C2A	500	3							
B	50	3							

① In some versions C1B and C1C are combined in one section (C1, 400-300mfd) Part #2091503-7

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.	
C7	100-225	#2091853-2							
C8	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333		10TS-T33
C9	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-220		5HK-D50
C10	180	①	DI-180	DD-181	LA10T18-S3	CCD-181	GP318		5GA-T18
C11	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110		5HK-S10
C12	.0068		SI 6800	D6-682					
C13A	300-400	#219092-27 ①							
B	365-480								
C14	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110		5HK-S10
C15	82 N1500								
C16	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110		5HK-S10
C17	.05 100V		P288N-05		DPMS2S5	IDP-2-503	PVC-215		4PS-S50
C18	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333		10TS-T33
C19	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110		5HK-S10
C20	.005 100V		P288N-005	CPR-5000J	DPMS6D6	IDP-1-502	PVC-625		6PS-D50
C21	.0022		BPD-0022	DD-222	LA10D22-C4	CCD-222	B-222		10TS-D22
C22	.1 10V		TTD-1	CK-104	H6		TA-010		TG-P10
C23	.05 100V		P288N-05		DPMS2S5	IDP-2-503	PVC-215		4PS-S50
C24	.1 10V		TTD-1	CK-104	H6		TA-010		TG-P10

① In some versions C10 is part of C13 (C13 Part #219092-28)
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 Volume & Switch	100K	2092528-2 ①					
B		40K Tap @ 10K						
	Tone Volume & Switch	100K	2092528-3 ②					
		40K Tap @ 10K						
R2	Fader	80Ω 2W	219679-8					

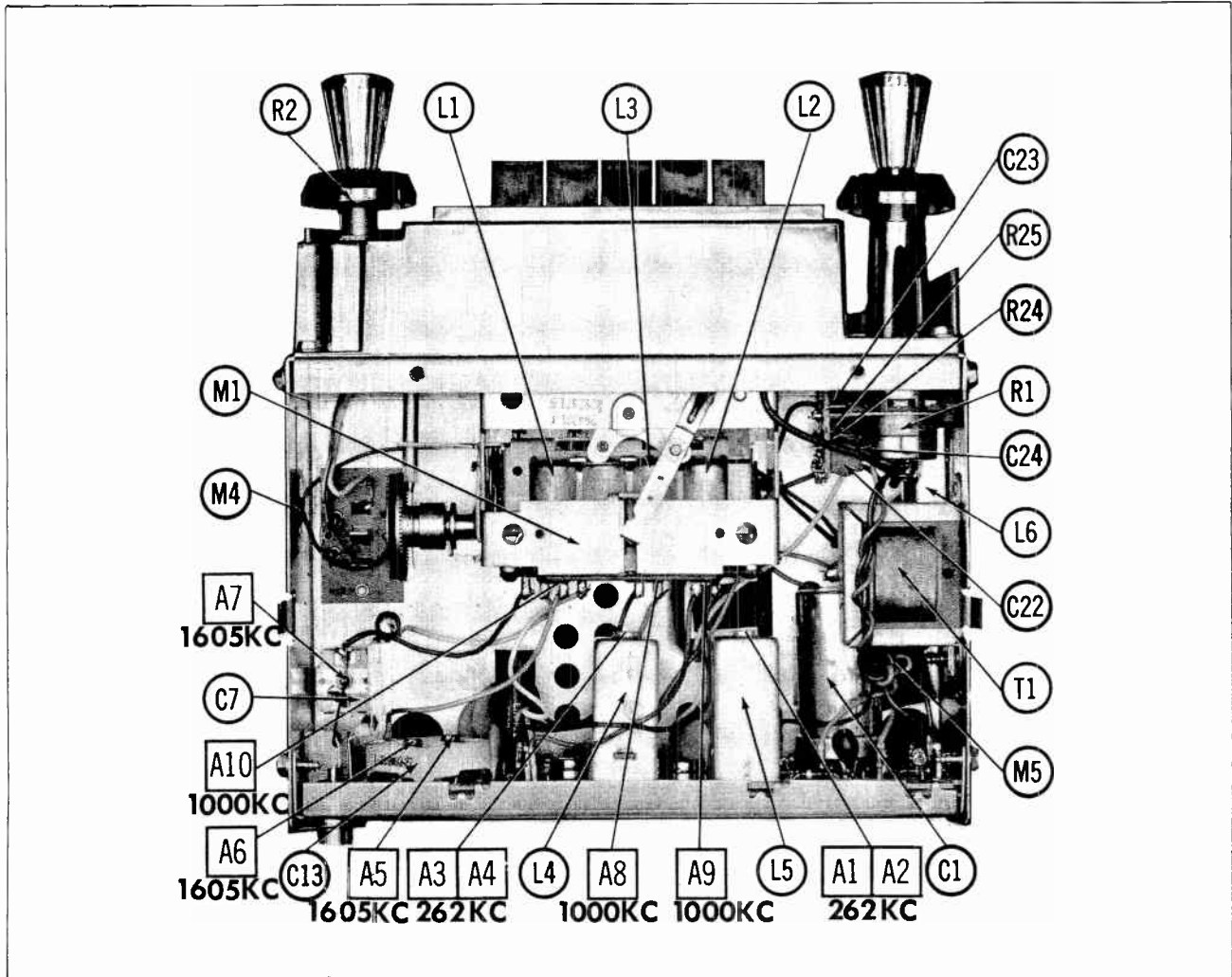
① Used in Model 3BCH
② Used in Model 3BCH2

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.	①					① Part of M1
L2	RF	①					
L3	Osc.	①					
L4	Input IF	2092202-5					
L5	Output IF	2092203-5					
L6	"A" Lead Choke (1.2MH)	2092050-8					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
		BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	12Ω Tap @ 8Ω	2092138-2			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.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		BENDIX PART No.	QUAM PART No.	
SP1	6" x 9" PM 8Ω	2092886-1	69A2Z8	Used in Model 3BCH Used in Model 3BCH2
	4" x 10" PM 8Ω	2092887-1		

MISCELLANEOUS

ITEM No.	PART NAME	BENDIX PART No.	NOTES
M1	Tuner	2092871-8	Model 3BCH Model 3BCH2
	Tuner	2092871-4	
M2	AVC Det.	2092055-1	
M3	Audio Det.	2092055-1	
M4	Spark Plate	220287-12	300mmf
M5	Spark Plate	220287-21	200mmf

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Dial Glass, Model 3BCH	2092863-1	Push Button, Model 3BCH	2092859-1
Dial Glass, Model 3BCH2	2092861-1	Push Button, Model 3BCH2	2092860-1
Pointer, Model 3BCH	2090129-42	Knob, Volume or Tuning	2091756-1
Pointer, Model 3BCH2	2090129-41	Knob, Tone	2092857-1

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 : Bendix Model 3BCT (1963 Corvair)
 SUPPLIER : The Bendix Corp., Bendix Radio Div.
 Baltimore 4, Maryland
 TYPE SET : 6 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .9 Amp. @ 12.6VDC
 TUNING RANGE : BROADCAST 540 - 1605KC

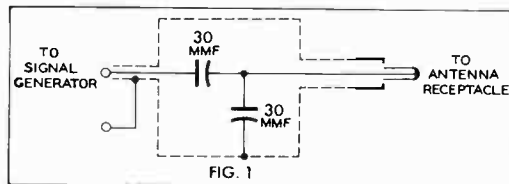
ALIGNMENT INSTRUCTIONS

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

A1 thru A4.....GENERAL CEMENT #8600, 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.	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.

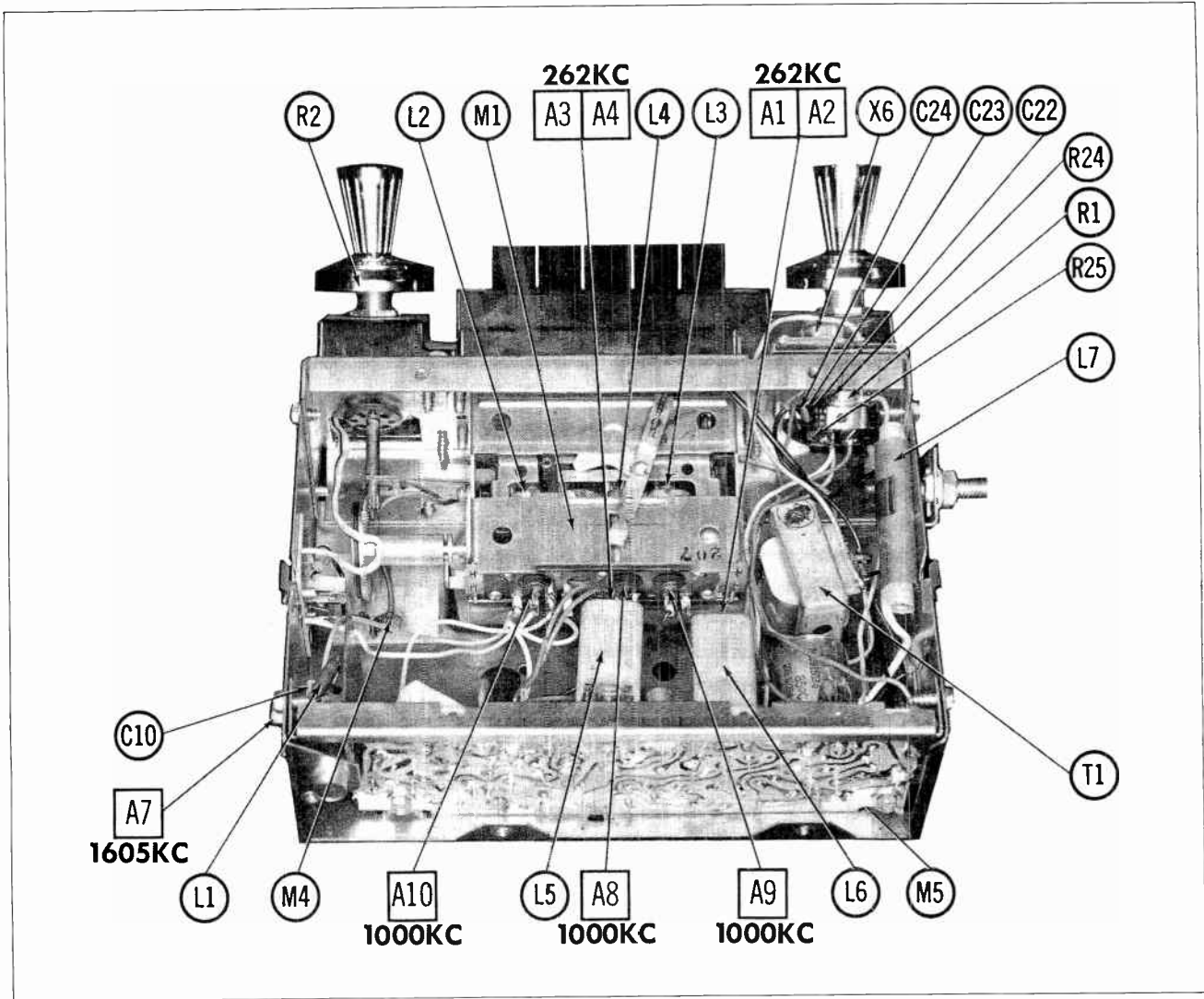
With radio installed in car and antenna fully extended, tune in a weak station near 1600KC and adjust A7 for maximum output.



PUSH-BUTTON ADJUSTMENT

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

BENDIX MODEL 3BCT



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. 8681 (3/8 In.) or 8670 (3/4 In.)

TRANSISTORS

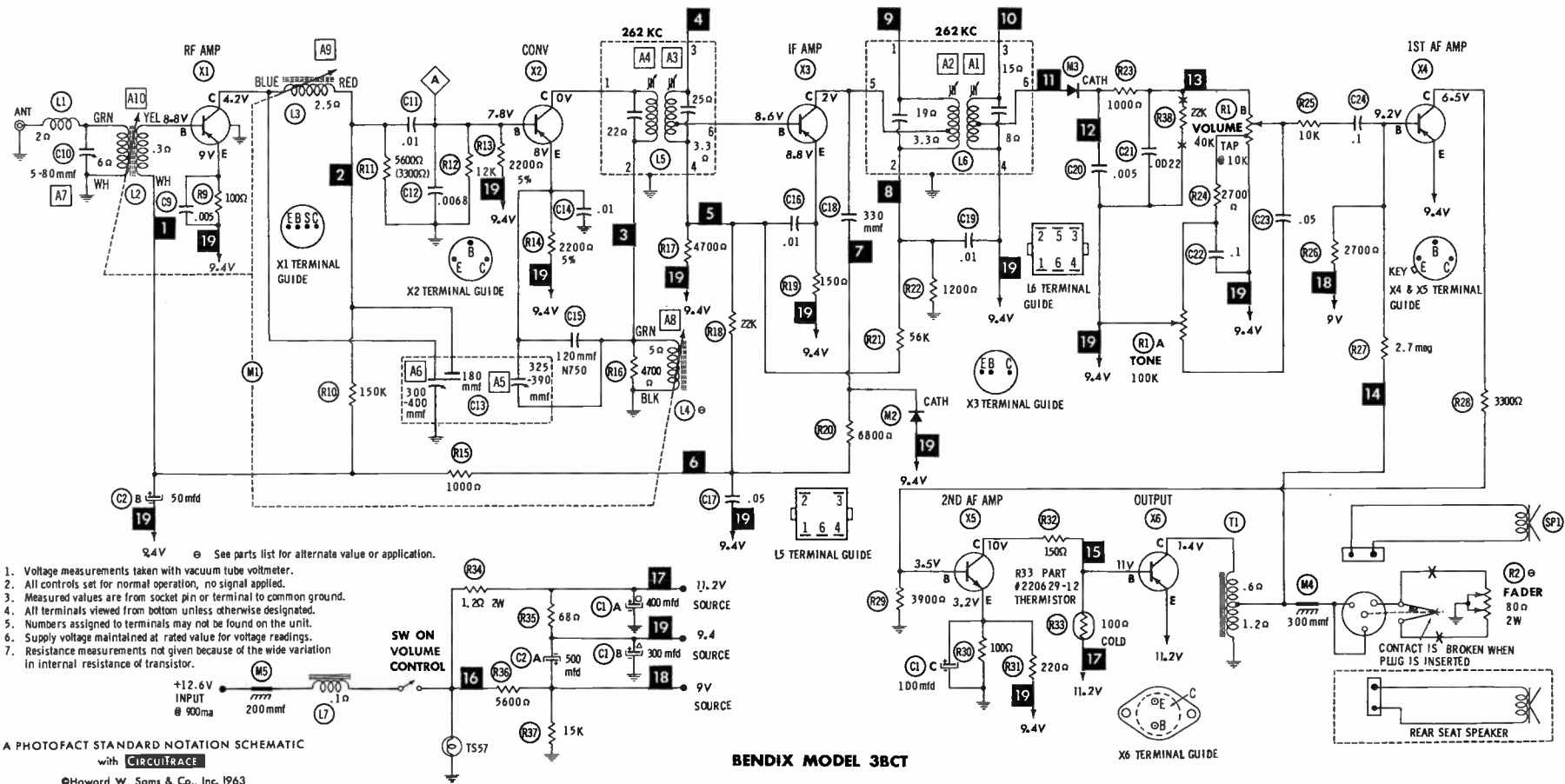
ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES	BENDIX PART No.
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.		
X1		RF Amp.	DS-25	GE-1	2N1637	PNP	2091241-15A
X2		Conv.	DS-25	GE-1	2N1639	PNP	2091241-13A
X3		IF Amp.	DS-25	GE-1	2N1638	PNP	2091241-14
X4		1st AF Amp.	DS-26	GE-2	2N591	PNP	2090924-8A
X5		2nd AF Amp.	DS-44	GE-8		PNP	2091260-3
X6	2N1227	Output	DS-520	GE-3	2N301	PNP (Note 1)	2091859-8

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

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.	MAILORY PART No.	SPRAGUE PART No.
C1A	400	16	2091503-5	PWH3-54-15		XC3-48.1	ATMT3001	PFP-300.65	PCLS-3020.5*
B	300	16							
C	100	8							
C2A	500	3	2092246-1	BCD3X50050					
B	50	3						PET-2160	

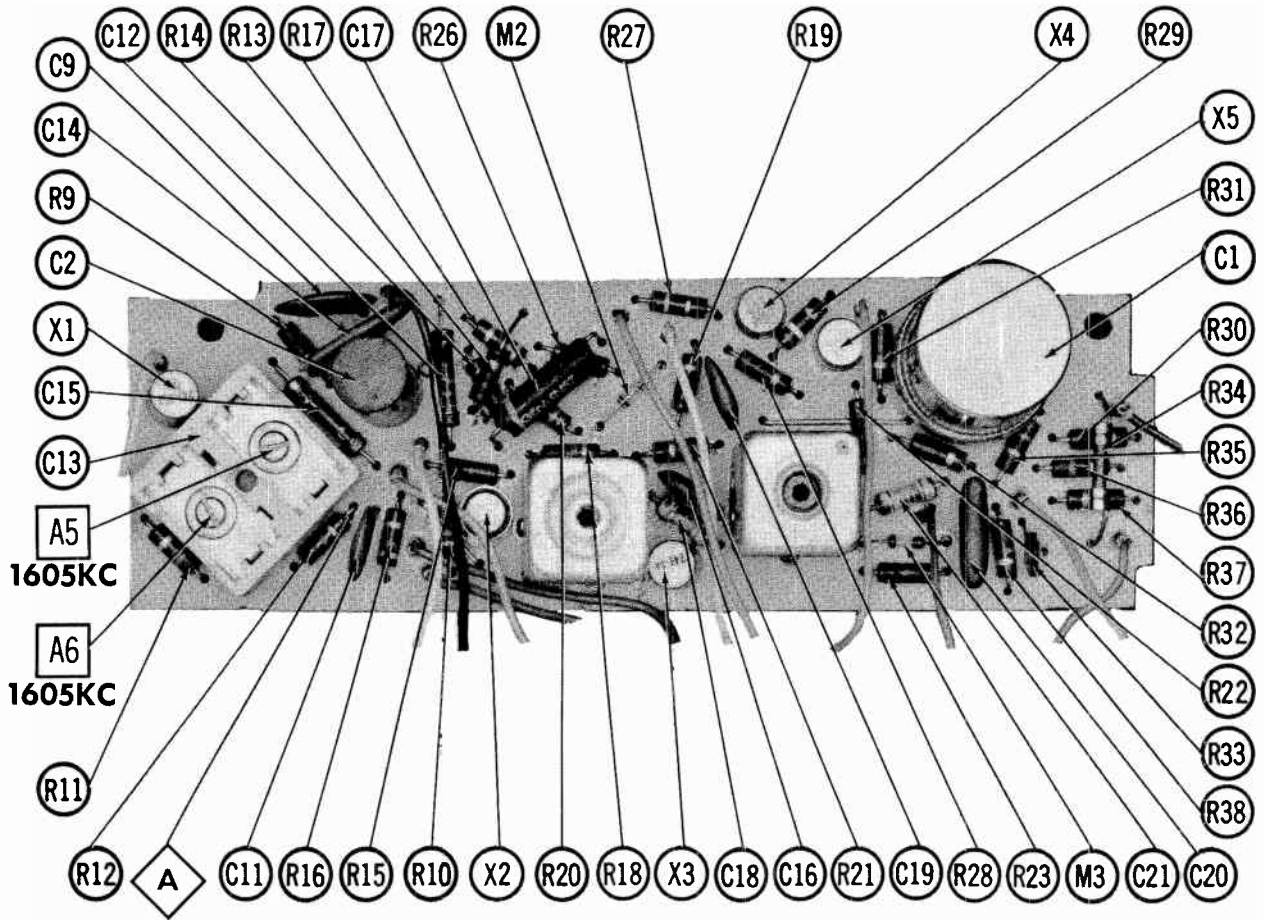
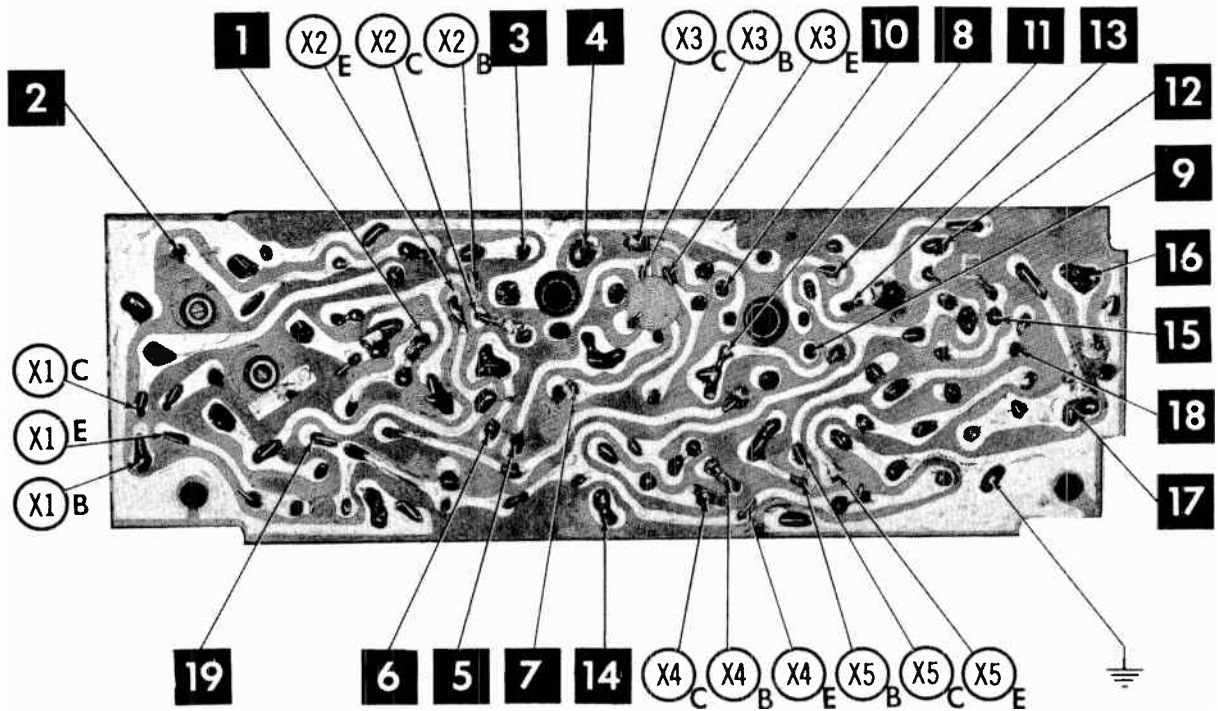
* Not normally in distributor's stock. Available thru distributor on order to manufacturer.



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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BENDIX MODEL 3BCT



A Howard W. Sams **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.

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBLIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C9	.005	#219083-4	BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50	
C10	5-80								
C11	.01								
C12	.0068	#219092-25①	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10	
C13A	300-400			SI 6800	D6-682				
B	180								
C	325-390								
C14	.01	(82) †	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10	
C15	120 N750			N750-SI 120	TCN-120	C10T12U	CCTN-121	CN7-312	10TCU-T12
C16	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C17	.05			P288N-05		DPM52S5	IDP-2-503	PVC-215	4PS-S50
C18	330			D1-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33
C19	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C20	.005 100V			P288N-005	CPR-5000J	DFMS6D5	IDP-1-502	PVC-625	6PS-D50
C21	.0022			BPD-0022	DD-222	LA10D22-C4	CCD-222	B-222	10TS-D22
C22	.1 10V			T1D-1	CK-104	H6		TA-010	TG-P10
C23	.05 10V			T1D-05	CK-503	H5		TA-150	TG-S50
C24	.1 10V			T1D-1	CK-104	H6		TA-010	TG-P10

① In late versions, C13C is 365-430mmf (C13 Part #219092-28).
Bendix Part Number, † Used in late production versions.

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	100K	2091737-4				
B	Volume & Switch	40K Tap @ 10K					
R2	Fader	80Ω	219679-6①				

① Not used in some versions.

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	RF Choke (5uh)	2092210-3	SW-631	4809	RTC-8519	T819	
L2	Ant.	①					
L3	RF	①					
L4	Osc.	①					
L5	Input IF	2092202-2 ②					
L6	Output IF	2092203-2 ②					
L7	"A" Lead Choke (1.2MH)	2092050-9					

① Part of M1 or Coil Assembly Part #2090131-43 (RCC) or #2090131-42 (GIC).

② Alternate Part Number ends with -4. Late production versions end with -5.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
		BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	12Ω Tap @ 8Ω	2092138-2			TR-164		

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		BENDIX PART No.	QUAM PART No.	
SP1	6" x 9" PM 8Ω	2091769-1	69A2Z8	

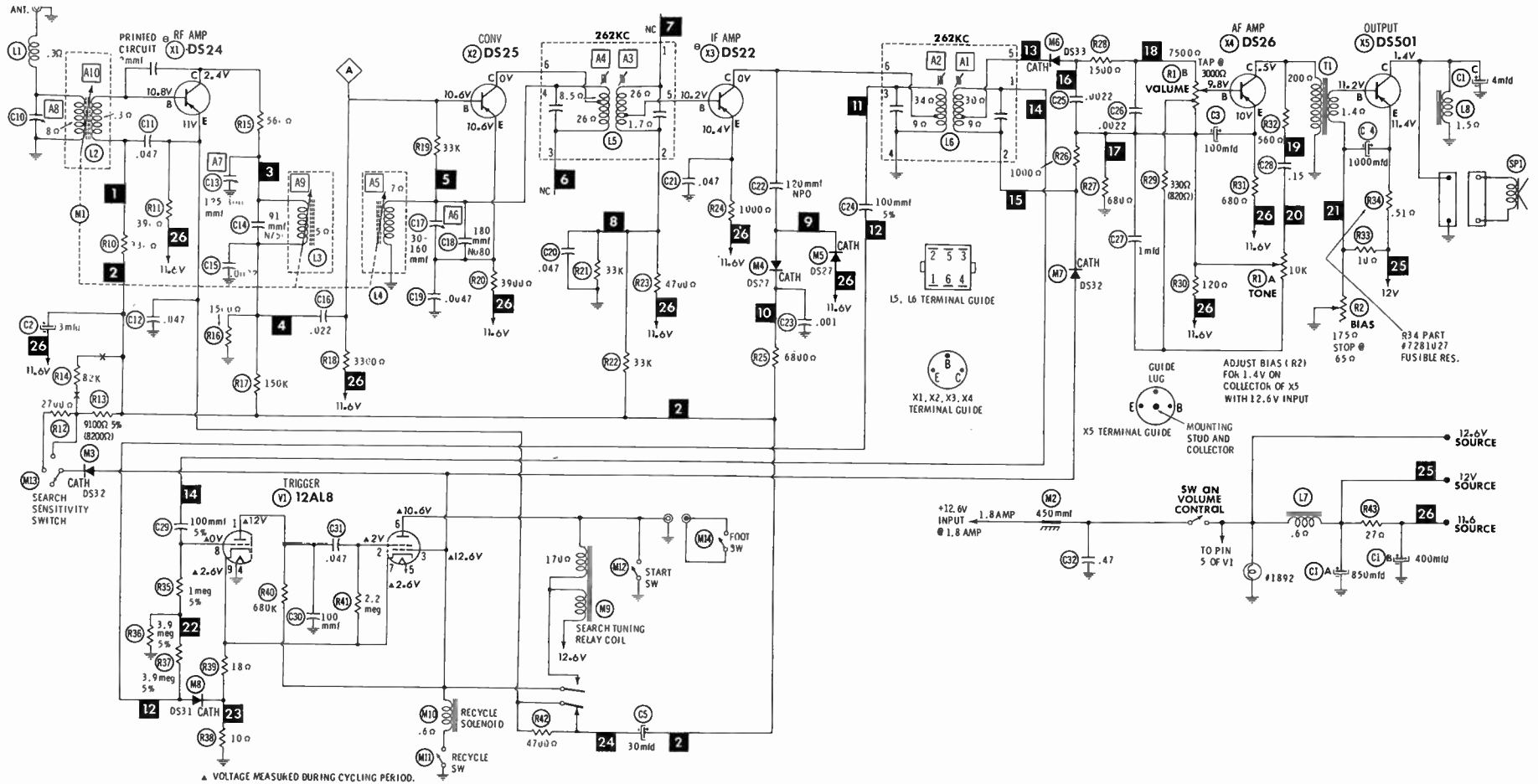
MISCELLANEOUS

ITEM No.	PART NAME	BENDIX PART No.	NOTES
M1	Tuner	2092308-15	RCC
	Tuner	2092308-16	GIC
M2	AVC Det.	2092055-1	
M3	Audio Det.	2092055-1	
M4	Spark Plate	220287-12	300mmf
M5	Spark Plate	220287-21	200mmf

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

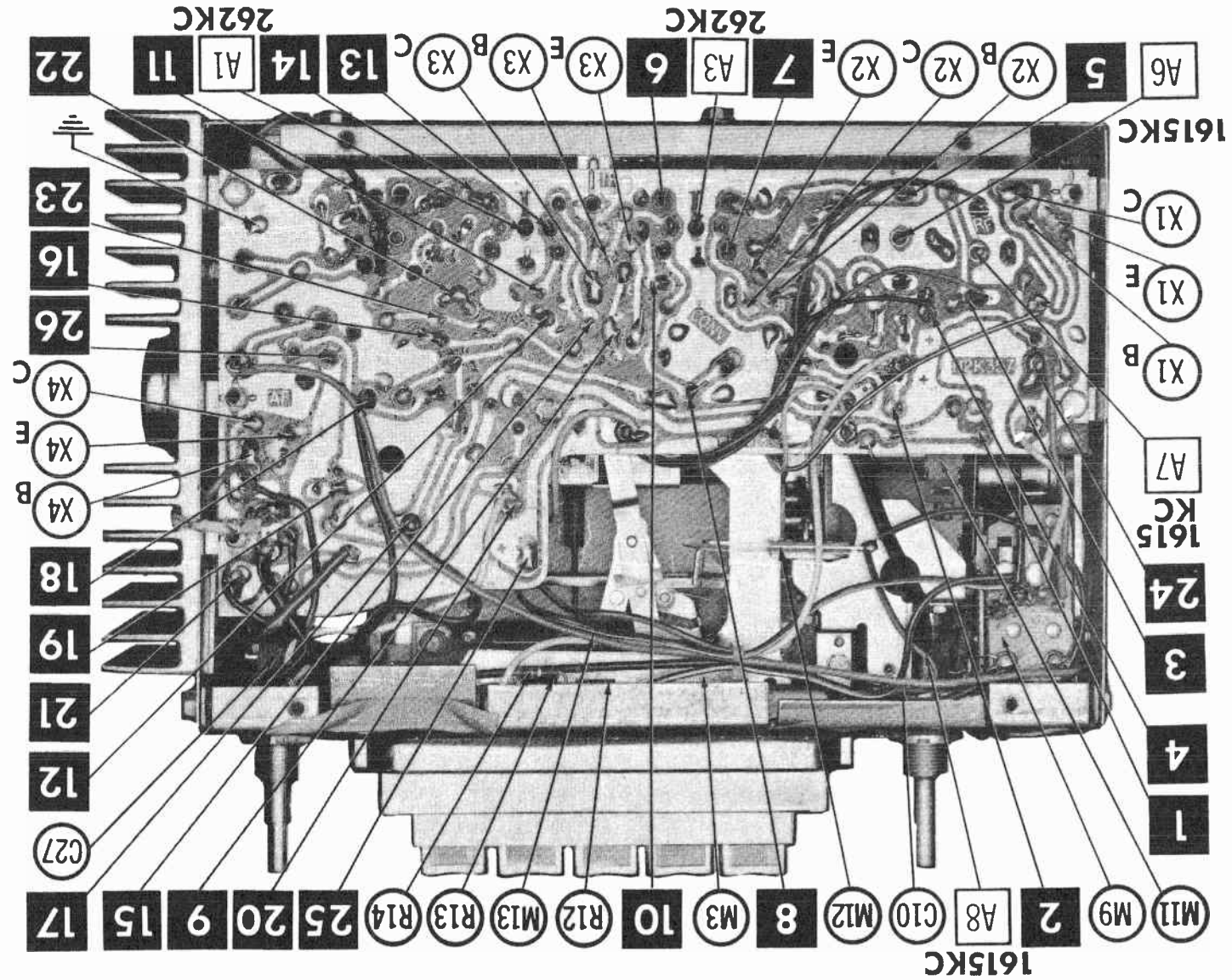
ITEM	PART No.	ITEM	PART No.
Dial Glass	2091722-3	Knob, Tuning or Volume	2091756-1
Push Button	2091726-2	Knob, Tone or Fader	2092857-1

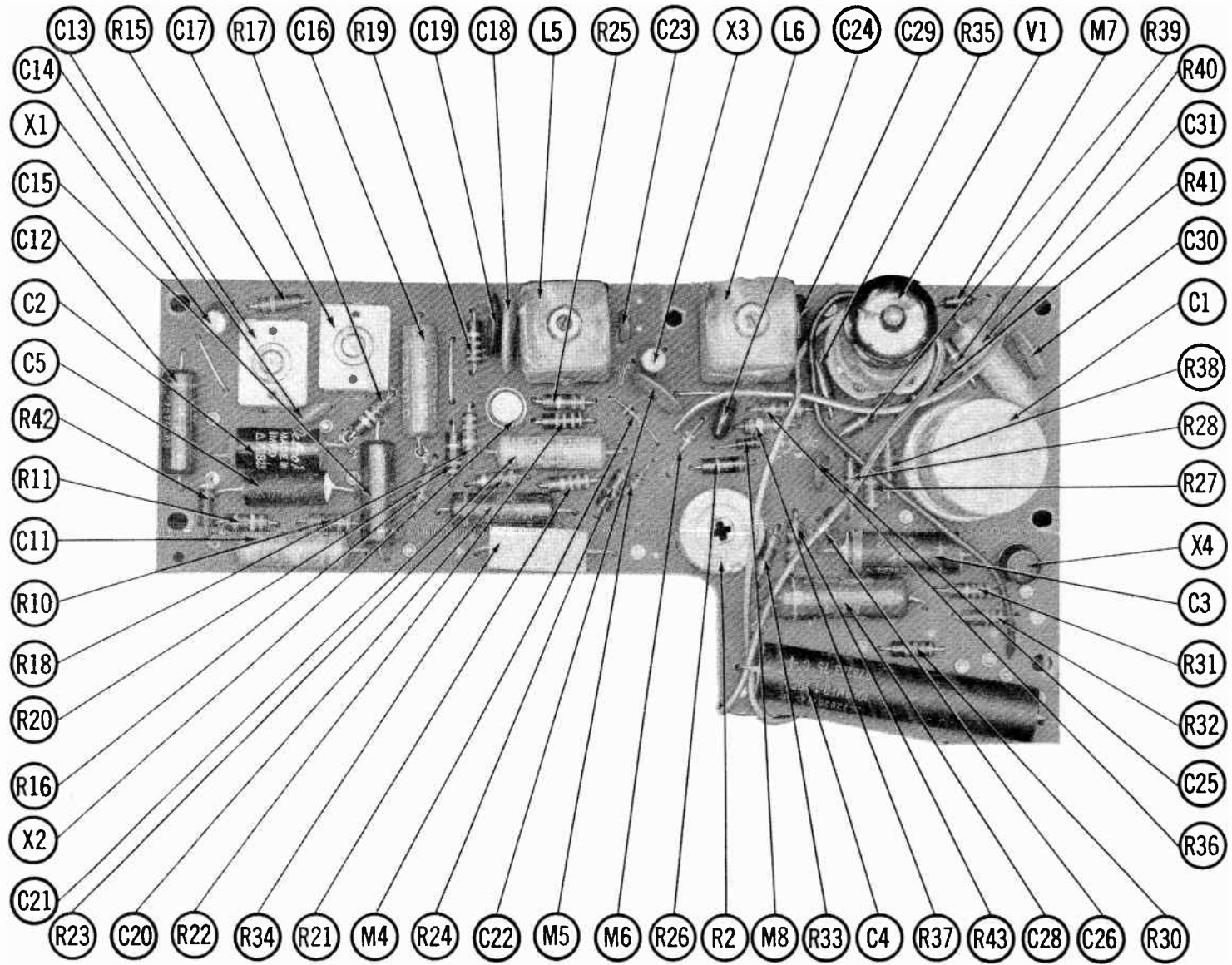


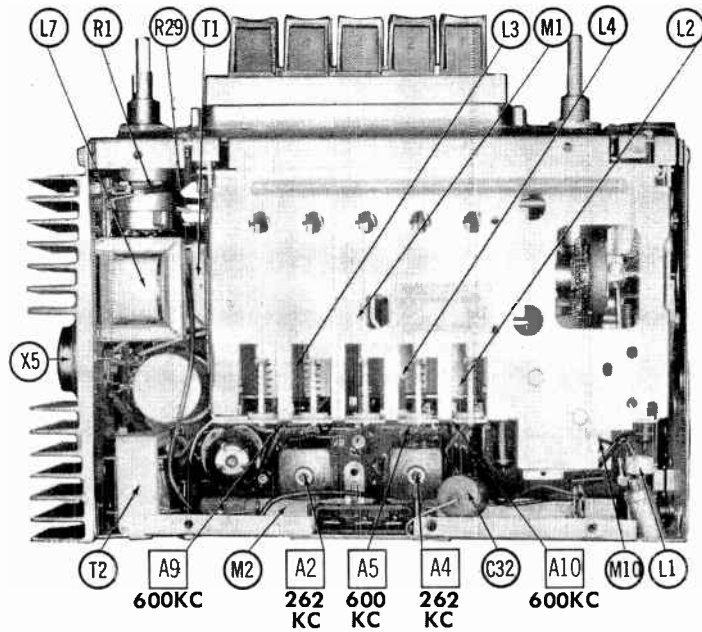
- ⊙ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise designated.
- 5. Numbers assigned to terminals may not be found on the unit.
- 6. Supply voltage in -intained at rated value for voltage readings.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.
- 7. Waveforms taken with controls set to produce 50 volts peak-to-peak signal at picture tube.

BUICK MODEL 980463

A PHOTOFACIT 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.

TUBES

• AMPEREX •		GENERAL ELECTRIC		RCA		RAYTHEON		SYLVANIA	
ITEM No.	USE	TYPE		ITEM No.	USE	TYPE			
V1	Trigger	12A18							

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	DS-24	R F Amp.	DS-25	GE-1	2N1837	PNP
X2	DS-25	Conv.	DS-25	GE-1	2N1839	PNP
X3	DS-22	IF Amp.	DS-25	GE-1	2N1838	PNP
X4	DS-26	AF Amp.	DS-26	GE-2	2N591	PNP
X5	DS-501	Output	DS-501	GE-4		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	850	16	7279775	AFH3-54-30				FPS-300, 75	PCLS-3021, 2*
B	400	18							
C	4	11.4AC							
C2	3	12	7282359	PTT50	NLW3-15	MT1-3	BL1140	TT12X3	TE-1122
C3	100	3	7279888	PTT13	NLW100-3	MT1-18	MLV-100-3	TT6X100	TE-1059, 5
C4	1000	2	7283514	PRS1130	BR-1000-6		BL2310	TC310	TVA-1104
C5	30	6	7279896	PTT27	NLW30-15	MT1-13	MLV30-6	TT6X30	TE-1082

* 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		#7284971							
C11	.047		P288N-047	DD-503	CUB2S47	IDP-2-473	GEM-4147	4TM-S47	
C12	.047		P288N-047	DD-503	CUB2S47	IDP-2-473	GEM-4147	4TM-S47	
C13	125-300	#7281832							
C14	91 N750	#7280995	TCN-91		C10Q91U				
C15	.0022		P288N-0022	DD-222	CUB6D22	6DP-1-222	GEM-6222	6TM-D22	
C16	.022		P288N-022	DDM-203	CUB4S22	IDP-1-223	GEM-4122	2TM-S22	
C17	30-180	#7282165							
C18	180 N080 5%	#7279821							
C19	.0047		DI-4700	DD-472		CCD-472		IDTS-D47	
C20	.047		P288N-047	DD-503	CUB2S47	IDP-2-473	GEM-4147	4TM-S47	
C21	.047		P288N-047	DD-503	CUB2S47	IDP-2-473	GEM-4147	4TM-S47	
C22	120 NPO		NPO-DI 120	DTZ-120			CNO-312	10TCC-T12	
C23	.001		DI-1000	DD-102	L10D1	CCD-102	GP210	10TTS-D10	
C24	100 5%		1459-100	22R5T1		CM-15E-101	MCE235	MS-31	

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 (cont)

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.
C25	.0022		DI-2200	DD-222	L10D22	CCD-222	GP222	10TS-D22
C26	.0022		DI-2200	DD-222	L10D22	CCD-222	GP222	10TS-D22
C27	1mfd			UK-105	HCC1047			HY-135
C28	.1		P288N-1	DD-100	CUB2B1	2CP-4-104	GEM-2010	2TM-P1
C29	100 5%		1459-100	22R5T1		CM-15E-101	MCE235	MS-31
C30	100		DI-100	DD-101	L10T1	CCD-101	GP310	5GA-T10
C31	.047		P288N-047	DD-503	CUB2S47	IDP-2-473	GEM-4147	4TM-S47
C32	.47		P288N-47		CUB2P47	IDP-4-474	GEM-2047	2TM-P47

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.
RIA	Tone	10K	7282338				
B	Volume & Switch	7500Ω Tap @ 3000Ω					
R2	Bias	175Ω Stop @ 65Ω	7275554 ①				

① Alternate Part #1221422

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		DELCO PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.2uh)	7281946	BC-565	4610	RTC-8520	T859	
L2	Ant.	7282586					
L3	RF	7282585					
L4	Osc.	1221616					
L5	Input IF	1221856				TA653	
L6	Output IF	1221857					

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	1.1 Amp.	.6Ω	8MH	1221623	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	20.5MH	7282278					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	T1	10:	1	7280915	A-4094	TA-51	TR-186 ①	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		DELCO PART No.	QUAM PART No.	
SP1	4" x 10" PM 10Ω	7282594 ①	410A2Z10	① Part #7282774 (6" x 9") used in Riviera Cars

MISCELLANEOUS

ITEM No.	PART NAME	DELCO PART No.
M1	Tuner	
M2	Spark Plate	7271564
M3	Sensitivity Det.	DS-32
M4	AVC Det.	DS-27
M5	AVC Det.	DS-27
M6	Audio Det.	DS-33
M7	Trigger Det.	DS-32
M8	Trigger Det.	DS-31
M9	Tuning Relay	7282263
M10	Recycle Solenoid	1221409
M11	Recycle Switch	7268030
M12	Push Bar Switch	1221869
M13	Sensitivity Switch	7282562
M14	Foot Switch	7278024

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.
Dial Glass	7279777
Knob, Tuning or Volume	1355480
Knob, Tone or Dummy	1355481
Pointer Assembly	1221844
Push Button (Set of 5)	1221845

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.)



TRADE NAME : Buick Models 980626, 980635 (1963)

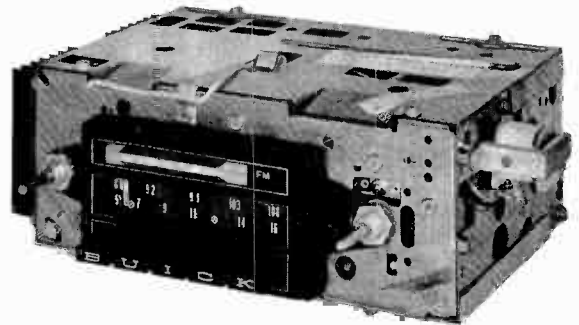
SUPPLIER : (Parts) United Delco Distributors

TYPE SET : 9 Transistor AM-FM Receiver

POWER SUPPLY : 12 Volt Storage Battery

RATING : 1.4 Amp. @ 12.6VDC

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



REMOVAL INSTRUCTIONS

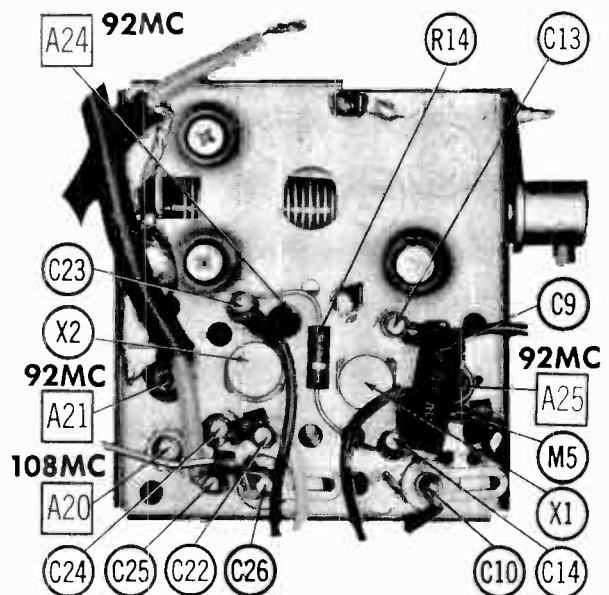
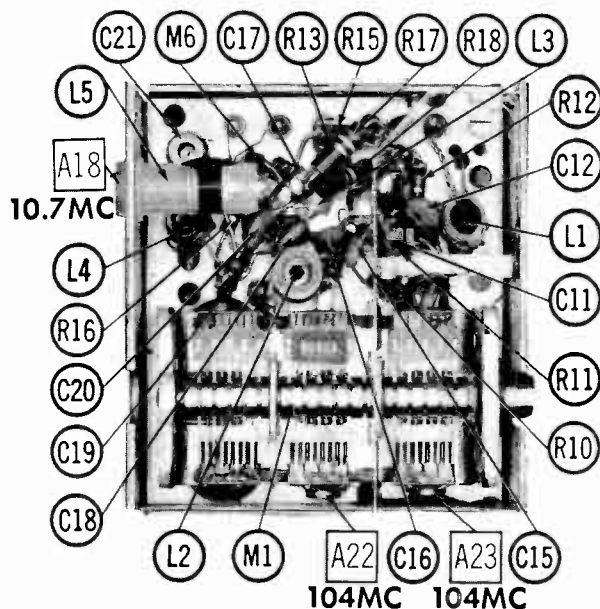
NOTE: To replace transistors, remove radio.

RADIO

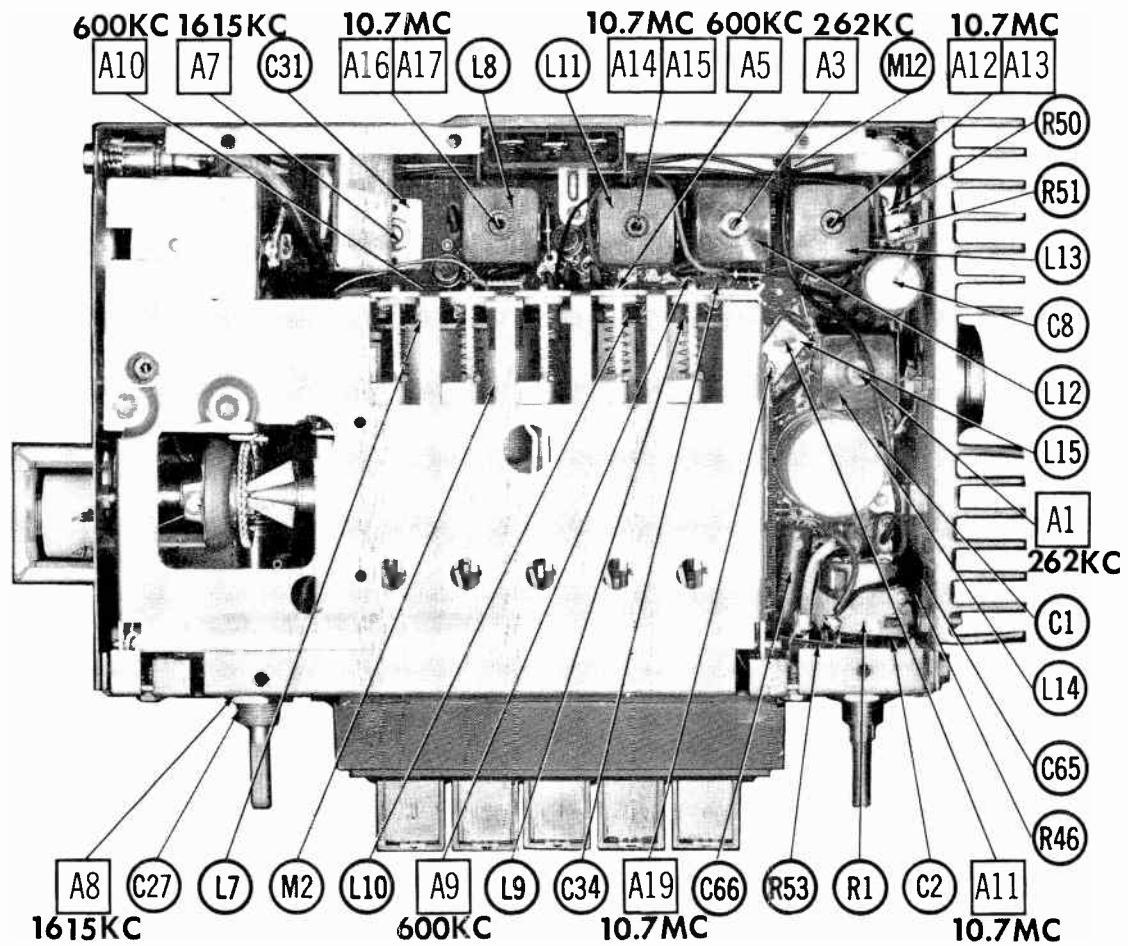
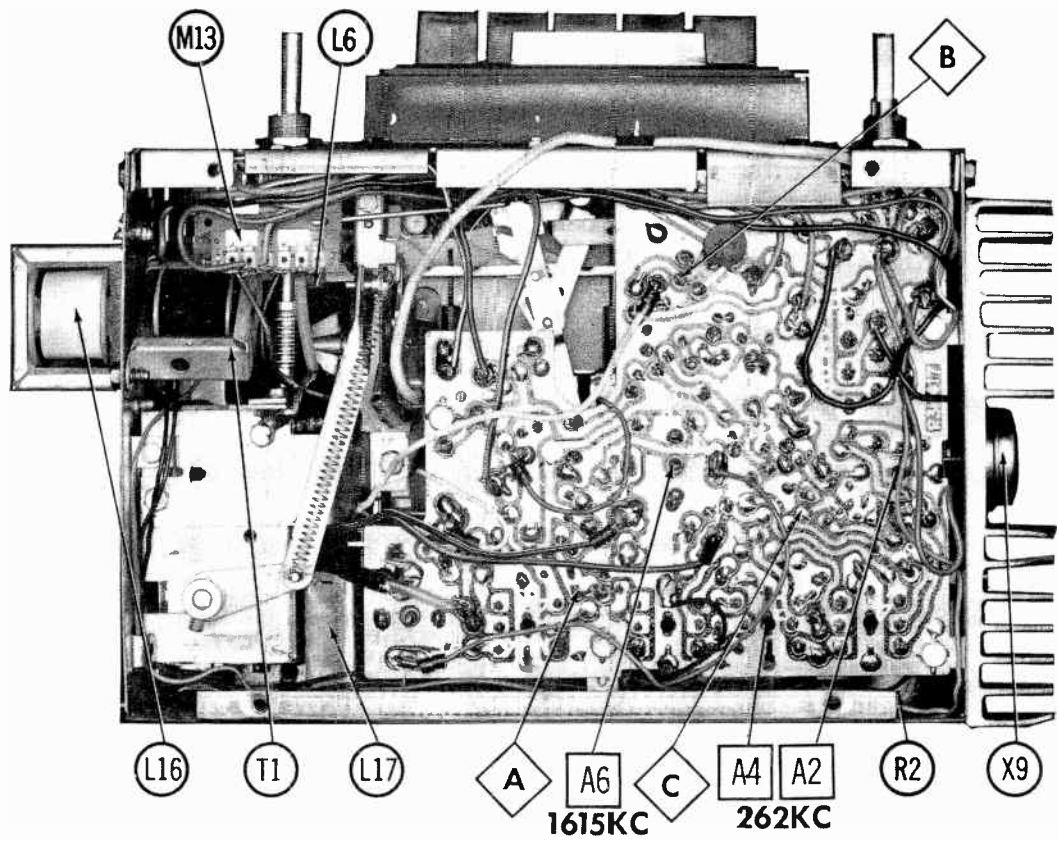
1. Remove ash tray.
2. Using 3/8" wrench, remove 2 screws from bottom of radio and 2 nuts from rear of trim plate.
3. Using 5/8" wrench, remove 2 nuts from control bushings. Remove trim plate.
4. Slide radio out front of instrument panel.
5. Disconnect speaker connector and antenna lead.

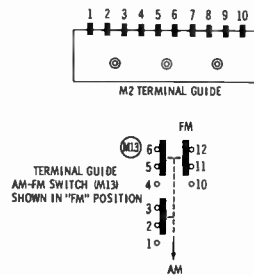
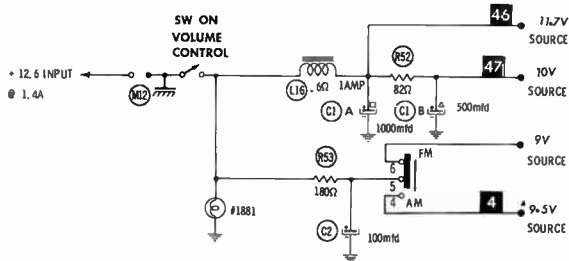
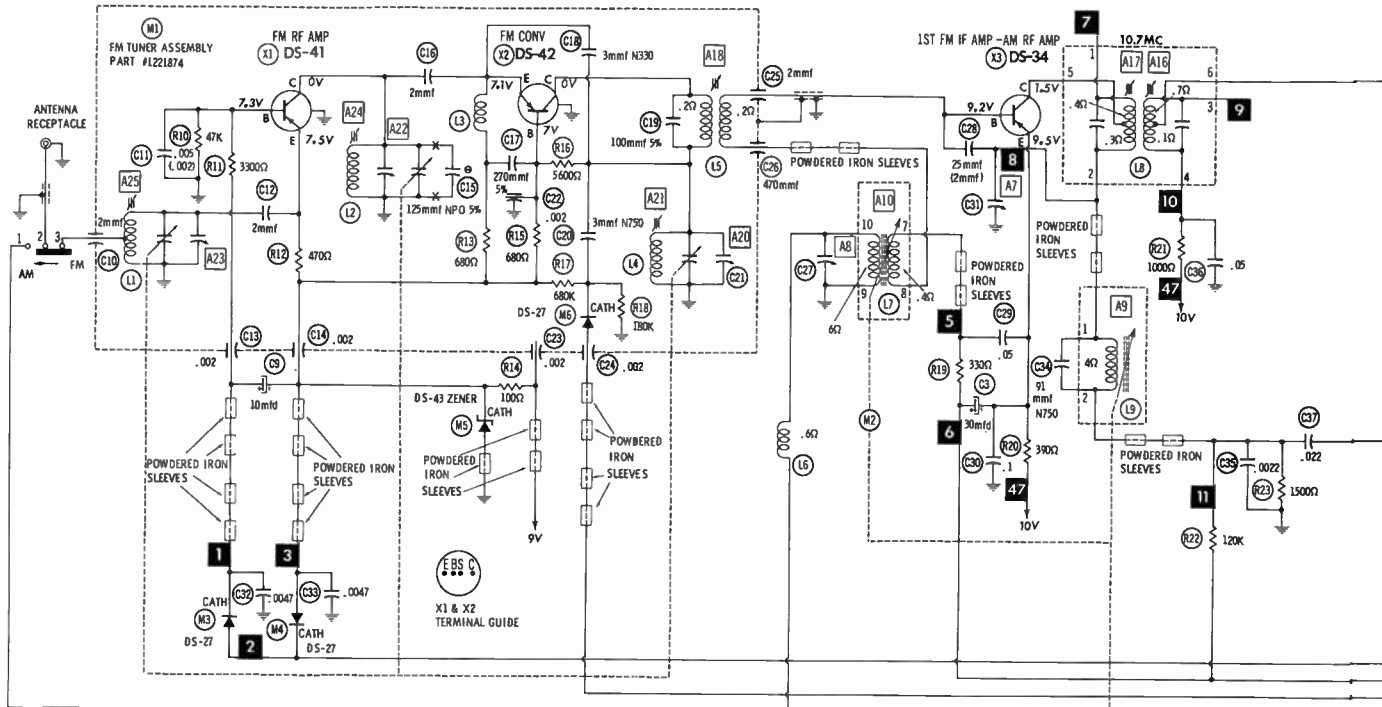
SPEAKER

1. Using 3/8" wrench, remove 4 mounting nuts. Remove speaker.



BUICK MODELS 980626, 980635





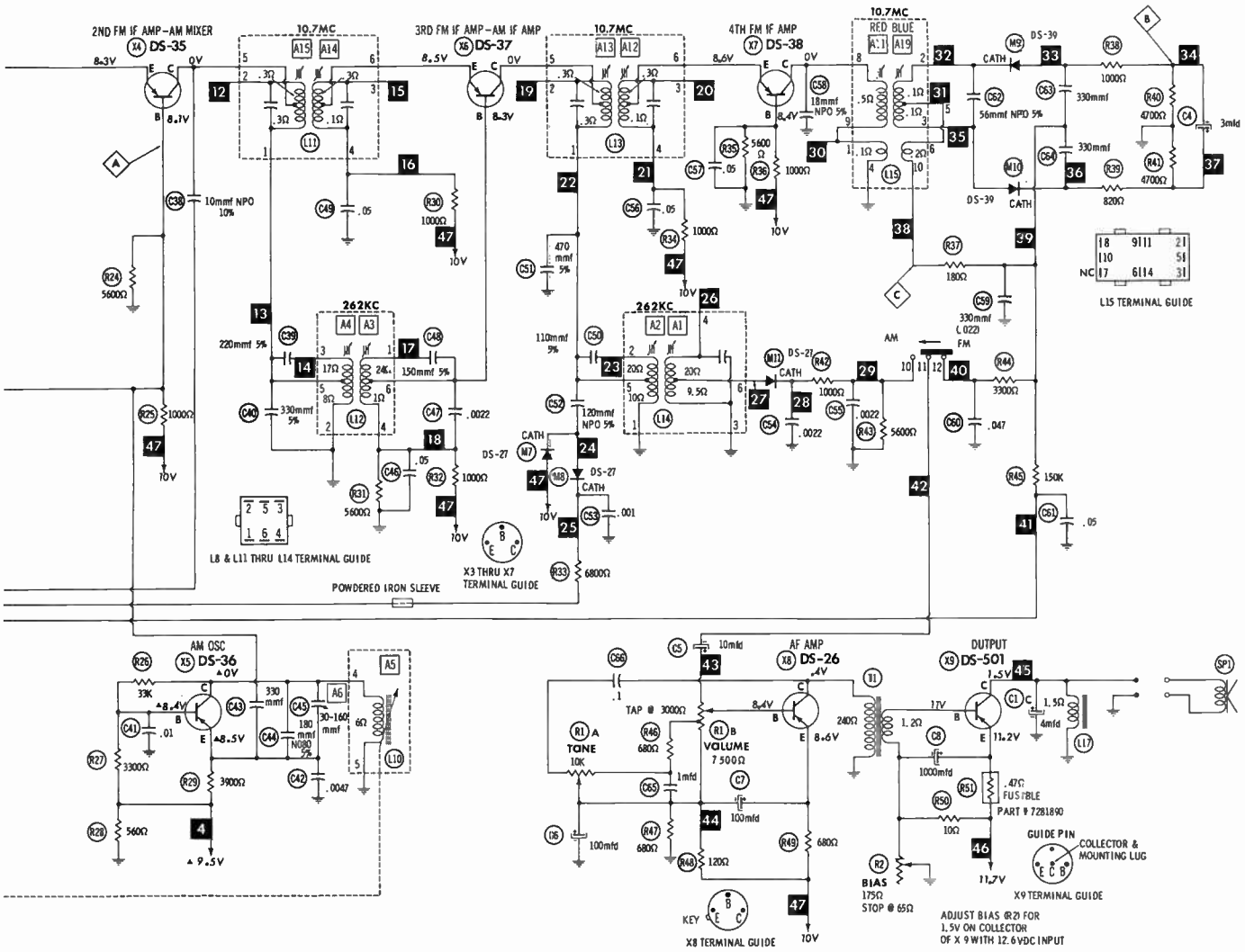
ALL VOLTAGES TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED

A MEASURED IN "AM" POSITION

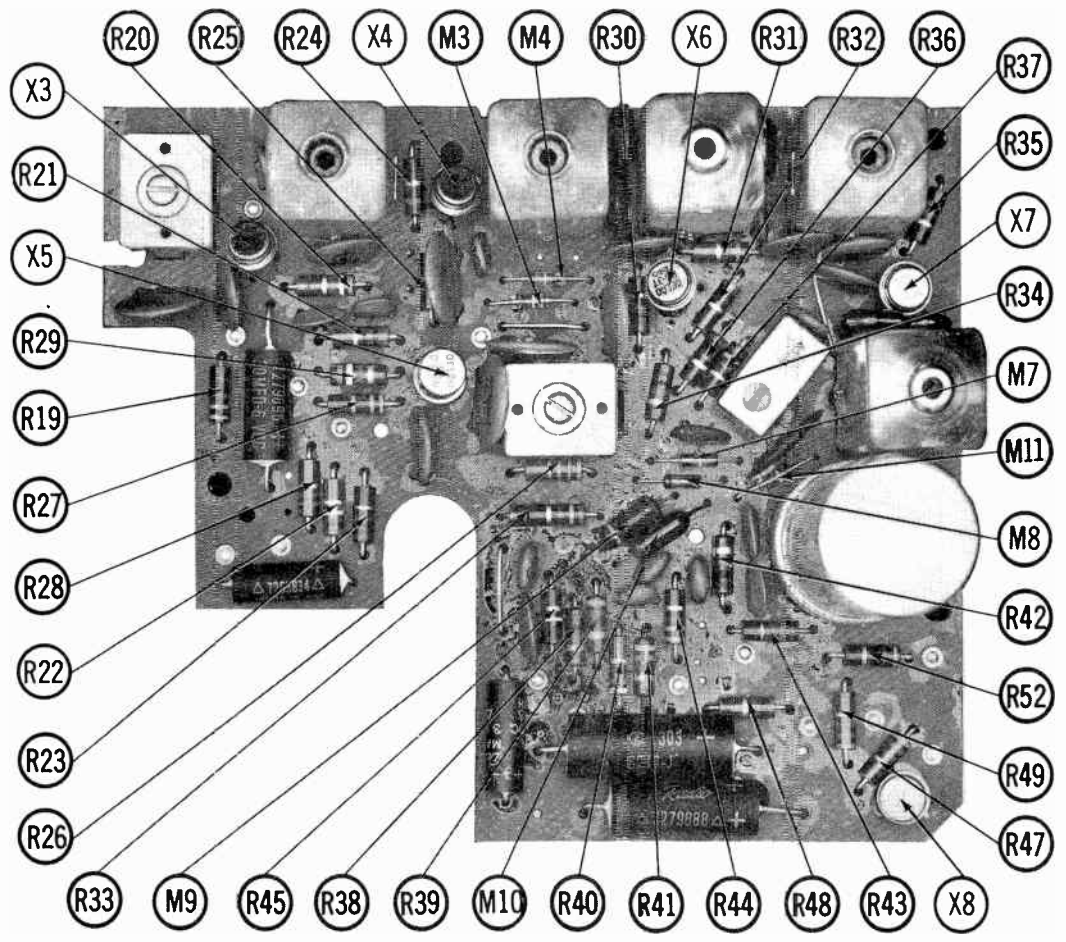
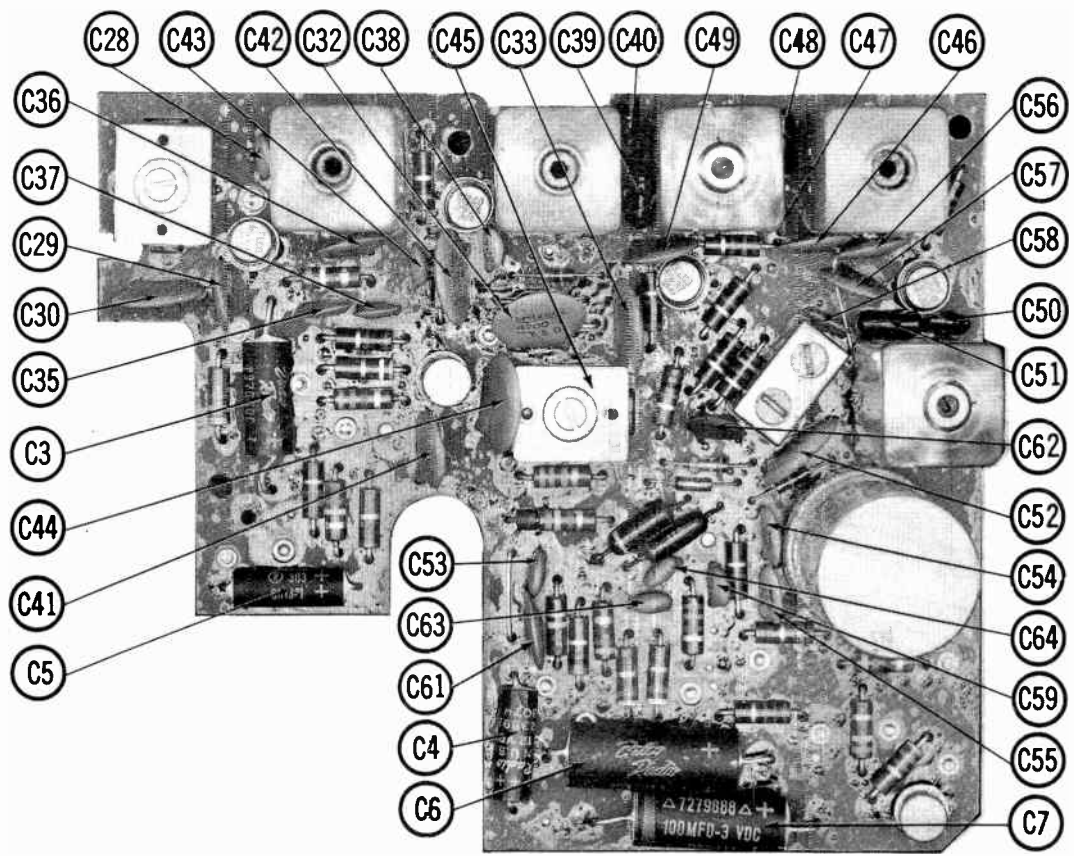
- ⊙ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise 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.

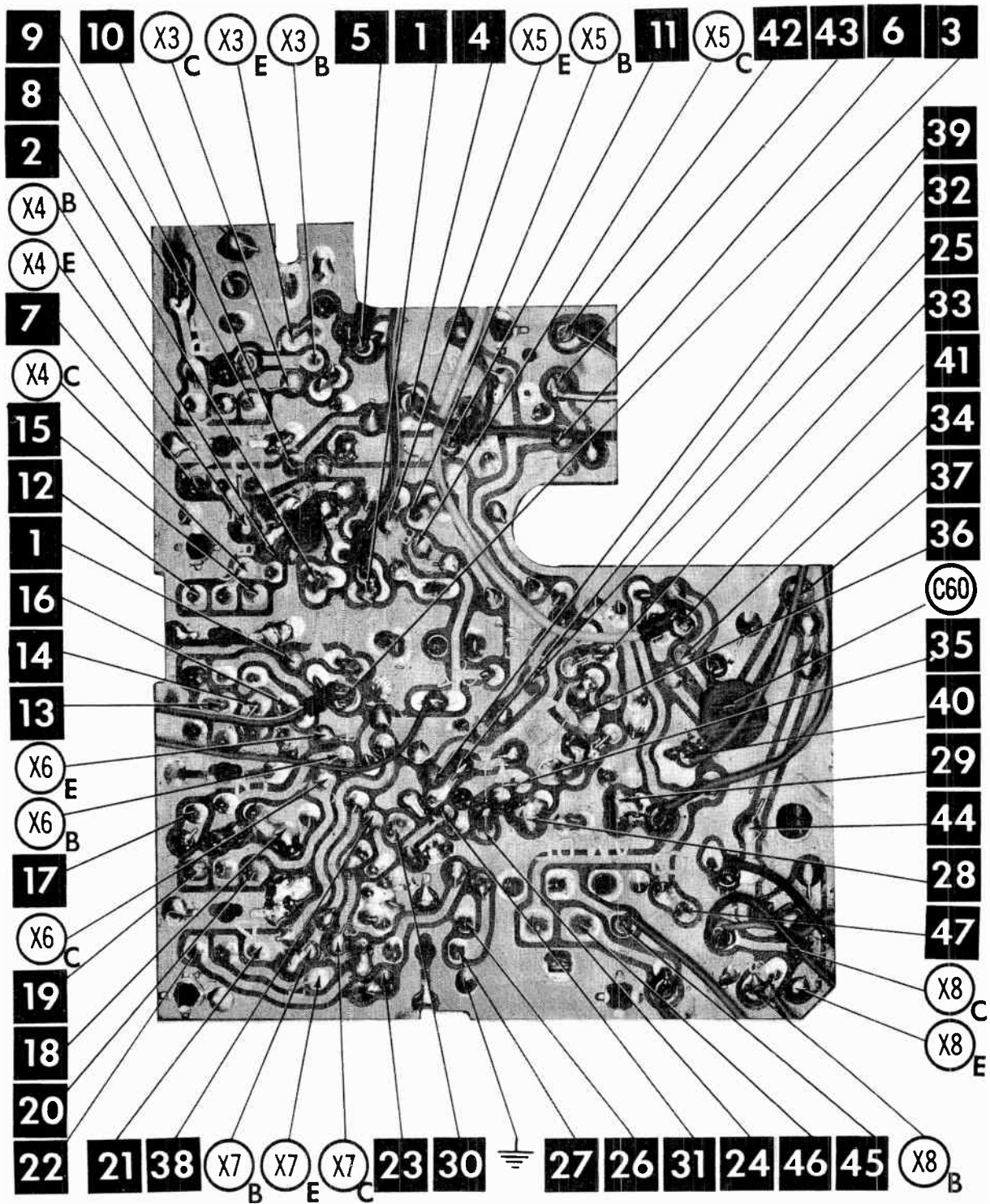
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BUICK MODELS 980626, 980635





BUICK MODELS 980626, 980635

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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	DS-41	FM RF Amp.	DS-41			PNP
X2	DS-42	FM Conv.	DS-41			PNP
X3	DS-34	1st FM IF Amp. - AM RF Amp.	DS-34			PNP
X4	DS-35	2nd FM IF Amp. - AM Mixer	DS-34			PNP
X5	DS-36	AM Osc.	DS-25	GE-1	2N1639	PNP
X6	DS-37	3rd FM IF Amp. - AM IF Amp.	DS-34			PNP
X7	DS-38	4th FM IF Amp.	DS-34			PNP
X8	DS-26	AF Amp.	DS-26	GE-2	2N591	PNP
X9	DS-501	Output	DS-501	GE-4		PNP

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						MALLORY PART No.	SPRAGUE PART No.
	CAP.	VOLT.	DELCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.			
C1A	1000	16	7283675						FPS-300, 91	PCLS-3021.8*
B	500	16								
C	4	11.5AC								
C2	100	16	7283372	PTT86	NLW100-25	MT1-20	BL2050	TT25X100	TL-1162	
C3	30	6	7279898	PTT27	NLW30-8	MT1-5	BL1321	TT6X30	TE-1092	
C4	3	12	7282359	PTT50	NLW3-15	MT1-3	MLV5-3	TT6X3	TE-1082	
C5	10	12	7283834	PTT53	NLW10-15	MT1-5	BL1241	TT12X10	TL-1182	
C6	100	16	7283372	PTT86	NLW100-25	MT1-20	BL2050	TT25X100	TL-1162	
C7	100	3	7279888	PTT13	NLW100-3	MT1-21	BL1610	TT6X100	TL-1059.5	
C8	1000	2	7285035	PRS1130	BR1000-6	QT1-32	BL2310	TC310	TVA-1104	
C9	10	12	7283834	PTT53	NLW10-15	MT1-5	BL1241	TT12X10	TL-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	2								
C11	.005	(.002) †	BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50	
C12	2		NPO-DI 2.2	TCZ-2R2	C10V15C	CCTO-2R2	CNO-522	10TCC-V22	
C13	.002								
C14	.002								
C15	125 NPO 5%	Note 1							
C16	2		NPO-DI 2.2	TCZ-2R2	C10T12C	CCTO-121	CNO-312	10TCC-T12	
C17	270 125V 5%			CPR-270J	C10V15C	CCTO-2R2	CNO-522	10TCC-V22	
C18	3 N330								
C19	100 125V 5%			CPR-100J				10TCS-V30	
C20	3 N750								
C21									
C22	.002								
C23	.002								
C24	.002								
C25	2								
C26	470								
C27		#7283618							
C28	25	(2mm) †	BPD-000025	DD-250	LA10Q25-S1	CCD-250	GP425	5GA-Q25	
C29	.05 16V			DDA-503				HY535	
C30	.1 16V			DDA-104				HY550	
C31	125-300	#7281932							
C32	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B-247	5HK-D47	
C33	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B-247	5HK-D47	
C34	91 N750								
C35	.0022		DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22	
C36	.05 16V			DDA-503				HY535	
C37	.022			DD-203	BYA6S2	CCD-203		5HK-S22	
C38	10 NPO 10%		NPO-DI 10	DTZ-10	C10Q1C	CCTO-100	CNO-410	10TCC-Q10	
C39	220 5%			DTZ-220			CNO-322	10TCC-T22	
C40	330 5%							10TCC-T33	
C41	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10	
C42	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B-247	5HK-D47	
C43	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33	
C44	180 N080 5%							10TCN-T18	
C45	30-160	#7282165							
C46	.05 16V		DDA-503					HY535	
C47	.0022		DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22	
C48	150 5%			DTZ-150	C10T15C		CNO-315	10TCC-T15	
C49	.05 16V			DDA-503				HY535	
C50	110 5%								
C51	470 5%								
C52	120 NPO 5%								
C53	.001		BPD-001	DD-102	C10T12C	CCD-102	CNO-312	10TCC-T12	
C54	.0022		DI-2200	CF-222	BYA10D1	CCD-222	B-210	5HK-D10	
C55	.0022		DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22	
C56	.05		BPD-05	DD-503	JB6D22	CCD-222	GP222	10TS-D22	
C57	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50	
C58	18 NPO 5%					CCD-503	GP150	5HK-S50	
C59	330		DI-330	DD-331	LA10T33-C4	CCD-331	CNO-418	10TCC-Q18	
C60	.047 25V			DA-503			GP333	10TS-T33	
C61	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50	
C62	56 NPO 5%						CNO-456	10TCC-Q56	
C63	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33	
C64	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33	
C65	1mf 3V						GP333	10TS-T33	
C66	.1 75V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10	

Delco Part Number. Note 1. Not used in some versions.
† Alternate Value.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA				
			DELCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A B	Tone Volume & Switch	10K 7500Ω Tap @ 3000Ω	7284625	F1-10K, R14-7500, FFS011, RFS105, AK-26, KR-4			■ UE4410-S
R2	Bias	175Ω Stop @ 65Ω	7275554				

■ "STA-LOC" Equivalent: FG14A, RU752T53, OS625, IS1312, US41

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		DELCO PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	FM Ant.	①					① Part of M1
L2	FM RF	①					
L3	RF Choke	①					
L4	FM Osc.	①					
L5	1st FM IF	①					
L6	RF Choke (8uh)	7255738	BC-566	4611	RTC-8521	T822	
L7	AM Ant.	7282586					
L8	2nd FM IF	1221860					
L9	AM RF	7282585					
L10	AM Osc.	1221616					
L11	3rd FM IF	1221861					
L12	1st AM IF	1221858					
L13	4th FM IF	1221861					
L14	2nd AM IF	1221859					
L15	Ratio Det.	7283623		2073	RTC-9272		

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.	
L16	1 Amp.	.6Ω	8.5MH	7284740	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.	
L17	29.5MH	7282278					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	10:	1	7283586					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		DELCO PART No.	QUAM PART No.		
SP1	4" x 10" PM 10Ω 6" x 9" PM 10Ω	7282594 7282774	410A2Z10 69A1Z10	Model 980626 Model 980635	

MISCELLANEOUS

ITEM No.	PART NAME	DELCO PART No.	NOTES
M1	FM Tuner	1221874	
M2	AM Tuner		
M3	AFC Det.	DS-27	
M4	AFC Det.	DS-27	
M5	Zener Diode	DS-43	
M6	AFC Det.	DS-27	
M7	AVC Det.	DS-27	
M8	AVC Det.	DS-27	
M9	Ratio Det.	DS-39	
M10	Ratio Det.	DS-39	
M11	Audio Det.	DS-27	
M12	Spark Plate	7271564	
M13	Band Switch	7284009	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Dial Scale	7284645	Knob, Tuning or Volume	1355878
Push Buttons (Set of 5)	1221845	Knob, Tone or Dummy	1355481

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.)

BUICK MODELS 980626, 980635



PHOTOFACT[®] with

CIRCUITRACE[®]



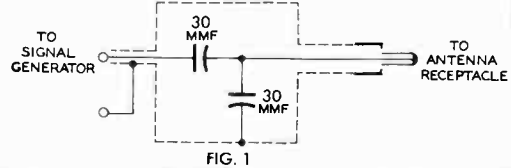
TRADE NAME : Channel Master Model 6540
SUPPLIER : Channel Master Corp.
 Ellenville, N. Y.
TYPE SET : 6 Transistor AM Receiver
POWER SUPPLY : 12 Volt Storage Battery
RATING : 380MA @ 12.6 VDC
TUNING RANGE ; BROADCAST 535 - 1615KC

CHANNEL MASTER MODEL 6540

ALIGNMENT INSTRUCTIONS

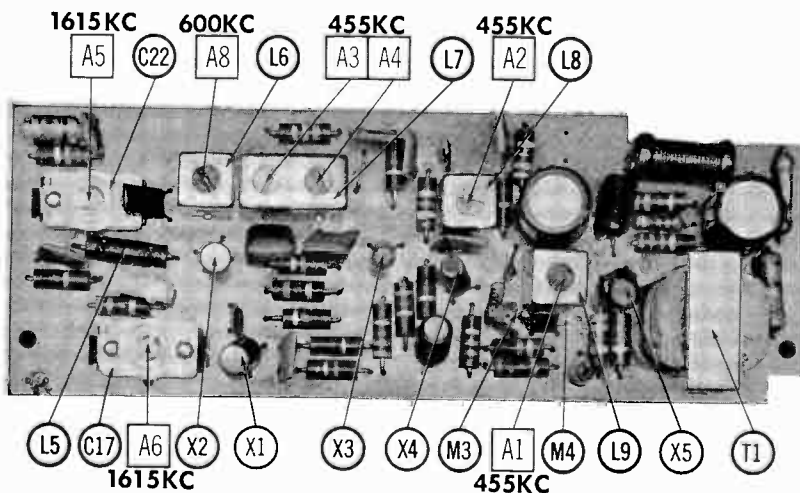
Check for specified source voltage.
 Use only enough generator output to provide a usable indication.
 Suggested Alignment Tools:

A1 thru A8..... GENERAL CEMENT #8290, 8868, 9087
 WALSCO #2525, 2528, 2587

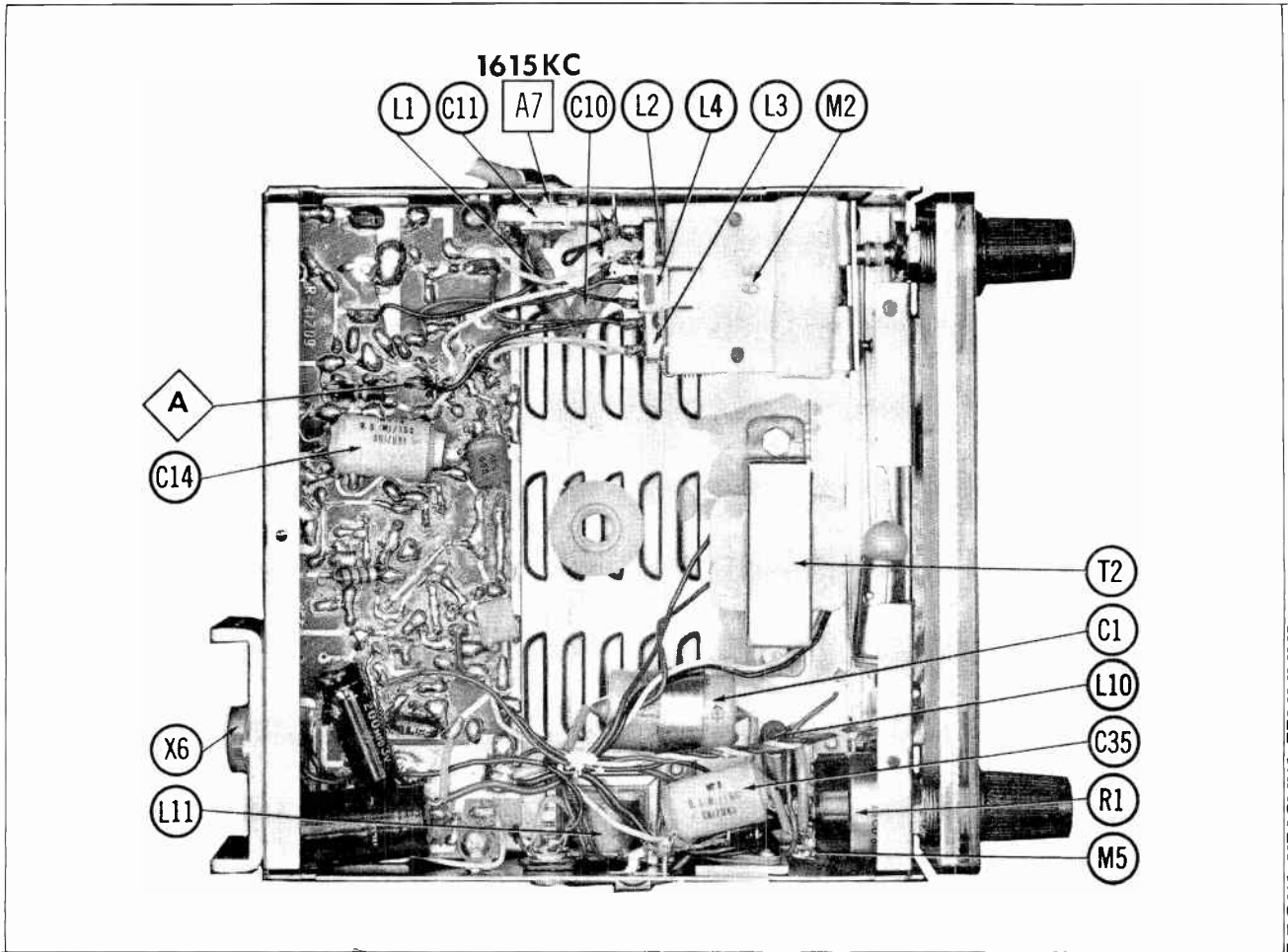


	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point Δ , low side to ground.	455KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.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



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	2SA220	RF Amp.	DS-25	GE-1	2N1637	PNP
X2	2SA323	Conv.	DS-25	GE-1	2N1639	PNP
X3	2SA202	IF Amp.	DS-25	GE-1	2N1638	PNP
X4	2SA203	IF Amp.	DS-25	GE-1	2N1638	PNP
X5	2SB187	Driver	DS-26	GE-2	2N408	PNP
X6	2SB254	Output	DS-520	GE-3	2N301	PNP (Note 1)

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

ELECTROLYTIC CAPACITORS

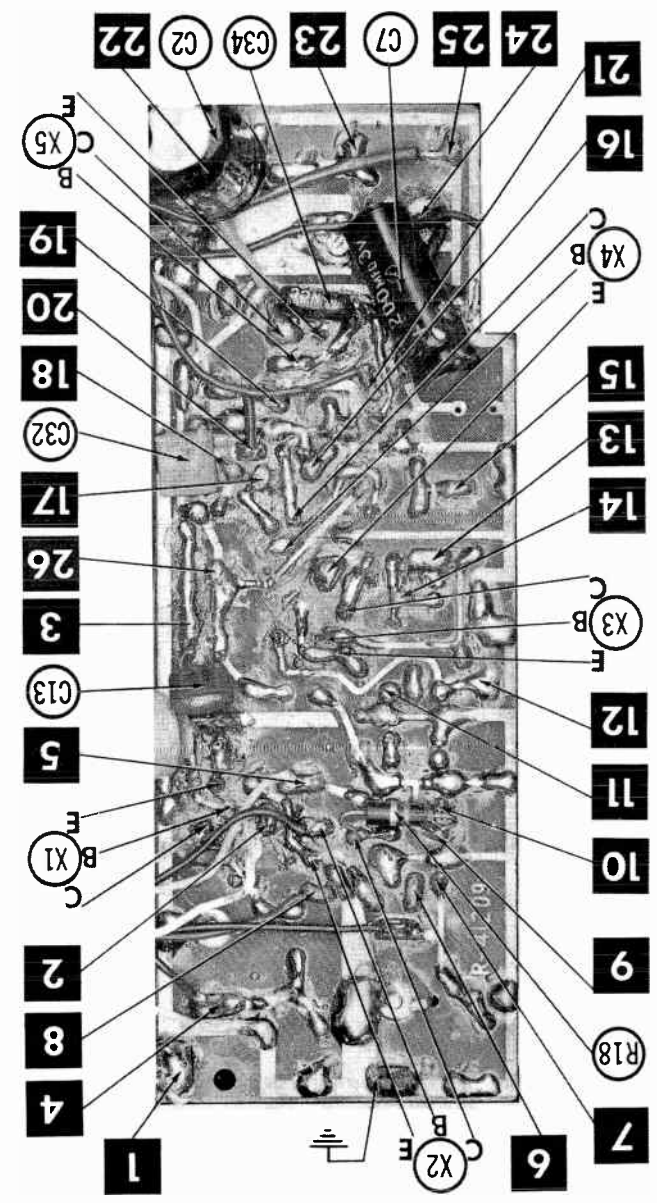
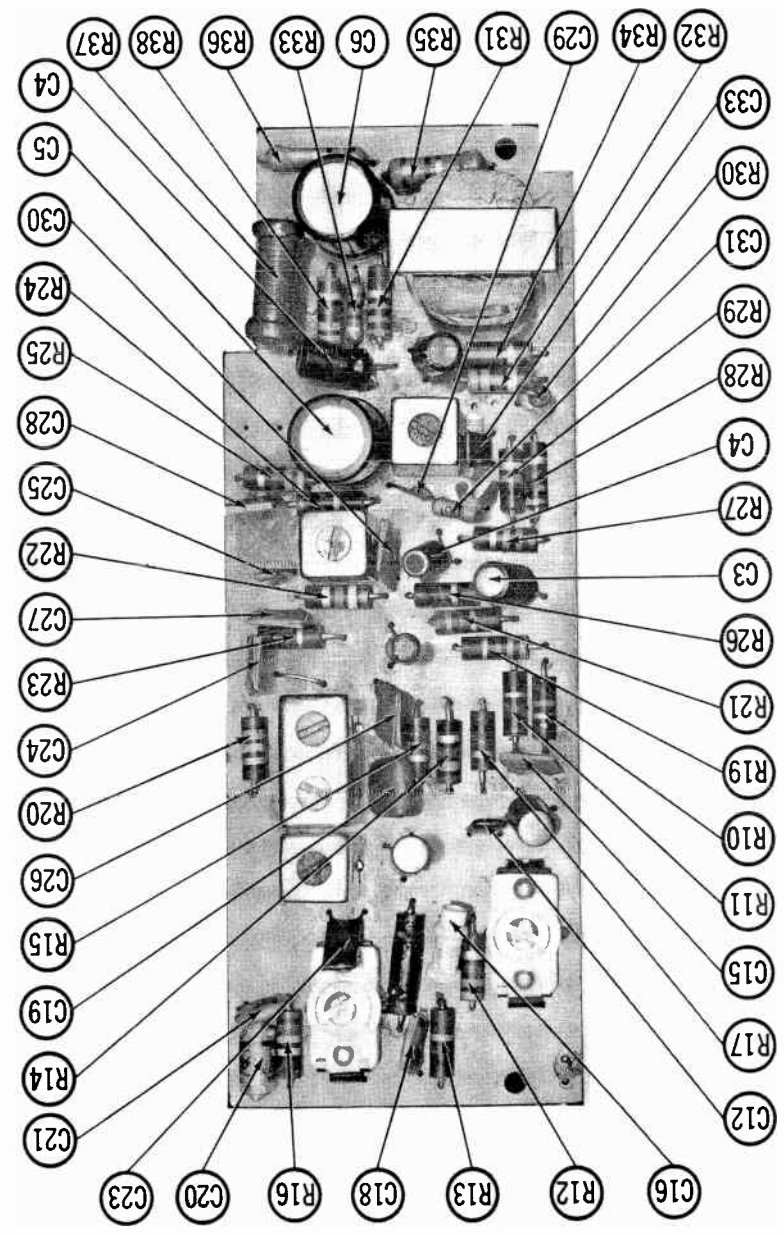
ITEM No.	RATING		Channel Master PART No.	REPLACEMENT DATA					
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	200	15	R-C9073	CRE481A	NLW200-15	MT1-23	BL2140	TT15X200	TE-1164
C2	500	15	R-C9092		BR500-15		BL2342		
C3	10	10	R-C9060	CRE407A	NLW10-15	MT1-5	BL1231	TT12X10	TE-1114
C4	10	10	R-C9060	CRE407A	NLW10-15	MT1-5	BL1231	TT12X10	TE-1114
C5	200	10	R-C9074						
C6	200	3	R-C9059	BCD3200					
C7	200	3	R-C9059	BCD3200					

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	200			DM-201				
C11		#R-C0018						
C12	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C13	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C14	.5 150V		BE2P5		DPMS2P5	IDP-4-504	PVC-105	2PS-P50
C15	.04		TTD-05	CK-503	H5		TA-150	TG-S50
C16	100			DM-101				
C17		#R-C0028d						
C18	.04		TTD-05	CK-503	H5		TA-150	TG-S50
C19	.05 50V		TTD-05	CK-503	H5		TA-150	TG-S50
C20	120		DI-120	DD-121	LAI0T12-S3	CCD-121	GP312	5GA-T12
C21	30		DI-30	DD-30	LAI0Q3-SL	CCD-300	GP430	5GA-Q30

CHANNEL MASTER MODEL 6540

▲ Howard W. Sams **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.

FIXED CAPACITORS (cont)

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.	
C22	.01	#R-C0029d	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10	
C23			TTD-05	CK-503	H5		TA-150	TG-S50	
C24			DI-6.8	DD-060	LA10V68-SL	3CCD-6R8	GP568	5GA-V80	
C26			TTD-05	CK-503	H5		TA-150	TG-S50	
C27			TTD-05	CK-503	H5		TA-150	TG-S50	
C28			TTD-05	CK-503	H5		TA-150	TG-S50	
C29			3 50V	DI-3.3	DD-3R3	LA10V33-SL	CCTO-3R3	GP533	10TCC-V30
C30			.04	TTD-05	CK-503	H5		TA-150	TG-S50
C31			100		DM-101				
C32			.04		TTD-05	CK-503	H5		TG-S50
C33	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10	
C34	500 50V			DM-501					
C35	.5 150V		BE2P5		DPMS2P5	IDP-4-504	PVC-105	2PS-P50	

Channel Master Part Number.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Channel Master PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	5000Ω	R-R12485				

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Channel Master PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (10uh)	R-W1015	BC-566	4612	RTC-8522	T860	Ⓢ Part of M2
L2	Ant.	Ⓢ					
L3	RF						
L4	Osc. Tuning						
L5	RF Choke (5uh)	R-W1018a	BC-565	4610	RTC-8520	T859	
L6	Osc.	R-W8039					
L7	1st IF	R-W5W002					
L8	2nd IF	R-W5T069					
L9	3rd IF	R-W5T088					
L10	"A" Lead Choke (10uh)	R-W1012	BC-537	5220	RTC-9182	T980	

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Channel Master PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L11	280MA	.3Ω	3MH	R-W6164	C-4095	TC-1	TR-159	TY16XT	

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Channel Master PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	10:	1	R-W6158					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Channel Master PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	30Ω	3-4Ω	R-W6159					

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			CHANNEL MASTER PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1		1A						

MISCELLANEOUS

ITEM No.	PART NAME	Channel Master PART No.	NOTES
M2	Tuner	R-S8721	
M3	AVC Det.	1N60	
M4	Audio Det.	1N60	
M5	Spark Plate	R-C7002	600mmf

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA	
		Channel Master PART No.	QUAM PART No.
SP1	4" PM 3-4Ω	R-S6183	4A05

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Knob, Tuning or Volume Dial Plate	R-S8427a R-38031b	Dial Pointer	R-S8409

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

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TRADE NAME : Chevrolet Model 985686 (1963 Corvette)

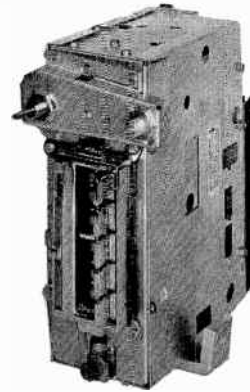
SUPPLIER : (Parts) United Delco Distributors

TYPE SET : 9 Transistor AM-FM Receiver

POWER SUPPLY : 12 Volt Storage Battery

RATING : 1.4 Amp. @ 12.6VDC

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



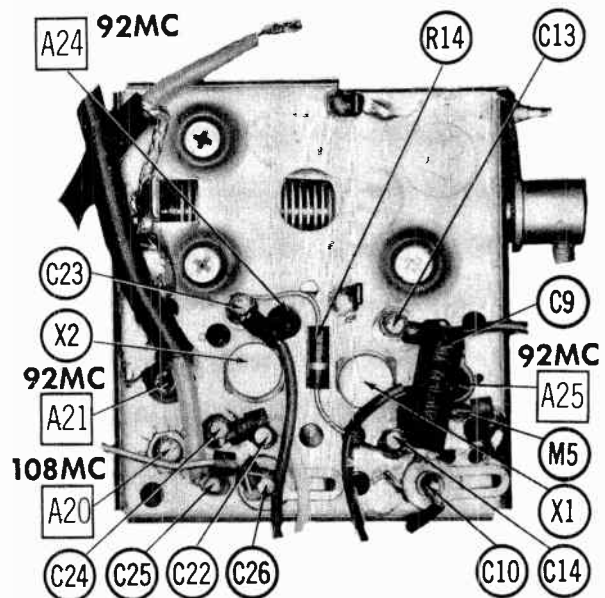
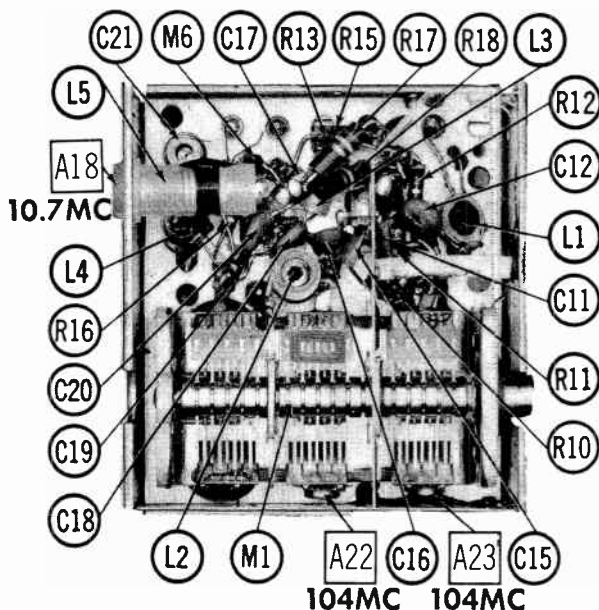
REMOVAL INSTRUCTIONS

NOTE: To replace transistors, remove radio.
RADIO

1. Pull off knobs.
2. Remove 5/8" nuts from control bushings.
3. Remove 3 Phillips head screws holding side panel.
4. Remove 3/8" nut from rear of radio.
5. Disconnect speaker connector and antenna lead.
6. Remove radio through panel opening.

SPEAKER

1. Disconnect "A" lead from speaker connector.
2. Remove four 5/16" nuts from speaker bracket.
3. Remove speaker and bracket through panel opening.

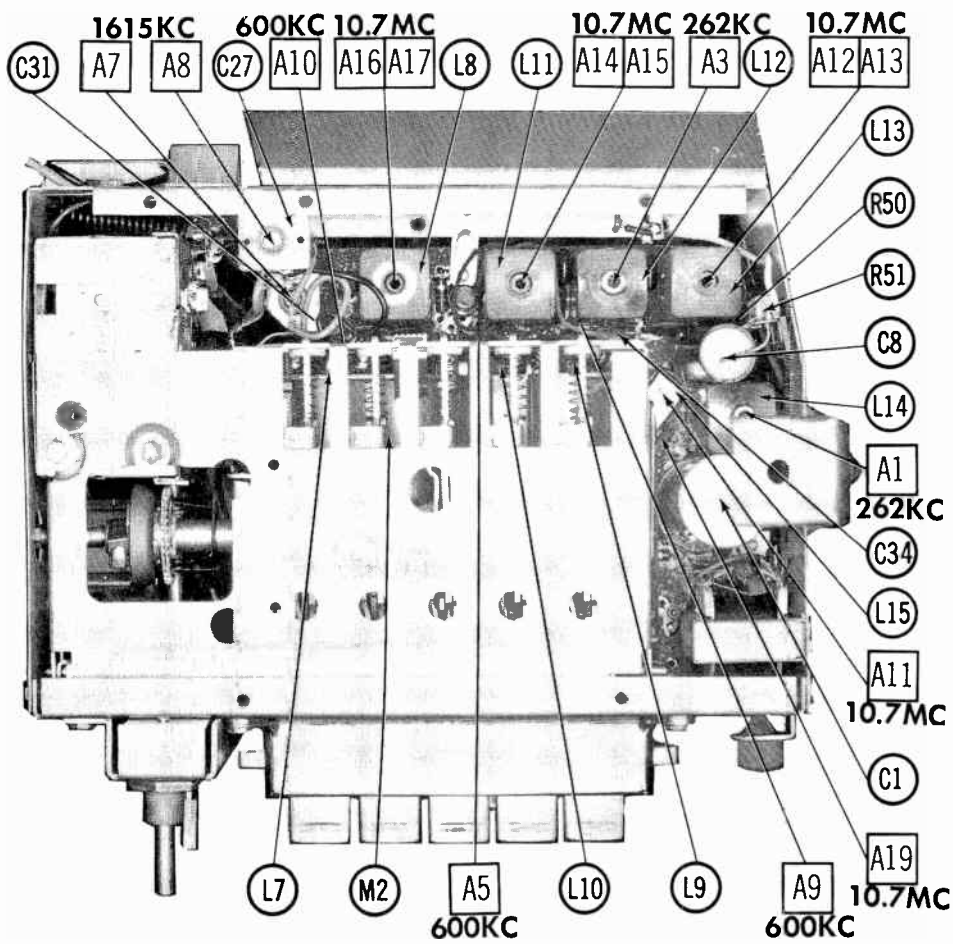
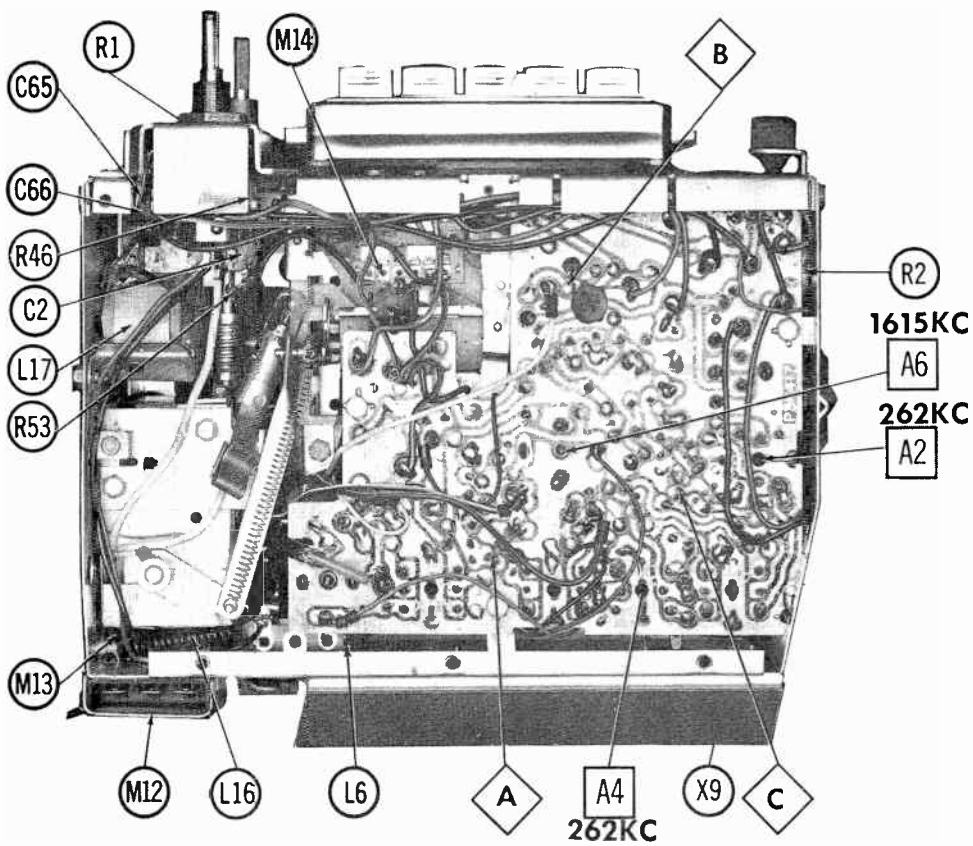


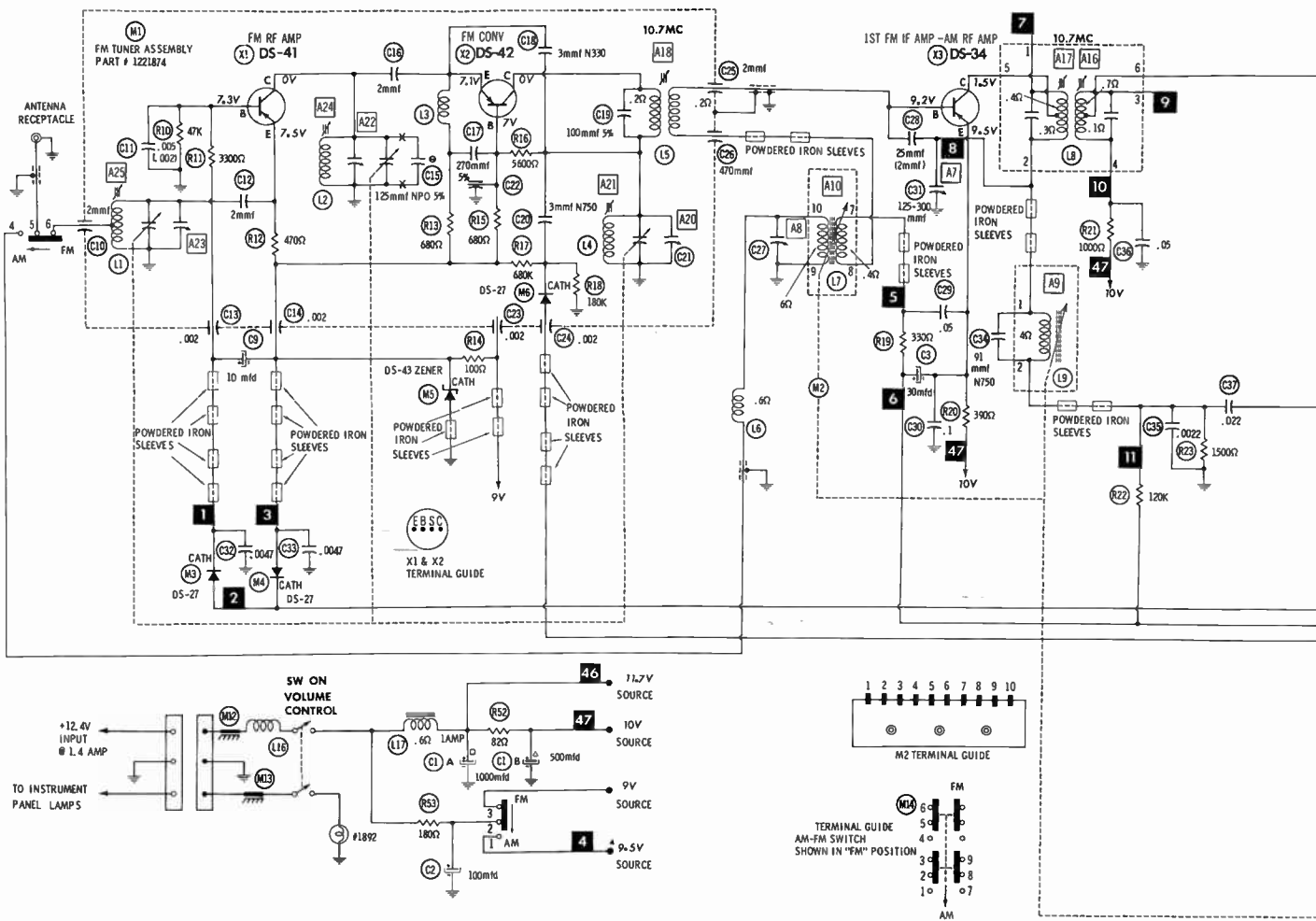
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World Radio History

CHEVROLET MODEL 985686

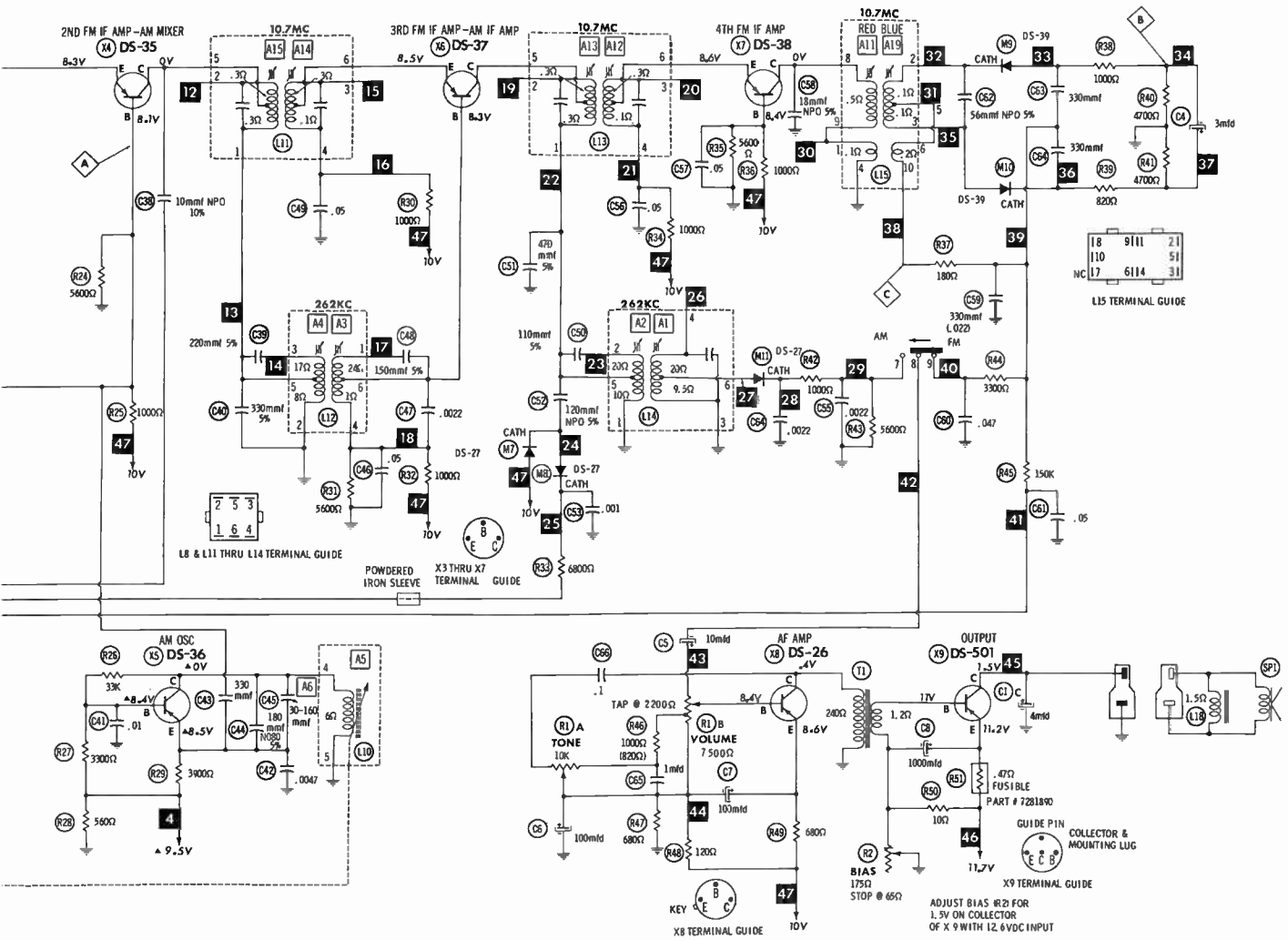




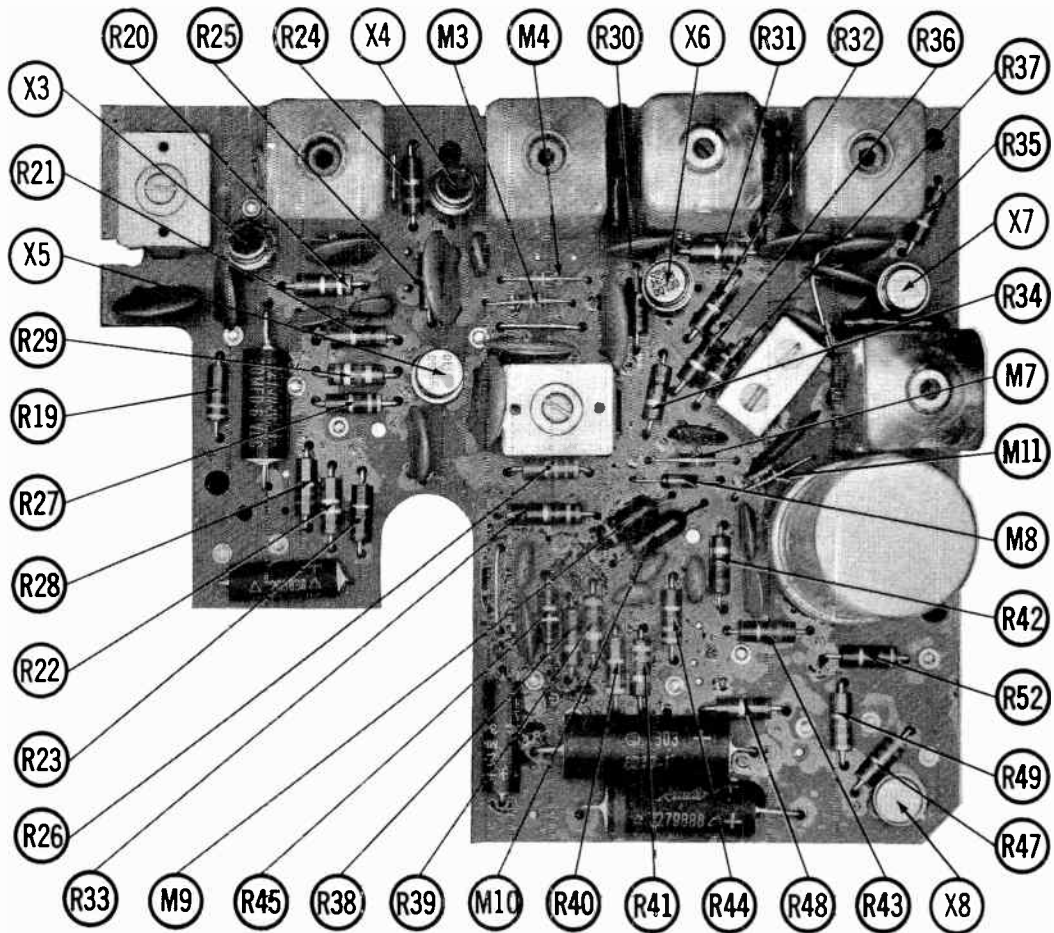
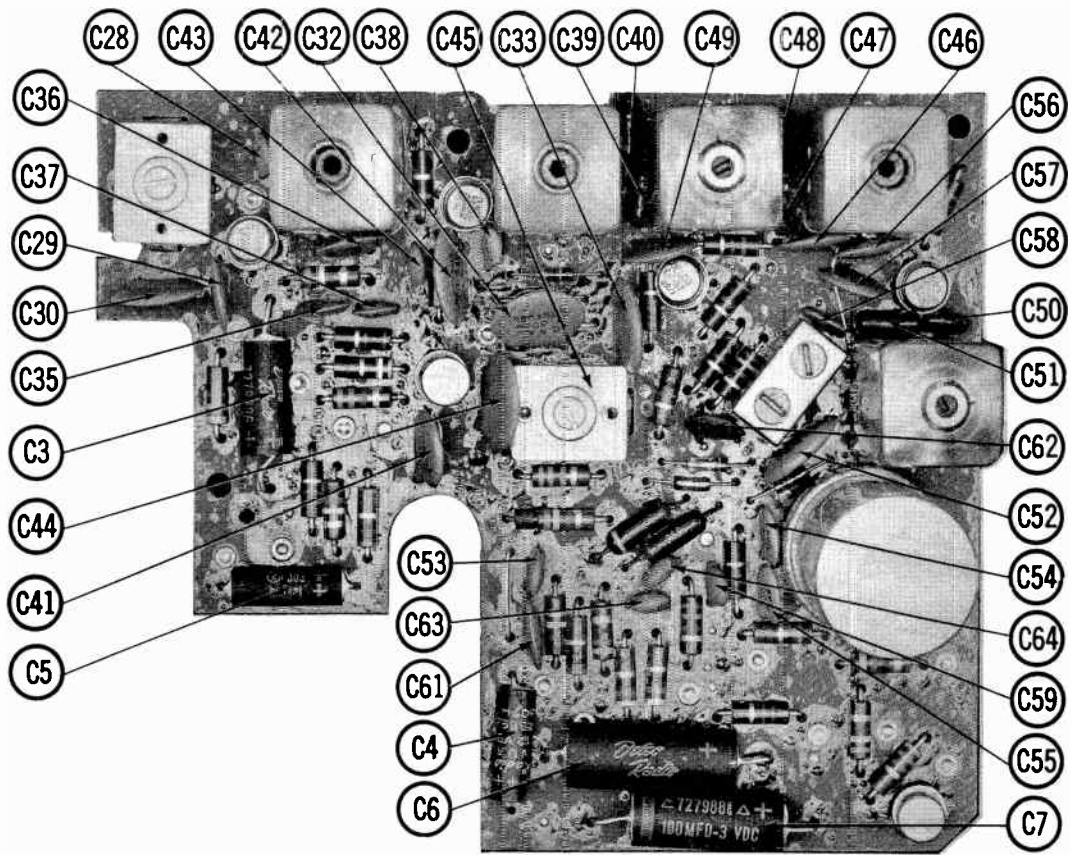
- ALL VOLTAGES TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED
 A MEASURED IN "AM" POSITION
- Ⓞ See parts list for alternate value or application.
 - 1. Voltage measurements taken with vacuum tube voltmeter.
 - 2. All controls set for normal operation, no signal applied.
 - 3. Measured values are 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.

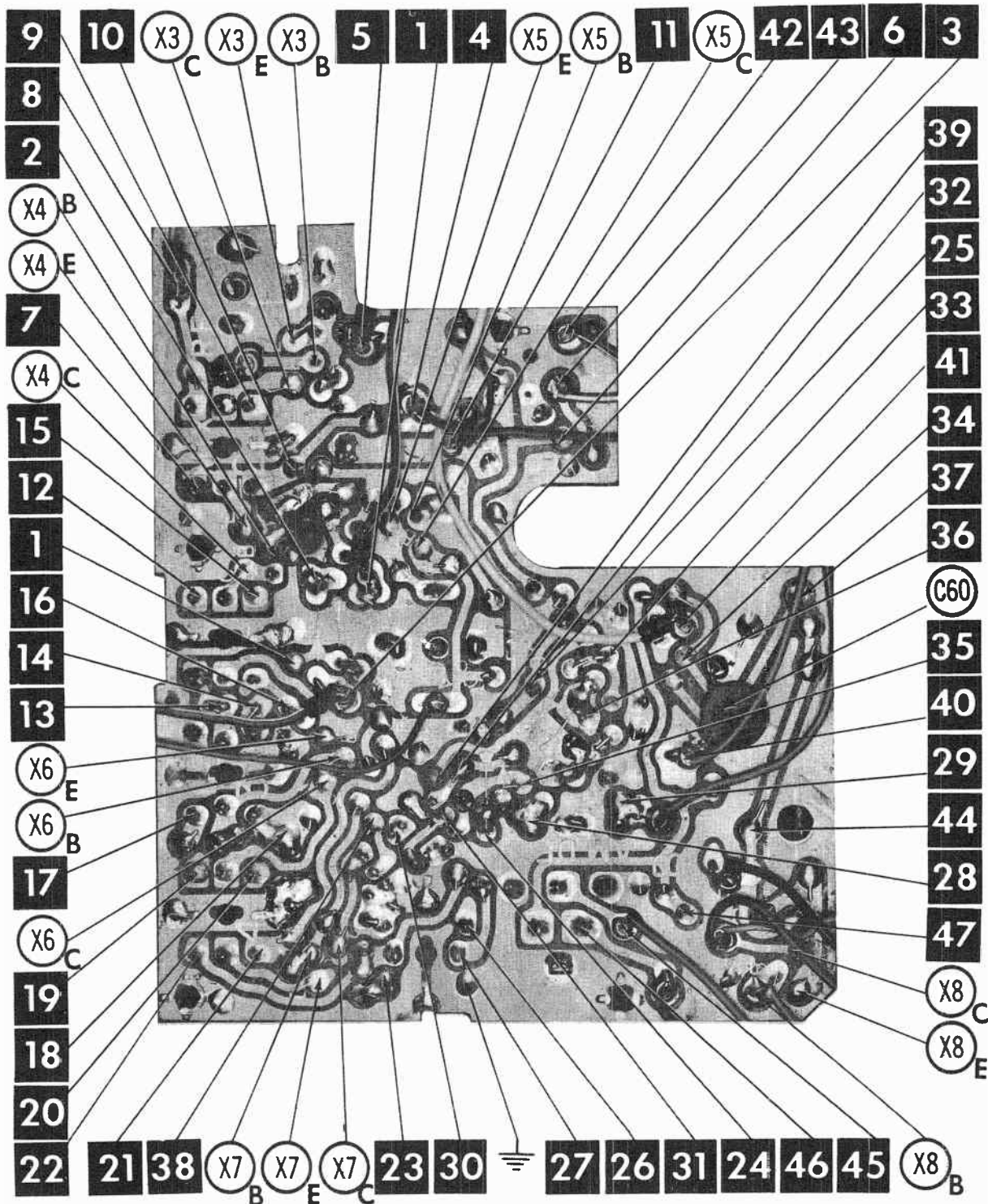
A PHOTOFAC STANDARD NOTATION SCHEMATIC
 with CIRCUITRACE

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CHEVROLET MODEL 985686





A Howard W. Soms 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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	DS-41	FM RF Amp.	DS-41			PNP
X2	DS-42	FM Conv.	DS-41			PNP
X3	DS-34	1st FM IF Amp. - AM RF Amp.	DS-34			PNP
X4	DS-35	2nd FM IF Amp. - AM Mixer	DS-34			PNP
X5	DS-36	AM Osc.	DS-25	GE-1	2N1639	PNP
X6	DS-37	3rd FM IF Amp. AM IF Amp.	DS-34			PNP
X7	DS-38	4th FM IF Amp.	DS-34			PNP
X8	DS-26	AF Amp.	DS-26		2N591	PNP
X9	DS-501	Output	DS-501	GE-4		PNP

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						MALLORY PART No.	SPRAGUE PART No.
	CAP.	VOLT.	DELCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.			
C1A	1000	16	7283675						FPS-300, 91	PCLS-3021.8*
B	500	16								
C	4	11.5AC								
C2	100	16	7283372	PTT86	NOW100-25	MT1-20	BL2050	TT25X100	TT6X30	TL-1162
C3	30	6	7279886	PTT27	NLW30-6	MT1-5	BL1321	TT6X30	TT6X30	TE-1092
C4	3	12	7282359	PTT50	NLW3-15	MT1-3	MLV5-3	TT6X3	TT6X3	TE-1082
C5	10	12	7283834	PTT53	NLW10-15	MT1-5	BL1241	TT12X10	TT12X10	TL-1182
C6	100	16	7283372	PTT86	NLW100-35	MT1-20	BL2050	TT25X100	TT25X100	TL-1162
C7	100	3	7279888	PTT13	NLW100-3	MT1-21	BL1610	TT6X100	TT6X100	TL-1059, 5
C8	1000	2	7285035	PRS1130	BR1000-6	QTI-32	BL2310	TC310	TC310	TV-1104
C9	10	12	7283834	PTT53	NLW10-15	MT1-5	BL1241	TT12X10	TT12X10	TL-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	2									
C11	.005	(.002) †	BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50		
C12	2		NPO-DI 2.2	TCZ-2R2	C10V15C	CCTO-2R2	CNO-522	10TCC-V22		
C13	.002									
C14	.002									
C15	125 NPO 5%	Note 1								
C16	2		NPO-DI 2.2	TCZ-2R2	C10T12C	CCTO-121	CNO-312	10TCC-T12		
C17	270 125V 5%			CPR-2703	C10V15C	CCTO-2R2	CNO-522	10TCC-V22		
C18	3 N330									
C19	100 125V 5%			CPR-100J				10TCS-V30		
C20	3 N750									
C21										
C22	.002									
C23	.002									
C24	.002									
C25	2									
C26	470									
C27		#7282004 (2mmf) †	BPD-000025	DD-250	LA10Q25-SL	CCD-250	GP425	5GA-Q25		
C28	25			DDA-503				HY535		
C29	.05 16V			DDA-104				HY550		
C30	.1 16V									
C31	125-300	#7281932								
C32	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B-247	5HK-D47		
C33	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B-247	5HK-D47		
C34	.1 N750									
C35	.0022		DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22		
C36	.05 16V			DDA-503				HY535		
C37	.022			DD-203	BYA6S2	CCD-203		5HK-S22		
C38	10 NPO 10%		NPO-DI 10	DTZ-10	C10QIC	CCTO-100	CNO-410	10TCC-Q10		
C39	220 5%			DTZ-220			CNO-322	10TCC-T22		
C40	330 5%							10TCC-T33		
C41	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10		
C42	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B-247	5HK-D47		
C43	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33		
C44	180 N080 5%							10TCN-T18		
C45	30-160	#7282165								
C46	.05 16V		DDA-503					HY535		
C47	.0022		DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22		
C48	150 5%			DTZ-150	C10T15C		CNO-315	10TCC-T15		
C49	.05 16V			DDA-503				HY535		
C50	110 5%									
C51	470 5%									
C52	120 NPO 5%									
C53	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C54	.0022		DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22		
C55	.0022		DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22		
C56	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50		
C57	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50		
C58	18 NPO 5%						CNO-418	10TCC-Q18		
C59	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33		
C60	.047 25V			DA-503				HY535		
C61	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50		
C62	56 NPO 5%						CNO-456	10TCC-Q56		
C63	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33		
C64	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33		
C65	1mf 3V							HY135		
C66	.1 75V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10		

Delco Part Number. Note 1. Not used in some versions.
† Alternate Value.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			DELCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A B	Tone Volume & Switch	10K 7500Ω Tap@ 2200Ω	7282024	F1-10K R14-7500, FFS011, RFS105, AK-26, KR-7				UE4427-S, (FG14A, RU752T53, OS687, IS1312, US42)■
R2	Bias	175Ω #5Ω Stop						

■ "STA-LOC" Equivalent"

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		DELCO PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	FM Ant.	①					① Part of M1
L2	FM RF	①					
L3	RF Choke	①					
L4	FM Osc.	①					
L5	1st FM IF	①					
L6	RF Choke (8uh)	7255738	BC-566	4611	RTC-8521	T822	
L7	AM Ant.	7282586					
L8	2nd FM IF	1221860					
L9	AM RF	7282585					
L10	AM Osc.	1221616					
L11	3rd FM IF	1221861					
L12	1st AM IF	1221858					
L13	4th FM IF	1221861					
L14	2nd AM IF	1221859		2073	RTC-9272		
L15	Ratio Det.	7283623					
L16	"A" Lead Choke (1.4uh)	7241708					

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.	
L17	1 Amp.	.6		7286353	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.	
L18	29.5MH	7282278					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
			DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T1	20:	1	7277230				TR-188	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		DELCO PART No.	QUAM PART No.	
SP1	6" x 9" PM 10Ω	7282156①	69A1Z10	① Alternate Part #7282256

MISCELLANEOUS

ITEM No.	PART NAME	DELCO PART No.
M1	FM Tuner	1221874
M2	AM Tuner	
M3	AFC Det.	DS-27
M4	AFC Det.	DS-27
M5	Zener Diode	DS-43
M6	AFC Det.	DS-27
M7	AVC Det.	DS-27
M8	AVC Det.	DS-27
M9	Ratio Det.	DS-39
M10	Ratio Det.	DS-39
M11	AM Det.	DS-27
M12	Spark Plate	7271564
M13	Spark Plate	7271564
M14	Bandswitch	7285141

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.
Dial Glass	7285158
Knob, Tuning or Volume	7288030
Knob, Tone	3820084
Knob, Dummy	3820083
Push Button (Set of 5)	1221825
Push Button (Individual)	7282011
Pointer Assembly	1221941

WIRING DATA

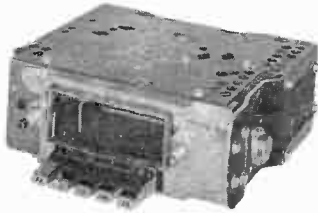
General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap	Use BELDEN No. 8661 (3/8 In.) or 8870 (3/4 In.)

CHEVROLET MODEL 985686



PHOTOFACT[®] with

CIRCUITRACE[®]



TRADE NAME : Continental Model F3TBC
SUPPLIER : The Bendix Corp, Bendix Radio Div.
Baltimore 4, Maryland
TYPE SET : 10 Transistor AM-FM Receiver
POWER SUPPLY : 12 Volt Storage Battery
RATING : .94 Amp. @12.6 VDC
TUNING RANGE: BROADCAST 540 - 1605KC
FREQ. MOD. 88 - 108MC

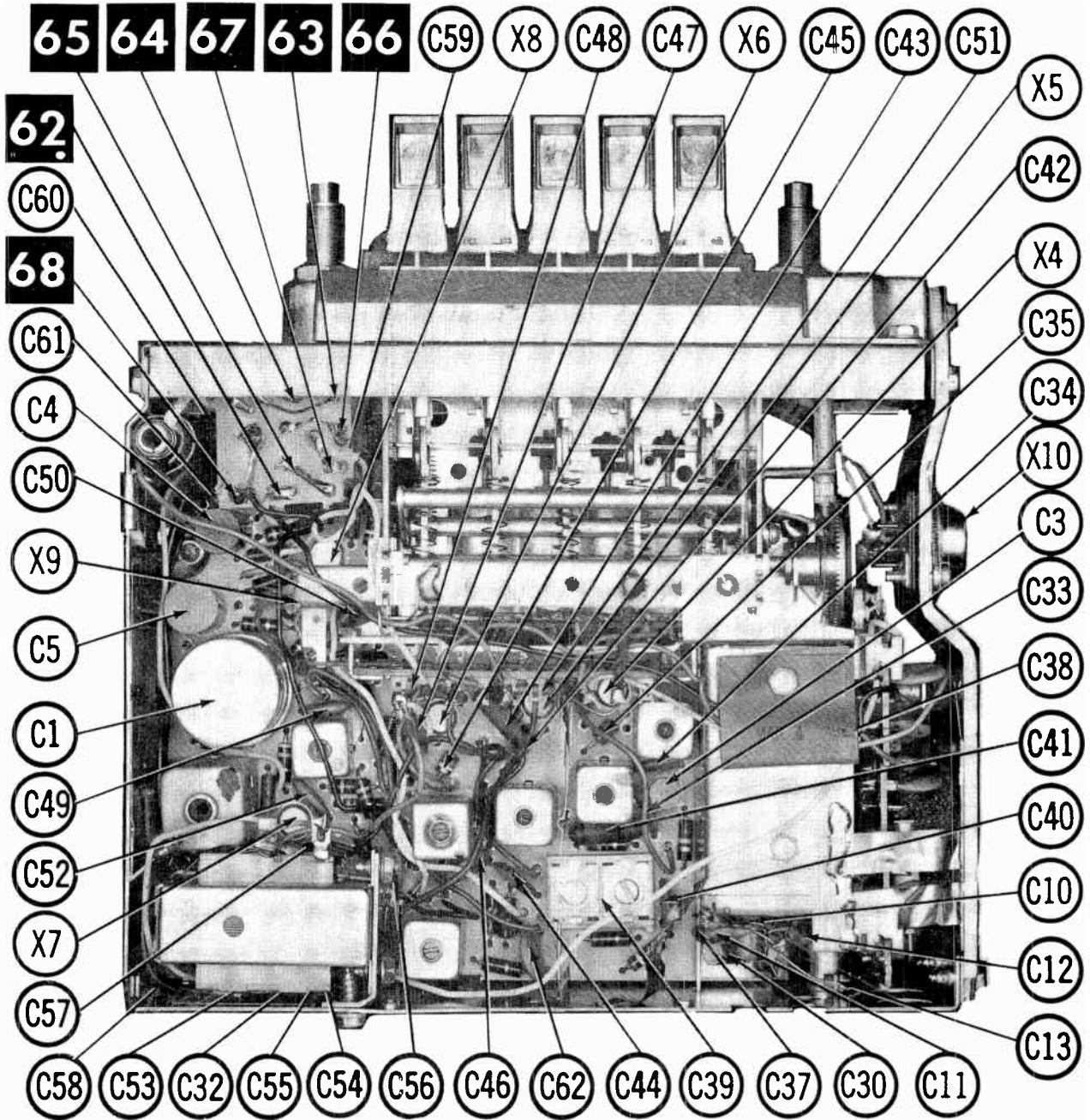
CONTINENTAL MODEL F3TBC

REMOVAL INSTRUCTIONS

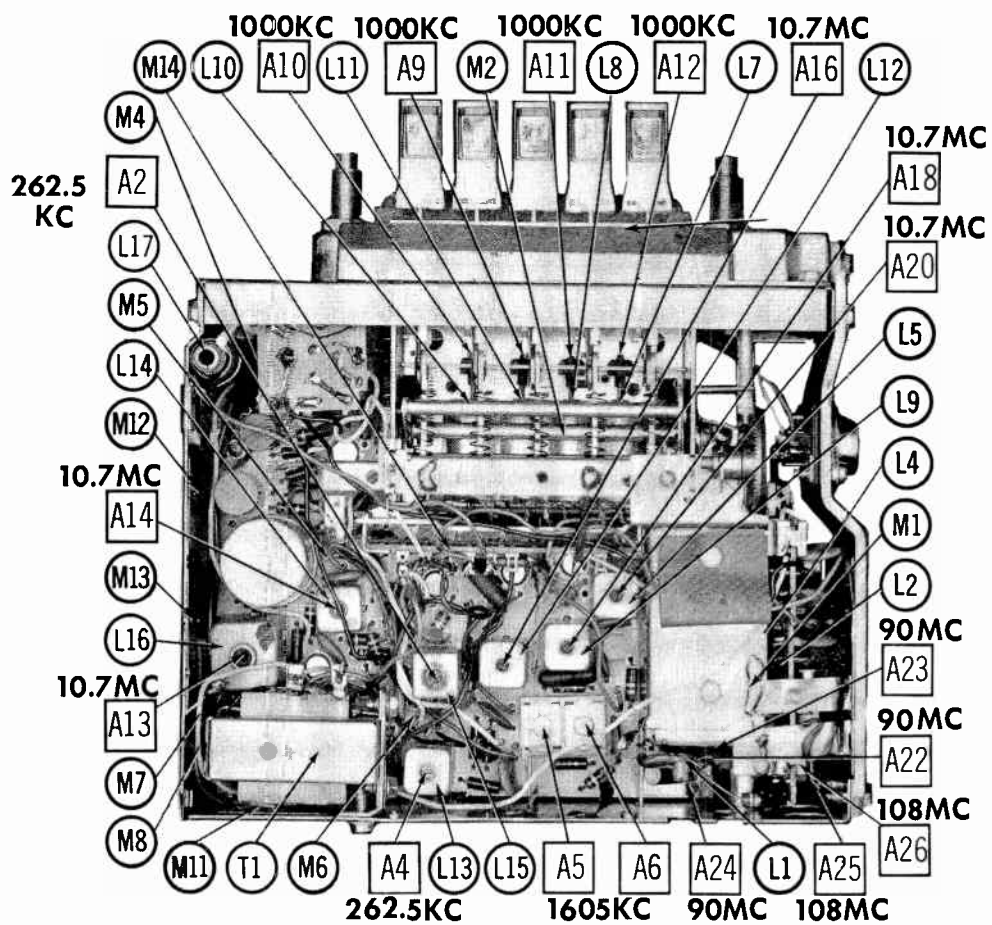
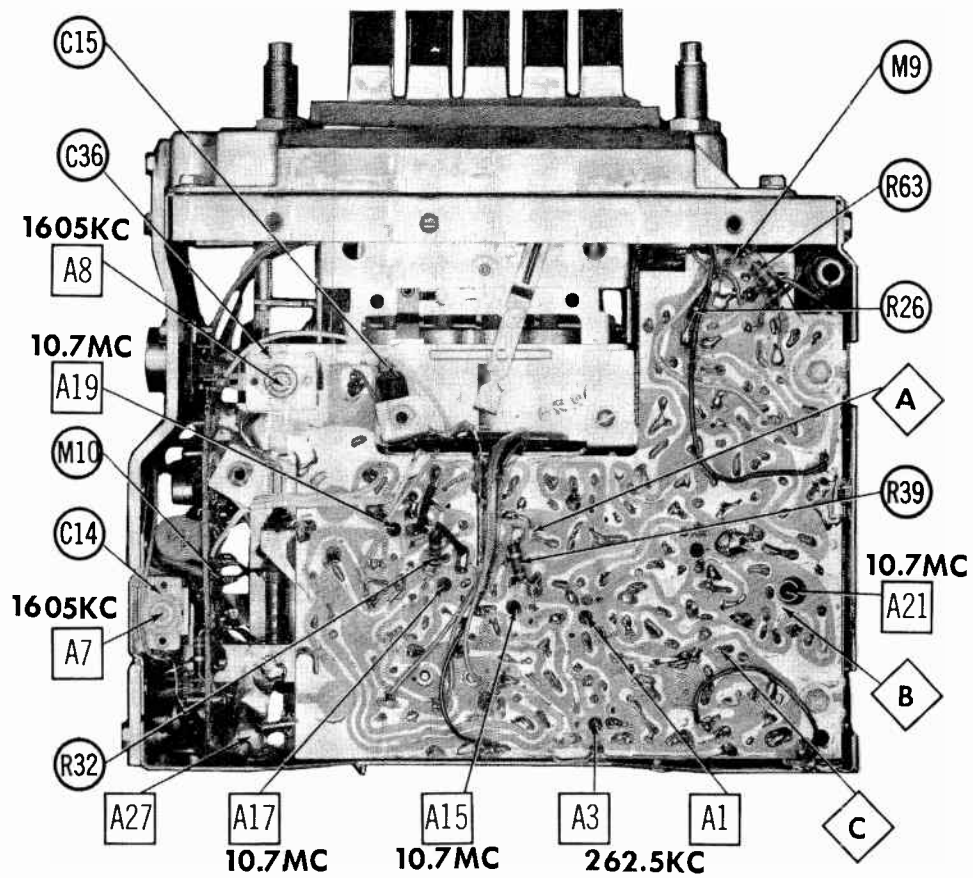
NOTE: To replace transistors, remove radio.

1. Lift speaker grille at right rear cover. Slide back and remove.
2. Use 7/16" wrench and remove bolt from top of radio.
3. Use 5/16" wrench and remove 4 metal screws holding speaker mounting bracket.
4. Lift speaker mounting bracket and disconnect speaker leads. Remove speaker mounting bracket and speaker.
5. Disconnect "A" lead, panel lamp lead and antenna lead.
6. Pull off knobs.
7. Use 9/16" wrench and remove nuts (2) from control bushings. Remove bezel, use 11/16" wrench and remove nuts (2) from control bushing.
8. Remove radio thru speaker opening.

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



A Howard W. Sams **CIRCUITRACE** Photo



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 A20
A22 thru A27
A13, A21

GENERAL CEMENT #8290, 8868, 9087
WALSCO #2525, 2528, 2587
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 .1mfd to point \diamond , 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, A8	"
Step 3 is not necessary unless tuner has been tampered with or associated components have been replaced. IF necessary, back tuning cores 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 A7 for maximum output.						

FM ALIGNMENT USING AM SIGNAL GENERATOR - SELECTOR IN FM POSITION

High side of signal generator thru 68mmf to antenna terminal, low side to ground.

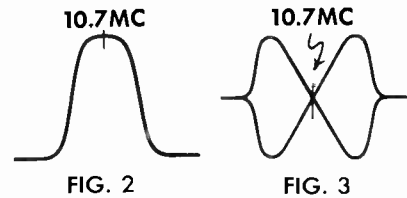
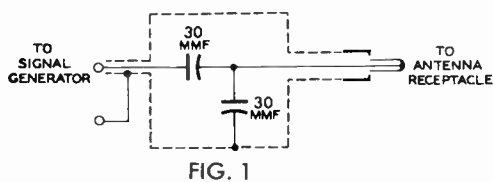
	GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
4.	10.7MC (Unmod.)	Point of non-interference.	DC probe of VTVM to point \diamond ; common to ground.	A13 thru A20	Adjust for maximum.
5.	"	"	DC probe to point \diamond ; common to ground.	A21	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.
6.	90MC (Unmod.)	90MC	DC probe of VTVM to point \diamond ; common to ground.	A22, A23, A24	Adjust for maximum.
7.	108MC	108MC	"	A25, A26, A27	"

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

High side of signal generator thru 68mmf to antenna terminal, low side to ground.

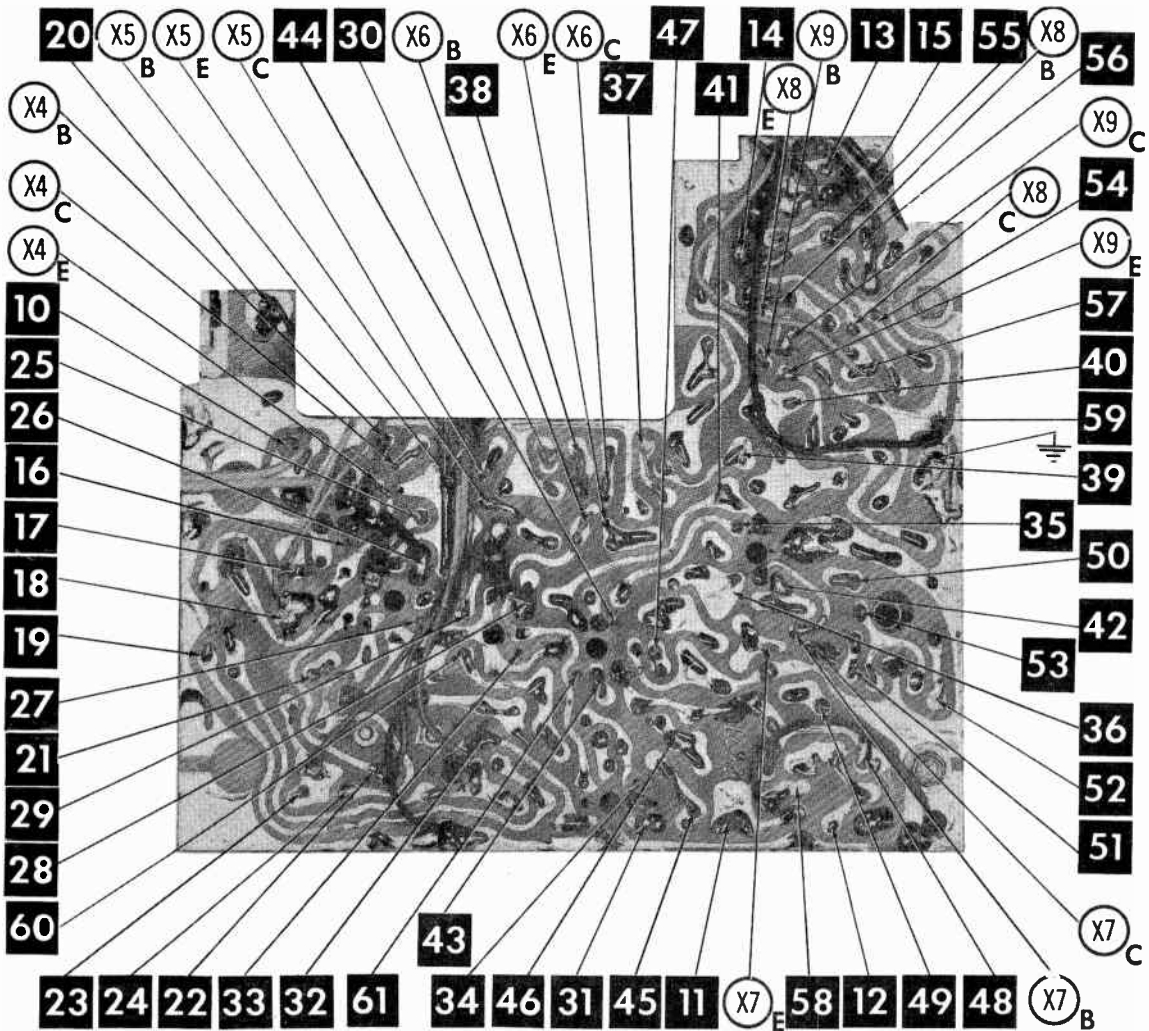
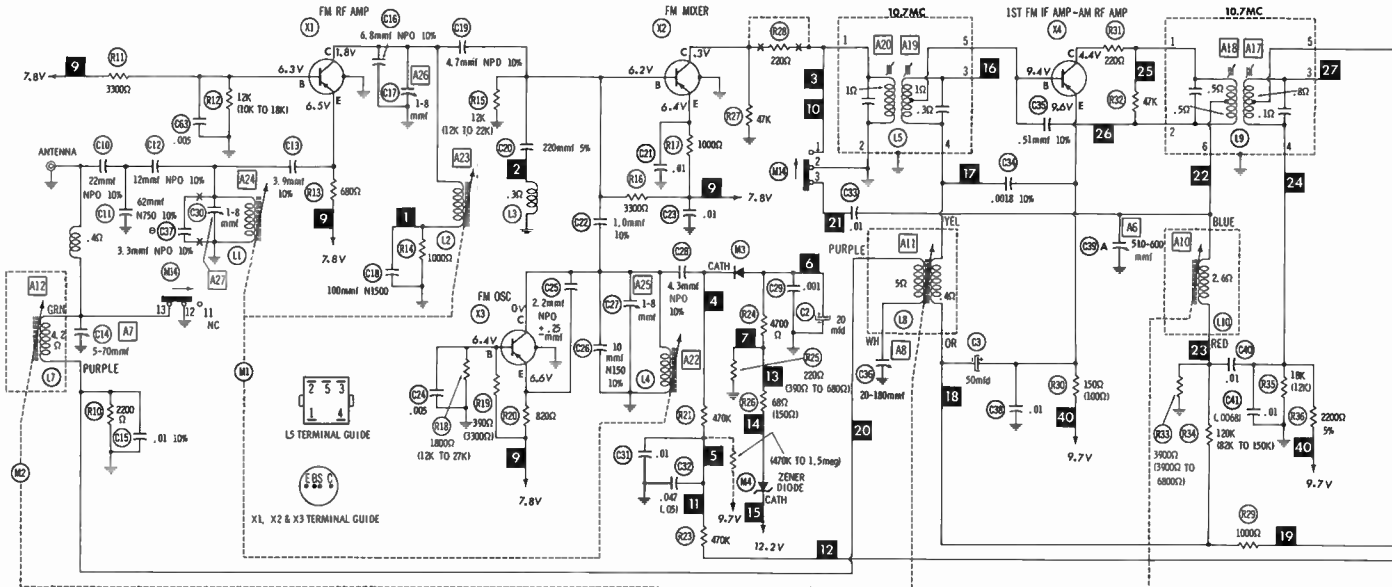
Use 60v frequency modulated signal with 450KC sweep. Use 120v sawtooth voltage in scope for horizontal deflection.

	GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
4.	10.7MC (450KC Swp.)	Point of non-interference.	Vert. amp. of scope to point \diamond ; low side to ground.	A13 thru A20	Adjust for maximum gain and symmetry of response similar to Fig. 2 with marker as shown.
5.	"	"	Vert. amp. to point \diamond ; low side to ground.	A21	Adjust to place marker at center of crossover lines similar to Fig. 3. SLIGHTLY retouch A 13 for maximum amplitude and straightness of crossover lines.

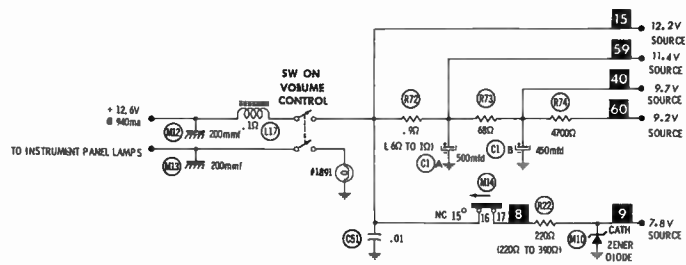
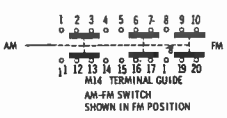
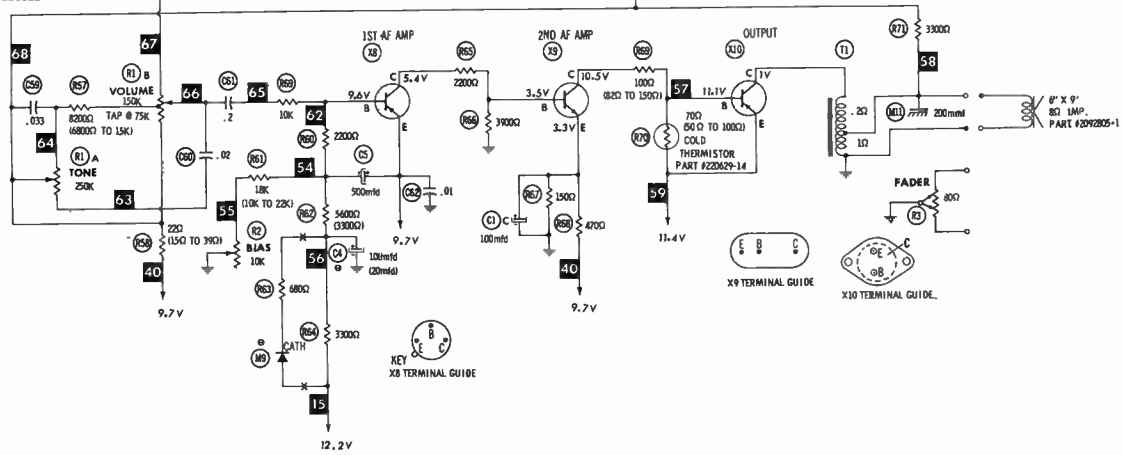
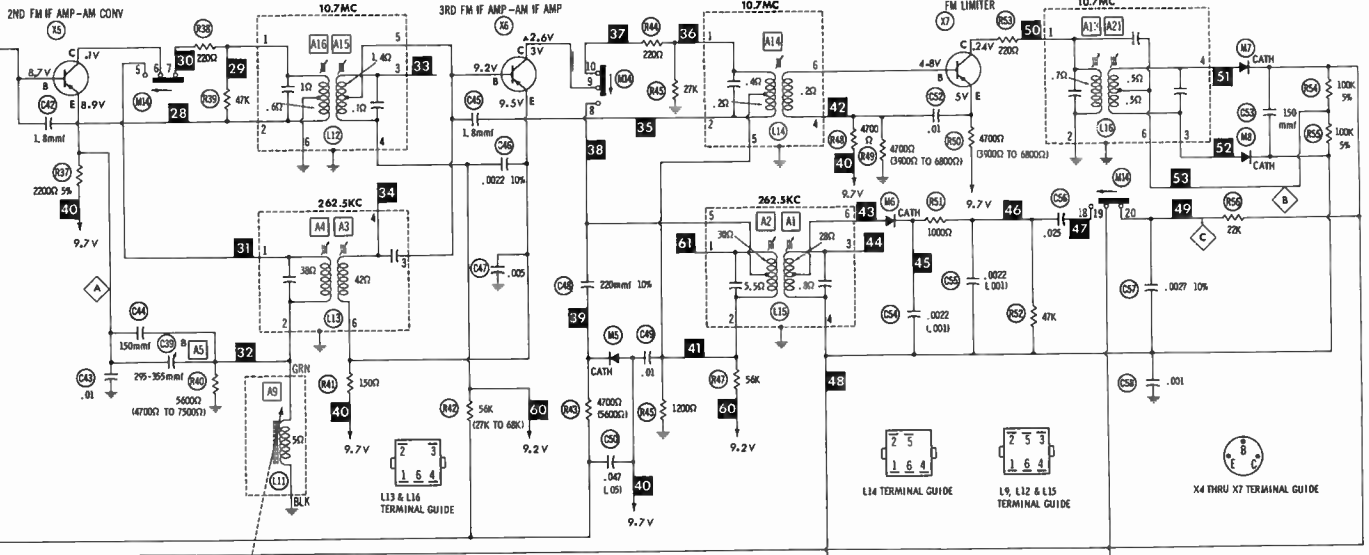


PUSH-BUTTON ADJUSTMENT

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



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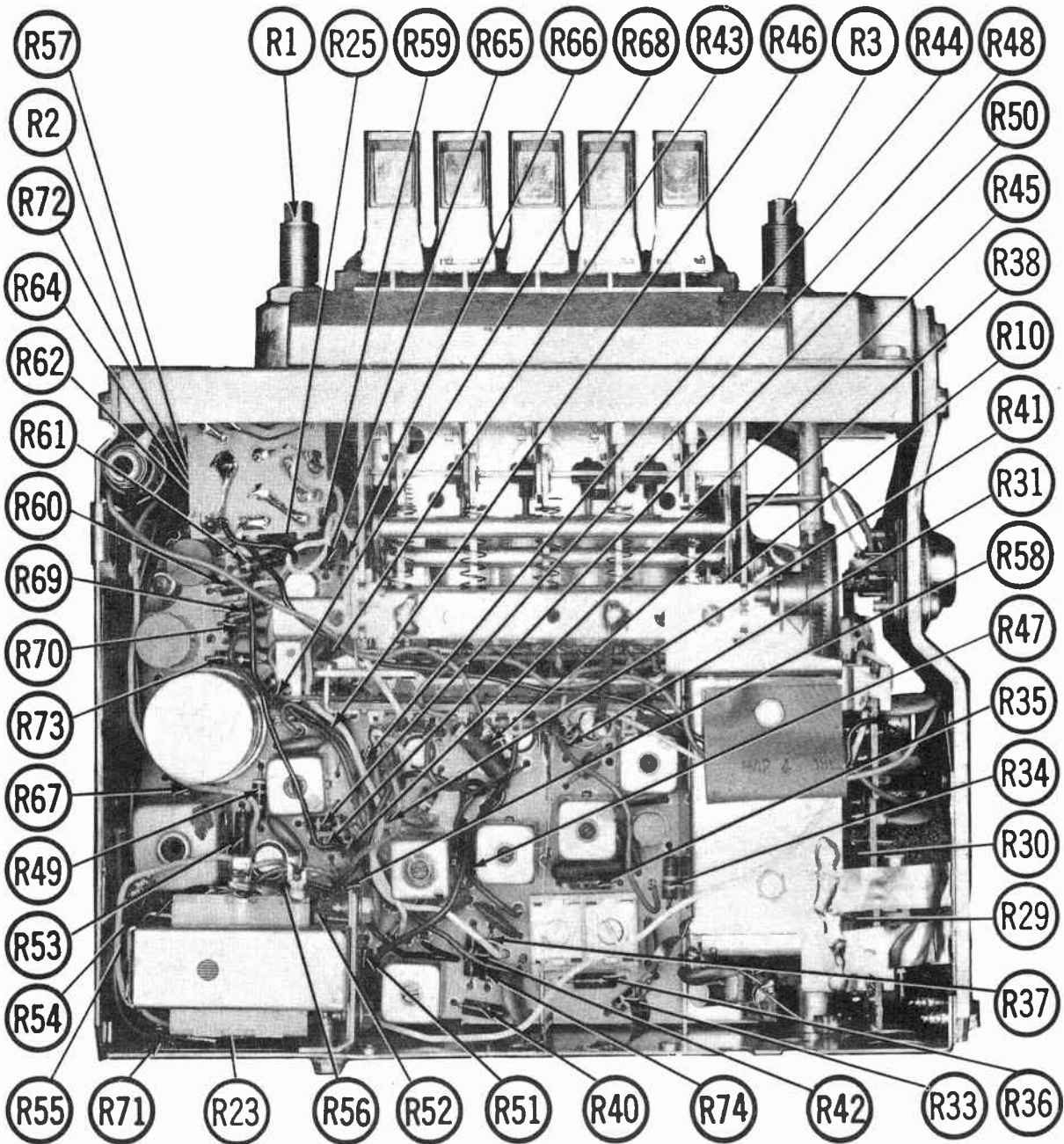


ALL VOLTAGES TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED.
 A VOLTAGES TAKEN IN AM POSITION

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 pins 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 **CTR** and **FACE**
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CONTINENTAL MODEL F3TBC



PARTS LIST AND DESCRIPTION

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

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES	BENDIX PART No.
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.		
X1		FM RF Amp.	DS-41			PNP	2092417-1
X2		FM Mixer	LS-41			PNP	2092417-2
X3		FM Osc.	DS-41			PNP	2092417-3
X4		1st FM IF Amp. -AM RF Amp	DS-34			PNP	2092418-1
X5		2nd FM IF Amp. -AM Conv.	DS-34			PNP	2092418-2
X6		3rd FM IF Amp. -AM IF Amp.	DS-34			PNP	2092418-1
X7		FM Limiter	DS-34			PNP	2092418-2
X8		1st AF Amp.	DS-26	GE-2	2N591	PNP	2090924-8
X9		2nd AF Amp.	DS-44	GE-8		PNP	2091260-3
X10		Output	DS-520	GE-3	2N176	PNP	2091859-9

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	BENDIX PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	500	16	2091503-6			XC3-48-2		PFP300.18	PC1LS-3020.3*
B	450	16							
C	100	6							
C2	20	10	2090480-10	BCD12020	NLW20-15	MT1-10	MLV50-3	TT12X20	VL-1045
C3	50	3	2090490-4	BCD3050	ECSP50-3	MT1-15		TT3X50	TE-1211
C4	100	16		BCD18100	NLW100-25	MT1-20	MLV100-25	TT25X100	TE-1068
C5	500	3	2090480-9	BCD12500	BR500-6	MT1-26		TC305	

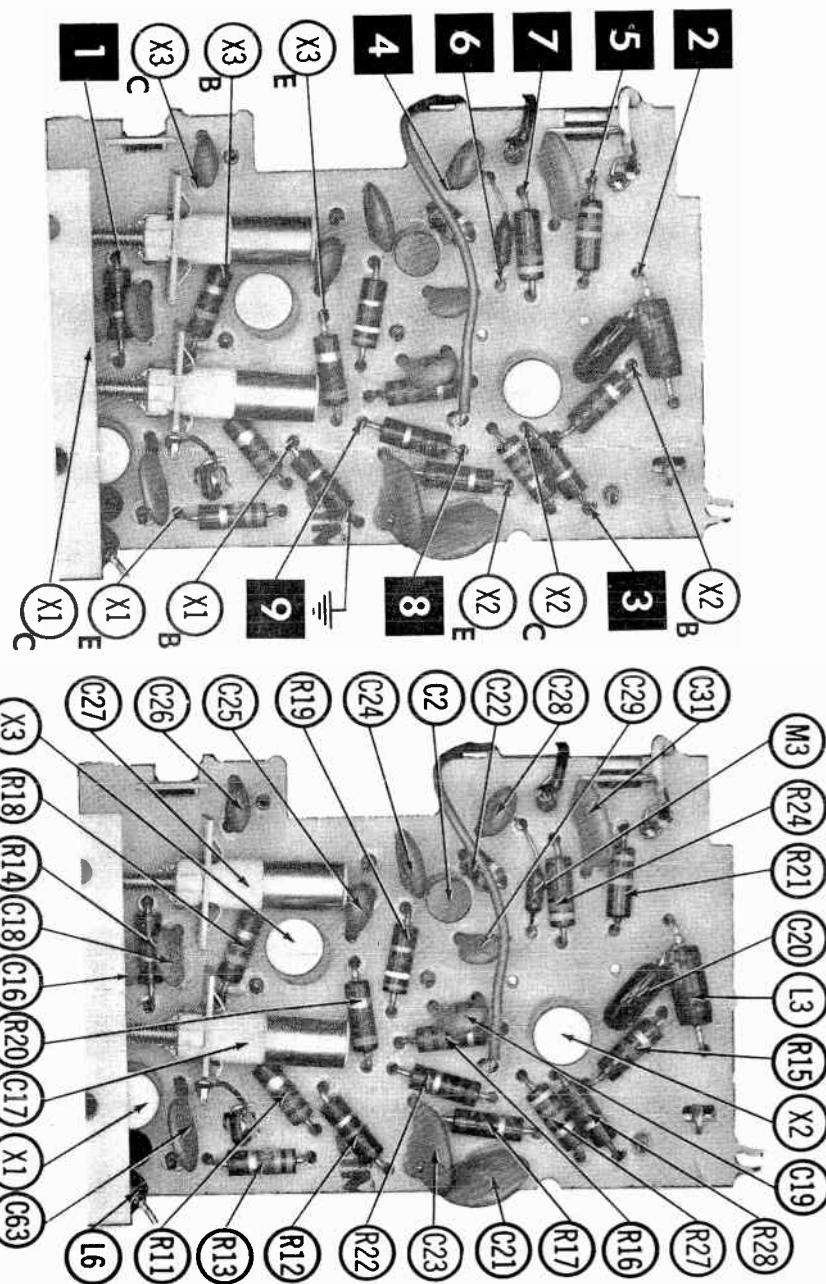
① Some versions may use 20mfd. a 16V Part #2090480-2 in this application. ② Use printed circuit board adapters.
* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

FIXED CAPACITORS

ITEM No.	RATING		REMARKS	REPLACEMENT DATA					
				AEROVOX PART No.	CORNELL-DUBILIER PART No.	ELMENCOC PART No.	MALLORY PART No.	SPRAGUE PART No.	
C10	22	NPO 10%		NPO -DI22	DTZ-22	C10Q22C	CCTO-220	CNO-422	10TCC-Q22
C11	62	N750 10%	Note 1		TCN-62		CCTN-620		
C12	12	NPO 10%	Note 1		TCZ-12		CCTO-120	CNO-412	10TCC-Q12
C13	3.9mmf	10%	Note 1						
C14	5-70		#2092594-1						
C15	.01	100V 10%		BE2S1	CF-103	WMFIS1	1DP-1-103	PVC211	4PS-S10
C16	6.8mmf	NPO 10%	Note 1	NPO-DI 6.8	DTZ-6R8	C10V68C	CCTO-6R8	CNO-568	10TCC-V68
C17	1.8mmf		#2090517-1		829-10				
C18	100	N1500	#220332-37		TCL-100				
C19	4.7mmf	NPO 10%	Note 1	NPO-DI4.7	DTZ-4R7	C10V47C	CCTO-4R7	CNO-547	10TCC-V47
C20	220		5%	1469-00022	CPR-220J	CD10E22J	DM-15-22J		MS-322
C21	.01			BPL-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C22	1.0mmf	10%	Note 1						
C23	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C24	.005			BPD-005	DD-502	BYA10D5	CCD-50?	B 250	5HK-D50
C25	2.2mmf	NPO ±.25			TCZ-2R2			CNO-522	10TCC-V22
C26	10	N150	10%						10TCP-Q10
C27	1-8mmf		Note 1		829-10				
C28	4.3mmf	NPO 10%	Note 1						
C29	.001		#2090517-1	BPD-001	DD-103	BYA10D1	CCD-102	B-210	5HK-D10
C30	1-8mmf		#2090517-1		829-10				
C31	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C32	.047	100V	(.05)†	BE2S47	DD 503	WMFIS47	IDP-2-473	PVC1147	2PS-S47
C33	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C34	.0018	10%	Note 1	DI-1800	CF-182	JB6L18	CCD-182	GP218	10TS-D18
C35	51mmf	10%	Note 1						

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TUNER



CONTINENTAL MODEL FT3BC

PARTS LIST AND DESCRIPTION (CONTINUED)

FIXED CAPACITORS (cont)

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.
C36	20-180mmf	#219083-8 Note 2	NPO-DI3.3	TCZ-3R3	C10V33C	CCTO-3R3	CNO-533	10TCC-V33
C37	3.3mmf NPO		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C38	.01	#2092422-2	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C39A	510-600		BE2S1	CF-103	WMF1S1	1DP-1-103	PVC211	4PS-S10
C39B	295-355	Note 1	BE2S1	CF-103	WMF1S1	1DP-1-103	PVC211	4PS-S10
C40	.01		BE2S1	CF-103	WMF1S1	1DP-1-103	PVC211	4PS-S10
C41	.01 100V	(.0068)†	BE2S1	CF-103	WMF1S1	1DP-1-103	PVC211	4PS-S10
C42	1.8mmf		BE2S1	CF-103	WMF1S1	1DP-1-103	PVC211	4PS-S10
C43	.01 100V	Note 1	BE2S1	CF-103	WMF1S1	1DP-1-103	PVC211	4PS-S10
C44	150 N750		BE2S1	CF-103	WMF1S1	1DP-1-103	PVC211	4PS-S10
C45	1.8mmf	Note 1	BE2S1	CF-103	WMF1S1	1DP-1-103	PVC211	4PS-S10
C46	.0022		BE2S1	CF-103	WMF1S1	1DP-1-103	PVC211	4PS-S10
C47	.005	Note 1	DI-2200	CPR-2200	IR5D22	CCD-222	GP222	10TS-D22
C48	220		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C49	.01	(.05)†	NPO-SI220	D6-221	JB6T22	CCD-221	GP222	10TS-T22
C50	.047 100V		BE2S47	DD-503	BYA10S1	CCD-103	B-110	5HK-S10
C51	.01	Note 1	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C52	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C53	150	(.001)†	BPD-00015	DD-151	BYA10S1	CCD-103	B-110	5HK-S10
C54	.0022		SI2200	DD-222	LA10T15-S3	CCD-151	GP315	10TS-T15
C55	.0022	(.001)†	SI2200	D6-222	JB6D22	CCD-222	GP222	5HK-D22
C56	.025 100V		TTD-025	CK-253	H4	CCD-222	GP222	5HK-D22
C57	.0027	Note 1	DI-2700	DD-102	BYA10D1	CCD-272	TA-125	TG-S25
C58	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C59	.033 100V	Note 1	BE4S33	CK-203	WMF1S33	1DP-1-333	PVC1133	4PS-S33
C60	.02 100V		TTD-02	CK-203	H3	CCD-103	B-110	5HK-S10
C61	.2 10V	Note 1	UK20-204	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C62	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C63	.005	BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50	

Note 1 Replace with same value as original. Note 2 Not used in some versions. † Alternate Value
 * Not normally in distributor's stock. Available thru distributor on order to manufacturer.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		BENDIX PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	FM Ant.	↓	BC-561	4602	RTC-8515	T855	↓ Part of M1.
L2	FM RF						
L3	FM IF Trap (1uh)	2092210-5					
L4	FM Osc.	↓	BC-563	4606	RTC-8517	T857	↓ Part of M2.
L5	1st FM IF						
L6	RF Choke (2uh)	2092210-7					
L7	AM Ant.	↓	BC-563	4606	RTC-8517	T857	↓ Part of M2.
L8	AM Ant.						
L9	2nd FM IF	2092421-5					
L10	AM RF	↓	BC-563	4606	RTC-8517	T857	↓ Part of M2.
L11	AM Osc.						
L12	3rd FM IF	2092421-2					
L13	1st AM IF	2092419-1					
L14	4th FM IF	2092421-6					
L15	2nd AM IF	2092419-2					
L16	Discriminator	2092423-1					
L17	"A" Lead Choke	2092050-12					

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 Volume, Switch	250K 150K 75K Tap	2092598-1				
R2	Bias	10K (2W)	219555-22				
R3	Fader	80Ω (2W)	2092598-1				

① Does not include printed circuit board.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORNDARSON PART No.	TRIAD PART No.	
T1	12Ω Tap	8Ω	2092599-1					

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			BENDIX PART No.	LITTELFUSE PART No.	BUSS PART No.			
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
	SFE	7½ Amp.	SFE7½		307007.5 (SFE 7½ Amp.)	15507.5	SFE7½	HMH

MISCELLANEOUS

ITEM No.	PART NAME	BENDIX PART No.	NOTES
M1	FM Tuner Assy.	2092701-5	Includes Mounting bracket RCC Mfg. Less Mounting bracket RCC Mfg. Includes mounting bracket GIC Mfg. Less mounting bracket GIC Mfg. Include coupling rod, shuttle gate and pushbuttons RCC Mf. Includes coupling rod, shuttle gate and pushbuttons GIC Mfg. Complete Assy.
	FM Tuner Assy.	2092701-7	
	FM Tuner Assy.	2092701-6	
M2	FM Tuner Assy.	2092701-8	
	AM Tuner Assy.	2092700-3	
	AM Tuning Assy.	2092700-4	
	FM AM Tuner Assy.	2092565-2	
M3	AFC Diode	2092055-3	
M4	Zener Diode	2092055-5	
M5	AVC Diode	2092055-1	
M6	AM Det. Diode	2092055-1	
M7	Discriminator Diode	2092055-1	
M8	Discriminator Diode	2092055-1	
M9	Bias Regulator Diode	2092055-1	
M10	Zener Diode	2092055-5	
M11	Spark Plate	220267-17	200mmf
M12	Spark Plate	220267-21	200mmf
M13	Spark Plate	220267-17	200mmf
M14	Switch	2092702-1	FM AM For RCC Mfg. Tuner
	Switch	2092702-3	FM AM For GIC Mfg. Tuner.

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: Firestone Model 3-D-6 (Code 120-1-R61)
SUPPLIER: Firestone Tire & Rubber Co.
 1200 Firestone Parkway, Akron 17, Ohio
TYPE SET: 4 Tube, 1 Transistor AM Receiver
POWER SUPPLY: 12 Volt Storage Battery
RATING: 1.2 Amp. @ 12.6 VDC
TUNING RANGE: BROADCAST 535 — 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

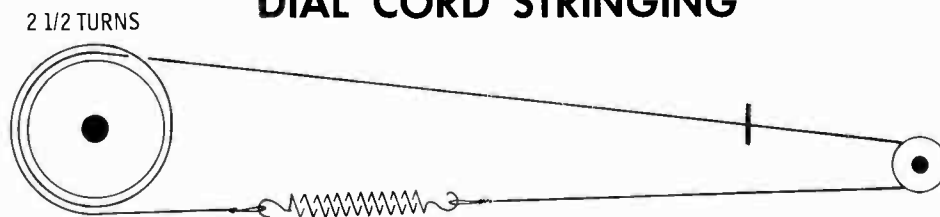
A5, A6, A7.....GENERAL CEMENT #9087, 8290, 8868

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.	265KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	High side thru 82mf to antenna receptacle, low side to ground.	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

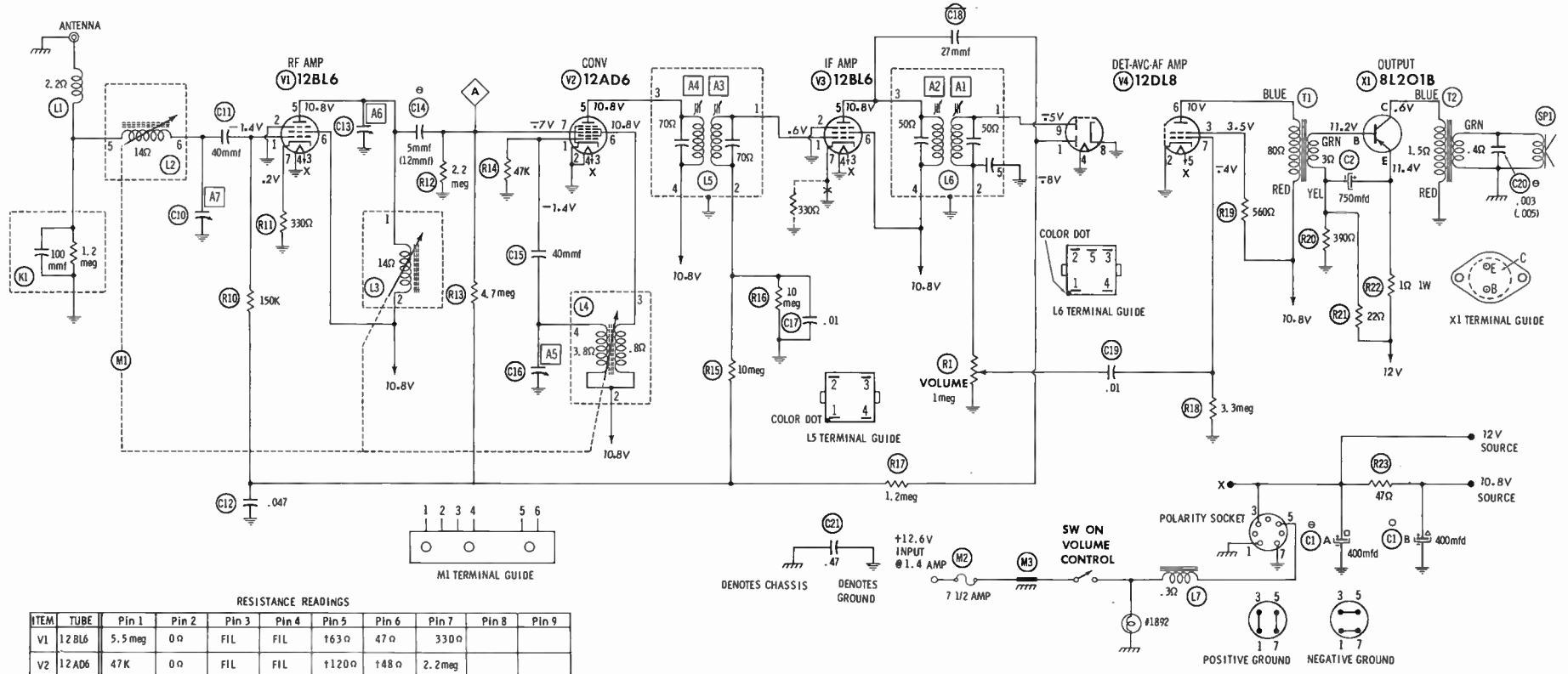


FIRESTONE MODEL 3-D-6 (Code 120-1-R61)

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

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World Radio History



RESISTANCE READINGS

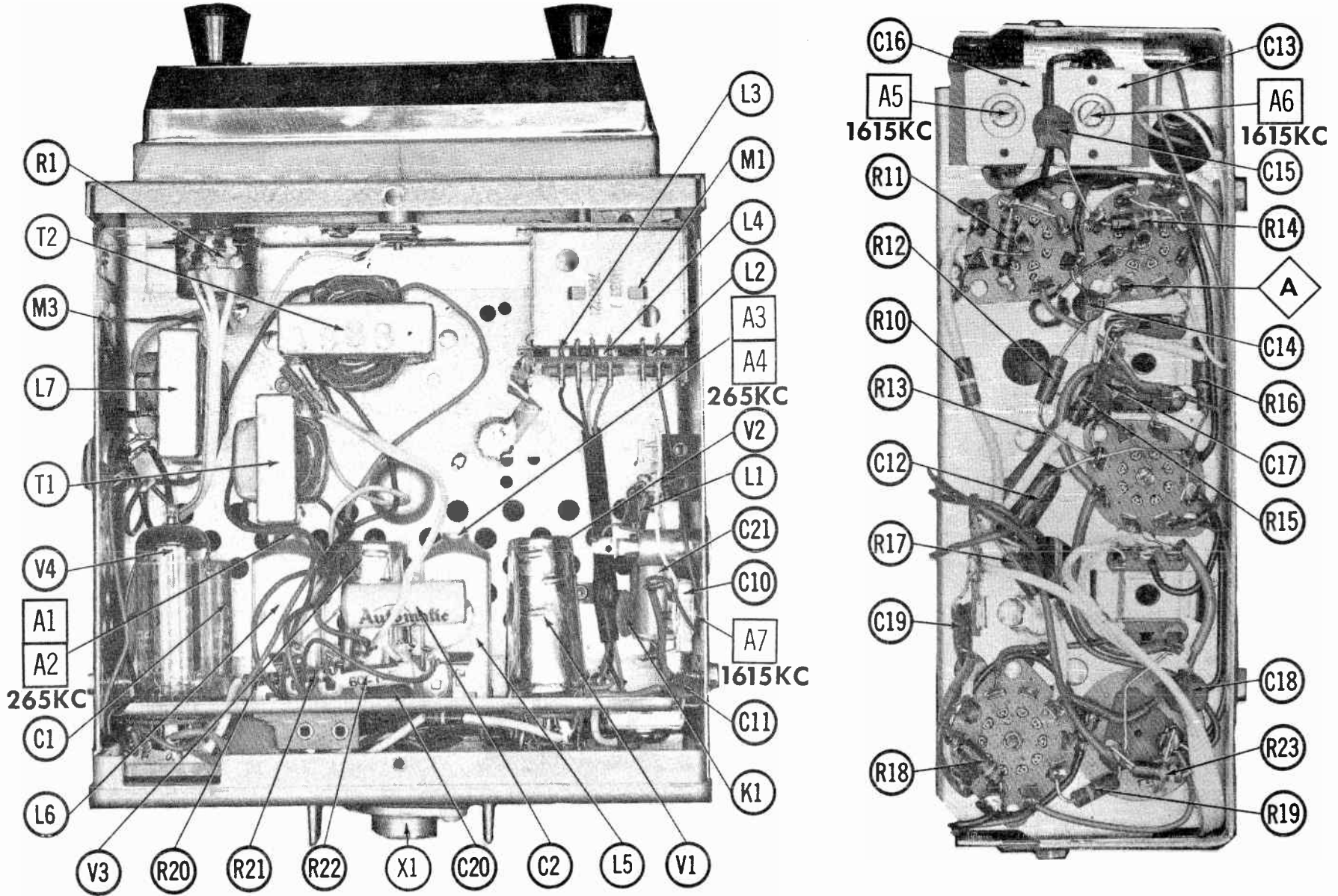
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12BL6	5.5 meg	0 Ω	FIL	FIL	163 Ω	47 Ω	330 Ω		
V2	12AD6	47K	0 Ω	FIL	FIL	1120 Ω	148 Ω	2.2 meg		
V3	12BL6	6.5 meg	0 Ω	FIL	FIL	1100 Ω	147 Ω	0 Ω		
V4	12DL8	6.5 meg	0 Ω	1600 Ω	FIL	FIL	1130 Ω	3.3 meg	0 Ω	1 meg

† MEASURED FROM PIN 3 OF POLARITY SOCKET.
RESISTANCE OF X1 NOT GIVEN BECAUSE OF WIDE VARIATION
IN INTERNAL RESISTANCE OF TRANSISTORS.

- ⊙ 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.

FIRESTONE
MODEL 3-D-6 (Code 120-1-R61)

FIRESTONE MODEL 3-D-6 (Code 120-1-R61)



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

• AMPEREX •		• GENERAL ELECTRIC •		• RCA •		• RAYTHEON •		• SYLVANIA •	
ITEM No.	USE	TYPE		ITEM No.	USE	TYPE			
V1	RF Amplifier	12BL6		V3	IF Amplifier	12BL6			
V2	Converter	12AD6		V4	Det. -AVC-AF Amp.	12DL8			

TRANSISTORS

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

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	FIRESTONE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
CLA	400	15	20-320 ①	AFH2-02-40					
CB	400	15					BL-2211	TC-310	
C2	750	3	20-757						

① C1 is 500-500mfd in some versions (Part #20-317).

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	#28-800-2	NPO-DI 39	TCZ-39	C10Q39C	CCTO-390	CNO-439	10TCC-Q39
C11	.047	200V	P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-2147	2TM-S47
C12								
C13		#28-400-2						
C14	5	(8.5, 12) †	NPO-DI 5.0	DTZ-4R7	C10V47C	CCTO-4R7	CNO-547	10TCC-V50
C15	40		NPO-DI 39	TCZ-39	C10Q39C	CCTO-390	CNO-439	10TCC-Q39
C16		#28-461						
C17	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C18	.27		DI-27	DD-270	LA10Q27	CCD-270	GP427	10TS-Q27
C19	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C20	.003		DI-3000	DD-302	LA10D3	CCD-302	GP230	10TS-D30
C21	.47	100V	P288N-47		WMF1P47	IDP-4-474	PVC1047	2PS-P47

Part Number.
† Alternate Value

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			FIRESTONE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1	Volume & Switch	1meg	80A1720	B-70-S, AK-26 ① or (F2-1meg, SU308, KR-4, AK-26 ①)	A47-1meg-Z, FS-3, XB-2 ①, SWE-13			UA16A, SL3500, EB158 ①, US41 or (RU16A, SL38, SL3500, EB158 ①, US-41) or (U53, EB158 ①, US-26)

① Alter Bushing to meet Requirements.

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	FIRESTONE PART No.	REPLACEMENT DATA	
				Centralab	RC-471 Sprague
K1	Antenna Isolation	100mfmf, 1.2meg	89-4204		

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		FIRESTONE PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.2uh)	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	14-268					
L6	Output IF	14-269					

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	FIRESTONE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L7	1.2 Amp.	.3Ω	10MH	75A1269	C-4095	TC-2	TR-155	TY17XT

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	FIRESTONE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	T1	5.5	:1	75A1264	A-4092	TA-48	TR-179	

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	FIRESTONE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	T2	16Ω	3-4Ω	75A1272			TR-161	

SPEAKER

ITEM No.	TYPE	RATING	REPLACEMENT DATA		NOTES
			FIRESTONE PART No.	QUAM PART No.	
SPI	5" PM	3-4Ω	73A1275	5A05	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			FIRESTONE PART No.		LITTELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	SFE	7½			30707.5 (SFE 7½A)	15507.5A	SFE 7½		HMH

MISCELLANEOUS

ITEM No.	PART NAME	FIRESTONE PART No.
M2	Tuner	78A1721
M3	Spark Plate	43-215

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.
Knob - Volume, Tuning	47B319-1
Dial Pointer	84A158

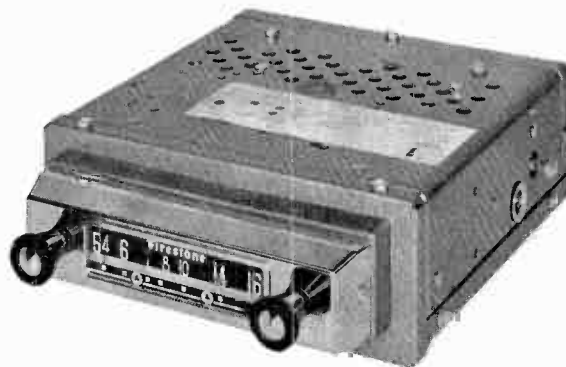
WIRING DATA

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: Firestone Model 3-D-6 (Code 120-3-P69)
SUPPLIER: Firestone Tire & Rubber Co.
 1200 Firestone Parkway, Akron 17, Ohio
TYPE SET: 6 Transistor AM Receiver
POWER SUPPLY: 6 or 12 Volt Storage Battery
RATING: 1.2 Amp. @ 12.6 VDC
TUNING RANGE: BROADCAST 540-1615KC

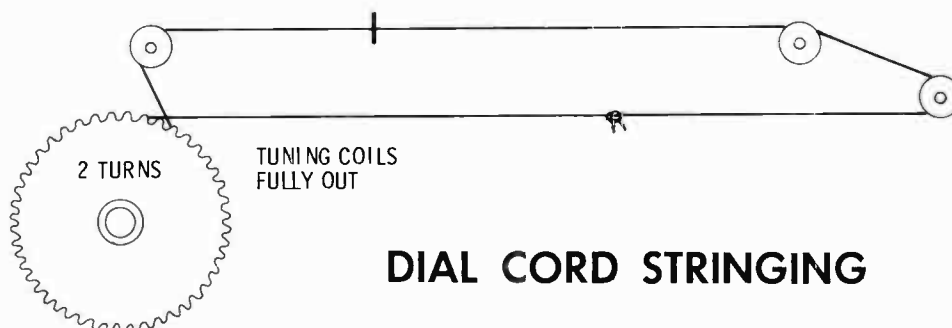
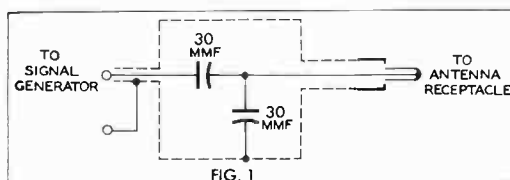


ALIGNMENT INSTRUCTIONS

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

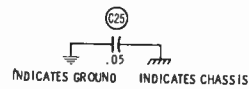
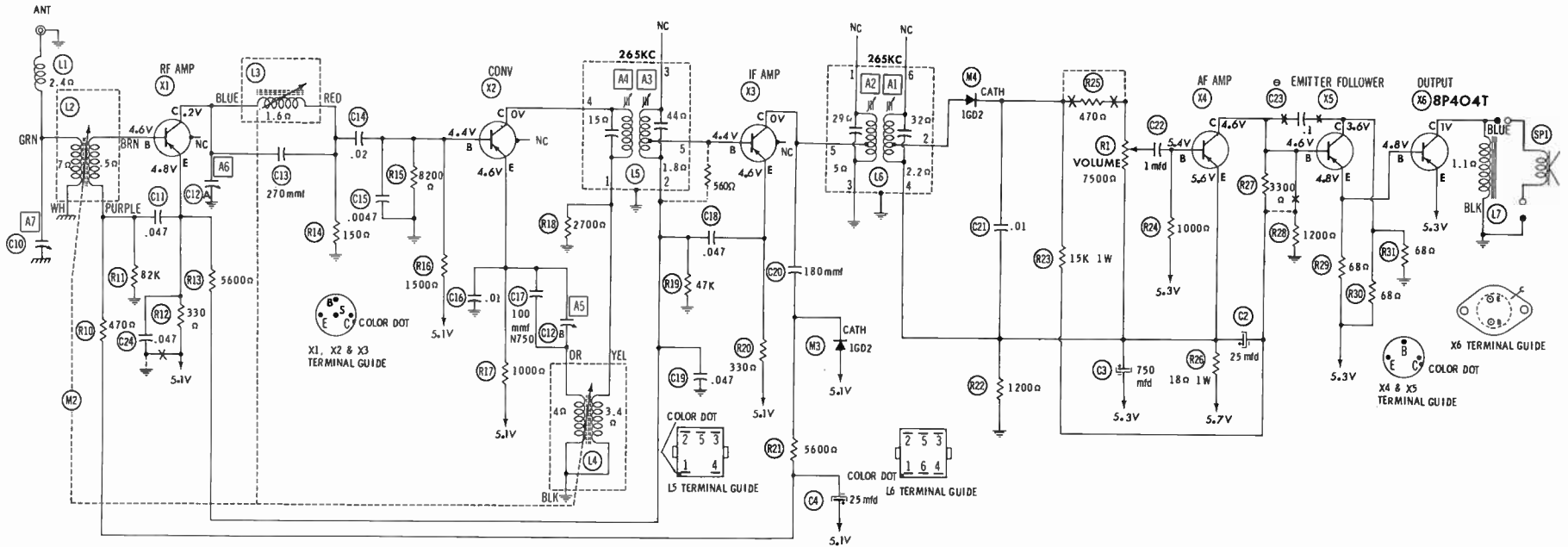
A1, A2, A3, A4... GENERAL CEMENT #8606, 8606L, 8869
 WALSCO #2543, 2544, 2588
 A5, A6, A7..... GENERAL CEMENT #9087, 8290, 8868
 WALSCO #2525, 2528, 2587

	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 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	"

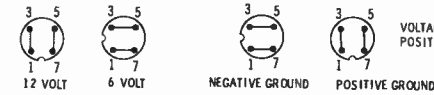
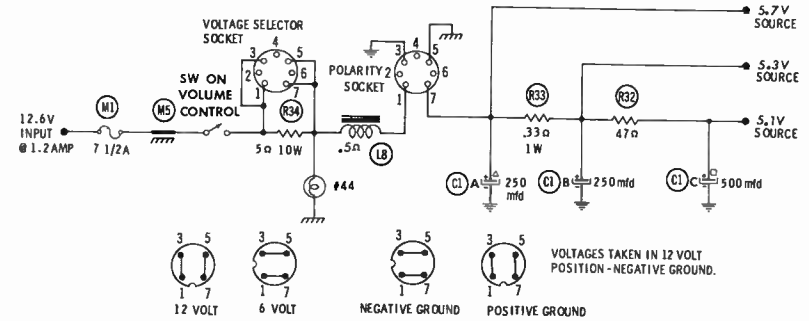


HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

FIRESTONE MODEL 3-D-6 (Code 120-3-P69)



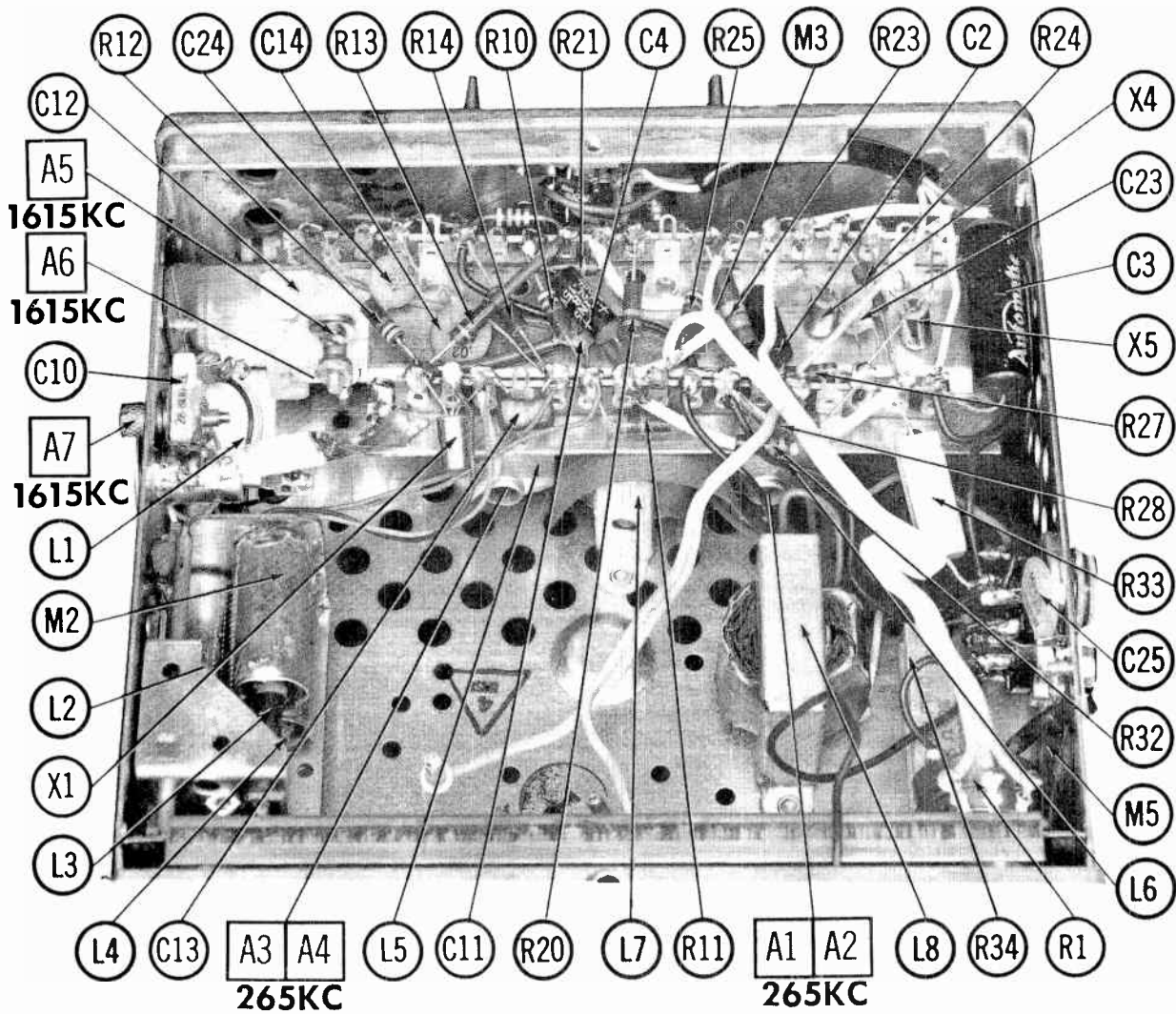
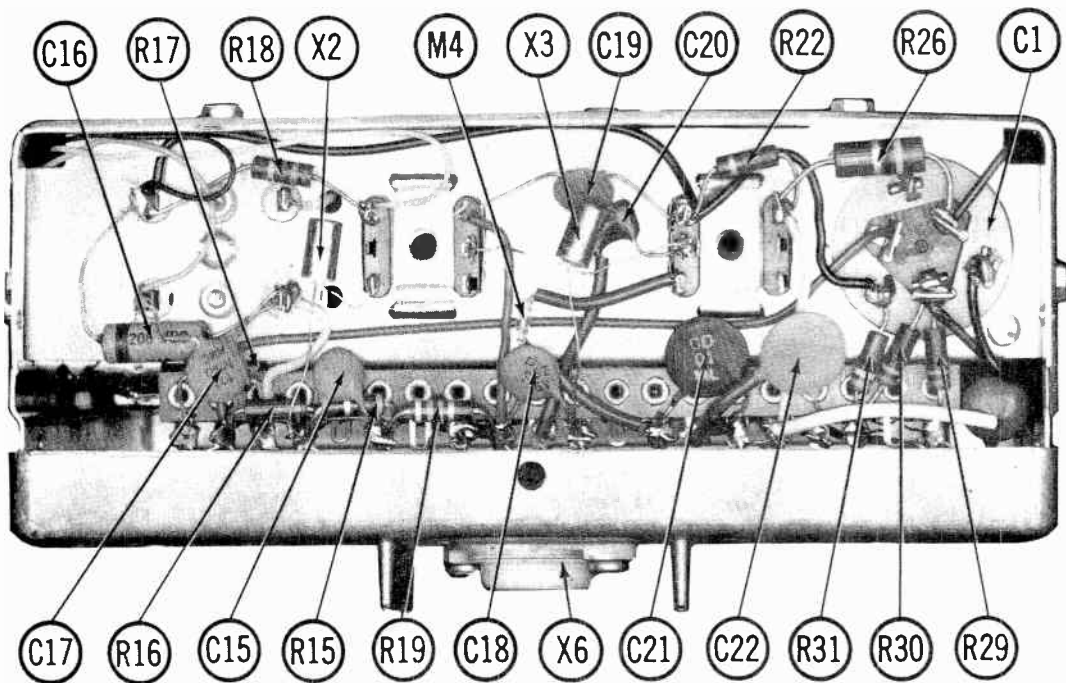
- ⊙ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise 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.



VOLTAGES TAKEN IN 12 VOLT POSITION - NEGATIVE GROUND.

A PHOTOFACIT STANDARD NOTATION SCHEMATIC
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FIRESTONE
MODEL 3-D-6 (Code 120-3-P69)



FIRESTONE MODEL 3-D-6 (Code 120-3-P69)

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.	MFG. PART No.	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-60	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	6-63	AF Amplifier	DS-26	GE-2	2N591	PNP
X5	6-63	Emitter Follower	DS-26	GE-2	2N591	PNP
X6	8P404T	Output	DS-520	GE-3	2N301	PNP (Note 1)

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	FIRESTONE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	250	15	20-328	PWH3-00-94		XC3-48.1		PWP300, 4A	PCL-3026, 6
C1B	250	15							
C2	500	15	25-256 20-757 25-256	PTT69	NLW25-15	MT1-14	TD-25-25 BL2211 TD-25-25	TT15X25 TC310 TT15X25	TE-1207 TE-1207
C3	25	15							
C3	750	3							
C4	25	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	.047	#28-800-2L						
C11		#28A1332						
C12A	270 .02 .0047 .01 100 N750 .047 .047 180 .01 1mfd .1 .047 .05	Note 1	1459-00027	DD-271	5R5T27	CCD-271	GP327	5GA-T27
C14			TTD-02	CK-203	H05S2	TA-120	TG-S20	
C15			BPD-0047	DD-472	BYA10D47	B-247	5HK-D47	
C16			TTD-01	CK-103	H05SI	TA-110	TG-S10	
C17			N750-DI 100	DTN-100	C10TIU	CCTN-101	CN7-310	
C18			.047				10TCU-T10	
C19			.047				HY-310	
C20			180				HY-310	
C21			.01				5GA-T18	
C22			1mfd				TG-S10	
C23			.1				HY-135	
C24			.047				TG-P10	
C25			.05				HY-310 TG-S50	

Part Number.
Note 1. Not used in some versions.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			FIRESTONE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	7500Ω	80A2364				

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS			IRC PART No.	WORKMAN PART No.	REMARKS
R34	5Ω 10W		10W-SQ-5						

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		FIRESTONE PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.2uh)	14-6.2	BC-565	4610	RTC-8520	T859	Ⓛ Part of M2
L2	Ant.	14-274 14-275					
L3	RF						
L4	Osc.						
L5	Input IF						
L6	Output IF						

CHOKE (AUDIO OUTPUT)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		FIRESTONE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	13MH	75A2057	C-4095	TC-2	TR-152	TY17XT	

FILTER CHOKE

ITEM No.	RATINGS		REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	FIRESTONE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L8	.8A	.5Ω	10MH	75A1269	C-4095	TC-2	TR-155	TY17XT

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		FIRESTONE PART No.	QUAM PART No.	
SP1	5" PM 6-8Ω	73A2163	5A05Z7.4	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			FIRESTONE PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	SFE	7½A		I2-1921B	30707.5 (SFE 7½A)	15507.5A	SFE 7½	HMH

MISCELLANEOUS

ITEM No.	PART NAME	FIRESTONE PART No.	NOTES
M2	Tuner	78A2380	
M3	AVC Det.	IGD2	
M4	Audio Det.	IGD2	
M5	Spark Plate	43-215	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Knob - Tuning, Volume	47-52B	Knob - Dummy	47A1249

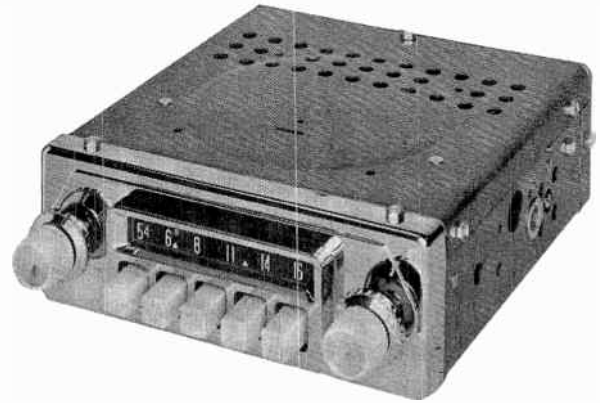
WIRING DATA

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 : Firestone Model 3-D-7 (Code 120-3-DUP-42)
SUPPLIER : Firestone Tire & Rubber Co.
 1200 Firestone Parkway, Akron 17, Ohio
TYPE SET : 2 Tube, 2 Transistor AM Receiver
POWER SUPPLY : 12 Volt Storage Battery
RATING : 1.2 Amp. @ 12.6 VDC
TUNING RANGE : BROADCAST 540 - 1615KC



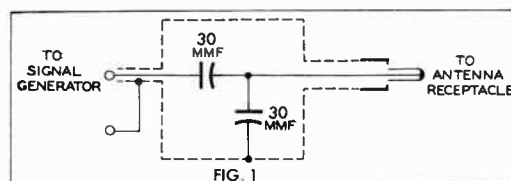
ALIGNMENT INSTRUCTIONS

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, 8728A
 WALSCO #2543, 2544, 2588
 A5, A6, A7... GENERAL CEMENT #9087, 8290, 8868
 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 (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.



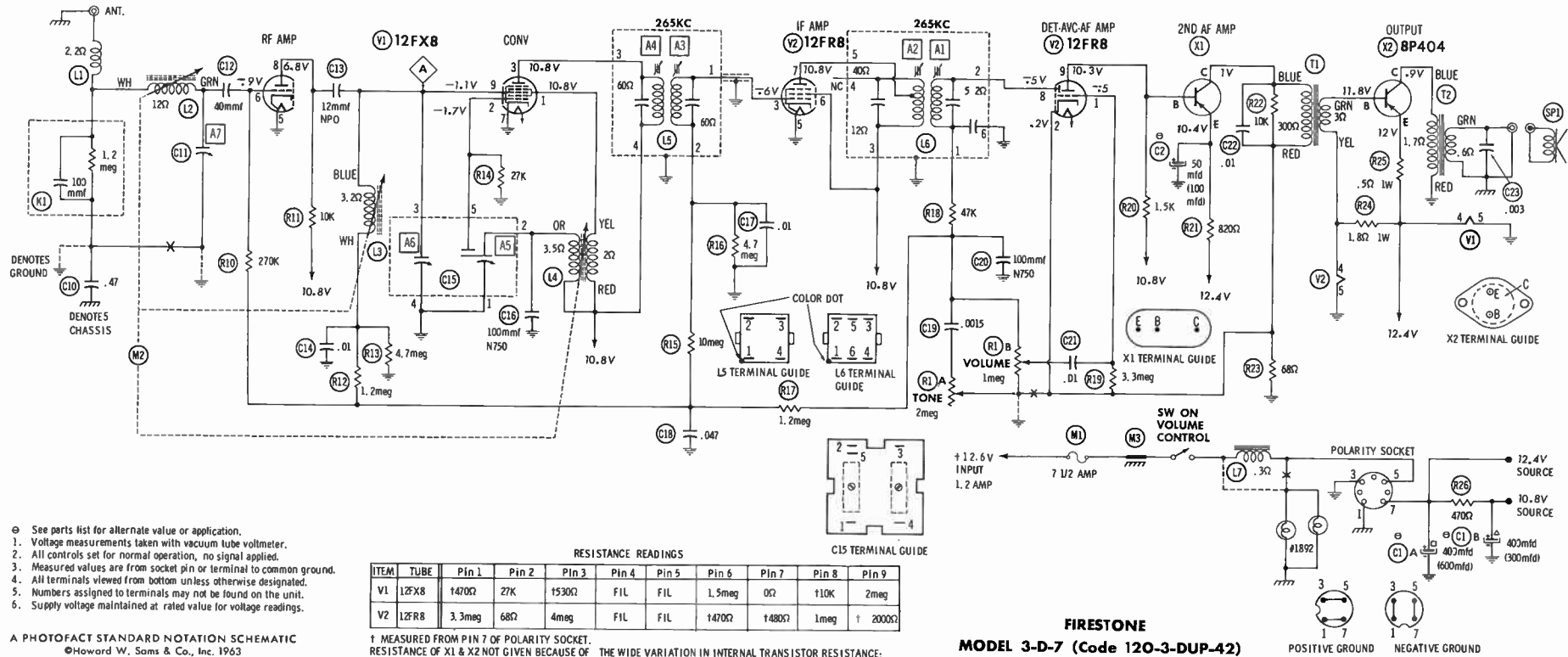
PUSH-BUTTON ADJUSTMENT

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

FIRESTONE MODEL 3-D-7 (Code 120-3-DUP-42)

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

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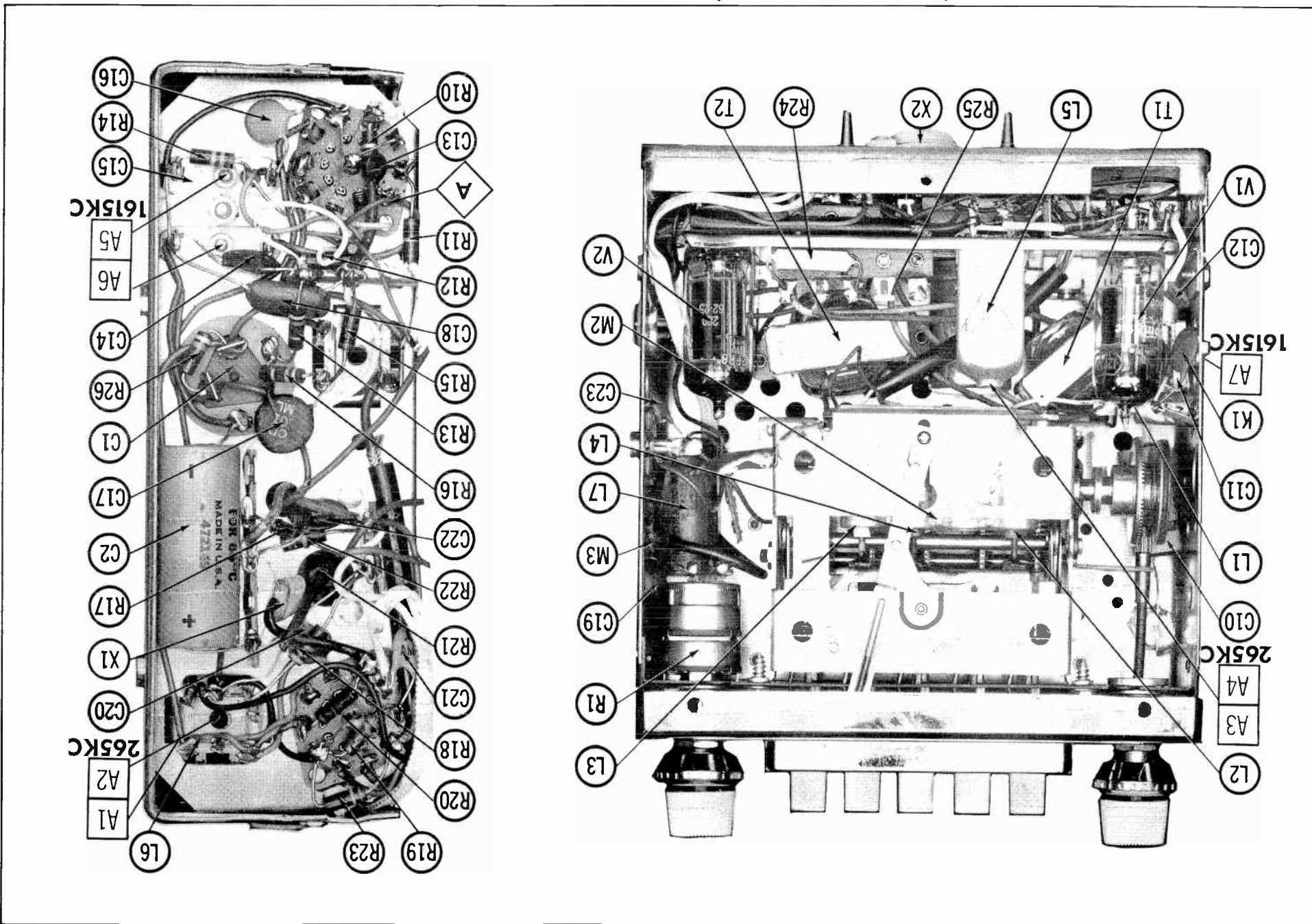


- ⊙ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise 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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**FIRESTONE
MODEL 3-D-7 (Code 120-3-DUP-42)**

FIRESTONE MODEL 3-D-7 (Code 120-3-DUP-42)



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

AMPEREX		GENERAL ELECTRIC		RCA		RAYTHEON		SYLVANIA	
ITEM No.	USE	TYPE		ITEM No.	USE	TYPE			
V1	RF Amp. -Converter	12 FX8		V2	IF Amp. -Det. -AVC- AF Amp.	12 FR8			

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES	PART No.
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.		
X1 X2	8P404	2nd AF Amplifier Output	DS-26 DS-520	GE-2 GE-3	2N591 2N301	PNP PNP (Note 1)	6-63

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	FIRESTONE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A B C2	400 400 50	15 15 150	Note 1	PWH2-02-40					
			Note 1	PRSI480	BR50-150	QTI-28	TD-50-150	TC49	TVA-1414

Note 1. Some versions may combine C1 and C2 into one unit (600-300-100mf.)

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 C11 C12 C13 C14 C15A B C	.47 200V 40 12 NPO .01	#28-800-2 #28A1503	P288N-47 NPO-DI 39 BPD-01	TCZ-39 TCZ-12 DD-103	C10Q39C BYA10SI	2DP-5-474 CC TO-390 CC TO-120 CCD-103	GEM-2047 CNO-439 CNO-412 B-110	2TM-P47 10TCC-Q39 10TCC-Q12 5HK-S10
C16 C17 C18 C19 C20 C21 C22 C23	100 N750 .01 .047 100V .0015 100 N750 .01 .01 .003		N750-DI 100 BPD-01 P288N-047 BPD-0015 N750-DI 100 BPD-01 BPD-01 DI-3000	DTN-100 DD-103 DD-503 DD-152 DTN-100 DD-103 DD-103 DD-302	C10T1U BYA10SI WMF1847 L10D15 C10T1U BYA10SI BYA10SI LA10D3-C4	CC TN-101 CCD-103 IDP-2-473 CCD-152 CC TN-101 CCD-103 CCD-103 CCD-302	CN7-310 B-110 PVC1047 B-215 CN7-310 B-110 B-110 GP230	10TCU-T10 5HK-S10 2TM-S47 10TS-D15 10TCU-T10 5HK-S10 5HK-S10 10TS-D30

Part Number.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			FIRESTONE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
RIA B	Tone Volume & Switch	2meg 1meg	80A1320-B	F2-2meg, R2-2meg, F FS102, R FS110, AK-31, KR-4				

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	FIRESTONE PART No.	REPLACEMENT DATA	
				Centralab	RC-471 Sprague PRC-9
K1	Antenna Isolation	1.2meg, 100mmf	89-4204		

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		FIRESTONE PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1 L2 L3 L4 L5 L6 L7	RF Choke (6.2uh) Ant. RF Osc. Input IF Output IF "A" Lead Choke	14-6.2 ① ① ① 14-272X 14-273X 75A6002	BC-565	4610	RTC-8520	T859	① Part of M2

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO	REPLACEMENT DATA					NOTES
		FIRESTONE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	8: 1	75A1436					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
		FIRESTONE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	16Ω	3-4Ω	75A1272				TR-161

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		FIRESTONE PART No.	QUAM PART No.	
SP1	5" x 7" PM 3-4Ω	73-1170M	57A1	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			FIRESTONE PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	SFE	7½ Amp.			30707.5 (SFE 7½A)	15507.5A	SFE 7½	HMH

MISCELLANEOUS

ITEM No.	PART NAME	FIRESTONE PART No.	NOTES
M2 M3	Tuner Spark Plate	78B1571	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Knob - Tuning, Volume	47-50	Knob - Dummy	48B393-1
Knob - Tone	48B393	Escutcheon	54C1304

WIRING DATA

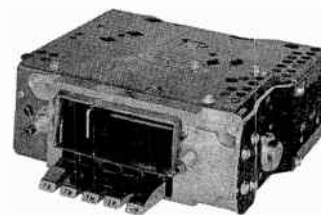
General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap	Use BELDEN No. 8661 (3/8 in.) or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



PHOTOFACT[®] with

CIRCUITRACE[®]

TRADE NAME : Mercury Model F3TBM (1963)
SUPPLIER : The Bendix Corp., Bendix Radio Div.,
Baltimore 4, Maryland
TYPE SET : 10 Transistor AM-FM Receiver
POWER SUPPLY : 12 Volt Storage Battery
RATING : .94 Amp. @ 12.6 Volts DC
TUNING RANGE : BROADCAST 540-1605KC
Freq. Mod. 88-108MC



REMOVAL INSTRUCTIONS

NOTE: To replace transistors, remove radio.

RADIO

1. Pull off knobs.
2. Use 9/16" wrench and remove nuts from control bushings.
3. Disconnect "A" lead, dial lamp lead and antenna lead.
4. Use 7/16" wrench and remove nut from rear of radio. Dislodge brace bracket.
5. Remove radio from under instrument panel.

SPEAKER

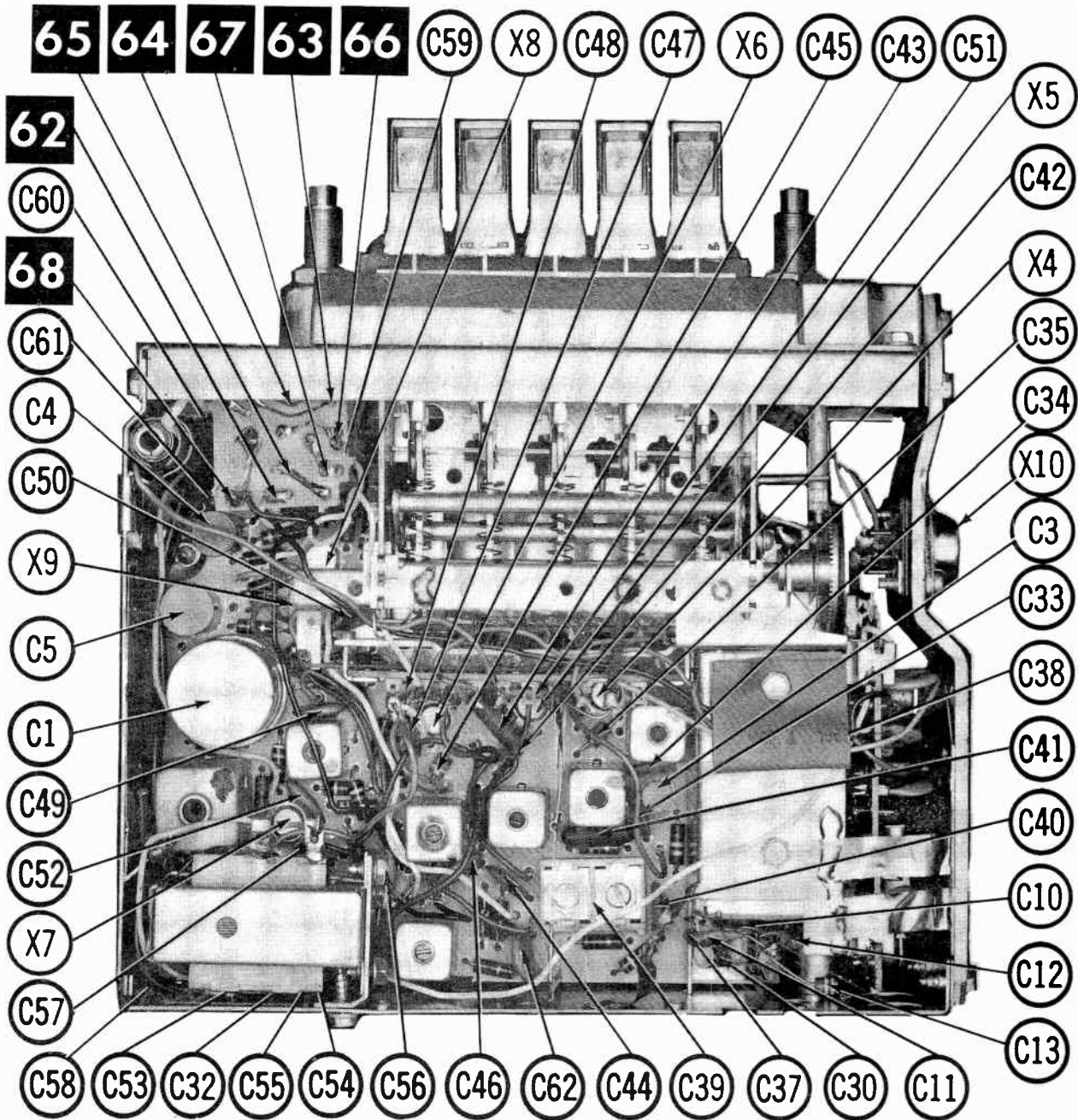
1. Remove wing nuts from under instrument panel holding front of speaker grille.
2. Lift front of speaker grille, slide back and remove.
3. Use 3/8" wrench and remove metal screws at each end of speaker.
4. Lift speaker out top of instrument panel.

MERCURY MODEL F3TBM

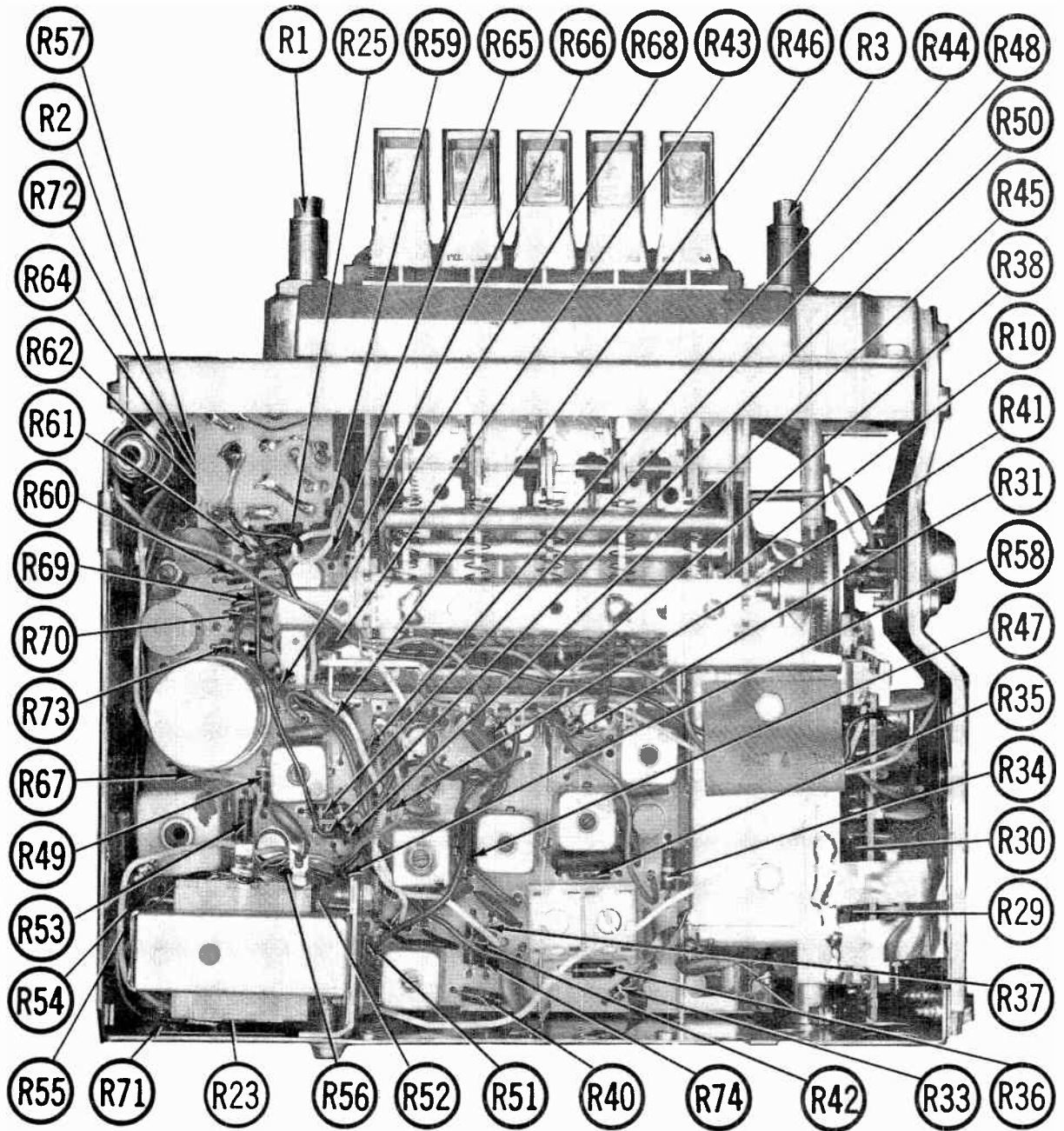
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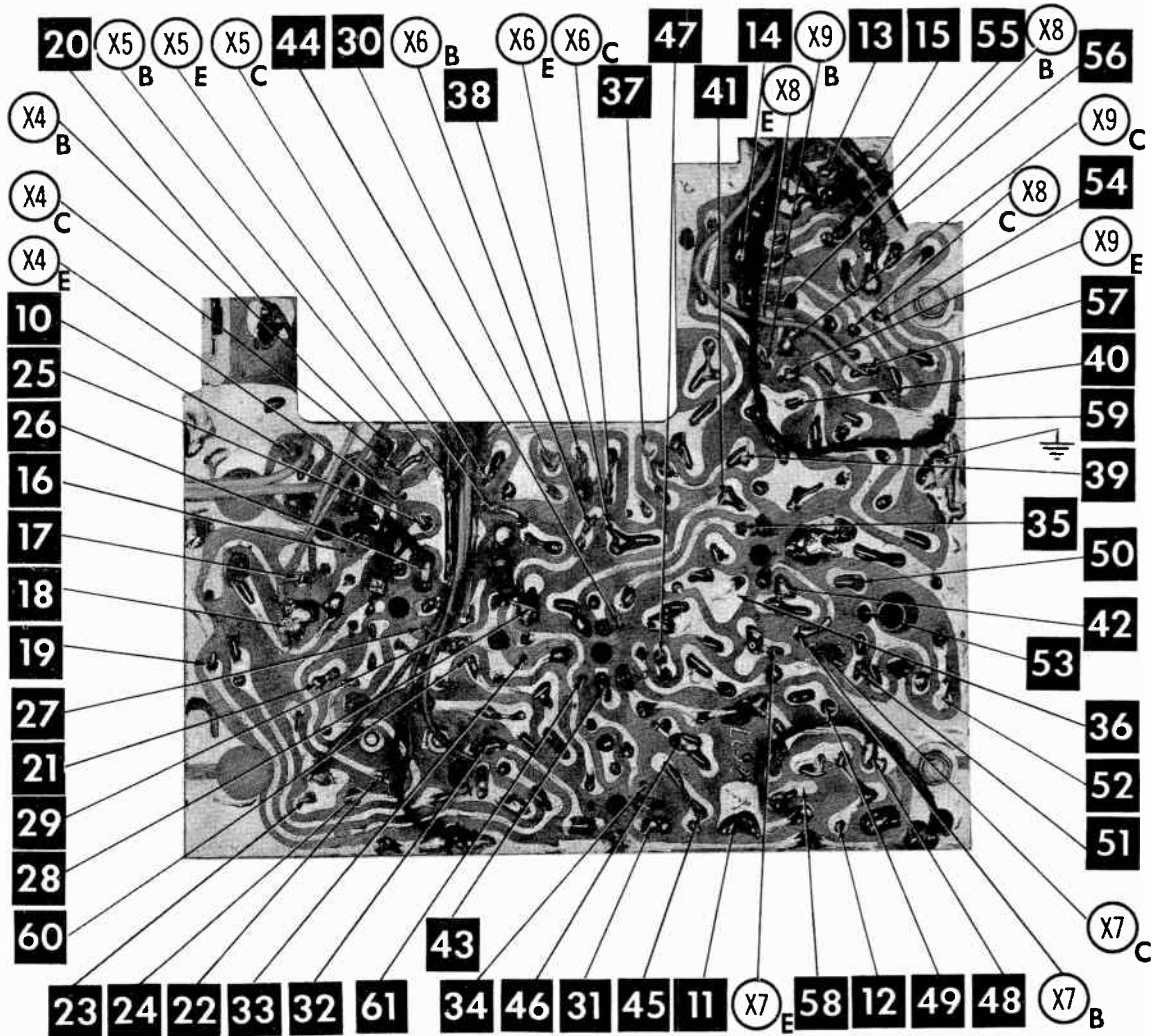
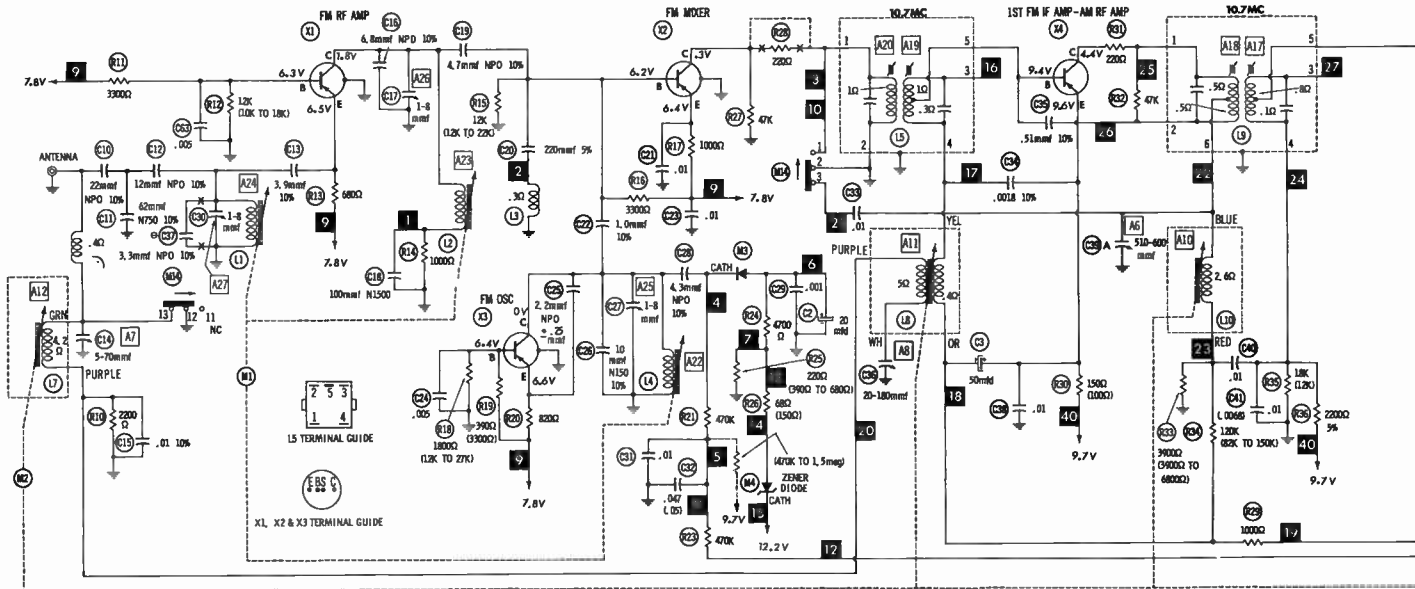
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World Radio History

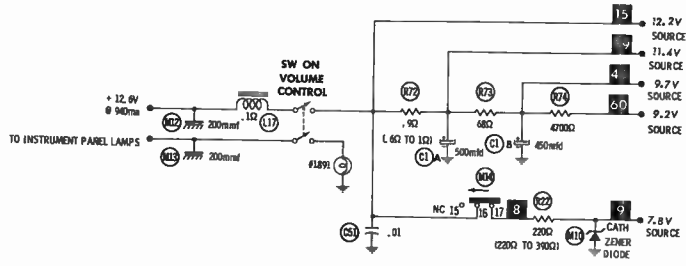
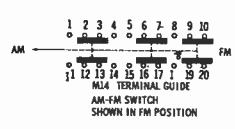
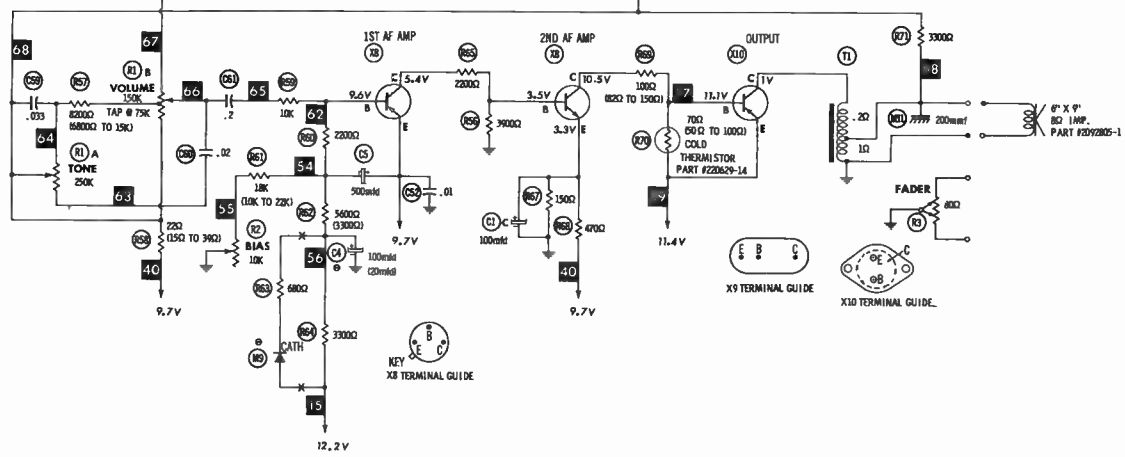
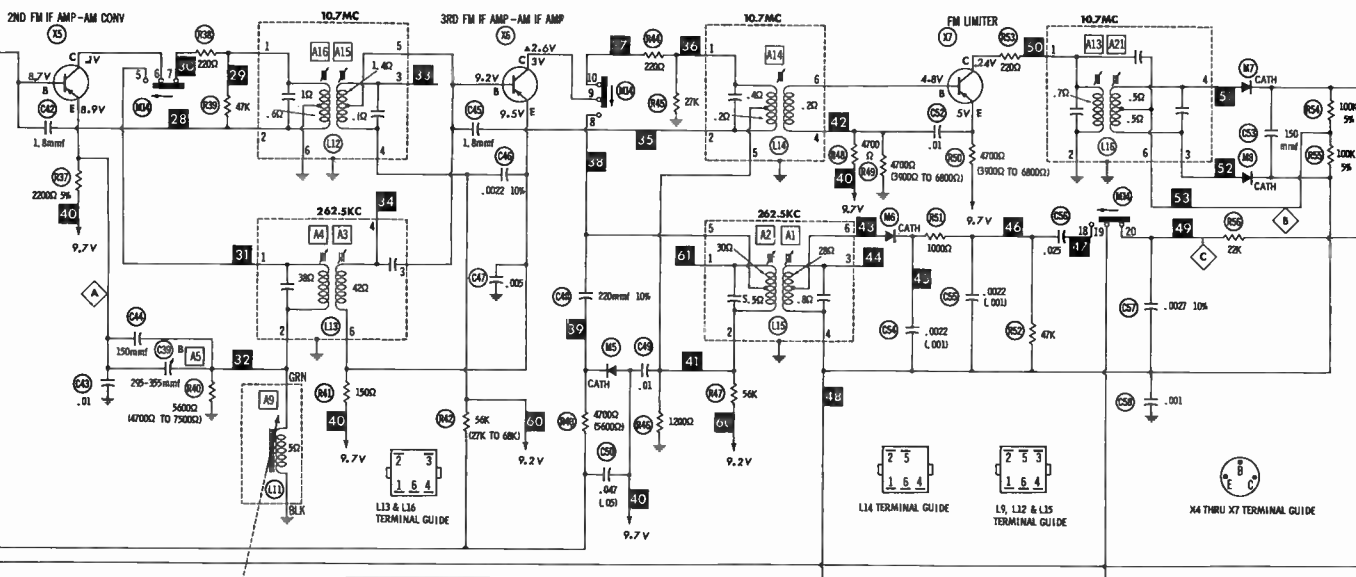


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A Howard W. Sams CIRCUITRACE® Photo

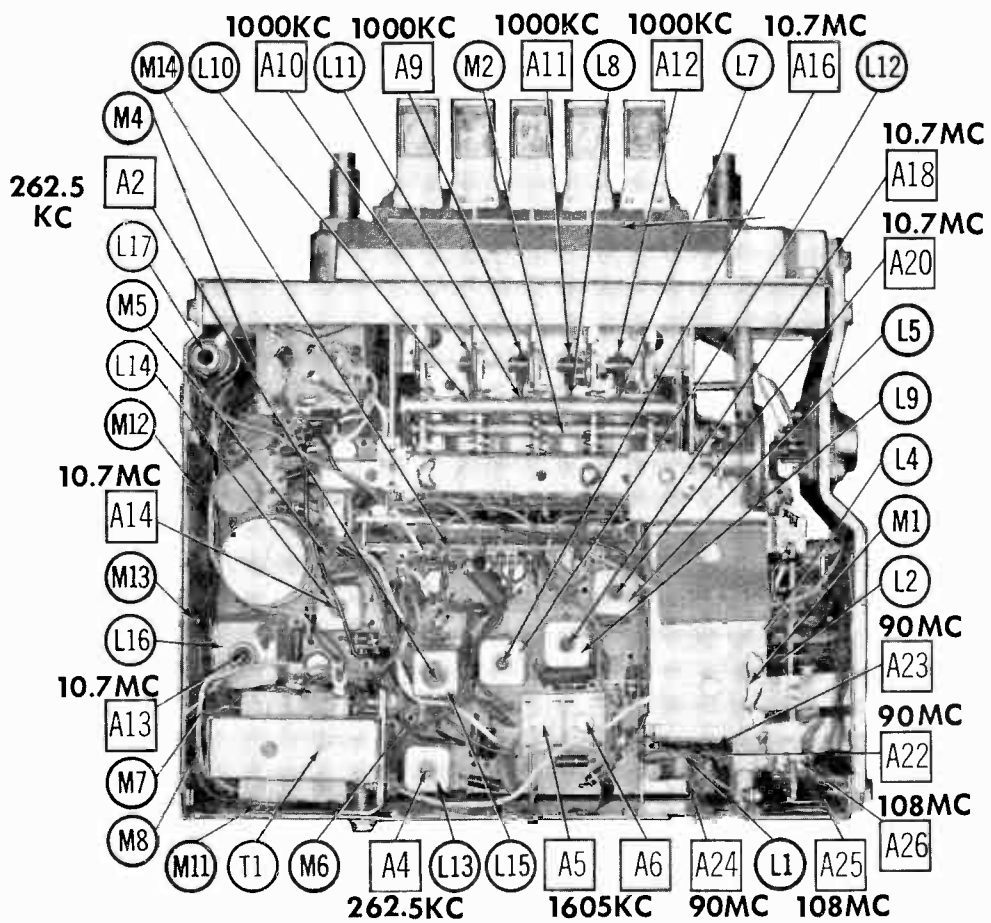
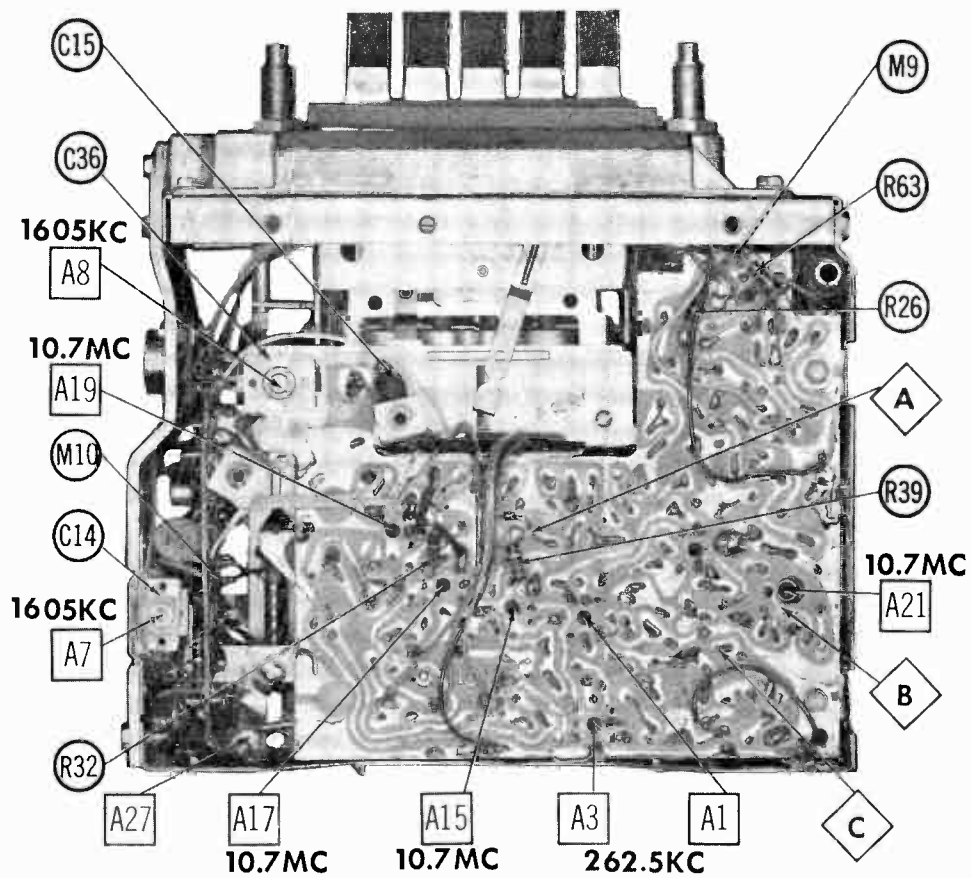


ALL VOLTAGES TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED.
 A VOLTAGES TAKEN IN AM POSITION

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 PHOTOFAC STANDARD NOTATION SCHEMATIC
 with **CIRCUITACE**
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MERCURY MODEL F3TBM



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 A20
A22 thru A27
A13, A21

GENERAL CEMENT #8290, 8868, 9087
WALSCO #2525, 2528, 2587
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 .1mfd to point \diamond , low side to ground.	262.5KC (400% Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1605KC	"	"	A5, A6, A7, A8	"
Step 3 is not necessary unless tuner has been tampered with or associated components have been replaced. If necessary, back tuning cores 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.						

FM ALIGNMENT USING AM SIGNAL GENERATOR - SELECTOR IN FM POSITION

High side of signal generator thru 68mmf to antenna terminal, 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 thru A20	Adjust for maximum.
5.	"	"	DC probe to point \diamond ; common to ground.	A21	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.
6.	90MC (Unmod.)	90MC	DC probe of VTVM to point \diamond ; common to ground.	A22, A23, A24	Adjust for maximum.
7.	108MC	108MC	"	A25, A26, A27	"

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

High side of signal generator thru 68mmf to antenna terminal, low side to ground.

Use 60% frequency modulated signal with 450KC sweep. Use 120% sawtooth voltage in scope for horizontal deflection.

	GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
4.	10.7MC (450KC Swp.)	Point of non-interference.	Vert. amp. of scope to point \diamond ; low side to ground.	A13 thru A20	Adjust for maximum gain and symmetry of response similar to Fig. 2 with marker as shown.
5.	"	"	Vert. amp. to point \diamond ; low side to ground.	A21	Adjust to place marker at center of crossover lines similar to Fig. 3. SLIGHTLY retouch A13 for maximum amplitude and straightness of crossover lines.

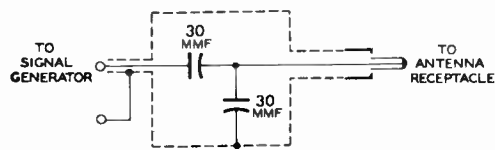


FIG. 1

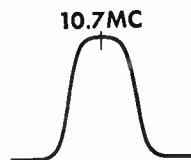


FIG. 2

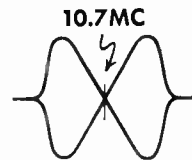


FIG. 3

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	BENDIX PART No.
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.		
X1		FM RF Amp.	DS-41			PNP	2092417-1
X2		FM Mixer	DS-41			PNP	2092417-2
X3		FM Osc.	DS-41			PNP	2092417-3
X4		1st FMIF Amp. -AM RF Amp	DS-34			PNP	2092418-1
X5		2nd FM IF Amp. -AM Conv.	DS-34			PNP	2092418-2
X6		3rd FM IF Amp. -AM IF Amp	DS-34			PNP	2092418-1
X7		FM Limiter	DS-34			PNP	2092418-2
X8		1st AF Amp.	DS-26	GE-2	2N591	PNP	2090924-8
X9		2nd AF Amp.	DS-44	GE-8		PNP	2091260-3
X10		Output	DS-520	GE-3	2N176	PNP	2091859-9

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	BENDIX PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	500	16	2091503-6			XC3-48②		PPP300.18	PC1S-3020.3*
B	450	16							
C	100	6							
C2	20	10	2090480-10	BCD12020	NLW20-15	MT1-10	MLV50-3	TT12X20	VL-1045
C3	50	3	2090480-4	BCD3050	ECSP50-3	MT1-15	MLV100-25	TT3X50	TE-1211
C4	100	16	①	BCD18100	NLW100-25	MT1-20	MLV100-25	TT25X100	TE-1068
C5	500	3	2090480-9	BCD12500	BR500-6	MT1-26	BL211	TC305	

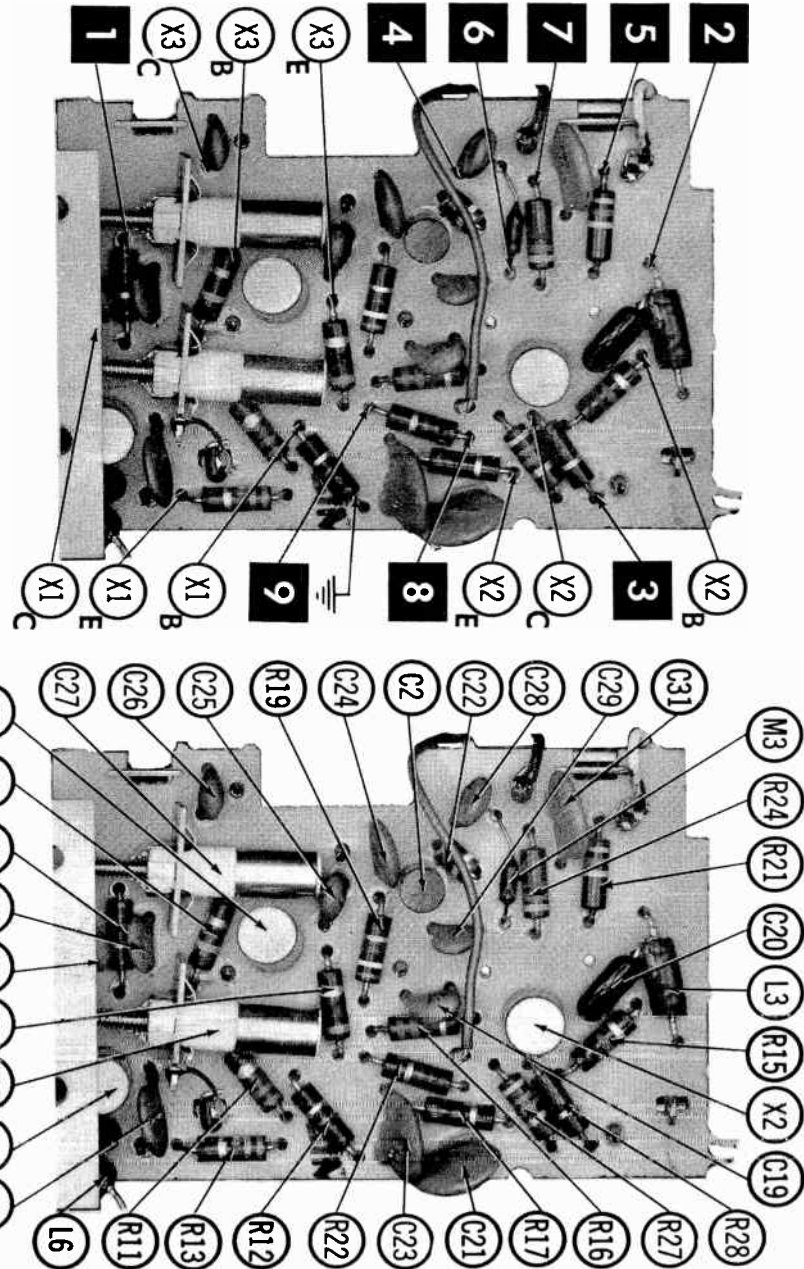
① Some versions may use 20mfd @ 16V, Part #2090480-2 in this application. ② Use printed circuit board adapters.
 * Not normally in distributor's stock. Available thru distributor on order to manufacturer.

FIXED CAPACITORS

ITEM No.	RATING		REMARKS	REPLACEMENT DATA					
				AEROVOX PART No.	CENTRAL LAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOC PART No.	MALLORY PART No.	SPRAGUE PART No.
C10	22	NPO 10%	Note 1	NPO -DI22	DTZ-22	C10Q22C	CCTO-220	CNO-422	10TCC-Q22
C11	62	N750 10%	Note 1		TCN-82		CCTN-820		
C12	12	NPO 10%	Note 1		TCZ-12		CCTO-120	CNO-412	10TCC-Q12
C13	3.9mmf	10%	Note 1						
C14	5-70		#2092594-1						
C15	.01	100V 10%	Note 1	BE2S1	CF-103	WMFIS1	IDP-1-103	PVC211	4PS-S10
C16	6.8mmf	NPO 10%	Note 1	NPO-DI 6.8	DTZ-6R8	C10V68C	CCTO-6R8	CNO-568	10TCC-V68
C17	1-8mmf		#2090517-1		829-10				
C18	100	N1500	#220332-37		TCL-100		*		
C19	4.7mmf	NPO 10%	Note 1	NPO-DI4.7	DTZ-4R7	C10V47C	CCTO-4R7	CNO-547	10TCC-V47
C20	220	NPO 5%	Note 1	1469-00022	CPR-220J	CD10E221J	DM-15-221J		MS-322
C21	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C22	1.0mmf	10%	Note 1	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C23	.01			BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C24	.005				TCZ-2R2			CNO-522	10TCC-V22
C25	2.2mmf	NPO ±.25	Note 1				*		10TCP-Q10
C26	10	N150 10%	Note 1		829-10				
C27	1-8mmf		#2090517-1						
C28	4.3mmf	NPO 10%	Note 1						
C29	.001			BPD-001	DD-103	BYA10D1	CCD-102	B-210	5HK-D10
C30	1-8mmf		#2090517-1		829-10				
C31	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C32	.047	100V	(.05)†	BE2S47	DD-503	WMFIS47	IDP-2-473	PVC1147	2PS-S47
C33	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C34	.0018	10%	Note 1	DI-1800	CF-182	JB6D18	CCD-182	GP218	10TS-D18
C35	.51mmf	10%	Note 1						

A Howard W. Sams
CIRCUITRACE Photo

TUNER



PARTS LIST AND DESCRIPTION (CONTINUED)

FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C36	20-180mmf	#219083-8						
C37	3.3mmf NPO	Note 2	NPO-DI3.3	TCZ-3R3	C10V33C	CCTO-3R3	CNO-533	10TCC-V33
C38	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C39A	510-800	#2092422-2						
C39B	295-355							
C40	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C41	.01 100V	(.0066)†	BE2S1	CF-103	WMF1S1	IDP-1-103	PVC211	4PS-S10
C42	1.8mmf	Note 1						
C43	.01 100V		BE2S1	CF-103	WMF1S1	IDP-1-103	PVC211	4PS-S10
C44	150 N750	Note 1	N750-DI 150	DTN-150	C10T15U	CCTN-151	CNT-315	10TCU-T15
C45	1.8mmf	Note 1						
C46	.0022	Note 1	DI-2200	CPR-2200	IR5D22	CCD-222	GP222	10TS-D22
C47	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C48	220	10%	NPO-S1220	D6-221	JB6T22	CCD-221	GP322	10TS-T22
C49	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C50	.047 100V	(.05)†	BE2S47	DD-503	WMF1S47	IDP-2-473	PVC1147	2PS-S47
C51	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C52	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C53	150		BPD-00015	DD-151	LA10T15-S3	CCD-151	GP315	10TS-T15
C54	.0022	(.001)†	S12200	D6-222	JB6D22	CCD-222	GP222	5HK-D22
C55	.0022	(.001)†	S12200	D6-222	JB6D22	CCD-222	GP222	5HK-D22
C56	.025 100V	Note 1	TTD-025	CK-253	H4	TA-125		TC-S25
C57	.0027	Note 1	DI-2700			CCD-272		10TS-D27
C58	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C59	.033 100V	Note 1	BE4633		WMF1S33	IDP-1-333	PVC1133	4PS-S33
C60	.02 100V		TTD-02	CK-203	H3	TA-120		TC-S25
C61	.2 10V		UK20-204		HCC25224Z			HY-325
C62	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C63	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50

Note 1 Replace with same value as original. Note 2 Not used in some versions. † Alternate Value
 * Not normally in distributor's stock. Available thru distributor on order to manufacturer.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		BENDIX PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	FM Ant.	①					① Part of M1.
L2	FM RF	①					
L3	FM IF Trap (1uh)	2092210-5	BC-561	4602	RTC-8515	T855	
L4	FM Osc.	①					
L5	1st FM IF	2092421-1					
L6	RF Choke (2uh)	2092210-7	BC-563	4606	RTC-8517	T857	
L7	AM Ant.	②					② Part of M2.
L8	AM Ant.	②					
L9	2nd FM IF	2092421-5					
L10	AM RF	②					
L11	AM Osc.	②					
L12	3rd FM IF	2092421-2					
L13	1st AM IF	2092419-1					
L14	4th FM IF	2092421-6					
L15	2nd AM IF	2092419-2					
L16	Discriminator	2092423-1					
L17	"A" Lead Choke	2092050-12					

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	250K	2092598-1①				
B	Volume, Switch	150K 75K Tap					
R2	Bias	10K (2W)	219555-22				
R3	Fader	80Ω (2W)	2092596-1				

① Does not include printed circuit board.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T1	12Ω Tap	8Ω	2092599-1					

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			BENDIX PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
	SFE	7½ Amp.	SFE7½		307007.5 (SFE 7½ Amp.)	15507.5	SFE7½	HMH

MISCELLANEOUS

ITEM No.	PART NAME	BENDIX PART No.	NOTES
M1	FM Tuner Assy.	2092701-5	Includes Mounting bracket RCC Mfg. Less Mounting bracket RCC Mfg. Includes mounting bracket GIC Mfg. Less mounting bracket GIC Mfg. Include coupling rod, shuttle gate and pushbuttons RCC Mfg. Includes coupling rod, shuttle gate and pushbuttons GIC Mfg. Complete Assy.
	FM Tuner Assy.	2092701-7	
	FM Tuner Assy.	2092701-6	
	FM Tuner Assy.	2092701-8	
M2	AM Tuning Assy.	2092700-3	
	AM Tuner Assy.	2092700-4	
	FM AM Tuner Assy.	209265-2	
M3	AFC Diode	2092055-3	
M4	Zener Diode	2092055-5	
M5	AVC Diode	2092055-1	
M6	AM Det. Diode	2092055-1	
M7	Discriminator Diode	2092055-1	
M8	Discriminator Diode	2092055-1	
M9	Bias Regulator Diode	2092055-1	
M10	Zener Diode	2092055-5	
M11	Spark Plate	220267-17	200mmf
M12	Spark Plate	220267-21	200mmf
M13	Spark Plate	220267-17	200mmf
M14	Switch	2092702-1	FM AM For RCC Mfg. Tuner
	Switch	2092702-3	FM AM For GIC Mfg. Tuner

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

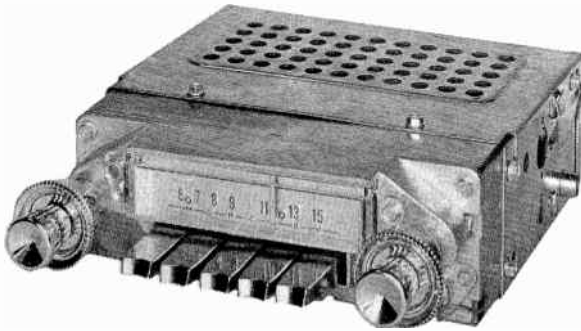
WIRING DATA

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 : Mercury Model 3TBM (C3MY-18805) 1963

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

TYPE SET : 6 Transistor AM Receiver

POWER SUPPLY : 12 Volt Storage Battery

RATING : .62 Amp. @ 12.6 VDC

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:

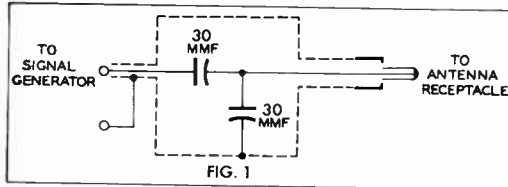
A1 thru A4... GENERAL CEMENT #8606, 8606L, 8869
WALSCO #2543, 2544, 2588
A5, A6, A7... GENERAL CEMENT #8290, 8868, 9087
WALSCO #2525, 2528, 2587

	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 (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.	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

NOTE: To replace transistors, remove radio.

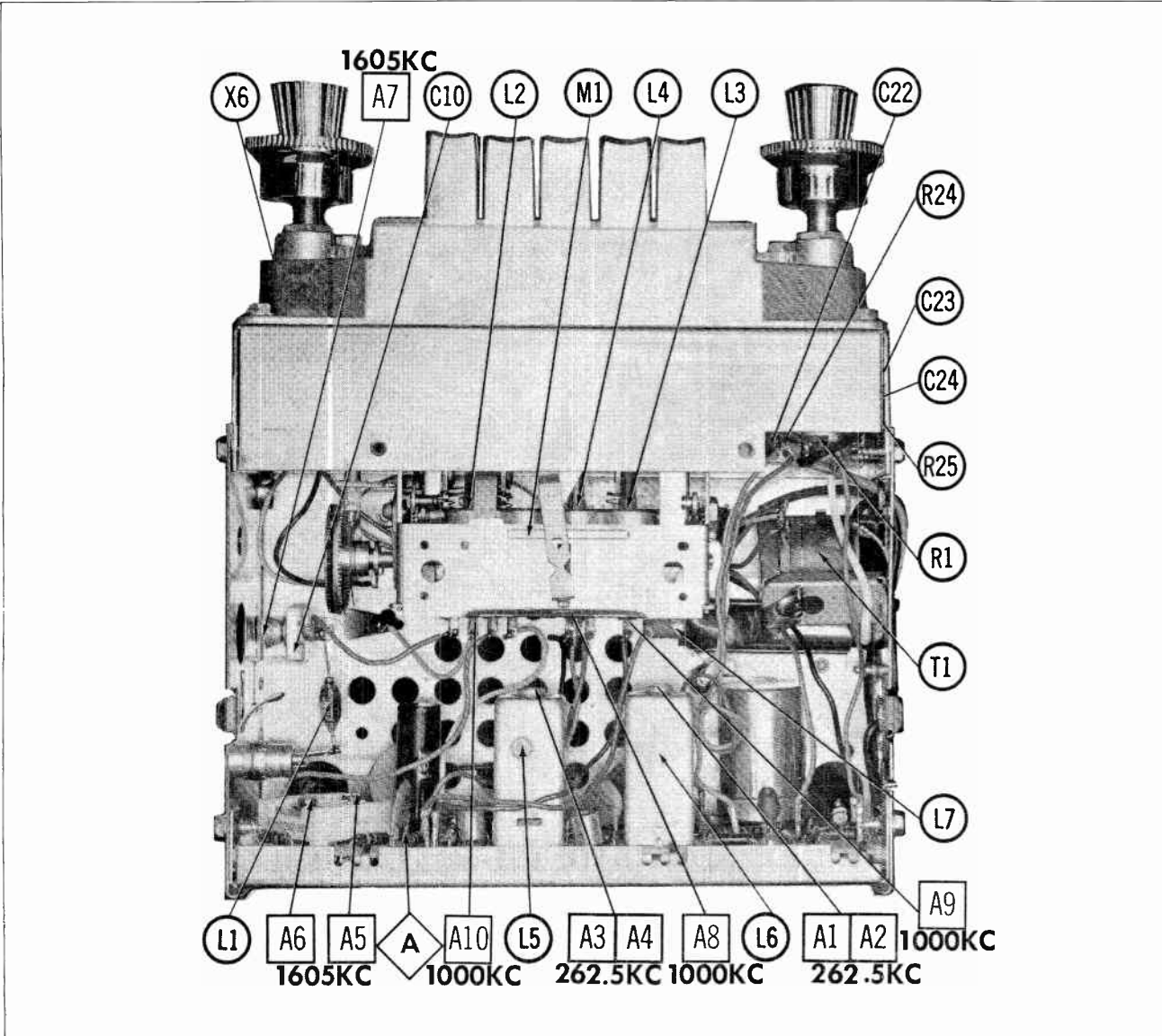
RADIO

1. Pull off knobs.
2. Use 9/16" wrench and remove nuts from control bushings.
3. Disconnect "A" lead, dial lamp lead & ant. lead.
4. Use 7/16" wrench and remove nut from rear of radio. Dislodge brace bracket.
5. Remove radio from under instrument panel.

SPEAKER

1. Remove wing nuts from under instrument panel holding front of speaker grill.
2. Lift front of speaker grill and slide back and remove.
3. Use 3/8" wrench and remove metal screws at each end of speaker.
4. Lift speaker out top of instrument panel.

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

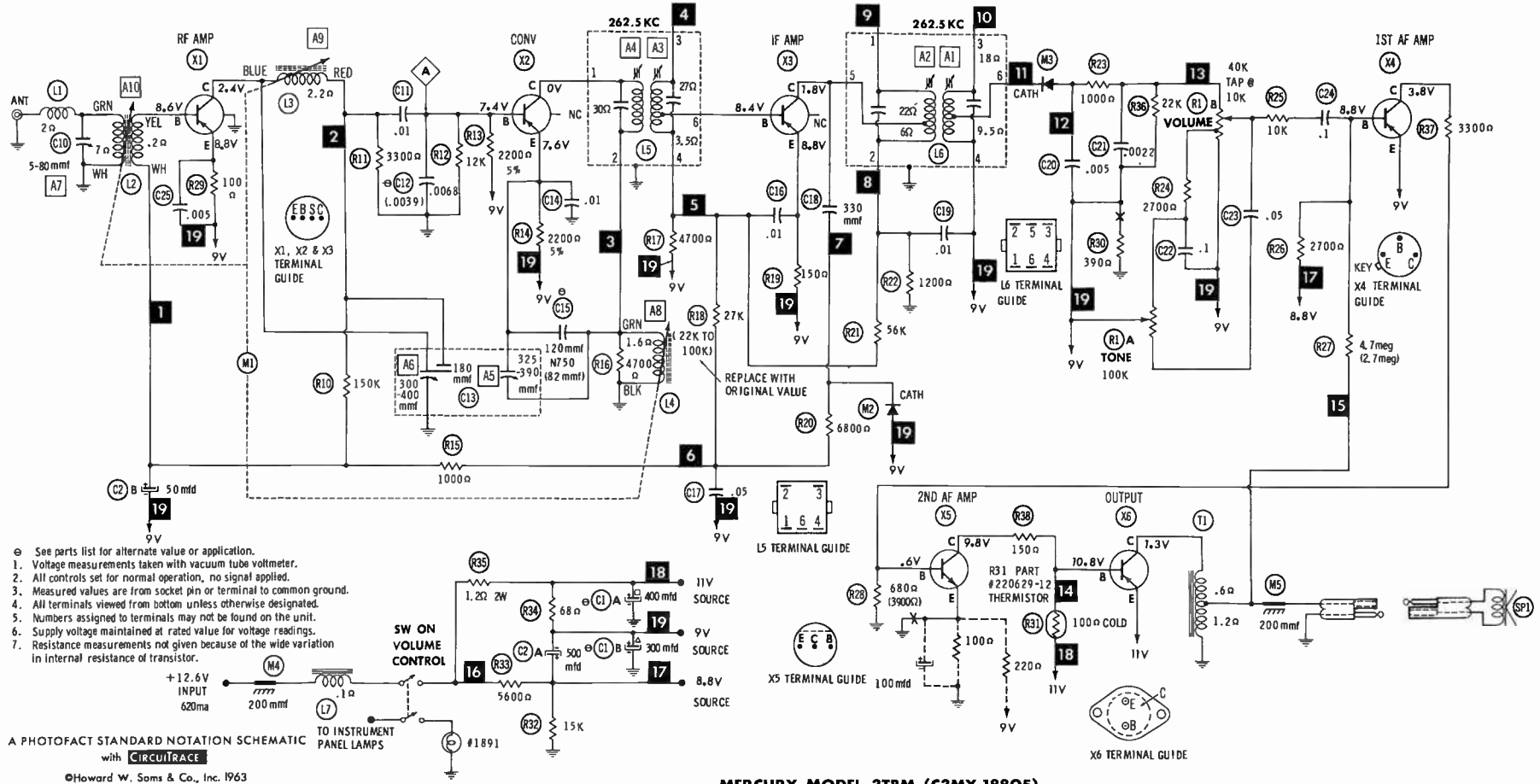
ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES	BENDIX PART No.
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.		
X1		RF Amp.	DS-25	GE-1	2N1637	PNP	2091241-15A
X2		Conv.	DS-25	GE-1	2N1639	PNP	2091241-13
X3		IF Amp.	DS-25	GE-1	2N1638	PNP	2091241-14
X4		1st AF Amp.	DS-26	GE-2	2N591	PNP	2090924-8A
X5		2nd AF Amp.	DS-44	GE-8		NPN	2091260-3
X6		Output	DS-520	GE-3	2N301	PNP (Note 1)	2091859-8

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

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	2091503-7 ①	PWP2-02-08		XC3-48, 1		PFP-300, 65	TVLS-2174*
B	300	16							
C2A	500	3	2092246-1	BCD3X50050			ATMT3001	PE T-2160	
B	50	3							

① Some versions may use 400-300-100mfd (Part #2091503-5).
* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

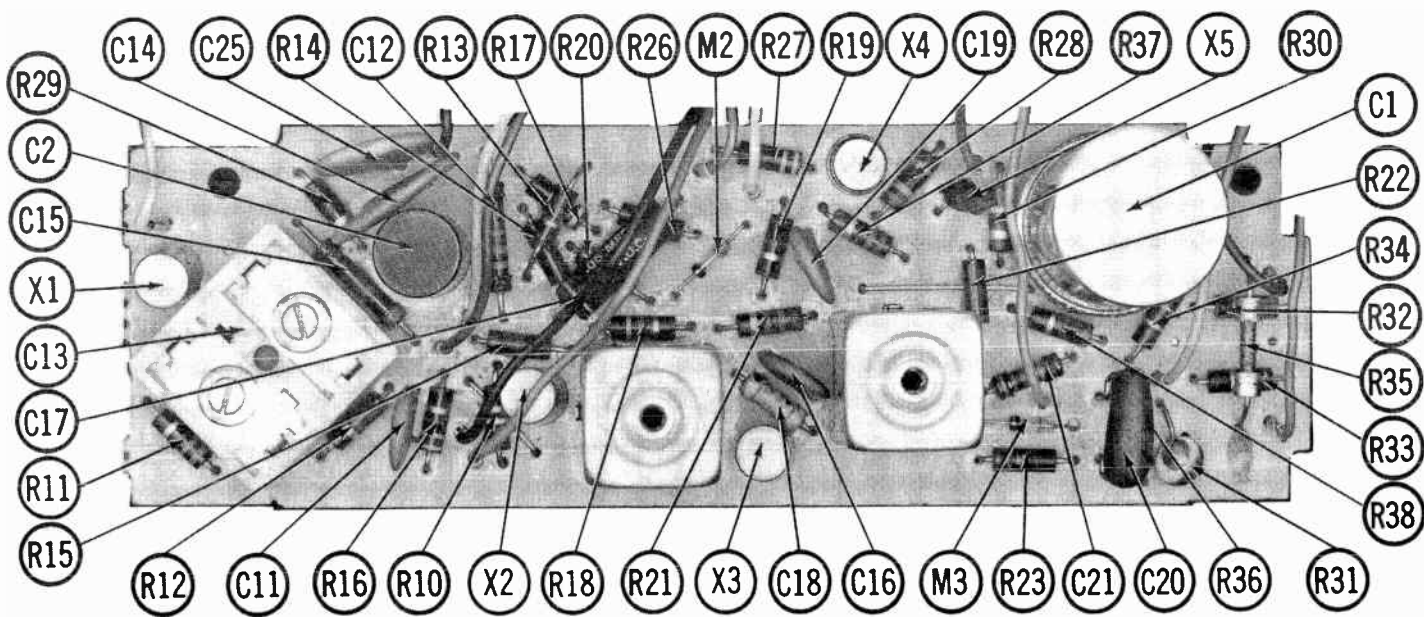
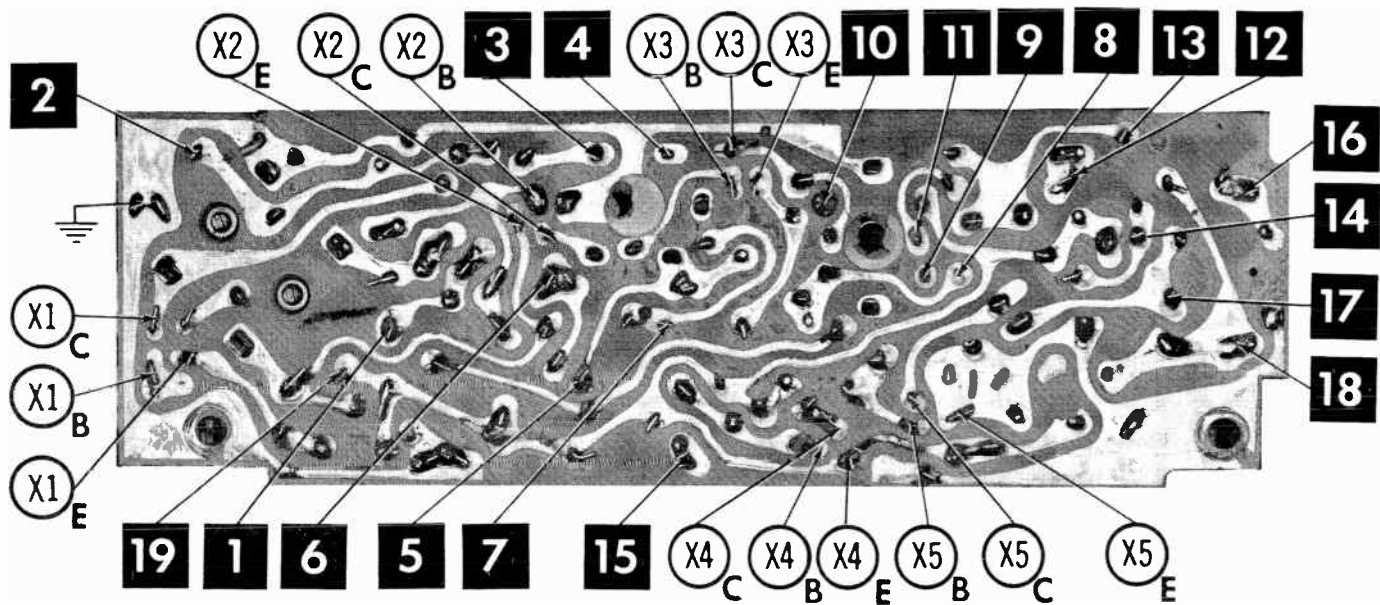


- ⊖ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise 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

©Howard W. Sams & Co., Inc. 1963

MERCURY MODEL 3TBM (C3MY-18805)



MERCURY MODEL 31BM (C3MY-18805)

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	5-80	#2091504-2	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C11	.01		SI 6800	DD-682	DPMS6D68	IDP-1-682	GEM-6268	30GA-D68
C12	.0068	#219092-28 (82) †	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C13A	300-400		N750-SI 120	TCN-120	C10T12U	CCTN-121	CN7-312	10TCU-T12
B	180		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C	325-390		TTD-05	CK-503	H5		TA-150	TG-S50
C14	.01		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33
C15	120 N750		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C16	.01		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C17	.05 100V		DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22
C18	330		TTD-1	CK-104	H6		TA-010	TG-P10
C19	.01		TTD-05	CK-503	H5		TA-150	TG-S50
C20	.005 100V		TTD-1	CK-104	H6		TA-010	TG-P10
C21	.0022		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C22	.1 10V							
C23	.05 100V							
C24	.1 10V							
C25	.005							

Bendix Part Number.
† Alternate Value.

CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA				
			BENDIX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone Volume & Switch	100K	2092097-5				
B		40K Tapⓐ 10K					

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	RF Choke(9uh)	2092210-4 ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ	BC-566	4612	RTC-8522	T860	ⓐ Part of M1 or Coil Assembly Part # 2090131-49 (RCC) or #2090131-50 (GIC)
L2	Ant.						
L3	RF						
L4	Osc.						
L5	Input IF						
L6	Output IF						
L7	"A" Lead Choke (1.2MH)						

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
		BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	12Ω Tapⓐ 8Ω	2092138-2			TR-164		

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		BENDIX PART No.	QUAM PART No.	
SP1	6" x 9" PM 8Ω	2092521-1		

MISCELLANEOUS

ITEM No.	PART NAME	BENDIX PART No.	NOTES
M1	Tuner	2092511-4	
M2	AVC Det.	2092055-1	
M3	A F Det.	2092055-1	
M4	Spark Plate	220267-25	185mmf
M5	Spark Plate	220267-21	200mmf

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Dial Glass	2092513-1	Knob, Tuning or Volume	2092041-1
Push Button	2092026-1	Knob, Tone or Dummy	2092522-1

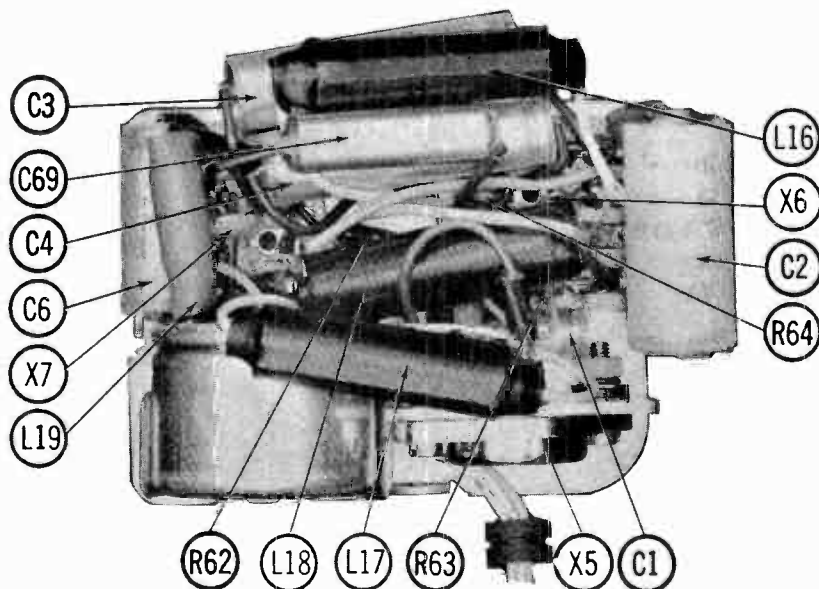
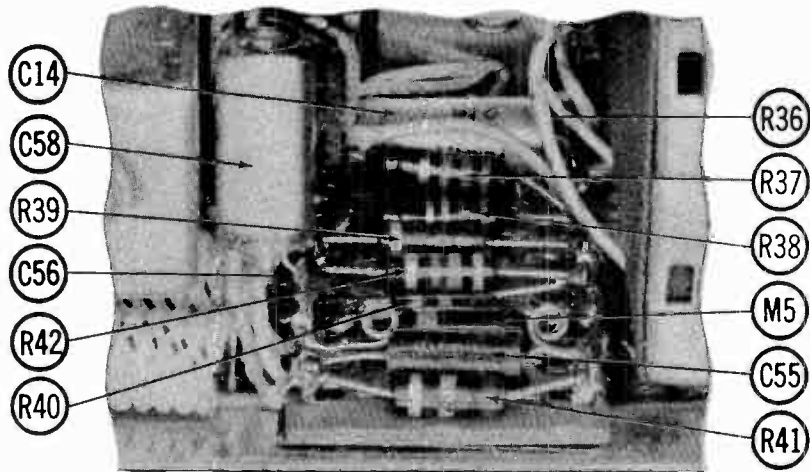
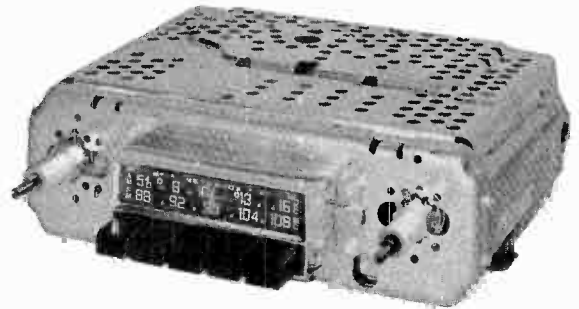
WIRING DATA

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.)



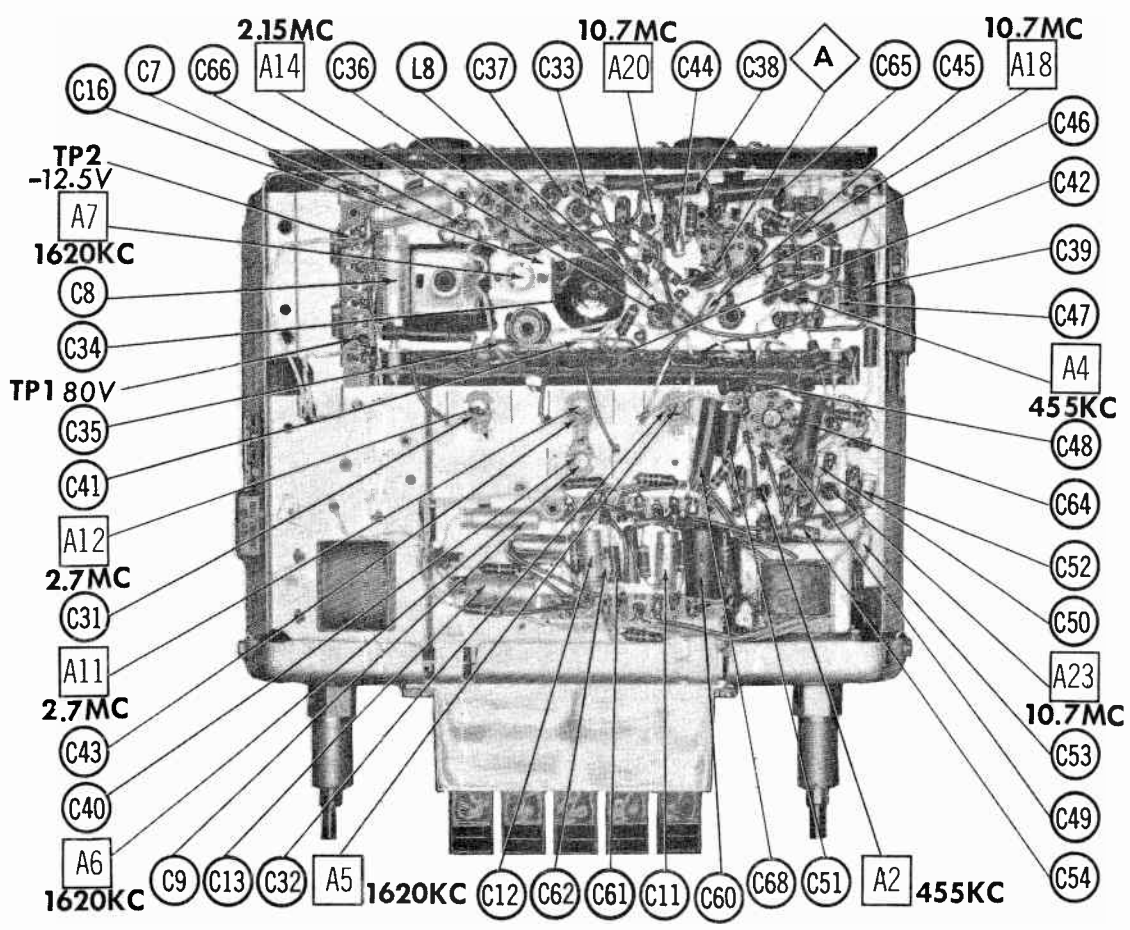
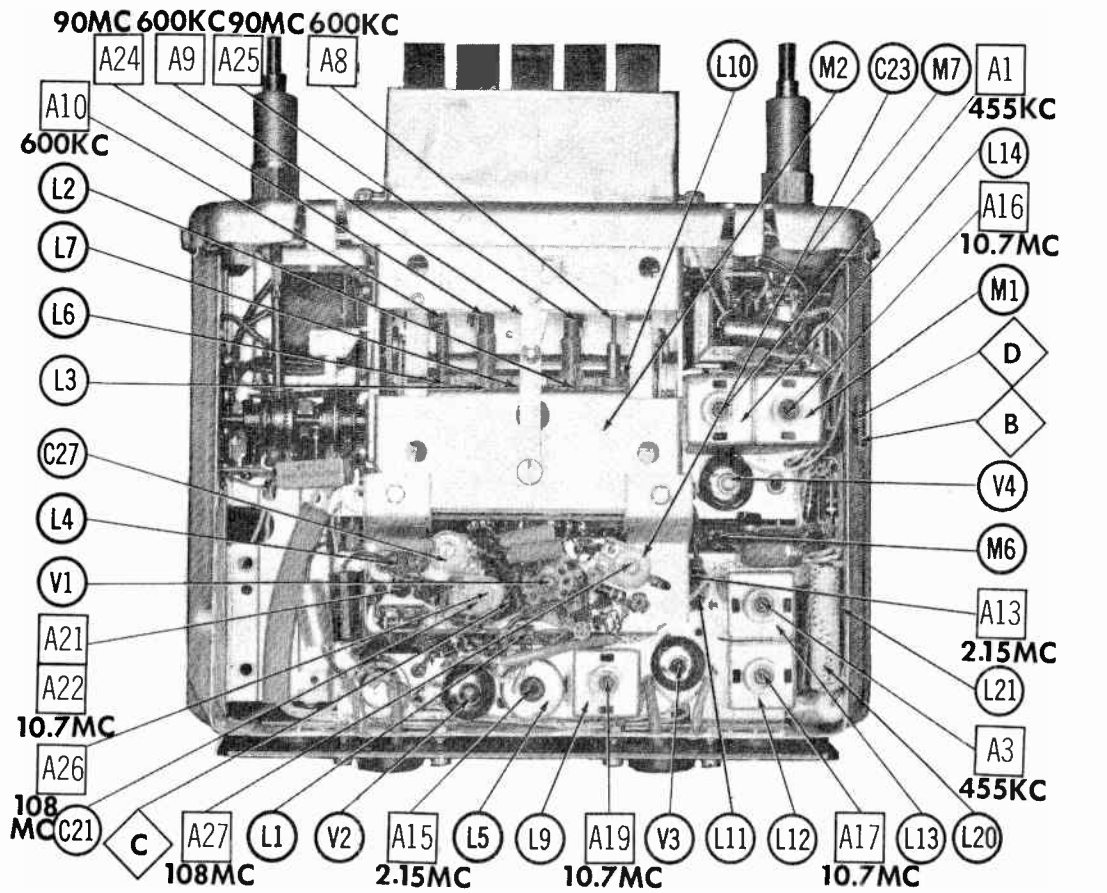
PHOTOFACT[®]

TRADE NAME : Metravox Model Sutton RA155
SUPPLIER : Metravox Corp.
 726- 65th Street, Brooklyn 20, N. Y.
TYPE SET : 4 Tube, 5 Transistor BC-SW-FM Receiver
POWER SUPPLY : 12 Volt Storage Battery
RATING : 1.3 Amp. @ 12.6 VDC
TUNING RANGE : BROADCAST 540 - 1620KC
 SHORT WAVE 2150 - 2700KC
 FREQ. MOD. 88 - 108MC



METRAVOX MODEL SUTTON RA155

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



ALIGNMENT INSTRUCTIONS

Maintain line voltage at rated value. Allow a 15 minute warmup for receiver and equipment.
Use only enough generator output to obtain a suitable indication.

Suggested Alignment Tools:

A1 thru A4, A17 thru A20..... GENERAL CEMENT #8290, 8868, 9087
WALSCO #2525, 2528, 2587
A5, A6, A7, A11, A12, A26, A27..... GENERAL CEMENT #8290, 8868, 9087
WALSCO #2525, 2528, 2587
A13, A14, A15, A16, A21, A22, A23..... GENERAL CEMENT #8282, 8606, 9302
WALSCO #2543, 2544, 2588

AM ALIGNMENT — SELECTOR IN AM POSITION

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
High side of generator thru .1mfid to point ⓐ, low side to ground.	455KC (Unmod.)	(BC) High Freq. End.	DC probe of VTVM to point ⓐ, common to ground.	A1, A2, A3, A4	Adjust for maximum.
Connect generator thru dummy (Fig. 1) to antenna receptacle.	1620KC	"	"	A5, A6, A7	"
"	600KC	Tune to signal.	"	A8, A9, A10	Adjust for maximum.
"	2.7MC	(MB) High Freq. End.	"	A11, A12	Adjust for maximum.
"	2.15MC	Tune to signal.	"	A13, A14, A15	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.

FM ALIGNMENT USING AM SIGNAL GENERATOR — SELECTOR IN FM POSITION

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
High side thru .1mfid to point ⓐ, low side to ground.	10.7MC (Unmod.)	Point of non-interference.	DC probe of VTVM to point ⓐ, common to ground.	A16, A17, A18, A19, A20, A21, A22	Adjust for maximum.
"	"	"	DC probe to point ⓑ, common to ground.	A23	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.
Connect generator thru dummy (Fig. 1) to antenna receptacle.	90MC (Unmod.)	90MC	DC probe of VTVM to point ⓐ, common to ground.	A24, A25	Adjust for maximum.
"	108MC	108MC	"	A26, A27	"

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

Use 60% frequency modulated signal with 450KC sweep. Use 120% sawtooth voltage in scope for horizontal deflection.

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
High side thru .1mfid to point ⓐ, low side to ground.	10.7MC (450KC Swp.)	Point of non-interference.	Vert. amp. of scope to point ⓐ, low side to ground.	A16, A17, A18, A19, A20, A21, A22	Disconnect stabilizing capacitor C14. Adjust for maximum gain and symmetry of response similar to Fig. 2 with marker as shown. Reconnect C14.
"	"	"	Vert. amp. to point ⓑ, low side to ground.	A23	Adjust to place marker at center of crossover lines similar to Fig.3. SLIGHTLY retouch A16 for maximum amplitude and straightness of crossover lines.

PUSH-BUTTON ADJUSTMENT

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

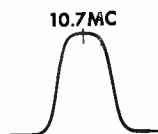
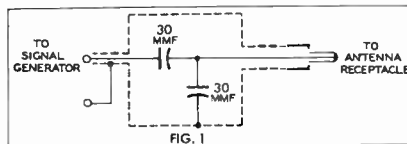


FIG. 2

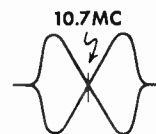
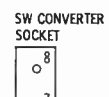
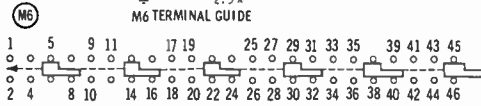
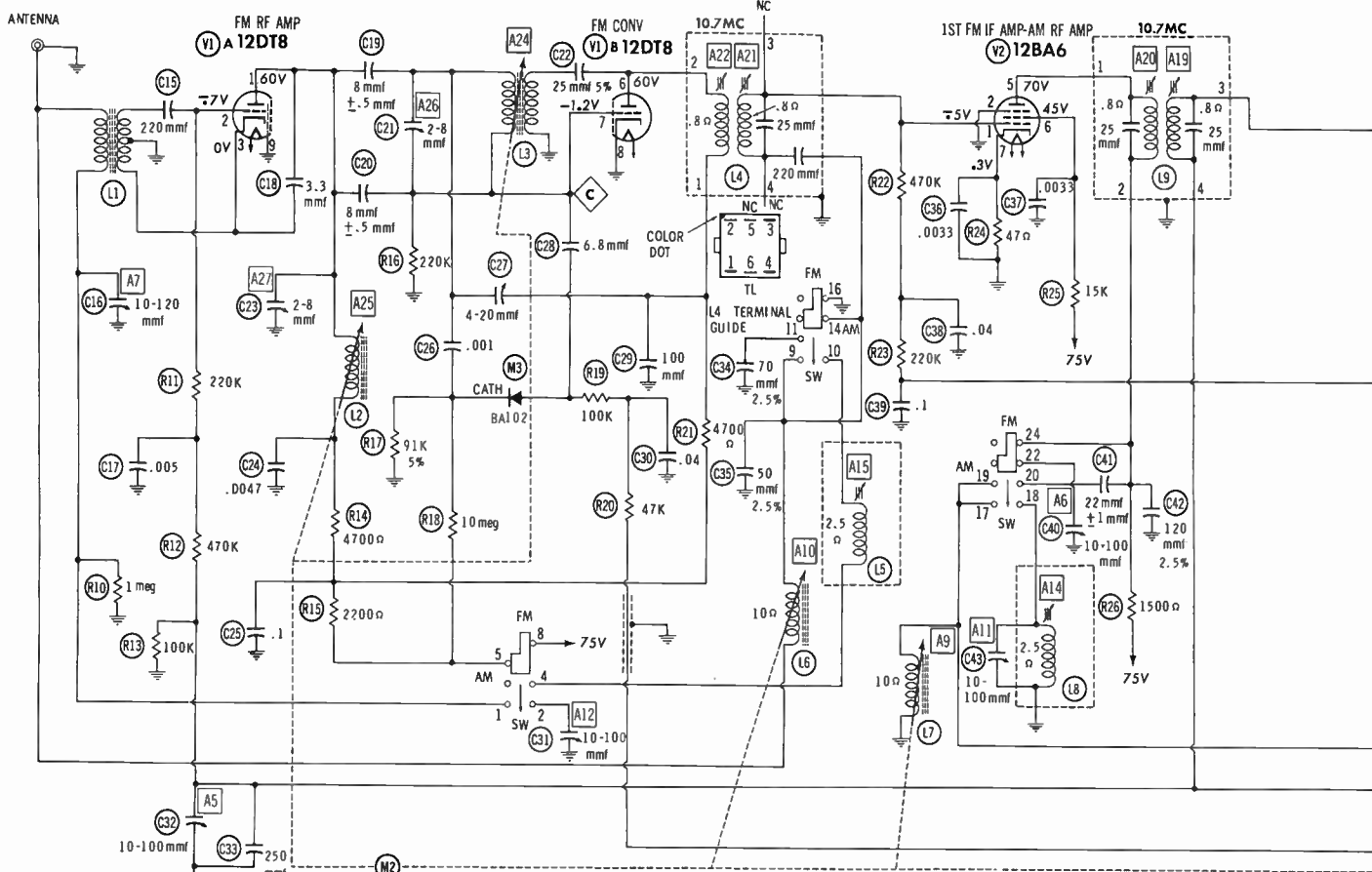
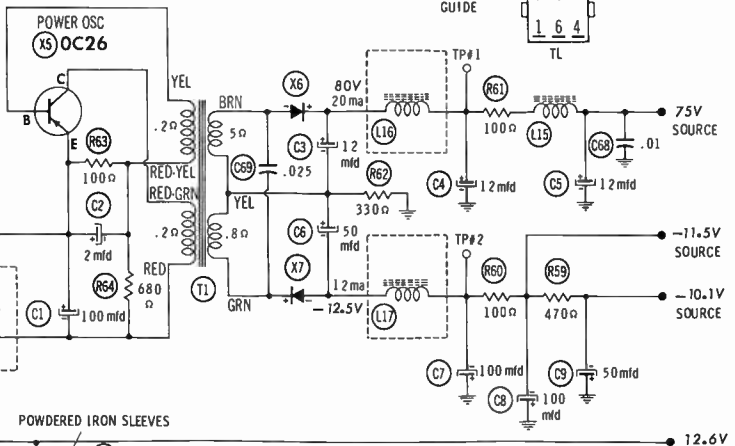
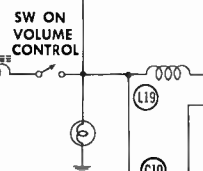


FIG. 3



BAND SWITCH M6 SHOWN IN "FM" POSITION SWITCH SEQUENCE

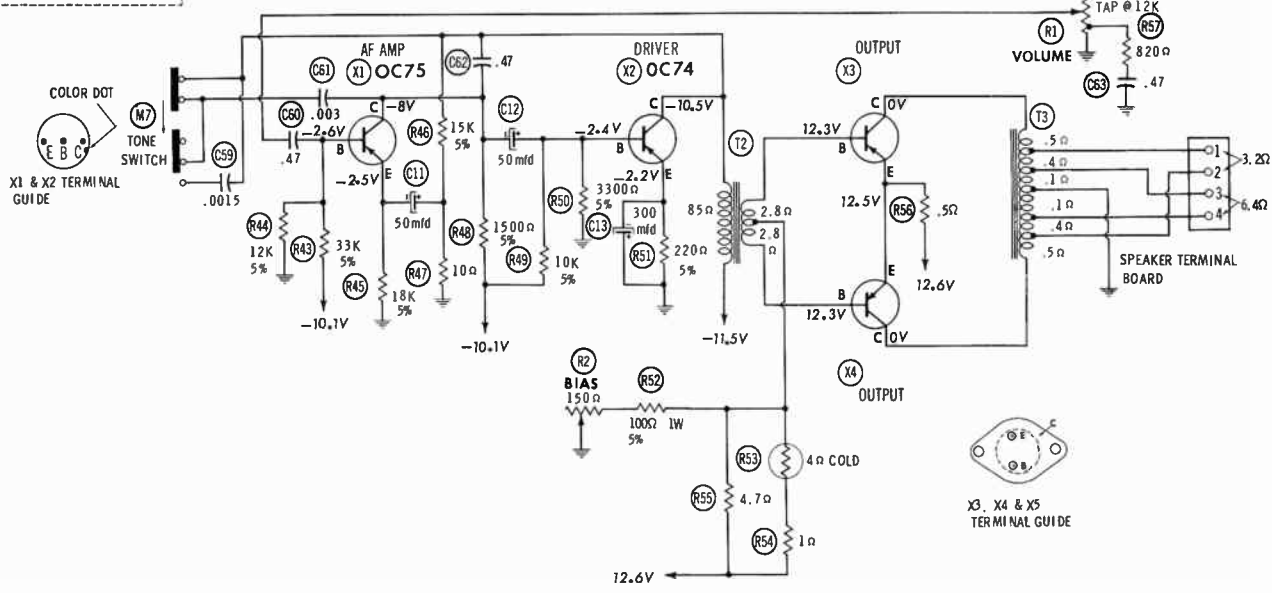
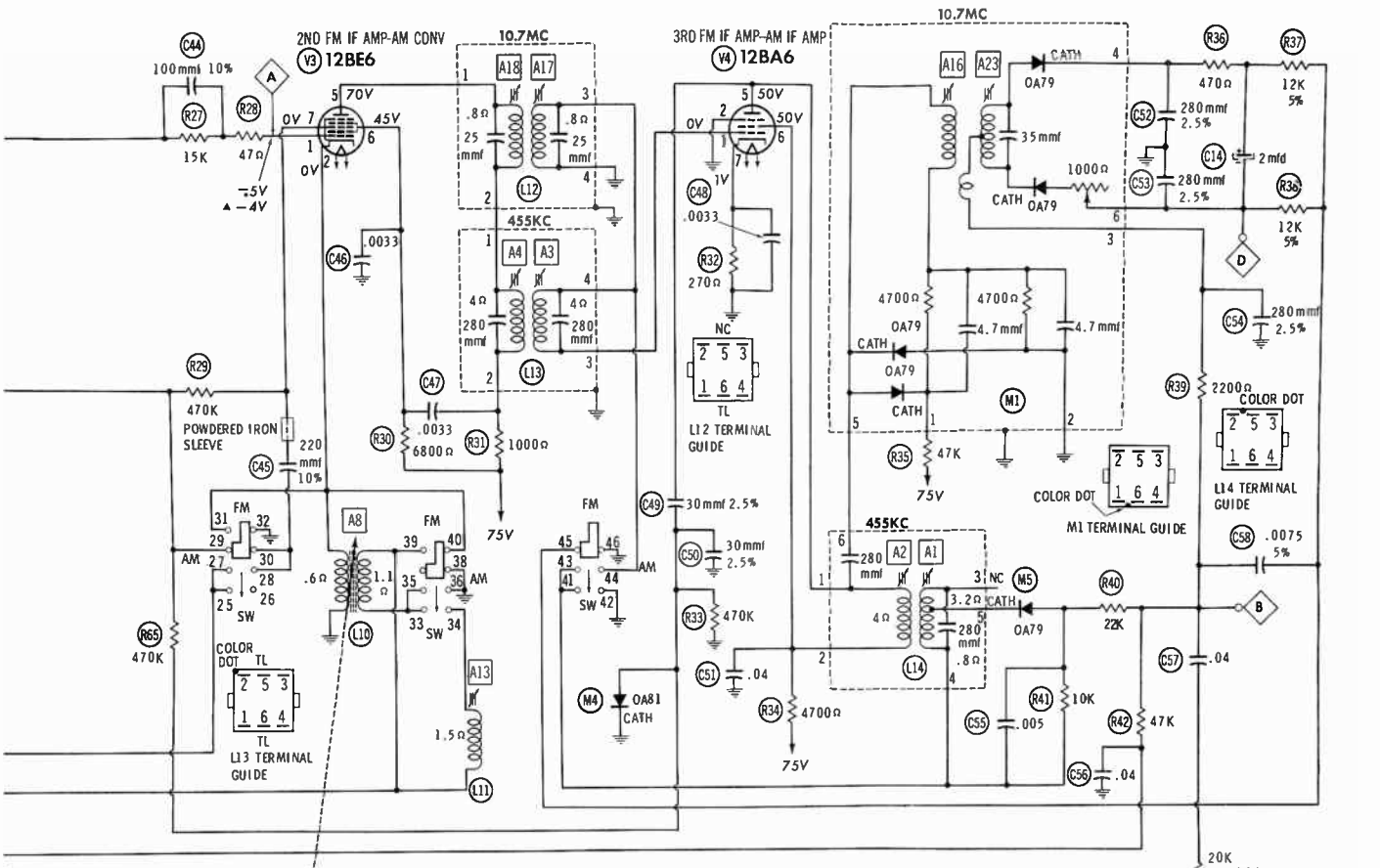
1. FM
2. AM
3. SW



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

A PHOTOFAC STANDARD NOTATION SCHEMATIC
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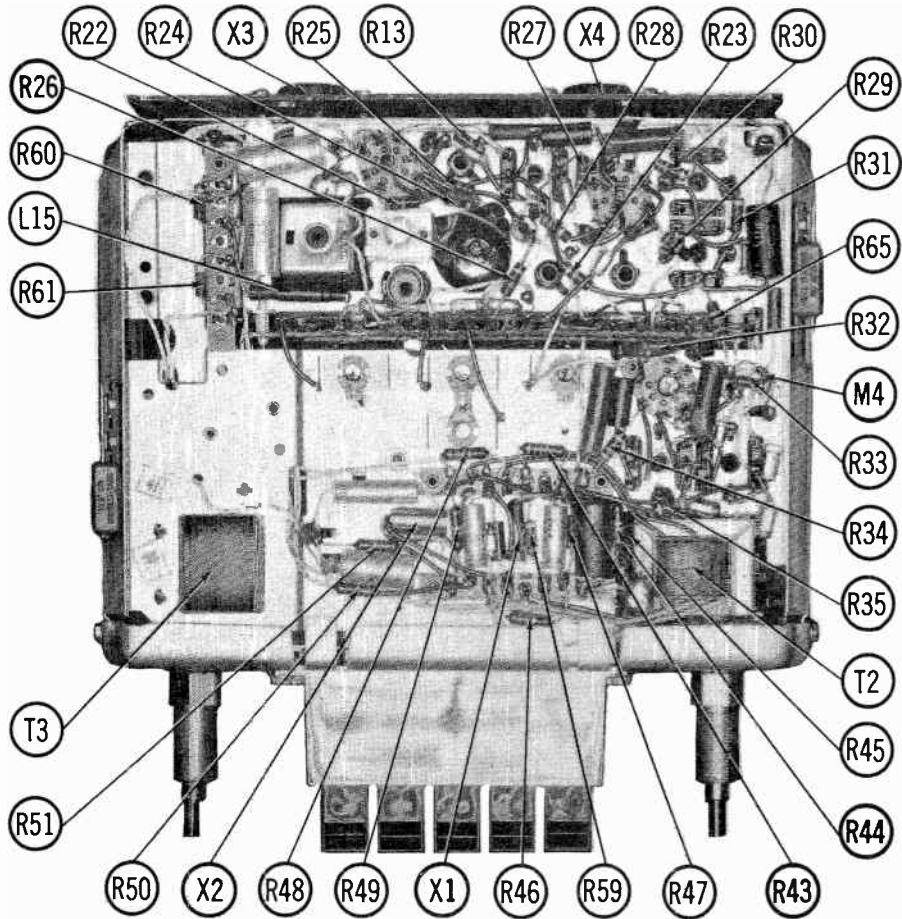
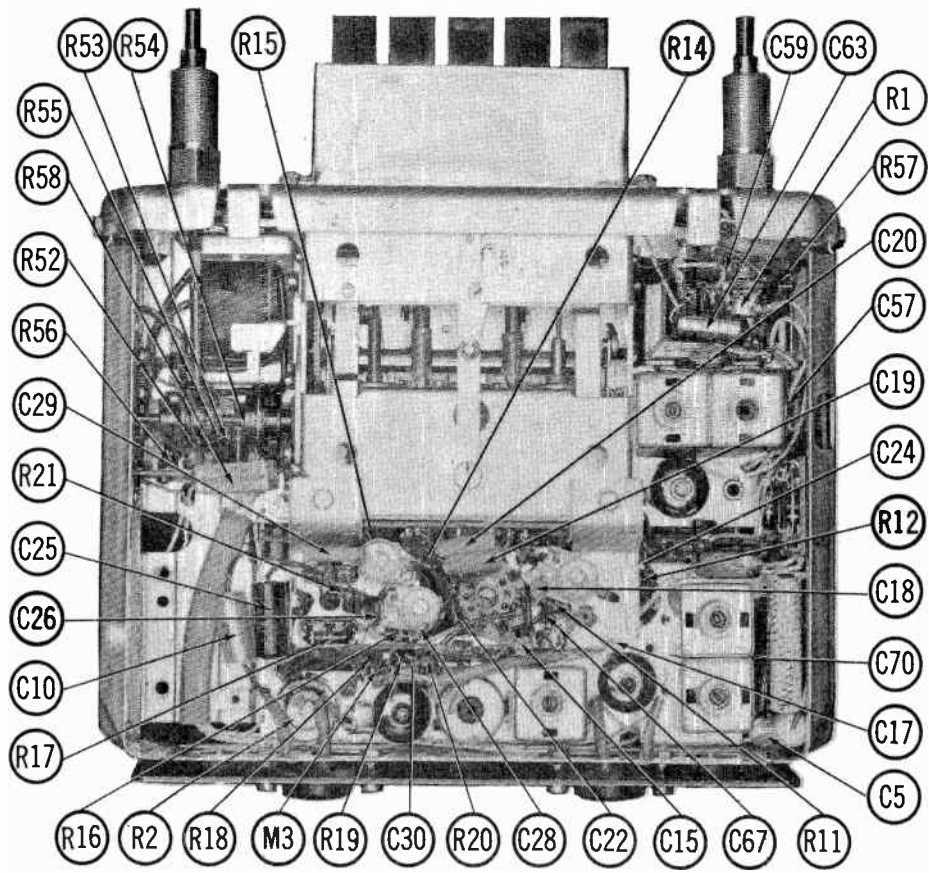
ALL MEASUREMENTS TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED.
▲ TAKEN IN "AM" POSITION. † MEASURED FROM TP #1
RESISTANCE FOR X1, X2, X3, X4, X5 NOT GIVEN BECAUSE OF WIDE VARIATION IN INTERNAL RESISTANCE OF TRANSISTORS.



RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12DT8	18000Ω	900K	0Ω	FIL	FIL	18000Ω	220K	0Ω	0Ω
V2	12BA6	700K	0Ω	FIL	FIL	11600Ω	117K	47Ω		
V3	12BE6	▲15K ▲115K	.6Ω	FIL	FIL	11100Ω	17000Ω	500K		
V4	12BA6	▲47 4.8Ω	0Ω	FIL	FIL	14800Ω	4800Ω	270Ω		

METRAVOX
MODEL SUTTON RA155



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		TYPE
			ITEM No.	USE	
V1	FM RF Amp. -FM Conv. 1st FM IF Amp. - AM RF Amp.	12DT8	V3	2nd FM IF Amp. -AM Conv. 3rd FM IF Amp. - AM IF Amp.	12BE6
V2		12BA6	V4		12BA6

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	OC75	AF Amp.	DS-26	GE-2	2N591	PNP
X2	OC74	Driver	DS-26	GE-2	2N591	PNP
X3	*	Output	DS-520	GE-3	2N176	PNP (Note 1)
X4	*	Output	DS-520	GE-3	2N176	PNP (Note 1)
X5	OC26	Power Osc.				PNP

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

* Metravox Part #2.4341.0018.

POWER RECTIFIERS

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS		
			MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X6	20MA	4354.0012	1N2069 (or 1N3193)	1N2859 (or 1N2860, 1N3193, 1N3755)	F4
X7	12MA	4354.0012	1N2069 (or 1N3193)	1N2859 (or 1N2860, 1N3193, 1N3755)	F4

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	METRAVOX PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	100	25	0107.4201	CRE623A	NLW100-25	MT1-20	MLV100-25	TT25X100	TE-1211
C2	2	6	0205.2201	CRE301A	NLW2-50	MT1-1	MLV2-12	TT6X2	TE-1081
C3	12	150	0126.6201	CRE957A	NLW12-150	MT1-8	MLV15-150	TT150X12	TE-1508
C4	12	150	0126.6201	CRE957A	NLW12-150	MT1-8	MLV15-150	TT150X12	TE-1508
C5	12	150	0126.6201	CRE957A	NLW12-150	MT1-8	MLV15-150	TT150X12	TE-1508
C6	50	25	0506.4203	CRE617A	NLW50-25	MT1-20	MLV50-25	TT25X50	TE-1209
C7	100	15	0107.3203	CRE473A	NLW100-15	MT1-19	MLV100-15	TT15X100	TE-1162
C8	100	15	0107.3203	CRE473A	NLW100-15	MT1-19	MLV100-15	TT15X100	TE-1162
C9	50	12	0506.3201	CRE417A	NLW50-15	MT1-16	MLV50-15	TT15X50	TE-1160
C10	100	12	0107.3201	CRE423A	NLW100-12	MT1-19	MLV100-12	TT15X100	TE-1135
C11	50	3	0506.2201	CRE217A	NLW50-3	MT1-18	MLV50-3	TT3X50	TE-1058
C12	50	3	0506.2201	CRE217A	NLW50-3	MT1-18	MLV50-3	TT3X50	TE-1058
C13	300	3	0307.1201	CRE235A	NLW300-3	MT1-26	MLV300-3	TT3X300	TE-1066
C14	2	6	0205.2201	CRE301A	NLW2-50	MT1-1	MLV2-12	TT6X2	TE-1081

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C15	220	#4187.1028	DI-220	DD-221	LA10T22-S3	CCD-221	GP322	10TS-T22	
C16	10-120		P288N-005	DD-502	DPMS6D5	1DP-1-502	GEM-425	6TM-D50	
C17	.005		NPO-SI 3.3	DTZ-3R3	C10V33C	CCTO-3R3	CNO-533	10TCC-V33	
C18	3.3		NPO-SI 8.2						
C19	6 ±.5		NPO-SI 8.2						
C20	8 ±.5								
C21	2-8		#4187.0119						
C22	25 5%		NPO-SI 25	TCZ-25	C10Q25C		CNO-425	10TCC-Q25	
C23	2-8		#4187.0119						
C24	.0047		SI 4700	D6-472	JB6D47	CM-20B-472M	GP247	5GA-D47	
C25	.1	P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10		
C26	.001	BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C27	4-20	#4187.0122							
C28	6.8	NPO-DI 6.8	DTZ-6R8	C10V68C	CCTO-6R8	CNO-568	10TCC-V68		
C29	100	NPO-SI 100	TCZ-100	C10T1C	CCTO-101	CNO-310	10TCC-T10		
C30	.04	P288N-04	DD-403	DPMS6S4	4DP-3-403	GEM-414	4TM-S40		
C31	10-100								
C32	10-100								
C33	250 2.5%				CM-20D-251G				
C34	70 2.5%								
C35	50 2.5%								
C36	.0033		TCZ-50		CM-20C-500G				
C37	.0033		DD-332	DPMS6D33	6DP-1-332	GEM-6233	6TM-D33		
C38	.04		D6-332	LA10D33	CM-20B-332M	GP233	5GA-D33		
C39	.1		DD-403	DPMS6S4	4DP-3-403	GEM-414	4TM-S40		
C40	10-100		DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10		
C41	22 ± 1	#0220.6601							
C42	120 2.5%				CM-15E-121G				
C43	10-100								
C44	100 10%		NPO-SI 100	DTN-100	C10T1C	CM-20B-101K	CNO-310	10TCC-T10	
C45	220 10%		DI-220	DD-221	LA10T22-S3	CCD-221	GP322	10TS-T22	
C46	.0033		SI 3300	D6-332	LA10D33	CM-20B-332M	GP-233	5GA-D33	
C47	.0033		SI 3300	D6-332	LA10D33	CM-20B-332M	GP233	5GA-D33	
C48	.0033		SI 3300	D6-332	LA10D33	CM-20B-332M	GP233	5GA-D33	
C49	30 2.5%			TCZ-30	CM-15E-300G				
C50	30 2.5%			TCZ-30	CM-15E-300G				
C51	.04		P288N-04	DD-403	DPMS6S4	4DP-3-403	GEM-414	4TM-S40	
C52	280 2.5%	#0281.5601							
C53	280 2.5%	#0281.5601							
C54	280 2.5%	#0281.5601							
C55	.005		P288N-005	DD-502	DPMS6D5	6DP-1-502	GEM-425	6TM-D50	
C56	.04		P288N-04	DD-403	DPMS6S4	4DP-3-403	GEM-414	4TM-S40	
C57	.04		P288N-04	DD-403	DPMS6S4	4DP-3-403	GEM-414	4TM-S40	
C58	.0075 5%			CPR-7500J	VCM-35B-752J				

METRAVOX MODEL SUTTON RAISS

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 (cont)

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.
C59	.0015		P288N-0015	CPR-1500J	DPMS16D15	CM-30B-152M	GEM-8215	6TM-D15
C60	.47		P288N-47		DPMS2P47	2DP-5-474	GEM-2047	2TM-P47
C61	.003		P288N-003	DD-302	DPMS6D3	6DP-1-302	GEM-823	6TM-D30
C62	.47		P288N-47		DPMS2P47	6DP-6-474	GEM-8047	6TM-P47
C63	.47		P288N-47		DPMS2P47	2DP-5-474	GEM-2047	2TM-P47
C64	.01		SI 10000	DD6-103	BYA10S1M	CM-35B-103M	MC475	5GA-S10
C65	.01		SI 10000	DD6-103	BYA10S1M	CM-35B-103M	MC475	5GA-S10
C66	.0022		EF-001					
C67	.0022		EF-001					
C68	.01		SI 10000	DD6-103	BYA10S1M	CM-35B-103M	MC475	5GA-S10
C69	.025		P288N-025		DPMS6S25	6DP-2-253	MC460	4PS-S25
C70	.5		P288N-5		DPMS2P5	2DP-5-504	GEM-205	2PS-P50

* Metravox Part Number.

CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA				
			METRAVOX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	20K Tap ③ 12K	4284.0158				
R2	Bias	150Ω 1.5W	4281.0150		39-150	112-150	FL-150

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA						NOTES
		METRAVOX PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.		
L1	FM Ant.	2652.0501					① Part of M2	
L2	FM RF	①						
L3	FM Osc.	2666.3101 ①						
L4	1st FM IF	2641.1130						
L5	SW Ant.							
L6	AM Ant.	①						
L7	AM RF	①						
L8	SW RF							
L9	2nd FM IF	2641.3125						
L10	AM Osc.	2656.5001 ①						
L11	SW Osc.							
L12	3rd FM IF	2641.3125						
L13	1st AM IF	2641.1120						
L14	2nd AM IF	2641.3126						
L15	RF Choke							
L16	RF Choke							
L17	RF Choke							
L18	RF Choke							
L19	RF Choke							
L20	RF Choke							
L21	RF Choke							

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	METRAVOX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	12VDC 100MA	80V 20MA	12V 12MA	2621.0511					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	METRAVOX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2			2621.2335					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	METRAVOX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T3			2621.1160					

MISCELLANEOUS

ITEM No.	PART NAME	METRAVOX PART No.
M1	Ratio Det. Assy.	2641.8502
M2	Tuner	2597.1013
M3	AFC Det. (BA102)	4354.0013
M4	AVC Det. (OA81)	4351.0013
M5	AM Det. (OA79)	4351.0012
M6	Band Switch	
M7	Tone Switch	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.
Knob, Volume, or Tuning	2751.1501
Knob, Tone	2751.3006
Knob, Band	2751.0107
Dial Pointer	2743.0010

WIRING DATA

General-use Unshilded 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.)



TRADE NAME : Mopar Models 330 (1963 Plymouth)
 331 (1963 Dodge)
 332 (1963 Dodge 880)
 333 (1963 Chrysler)

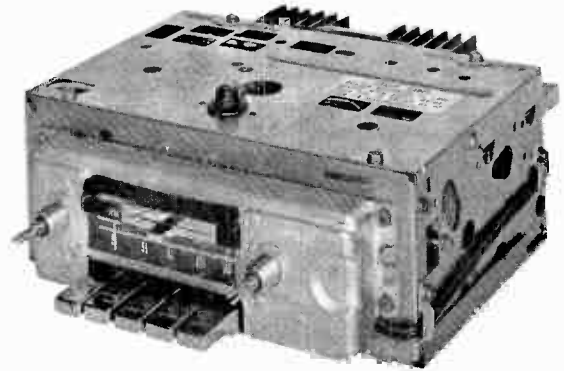
SUPPLIER: (Parts) United Delco Distributors

TYPE SET: 9 Transistor AM-FM Receiver

POWER SUPPLY: 12 Volt Storage Battery

RATING: 1.4 Amp. @ 12.6VDC

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



REMOVAL INSTRUCTIONS

DODGE and CHRYSLER

PLYMOUTH

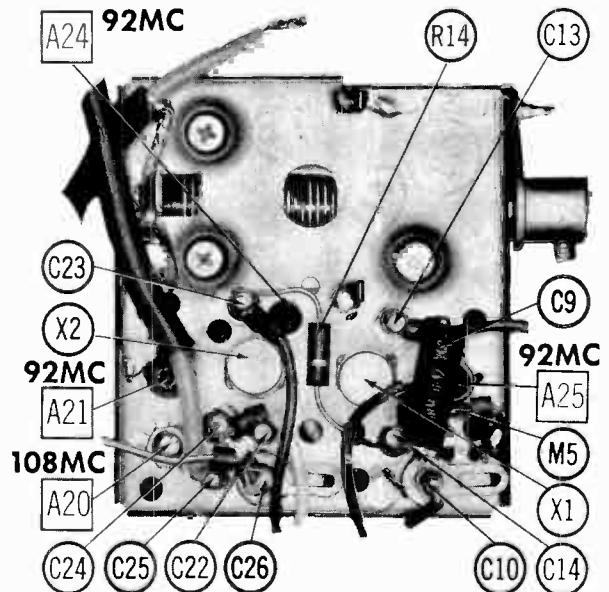
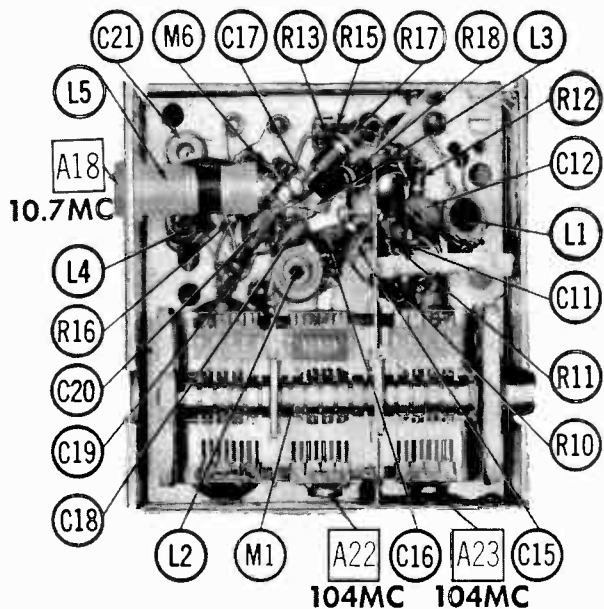
RADIO

1. Pull off knobs.
2. Disconnect speaker leads, "A" lead at connector, antenna, and lamp lead to wiring harness.
3. Remove two 1/2" hex nuts from control bushings.
4. Remove 3/8" hex nut washer assembly from rear mount.
5. Remove radio from rear of instrument panel.

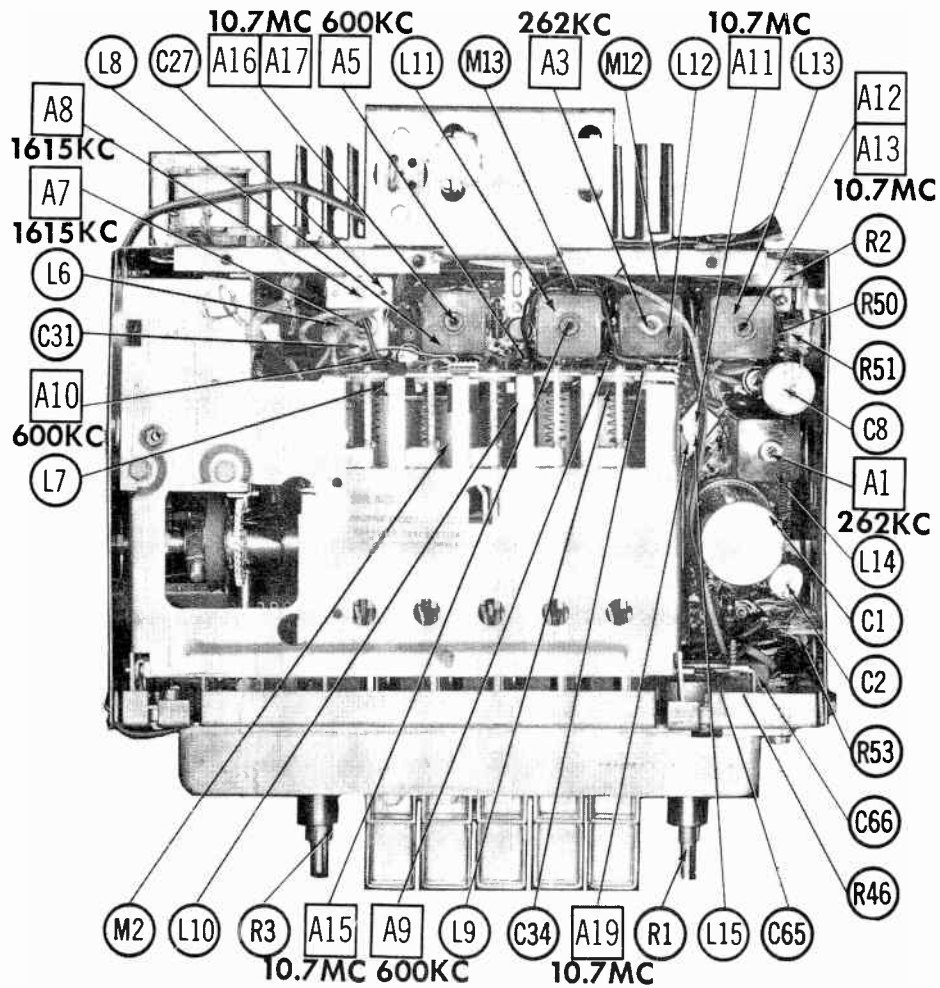
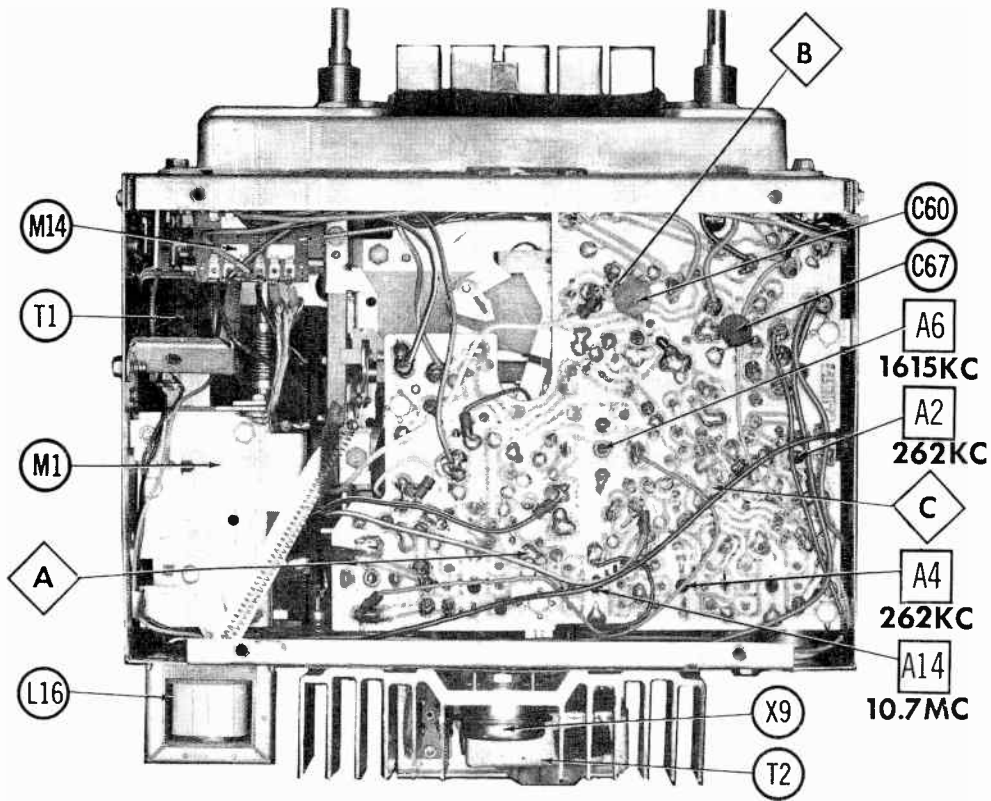
SPEAKER

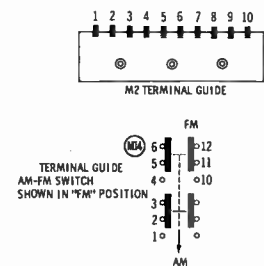
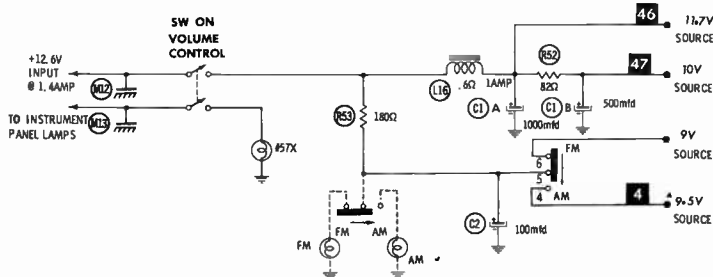
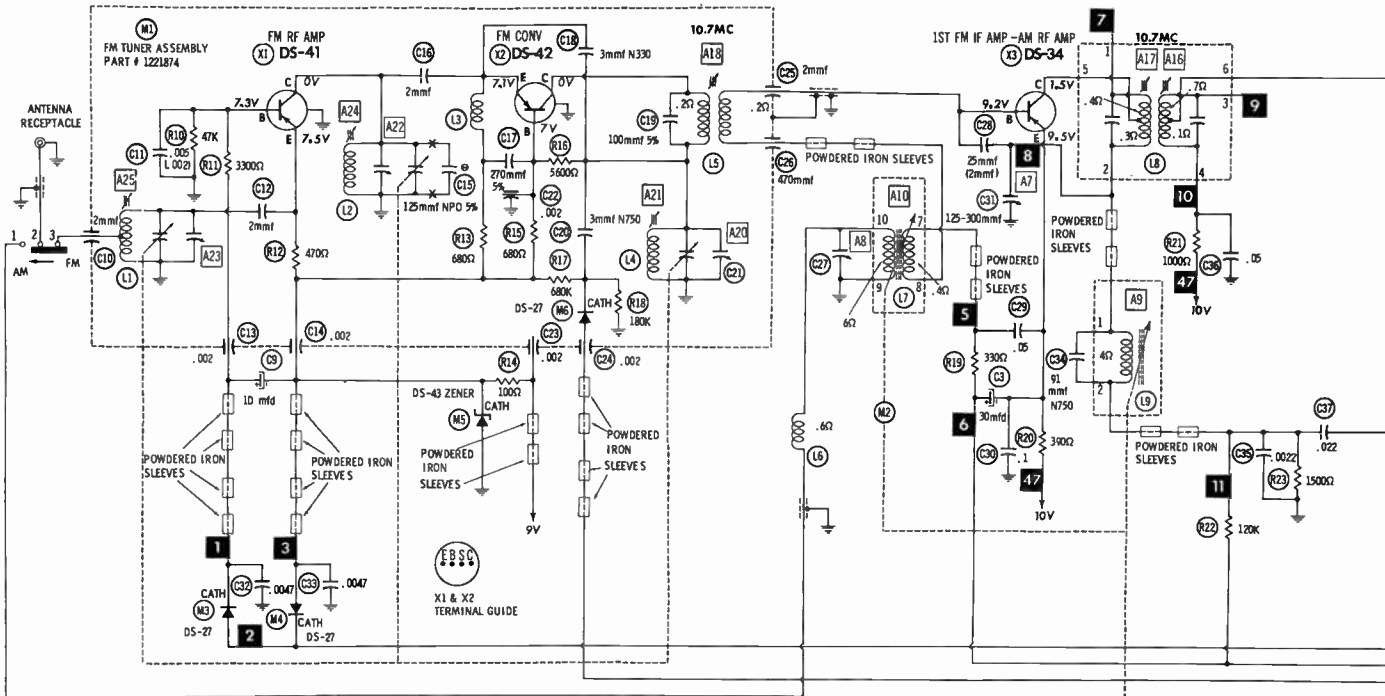
1. Remove 4 Phillips screws holding speaker to mounting bracket under top of instrument panel.
2. Remove speaker.

1. Raise lower right corner of speaker grill. Remove grill by sliding out.
2. Remove 4 Phillips screws holding speaker mounting bracket. Lift speaker assembly and disconnect leads.
3. Pull off control knobs.
4. Use 5/8" wrench and remove (2) nuts from control bushings. Remove bezel.
5. Use 11/16" wrench and remove (2) nuts from control bushings.
6. Thru speaker opening, disconnect antenna lead, and "A" lead at fuse holder.
7. Use 3/8" wrench and remove nuts on rear mounting bracket. Remove radio thru speaker opening.



MOPAR MODELS 330, 331, 332, 333

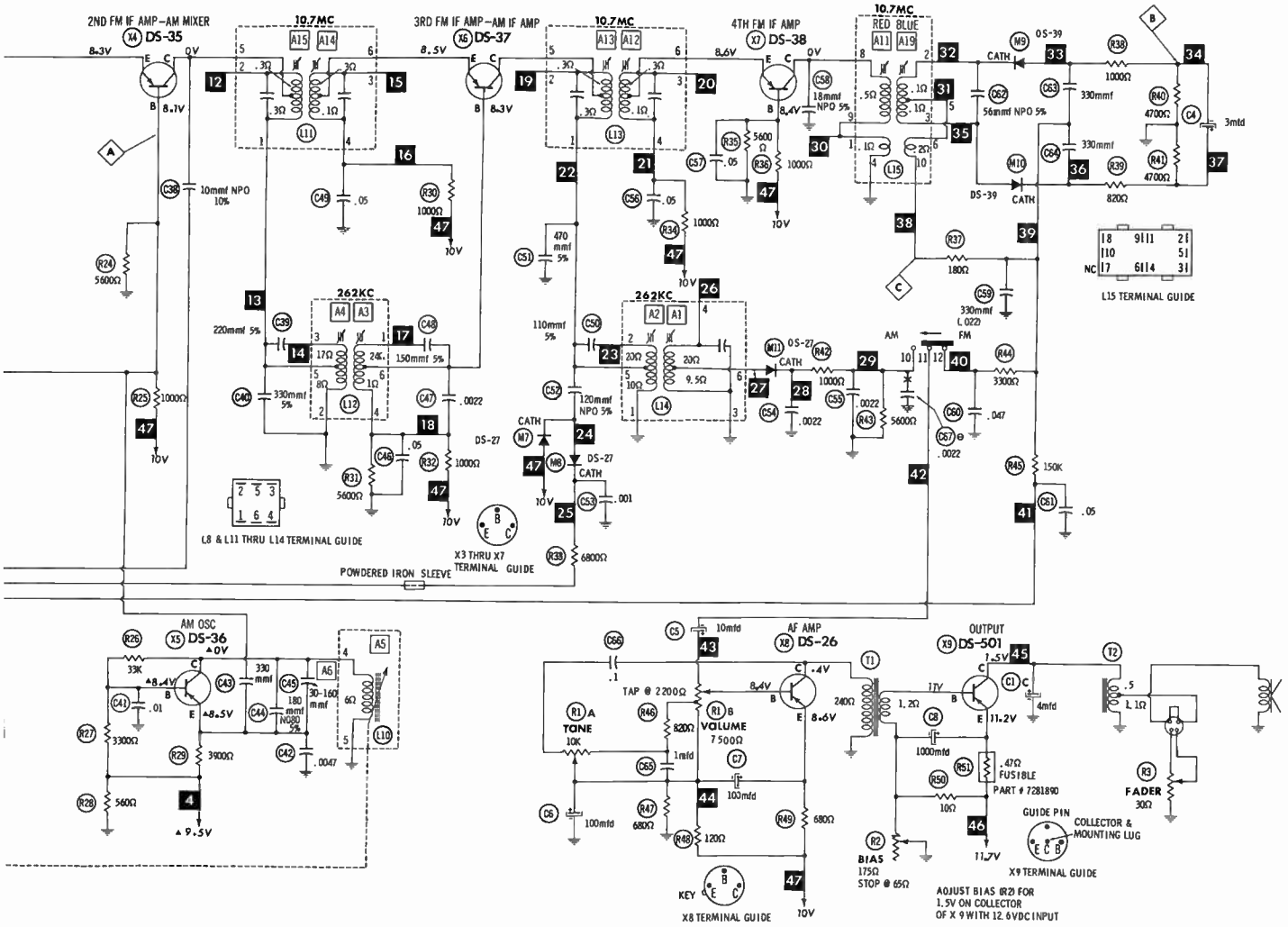




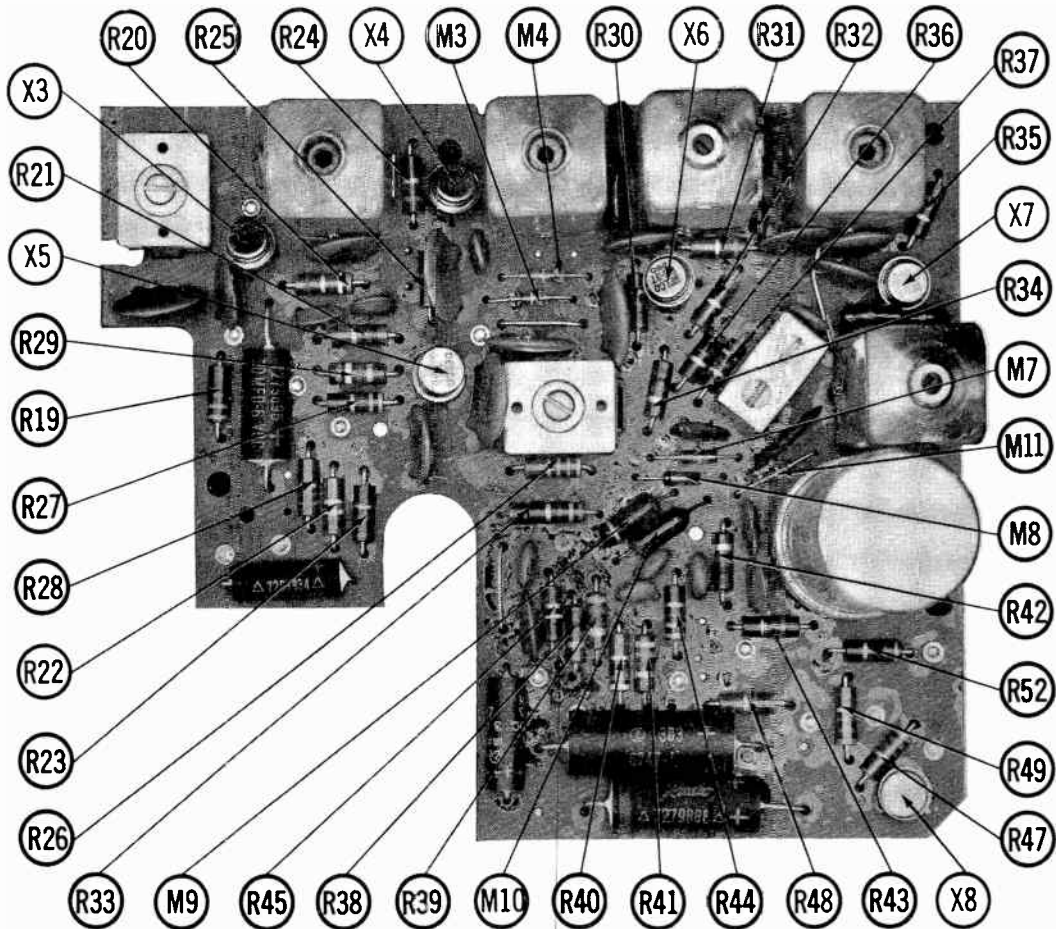
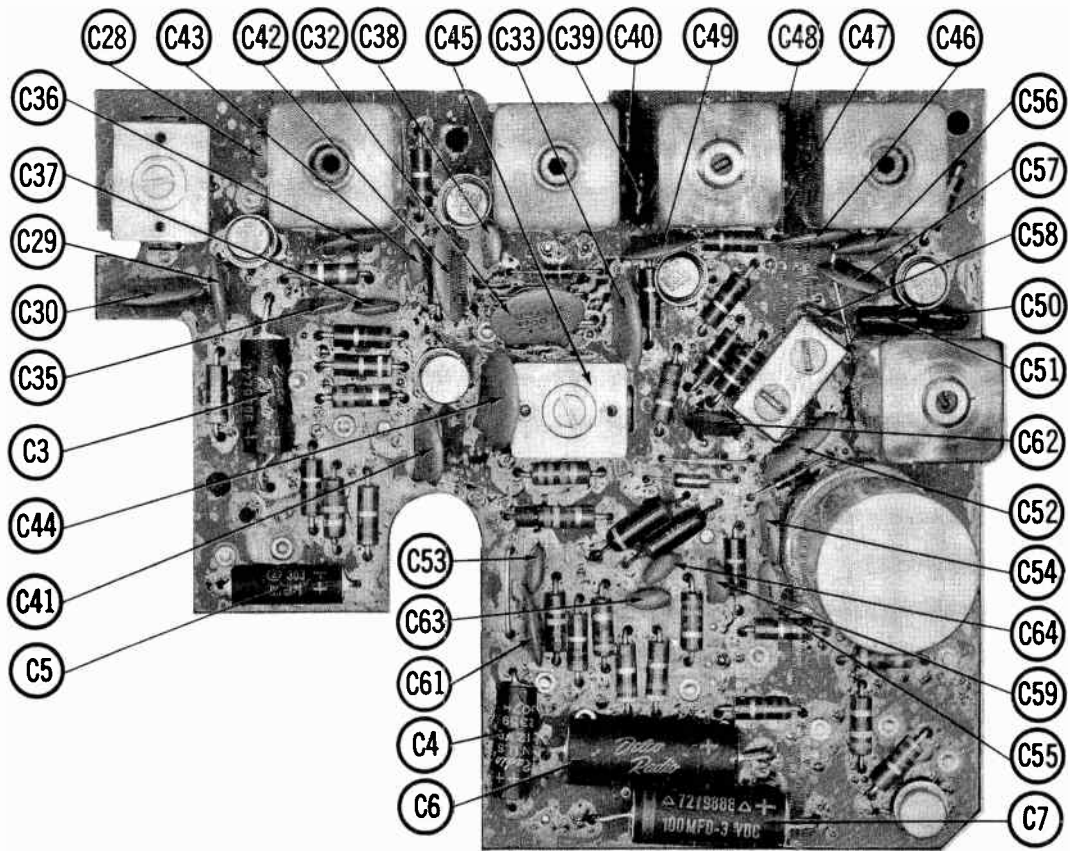
ALL VOLTAGES TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED
 ▲ MEASURED IN "AM" POSITION

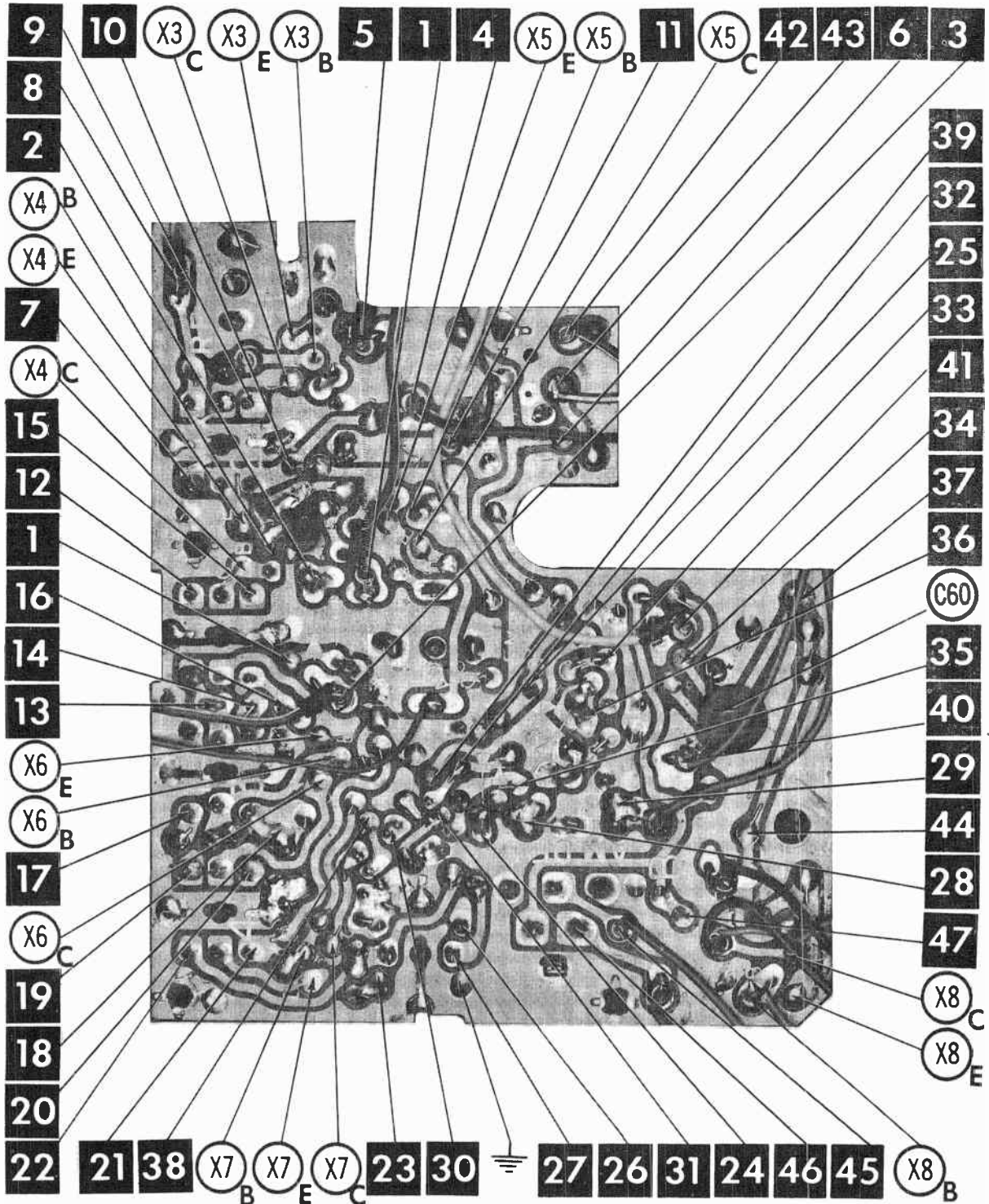
- ⊙ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise 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 PHOTOFAC STANDARD NOTATION SCHEMATIC
 with CIRCUITRACE
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MOPAR MODELS 330, 331, 332, 333





A Howard W. Soms **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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	DS-41	FM RF Amp.	DS-41		2N1177	PNP
X2	DS-42	FM Conv.	DS-41		2N1179	PNP
X3	DS-34	1st FM IF Amp. - AM RF Amp.	DS-34		2N1180	PNP
X4	DS-35	2nd FM IF Amp. - AM Mixer	DS-34		2N1180	PNP
X5	DS-36	AM Osc.	DS-25	GE-1	2N1839	PNP
X6	DS-37	3rd FM IF Amp. - AM IF Amp.	DS-34		2N1180	PNP
X7	DS-38	4th FM IF Amp.	DS-34		2N1180	PNP
X8	DS-26	AF Amp.	DS-26	GE-2	2N591	PNP
X9	DS-501	Output	DS-501	GE-4		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	1000	16	7283675					FPS-300.91	PCLS-3021.8*
B	500	16							
C	4	11.5AC							
C2	100	16	7283372	PTT86	NLW100-25	MT1-20	BL2050	TT25X100	TL-1182
C3	30	6	7279896	PTT27	NLW30-6	MT1-5	BL1321	TT6X30	TE-1092
C4	3	12	7282359	PTT50	NLW3-15	MT1-3	MLV5-3	TT6X3	TE-1082
C5	10	12	7283634	PTT53	NLW10-15	MT1-5	BL1241	TT12X10	TL-1182
C6	100	16	7283372	PTT86	NLW100-25	MT1-20	BL2050	TT25X100	TL-1182
C7	100	3	7279888	PTT13	NLW100-3	MT1-21	BL1610	TT6X100	TL-1059.5
C8	1000	2	7285035	PRS1130	BR1000-6	QT1-32	BL2310	TC310	TVA-1104
C9	10	12	7283634	PTT53	NLW10-15	MT1-5	BL1241	TT12X10	TL-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.	ELMENCOR PART No.	MALLORY PART No.	SPRAGUE PART No.
C10	2		NPO-DI 2.2	TCZ-2R2	C10V15C	CCTO-2R2	CNO-522	10TCC-V22
C11	.005	(.002) †						
C12	2							
C13	.002							
C14	.002							
C15	125 NPO 5%	(Note 1)	NPO-DI 2.2	TCZ-2R2	C10T12C	CCTO-121	CNO-312	10TCC-T12
C16	2				C10V15C	CCTO-2R2	CNO-522	10TCC-V22
C17	270 125V 5%			CPR-270J				
C18	3 N330							10TCS-V30
C19	100 125V 5%			CPR-100J				
C20	3 N750							
C21								
C22	.002							
C23	.002							
C24	.002							
C25	2							
C26	470							
C27		#7285097 (2mm) †	BPD-000025	DD-250	LA10Q25-SL	CCD-250	GP425	5GA-Q25
C28	25			DDA-503				HY535
C29	.05 16V			DDA-104				HY535
C30	.1 16V							
C31	125-130	#7281932	BPD-0047	DD-472	BYA10D47	CCD-472	B-247	5HK-D47
C32	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B-247	5HK-D47
C33	.0047							
C34	91 N750	#7284515	DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22
C35	.0022			DDA-503				HY535
C36	.05 18V			DD-203	BYA8S2	CCD-203		5HK-S22
C37	.022		NPO-DI 10	DTZ-10	C10Q1C	CCTO-100	CNO-410	10TCC-Q10
C38	10 NPO 10%			DTZ-220			CNO-322	10TCC-T22
C39	220 5%							10TCC-T33
C40	330 5%							10TCC-T33
C41	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C42	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B-247	5HK-D47
C43	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33
C44	180 N080 5%							10TCN-T18
C45	30-160	#7282165						
C46	.05 16V			DDA-503				HY535
C47	.0022		DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22
C48	150 5%			DTZ-150	C10T15C		CNO-315	10TCC-T15
C49	.05 16V			DDA-503				HY535
C50	110 5%	#7283845						
C51	470 5%							
C52	120 NPO 5%				C10T12C		CNO-312	10TCC-T12
C53	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C54	.0022		DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22
C55	.0022		DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22
C56	.05		BPD-05	DD-502		CCD-503	GP150	5HK-S50
C57	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50
C58	18 NPO 5%						CNO-418	10TCC-Q18
C59	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33
C60	.047 25V	(.022) †		DA-503				HY535
C61	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50
C62	56 NPO 5%						CNO-456	10TCC-Q56
C63	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33
C64	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33
C65	1mfd 3V							HY135
C66	.1 75V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10
C67	.0022	(Note 1)	DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22

Delco Part Number. † Alternate Value. Note 1. Not used in some versions.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CONTROLS

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

ITEM No.	USE	RESIST- ANCE	REPLACEMENT DATA				
			DELCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A B	Tone Volume & Switch	10K 7500Ω Tap@ 2200Ω	7285860	F1-10K, R14-7500, FFS014, RFS109, AK-28, KR-7			
R2	Bias	175Ω Stop@ 65Ω 30Ω	7275554				PFL175-S
R3	Fader		7285481				

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		DELCO PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	FM Ant.	①					① Part of M1. ② Part of M2.
L2	FM RF	①					
L3	RF Choke	①					
L4	FM Osc.	①					
L5	1st FM IF	①					
L6	RF Choke (6.2uh)	7281946	BC-565	4810	RTC-8520	T859	
L7	AM Ant.	7282588 ②					
L8	2nd FM IF	1221860					
L9	AM RF	7282585 ②					
L10	AM Osc.	1221616 ②					
L11	3rd FM IF	1221861					
L12	1st AM IF	1221858					
L13	4th FM IF	1221861					
L14	2nd AM IF	1221859					
L15	Ratio Det.	7283623		2073	RTC-9272		

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.	
L16	1 Amp.	.6Ω	8.5MH	7284029	C-4095	TC-2	TR-154	TY17XT

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	10:	1	7283586	A-4094	TA-51	TR-186	TY4XT	

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
		DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	8Ω Tap@ 4Ω	7285451	A-4093	TA-50	TR-160	TY3XT	

MISCELLANEOUS

ITEM No.	PART NAME	DELCO PART No.	NOTES
M1	FM Tuner	1221874	
M2	AM Tuner		
M3	AFC Det.	DS-27	
M4	AFC Det.	DS-27	
M5	Zener Diode	DS-43	
M6	AFC Det.	DS-27	
M7	AVC Det.	DS-27	
M8	AVC Det.	DS-27	
M9	Ratio Det.	DS-39	
M10	Ratio Det.	DS-39	
M11	AM Det.	DS-27	
M12	Spark Plate	7271564	
M13	Spark Plate	7271564	
M14	Band Switch	7284009	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Dial Glass, Model 330	7286009	Pointer Assembly	1221925
Dial Glass, Models 331, 332, 333	7285419	Push Buttons (Set of 5)	1221926

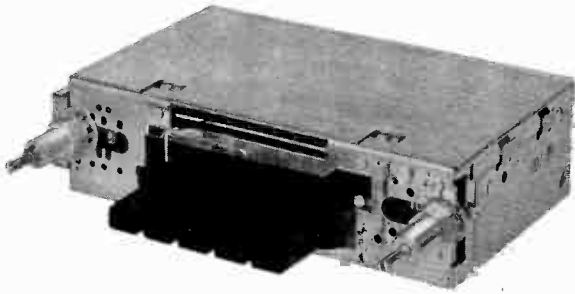
WIRING DATA

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 8870 (3/4 In.)

MOPAR MODELS 330, 331, 332, 333



PHOTOFACT[®]



TRADE NAME : Motorola Models 2AT, 2AT-1
 SUPPLIER : Motorola Inc., 9401 W. Grand Ave.
 Franklin Park, Illinois
 TYPE SET : 6 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .35 Amp. @ 12.6VDC
 TUNING RANGE : BROADCAST 535 - 1615KC

MOTOROLA MODEL 2AT-1

ALIGNMENT INSTRUCTIONS

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

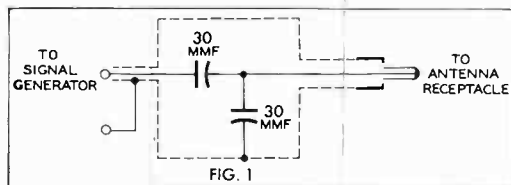
- A1 thru A4.....GENERAL CEMENT #8606, 8606-L, 8869
 WALSCO #2543, 2544, 2588
 A5 thru A8..... GENERAL CEMENT #8290, 8868, 9087
 WALSCO #2525, 2528, 2587

	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 (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 (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.
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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.

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	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	MN53	Driver	DS-26	GE-2	2N591	PNP (Alternate 4450)
X5	SP486(W)	Output	DS-520	GE-3	2N301	PNP (Note 1)
X6	SP486(W)	Output	DS-520	GE-3	2N301	PNP (Note 1)

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

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.
CLA	400	16	23B64722A01	APH3-00-94.5				FP300.83	
B	500	16							
C	100	16							
C2	25	3	23K544540	PTT9	NLW25-3	MT1-10	MLV25-3	TT3X25	TE-1055
C3	5	3	23K543076	PTT4	NLW5-15	MT1-3	MLV5-12	TT6X5	TE-1052.2
C4	200	3	23K544617	PTT14	NLW200-3	MT1-22	MLV200-3	TT3X200	TE-1064
C5	200	3	23K544617	PTT14	NLW200-3	MT1-22	MLV200-3	TT3X200	TE-1064

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	#20B64871A01						
C11	.003 200V		P288N-003	CPR-3000J	DPMS6D3	6DP-1-302	PVC-423	6PS-D30
C12	20-120	#20K541014						
C13	3.9	#21R115953						
C14	.002	(.005) †		DM-202				10TCC-V39
C15	.05 200V		P288N-05		DPMS2S5	4DP-3-503	PVC-215	2PS-S50
C16	20-120	#20K541014						
C17	.005 200V		P288N-005	CPR-5000J	DPMS6D5	6DP-1-502	PVC-625	6PS-D50
C18	.01 100V		P288N-01	CPR-10000J	PM4S1	1DP-1-103	PVC-211	4PS-S10
C19	310-390	#20K541700						
C20	100 N750		N750-DI 100	DTN-100	CI0TIU	CCTN-101	CN7-310	10TC-U-T10
C21	.01		TTD-01	CK-103	H2	TA-110	TA-110	TG-S10
C22	.05 200V		P288N-05		DPMS2S5	4DP-3-503	PVC-215	2PS-S50
C23	180 N750			TCN-180	CI0TI8U		CN7-318	10TCU-T18
C24	.01		TTD-01	CK-103	H2	TA-110	TA-110	TG-S10
C25	.01		TTD-01	CK-103	H2	TA-110	TA-110	TG-S10
C26	.2	#21R10003A08		UK10-204				
C27	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C28	.03		TTD-03	CK-303				TG-S30
C29	.05		TTD-05	CK-503	H5		TA-150	TG-S50
C30	.05		TTD-05	CK-503	H5		TA-150	TG-S50

CONTROLS

Motorola Part Number.
† Alternate Value.

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	18C64668A01	F2-100K, R1-10K, FFS107, RFS115, KR-4			† QJ-1609A	■ UE4433S
B	Volume & Switch	10K						
R2	Balance	10Ω	18C64735A05					

† "CONCENTRIKIT" Equivalent: K6 Kit with base elements and shafts: B13-128, P22-115 (Panel)
"SNAPTROL" Equivalent: BU2, CF52, SF11, CR5, SR46, GC B11-116, R16-127 (Rear)
76-1 (Switch)

■ "STA-LOC" Equivalent: FA15A, RU14L, OS1437A, IS1937, US41.

COILS (RF-IF)

ITEM No.	USE	MOTOROLA PART No.	REPLACEMENT DATA				NOTES
			MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	Ant.	24K563896 ①					
L2	Ant.	24B40431A02 ①					
L3	RF	24B40431A01 ①					
L4	Osc.	24B40817A01 ①					
L5	Input IF	24B64861A03					
L6	Output IF	24B64861A02					

① Part of M2 or Coil Assembly Part #1V41300A08.

CHOKE (AUDIO OUTPUT)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	120MH	25B64737A01					

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.	
L8	350MA	.3Ω	3MH	25B64747A02		TC-1	TR-157	TY16XT

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.1	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	T1	7	:1 SEC.2 :1	25B64738A01				

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MOTOROLA PART No.	QUAM PART No.	
SPI	6" x 9" PM 40Ω	50C64697A01	69A22Z40	

FUSES

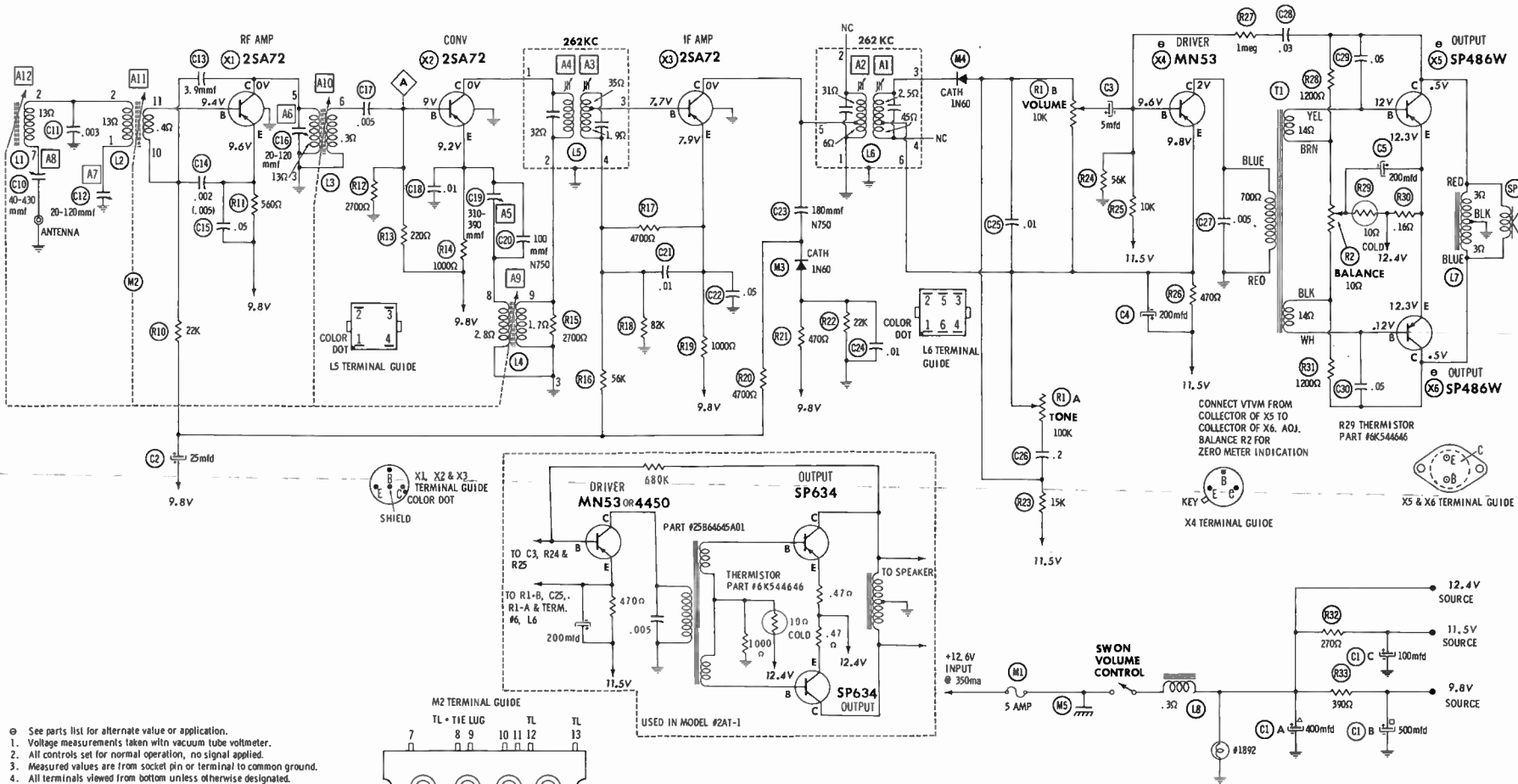
ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			MOTOROLA PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	IAG	5A	66R122345	9K543179	301005 (IAG 5A)	155004A	AGA 5	HMF

MISCELLANEOUS

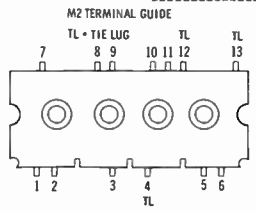
ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M2	Tuner (AT-380)	77D41343A01	
M3	AVC (1N60)	48K840675	
M4	Detector (1N60)	48K840675	
M5	Spark Plate	64A530176	

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.)

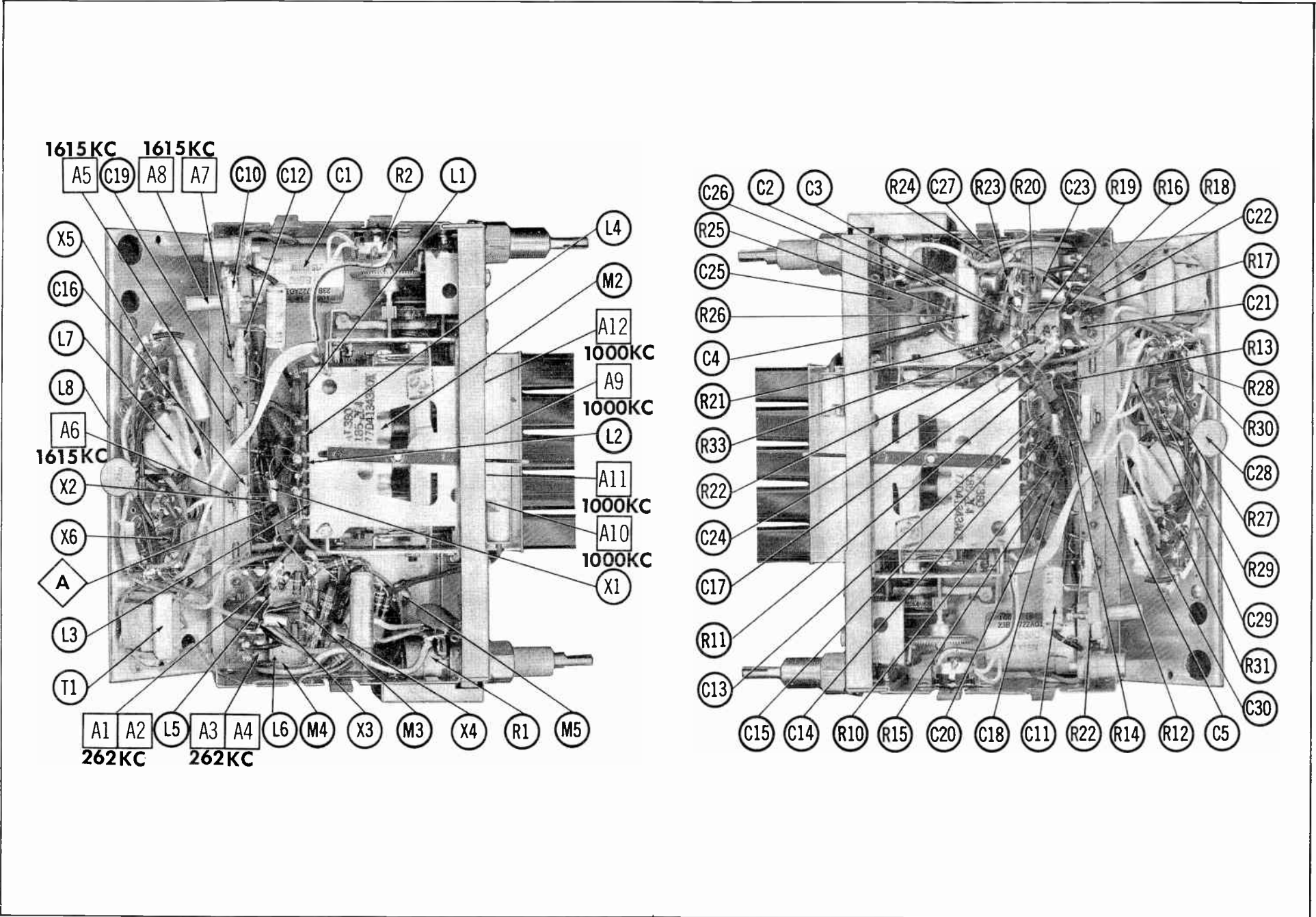


- ⊗ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise 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.

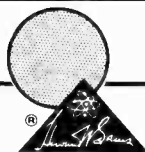


A PHOTOFAC STANDARD NOTATION SCHEMATIC
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MOTOROLA MODEL 2AT-1



MOTOROLA MODEL 2AT-1



PHOTOFACT[®]



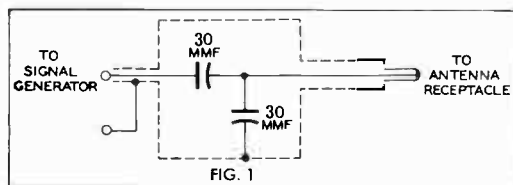
TRADE NAME : Motorola Models 12AT-1, 12AT-2, 12AT-3
 SUPPLIER : Motorola Inc., 9401 W. Grand Ave.
 Franklin Park, Illinois
 TYPE SET : 6 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .43 Amp. @12.6VDC
 TUNING RANGE : BROADCAST 535 - 1615KC

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, 8606-L, 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 .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, 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.

MOTOROLA MODELS 12AT-1/-2/-3

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	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	MN-53	Driver	DS-28	GE-2	2N591	PNP (Alternate 4450)
X5	SP486(W)	Output	DS-520	GE-3	2N301	PNP (Note 1)
X8	SP486(W)	Output	DS-520	GE-3	2N301	PNP (Note 1)

Note 1. When replacing, apply silicone grease to both sides of insulator. Tighten mounting screws securely. Check Balance 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	18	23B543279	AFH3-00-95		KC3-48	TMT-3002	WP300.85	TVL-3026.8
B	100	18							
C	500	16							
C2	25	3	23K544540	PTT9	NLW25-3	MT1-10	MLV25-3	TT3X25	TE-1055
C3	3	3	23K544541	PTT4	NLW5-15	MT1-3	MLV5-12	TT6X5	TE-1052.5
C4	200	3	23K544617	PTT14	NLW200-3	MT1-22	MLV200-3	TT3X200	TE-1064
C5	200	3	23K544617	PTT14	NLW200-3	MT1-22	MLV200-3	TT3X200	TE-1064

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	#20B84871A01							
C11	.003 200V		P288N-003	CPR-3000J	DPMS6D3	6DP-1-302	PVC-423		6PS-D30
C12	20-120	#20K54104							
C13	3.9	#21R128834							
C14	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250		10TCC-V39
C15	.05 200V		P288N-05		DPMS2S5	4DP-3-503	PVC-215		5HK-D50
C16	20-120	#20K54104							2PS-S50
C17	.005 200V		P288N-005	CPR-5000J	DPMS6D5	6DP-1-502	PVC-825		6PS-D50
C18	.01 100V		P288N-01	CPR-10000J	PM4S1	1DP-1-103	PVC-211		4PS-S10
C19	310-390	#20K541700							
C20	100 N750		N750-DI100	DTN-100	C10TIU	CCTN-101	CNT-310		10TCU-T10
C21	.01		TTD-01	CK-103	H2		TA-110		TG-S10
C22	.05 200V		P288N-05		DPMS2S5	4DP-3-503	PVC-215		2PS-S50
C23	180 N750			TCN-180	C10TI8U		CNT-318		10TCU-T18
C24	.01		TTD-01	CK-103	H2		TA-110		TG-S10
C25	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250		5HK-D50
C26	.25 100V		P288N-25		DPMS2P25	1DP-3-254	PVC-1025		2PS-P25
C27	.03		TTD-03	CK-303					TG-S30
C28	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250		5HK-D50
C29	.05		TTD-05	CK-503	H5		TA-150		TG-S50
C30	.05		TTD-05	CK-503	H5		TA-150		TG-S50

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	18C64734A01	F2-100K, R1-10K,			T QS-1611A	
B	Volume & Switch	10K		FFS111, FFS203, KR-4				
R2	Balance	10Ω	18C64735A09					

† "CONCENTRIKIT" Equivalent: K-6 kit with base elements and shafts: B13-128, P22-121 (Panel) B11-116, R9-202 (Rear) "SNAPTROL" Equivalent: .BU2, CF52, SF13, CR5, SR49, GC 78-1 (Switch)

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.	24K563896 ①					
L2	Ant.	24B40431A02					
L3	RF	24B40431A01					
L4	Osc.	24B40817A01 ①					
L5	Input IF	24B64861A03					
L6	Output IF	24B64861A02					

① Part of M2 or Coil Assembly Part #1V40800A57.

CHOKE (AUDIO OUTPUT)

ITEM No.	INDUCTANCE	REPLACEMENT DATA				NOTES
		MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L7	120MH	25B64737A02				

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.	
L8	430MA	.3Ω	3MH	25B64747A03 25B64747A02		TC-1	TR-157	TY16XT

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SECI	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	T1	1	2	25B64738A02				

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MOTOROLA PART No.	QUAM PART No.	
SP1	5" x 7" PM 4Ω	50D64729A01 ①	57A1Z40	① Some versions may use Part #50C64897A01 (6" x 9")

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			MOTOROLA PART No.		BUSS PART No.			
			FUSE	HOLDER	FUSE	HOLDER		
M1	1AG	5A	65R122345	9K543179	301005 (1AG 5A)	155004A	AGA 5	HMF

MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M2	Tuner (AT-372	77D40850A01	
M3	AVC (IN60)	48K544539	
M4	Detector (IN60)	48K544539	
M5A	Spark Plate	21A522033	
B	Spark Plate		300mmf
M6	Spark Plate	64K530177	300mmf

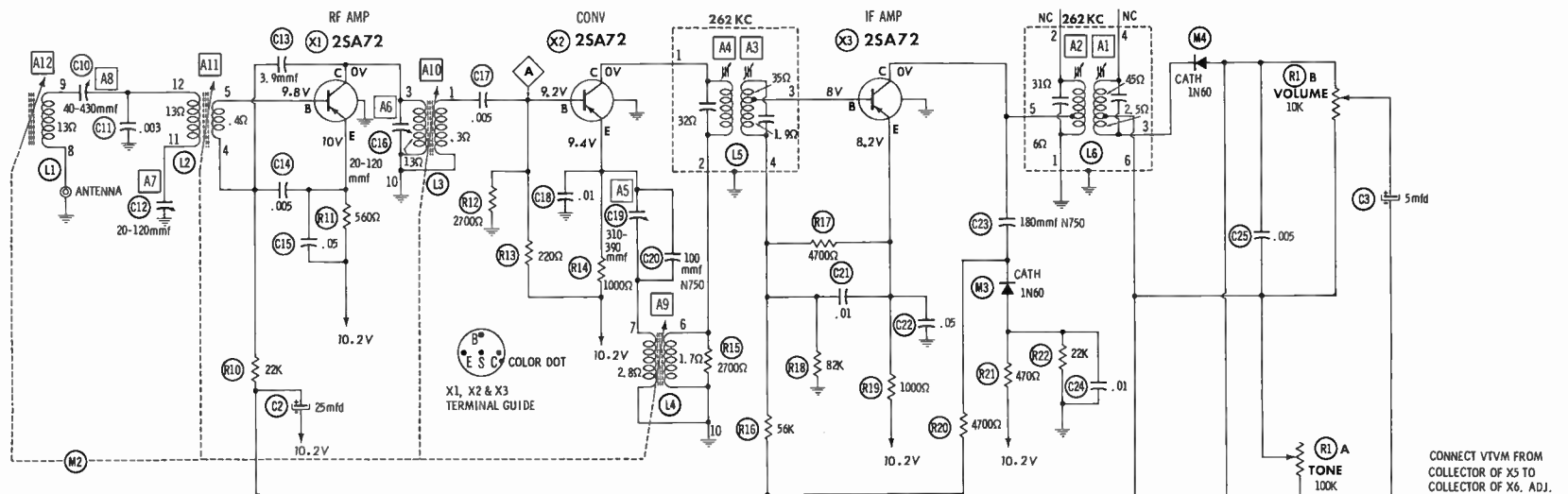
CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.
Knob - Tuning, Volume	36B543382
Knob - Tone	36B543398
Knob - Dummy	36K543399
Dial Pointer & Stud Assembly	1K565069
Dial Scale	34B64736A01

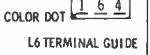
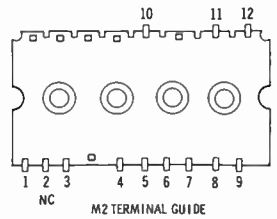
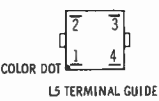
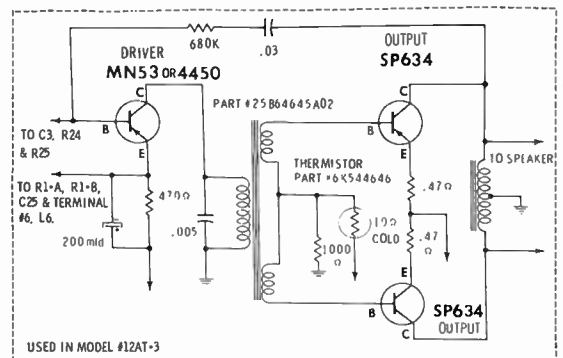
WIRING DATA

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.)

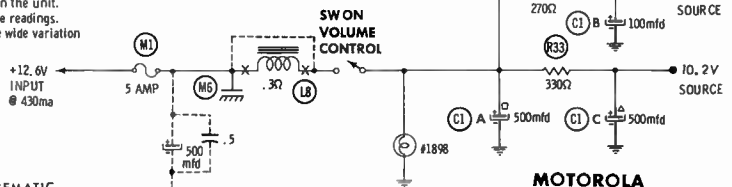


CONNECT VTVM FROM COLLECTOR OF X5 TO COLLECTOR OF X6. ADJ. BALANCE R2 FOR ZERO METER INDICATION

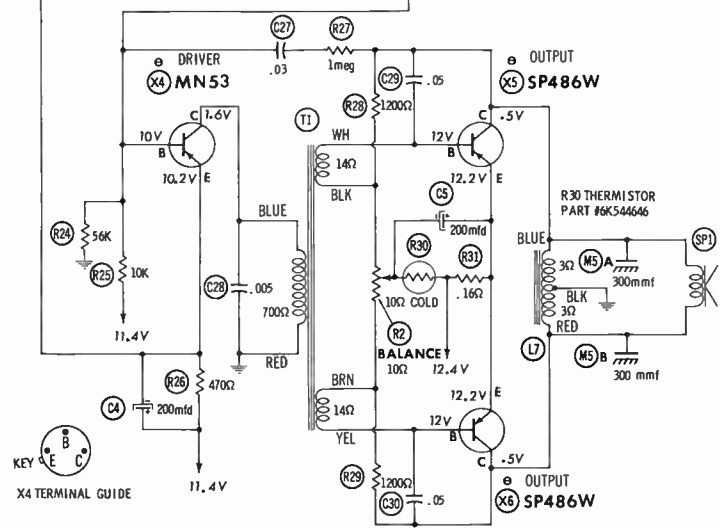
X5 & X6 TERMINAL GUIDE



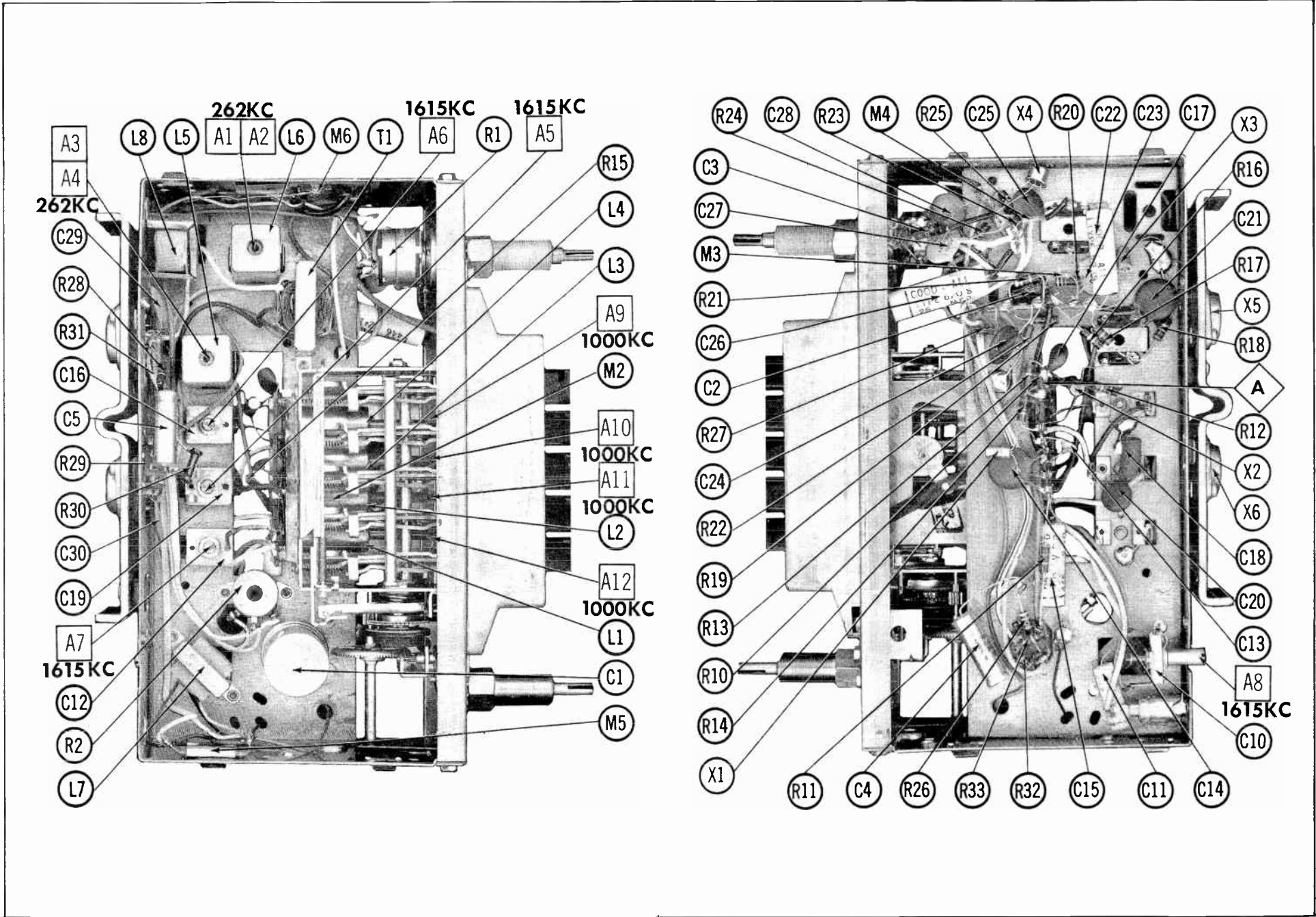
- See parts list for alternate value or application.
1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 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.



MOTOROLA MODELS 12AT-1/-2/-3



A PHOTOFAC STANDARD NOTATION SCHEMATIC
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MOTOROLA MODELS 12AT-1/-2/-3



PHOTOFACT[®]



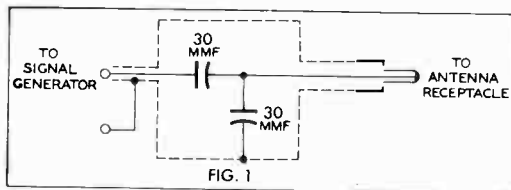
TRADE NAME : Motorola Model 320T
 SUPPLIER : Motorola Inc. , 9401 W. Grand Ave.
 Franklin Park, Illinois
 TYPE SET : 5 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .53 Amp. @12 VDC
 TUNING RANGE : BROADCAST 535 - 1615KC

ALIGNMENT INSTRUCTIONS

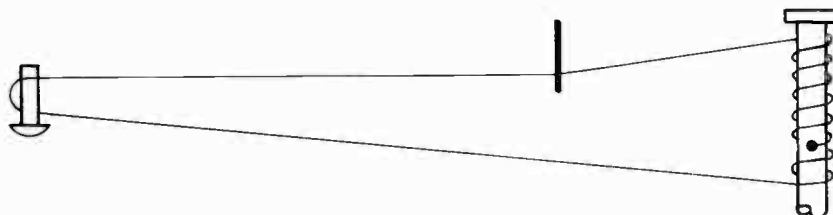
Check for specified source voltage.
 Use only enough generator output to provide a usable indication.
 Suggested Alignment Tools:

- A1 thru A4.....GENERAL CEMENT #8606, 8606-L, 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 (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 (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 A 8 for maximum output.						



DIAL CORD STRINGING



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	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	MN-53	Driver	DS-26	GE-2	2N591	PNP (Alternate 4450)
X5	SP485(W)	Output	DS-520	GE-3	2N301	PNP (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		MOTOROLA 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	500	16	23B543279	AFH3-00-95		XC3-48	TMT3002	WP300.85	TVL-3026.8
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

① Manufacturer suggests using Part #23K543076 when replacing.

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	.005 200V		P288N-005	CPR-5000J	DPMS6D5	6DP-1-502	PVC-625	6PS-D50	
C12	20-120	#20K541014							
C13	4.7		NPO-DI 4.7	DTZ-4R7	C10V47C	CCTO-4R7	CNO-547	10TCC-V47	
C14	.005 200V		P288N-005	CPR-5000J	DPMS6D5	6DP-1-502	PVC-625	6PS-D50	
C15	.05 200V		P288N-05		DPMS2S5	4DP-3-503	PVC-215	2PS-S50	
C16	20-120	#20K544594							
C17	.005 200V		P288N-005	CPR-5000J	DPMS6D5	6DP-1-502	PVC-625	6PS-D50	
C18	.01 100V		P288N-01	CPR-10000	PM4S1	1DP-1-103	PVC-211	4PS-S10	
C19	395-470	#20A485708							
C20	.01		TTD-01	CK-103	H2		TA-110	TG-S10	
C21	.05 200V		P288N-05		DPMS2S5	4DP-3-503	PVC-215	2PS-S50	
C22	180 N750			TCN-180	C10T18U		CN7-318	10TCU-T18	
C23	.01		TTD-01	CK-103	H2		TA-110	TG-S10	
C24	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50	
C25	.05 200V		P288N-05		DPMS2S5	4DP-3-503	PVC-215	2PS-S50	
C26	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50	
C27	.03		TTD-03	CK-303	H2		TA-110	TG-S10	
C28	.01		TTD-01	CK-103	H2		TA-110	TG-S10	
C29	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33	
C30	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33	
C31	.5 100V		P288N-5		DPMS2P5	1DP-4-504	PVC-105	2PS-P50	

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	18C64734A02					UE4434-S
B	Volume & Switch	10K		F2-100K, R1-10K, FFS013, RFS104, AK-31, KR-4				
R2	Bias	300Ω	18C64735A08					VW300

"STA-LOC" Equivalent: FF15A, RU14L, OS875A, IS1312, US41.

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. Loading (1.8uh)	24B64785A03	BC-562	4604	RTC-8516	T810	
L2	Ant.	24B40644A01					
L3	Ant.	24B40895A02					
L4	RF	24B40895A01					
L5	Osc.	24B40896A01					
L6	Input IF	24B64861A03					
L7	Output IF	24B64861A02					

① Part of M2 Osc. Coil Assembly Part #IV40800A77

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.	
L8	530MA	.3Ω	4MH	25B64747A01		TC-1	TR-157	TY16XT

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO	REPLACEMENT DATA					NOTES
		MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	19:1	25B543386 (25K544612)					

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	25Ω	3-4Ω	25K543445 (25K544611)			TR-304	TY-29X ①	① Drill new mounting hole.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MOTOROLA PART No.	QUAM PART No.	
SP1	5" PM 3-4Ω	50C543476	5A15	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			MOTOROLA PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	IAG	5A	65R122345	9K543179	301005 (IAG 5A)	155004A	AGA 5	HMF

MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.
M2	Tuner (MT-368)	77D40898A01
M3	AVC (IN60)	48K640675
M4	Detector (IN60)	48K640675
M5	Spark Plate	64K530177

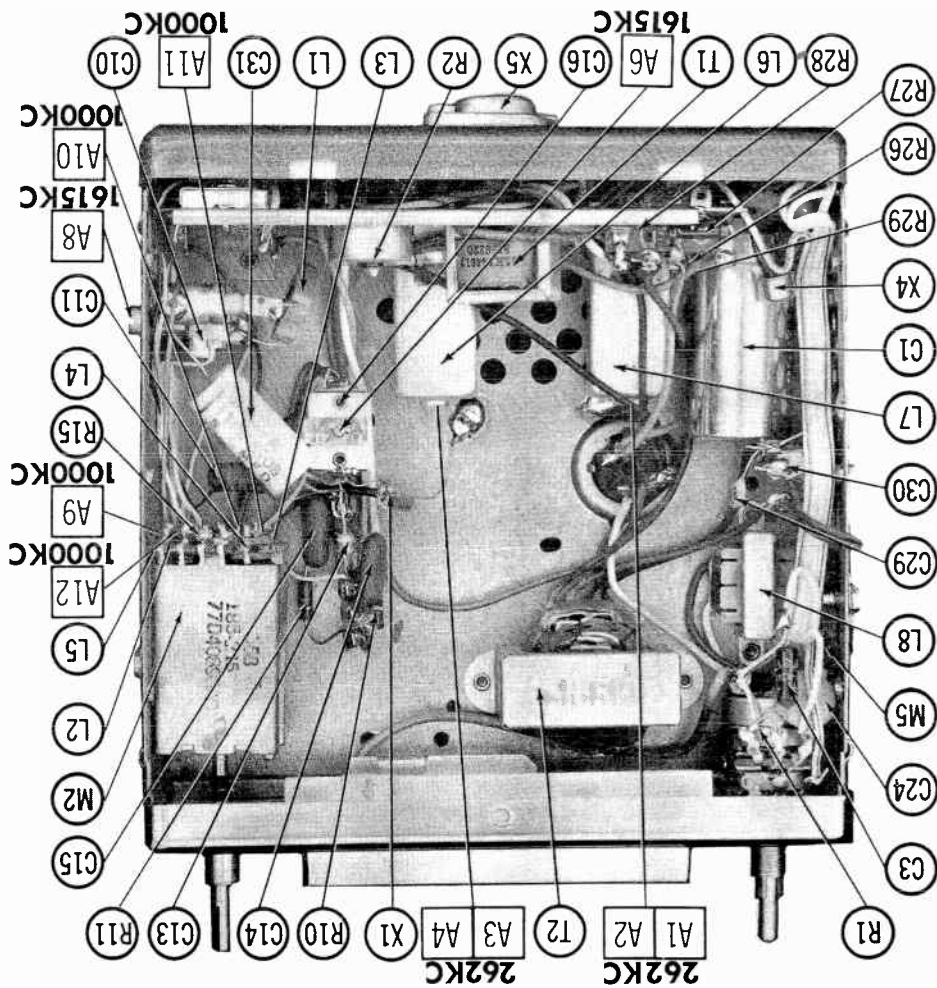
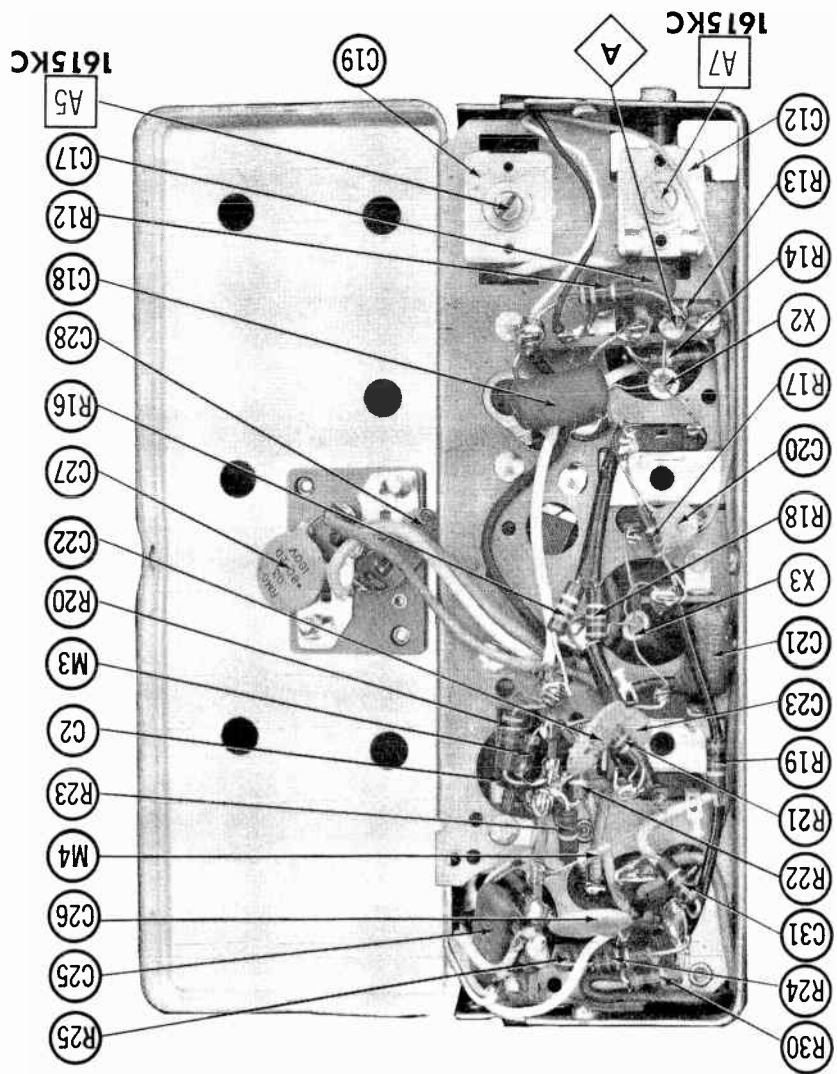
CABINETS & CABINET PARTS (When Ordering Specify Model, Chassis & Color)

ITEM	PART No.
Knob - Tuning, Volume	36K544598
Knob - Tone	36K544618
Knob - Dummy	36K544619
Dial Scale	34B64698A01
Dial Pointer	52A64748A01
Plug-Polarity Reversing	28A542751

WIRING DATA

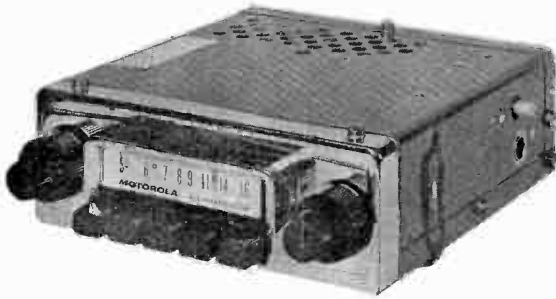
General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in 12 Colors
8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire Use BELDEN No. 8885
Rear Seat Speaker Extension Cable Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap Use BELDEN No. 8661 (3/8 In.) or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

MOTOROLA MODEL 320T





PHOTOFACT[®]



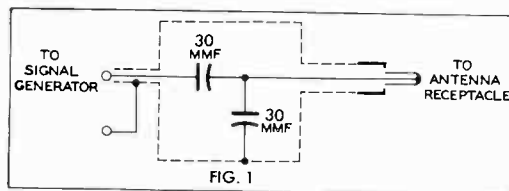
TRADE NAME : Motorola Model 520T
 SUPPLIER : Motorola Inc.
 9401 W. Grand Ave., Franklin Park, Ill.
 TYPE SET : 5 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .58 Amp. @ 12.6VDC
 TUNING RANGE : BROADCAST 535 - 1615KC

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 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 .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, 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.

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	2SA72	RF Amp.	DS-25	GE-1	2N1637	PNP
X2	2SA72	Conv.	DS-25	GE-2	2N1639	PNP
X3	2SA72	IF Amp.	DS-25	GE-1	2N1638	PNP
X4	MN-53†	Driver	DS-26	GE-2	2N591	PNP
X5	SP485W*	Output	DS-520	GE-3	2N301	PNP (Note 1)

† Alternate Type 4450 * Alternate Type 2N176
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.	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	AFH9-00-95		KC9-48	TMT3002	WP300.89	TV1-3026.8
B	500	16							
C	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	P288N-003	CPR-3000J	DPMS8D3	6DP-1-302	PVC-423	6PS-D30
C11	.003 200V	#20K541014						
C12	20-120							
C13	4.7 NPO		NPO-DI 4.7	DTZ-4R7	C10V47C	CC20-4R7	CNO-547	10TCC-V47
C14	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C15	.05 200V	#20K544584	P288N-05		DPMS2S5	4DP-3-503	PVC-215	2PS-S50
C16	20-120							
C17	.005 200V		P288N-005	CPR-5000J	DPMS8D5	6DP-1-502	PVC-625	6PS-D50
C18	.01 100V		P288N-01	CPR-10000J	PM4S1	1DP-1-103	PVC-211	4PS-S10
C19	310-390	#20K541700						
C20	.01 50V		TTD-01	CK-103	H2		TA-110	TG-S10
C21	.05 50V		TTD-05	CK-503	H5		TA-150	TG-S50
C22	180 N750			TCN-180	C10T18U		CN7-318	10TCU-T18
C23	.01 50V		TTD-01	CK-103	H2		TA-110	TG-S10
C24	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C25	.05 200V		P288N-05		DPMS2S5	4DP-3-503	PVC-215	2PS-S50
C26	100							
C27	.03		TTD-03	DM-101	CK-303		TA-110	TG-S30
C28	.01 50V		TTD-01	CK-103	H2		CN7-310	TG-S10
C29	100 N750			DTN-100	C10T1U	CCTN-101	TA-110	10TCU-T10
C30	.5 100V		P288N-5		DPMS2P5	1DP-4-504	PVC-105	2PS-P50

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.
R1A	Tone	100K	18C64734A03				UE4434-S
B	Volume & Switch	10K					
R2	Bias	300K	18C64735A08	JWL-301			VW300

"STA-LOC" Equivalent: FF15A, RU14L, OS875A, IS1312, US41

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 Tuner M2
L2	Ant.	24K563896					
L3	Ant.	24B40431A02					
L4	RF	24B40431A01					
L5	Osc.	24B40817A01					
L6	Input IF	24B64861A03					
L7	Output IF	24B64861A02					

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.	
LB	.580A	.4Ω	3.2MH	25B64839A01		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.	

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	3-4Ω	25C543445			TR-304	TY-28X①	① Drill New Mtg. Holes

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MOTOROLA PART No.	QUAM PART No.	
SP1	5" x 7" PM 3-4Ω	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	1AG	5A	65R122345	9K543179	301005 (1AG 5A)	155004A	AGA 5	HMF

MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.
M2	Tuner (AT-381)	77D565083
M3	AVC (1N60)	48K840675
M4	Detector (1N60)	48K640675
M5	Spark Plate	64K530177
M6	Spark Plate	64K530177

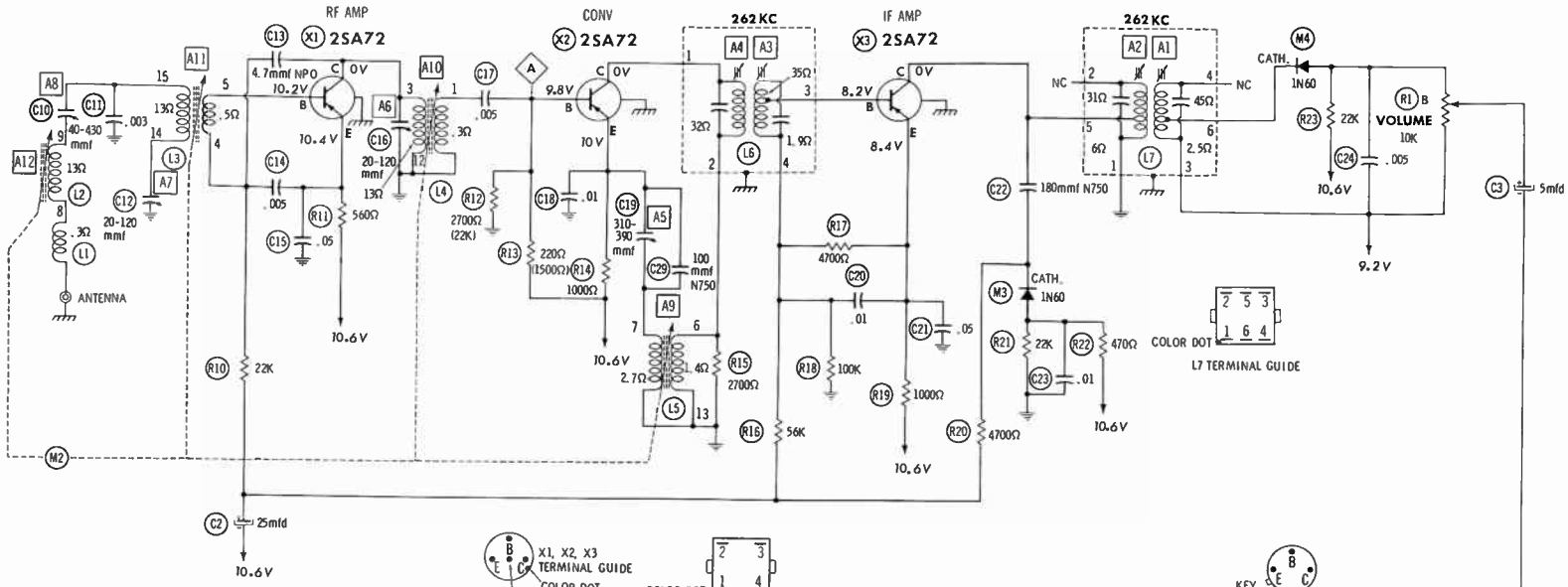
CABINETS & CABINET PARTS

ITEM	PART No.
Dial Scale	34B64793A01
Knob, Tuning or Volume	36B543876
Knob, Tone	36B543877
Knob, Dummy	36K543878
Pointer Assembly	1B40961A01
Push Button Assembly	1V64965A20

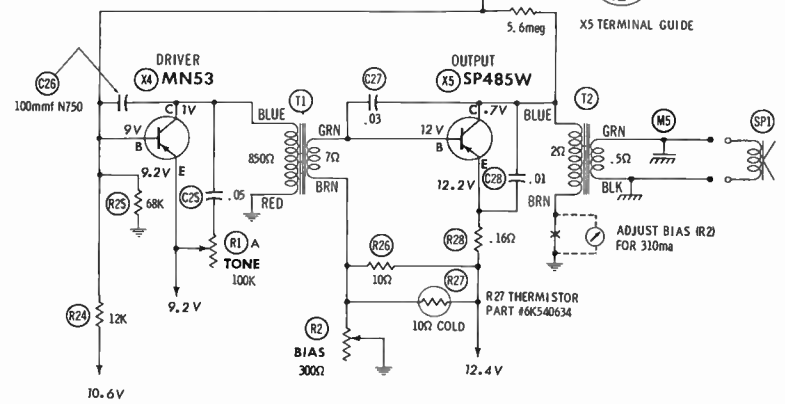
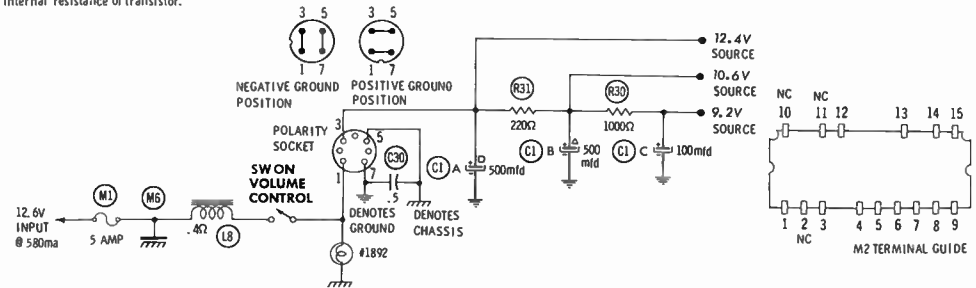
WIRING DATA

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 MODEL 520T

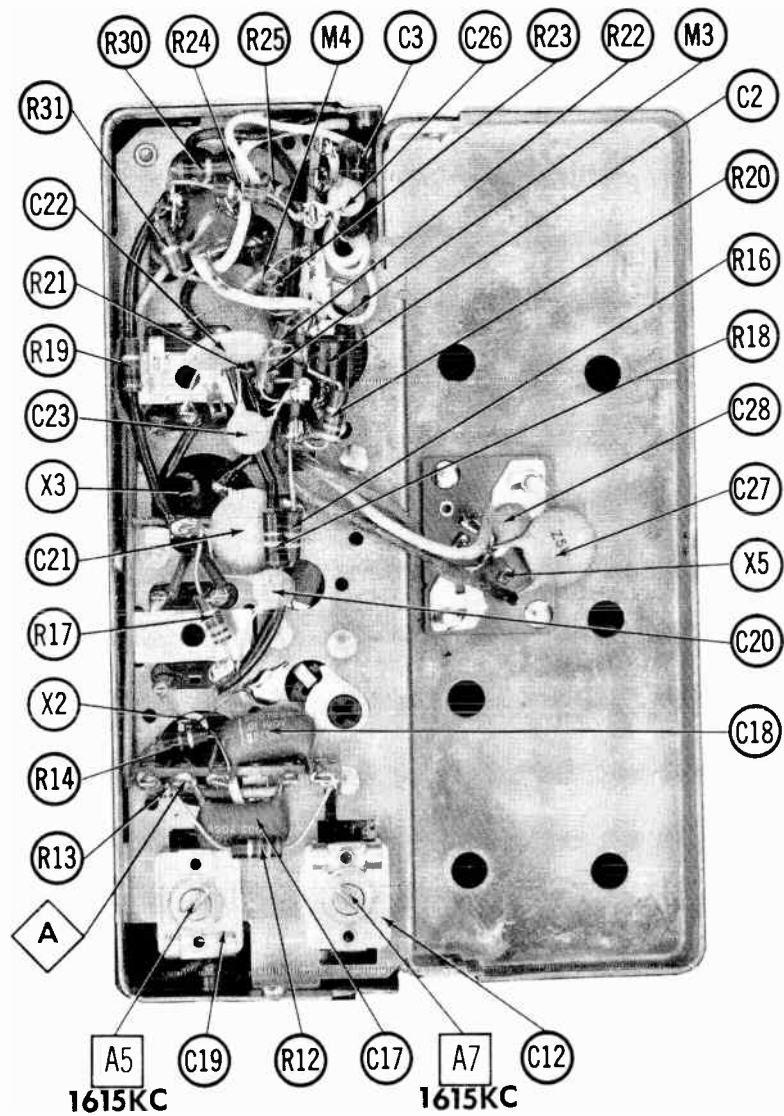
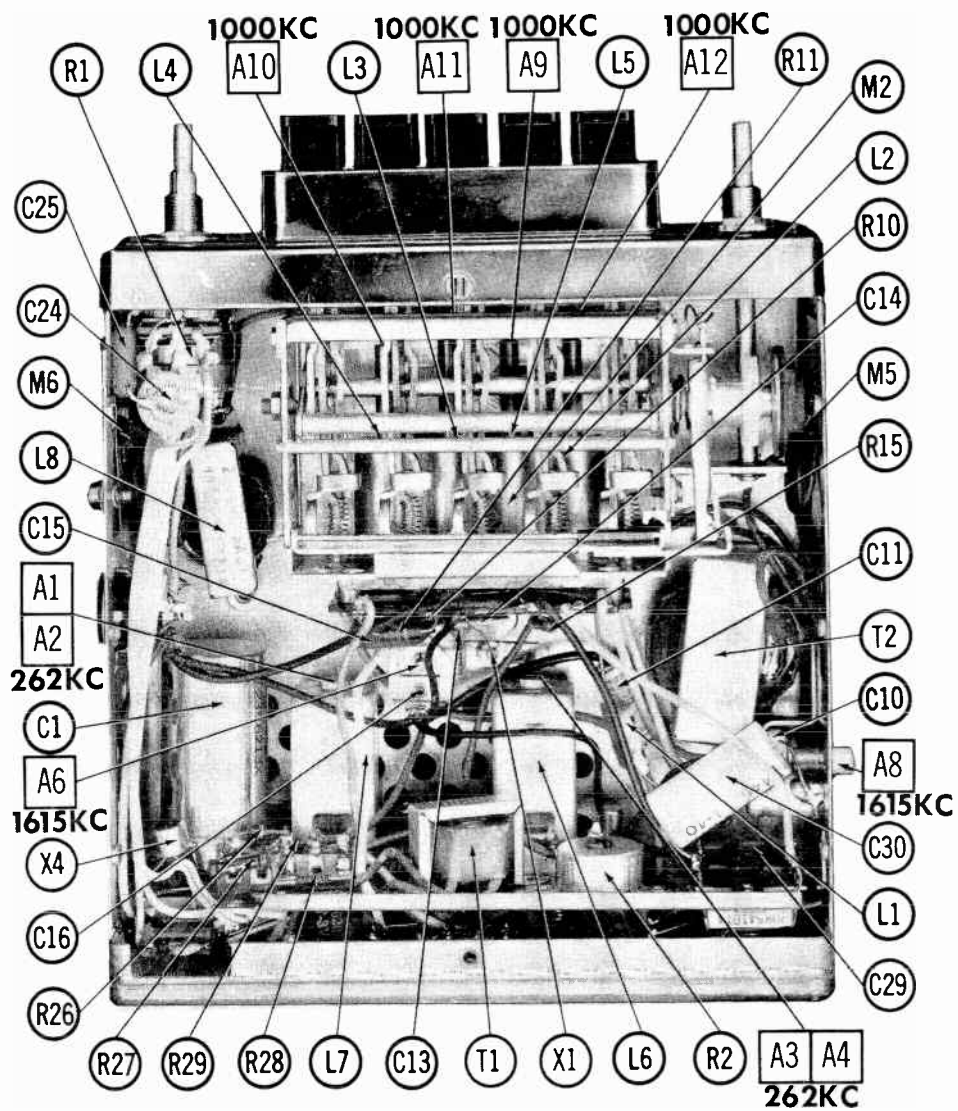


- ⊙ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise 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
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MOTOROLA MODEL 520T

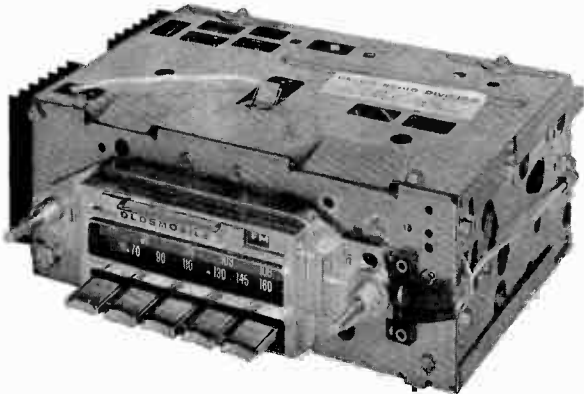


MOTOROLA MODEL 5201



PHOTOFACT[®] with

CIRCUTRACE[®]



TRADE NAME : Oldsmobile Model 982212 (1963)

SUPPLIER : (Parts) United Delco Distributors

TYPE SET : 9 Transistor AM-FM Receiver

POWER SUPPLY : 12 Volt Storage Battery

RATING : 1.4 Amp. @ 12.6VDC

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

REMOVAL INSTRUCTIONS

NOTE: To replace transistors, remove radio.

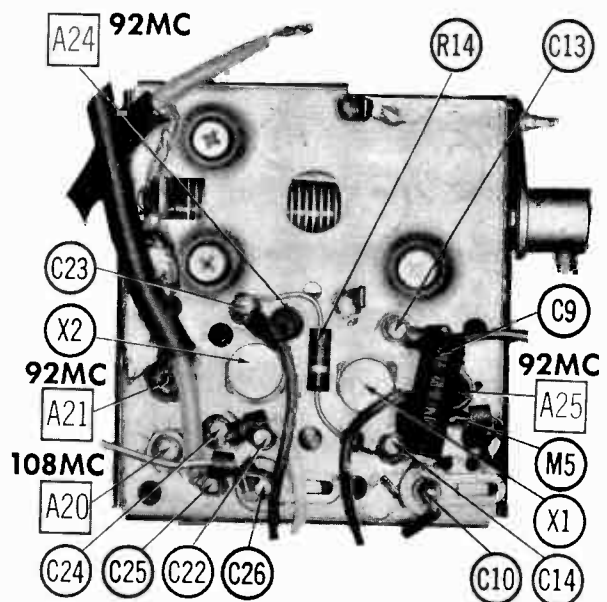
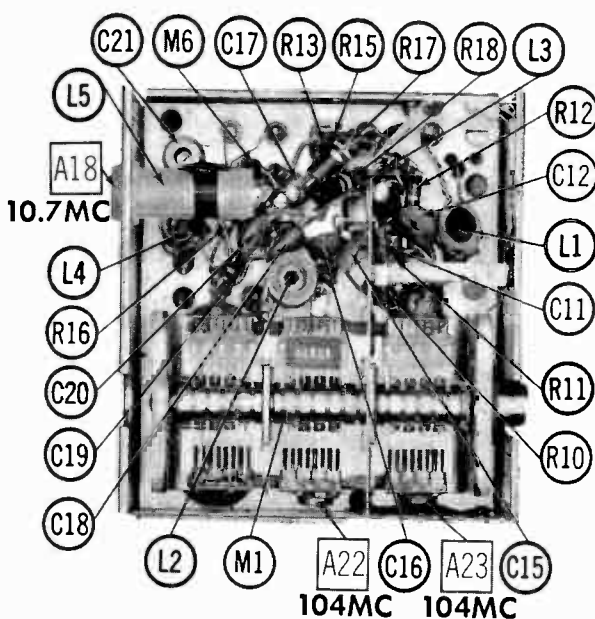
RADIO

1. Loosen set screws in knobs and remove knobs.
2. Use 5/8" wrench and remove 2 nuts from control bushings.
3. Disconnect speaker connector & antenna lead. (And rear seat speaker lead if used).
4. Use 7/16" wrench and remove screws from both ends of rear mounting bracket and remove bracket.

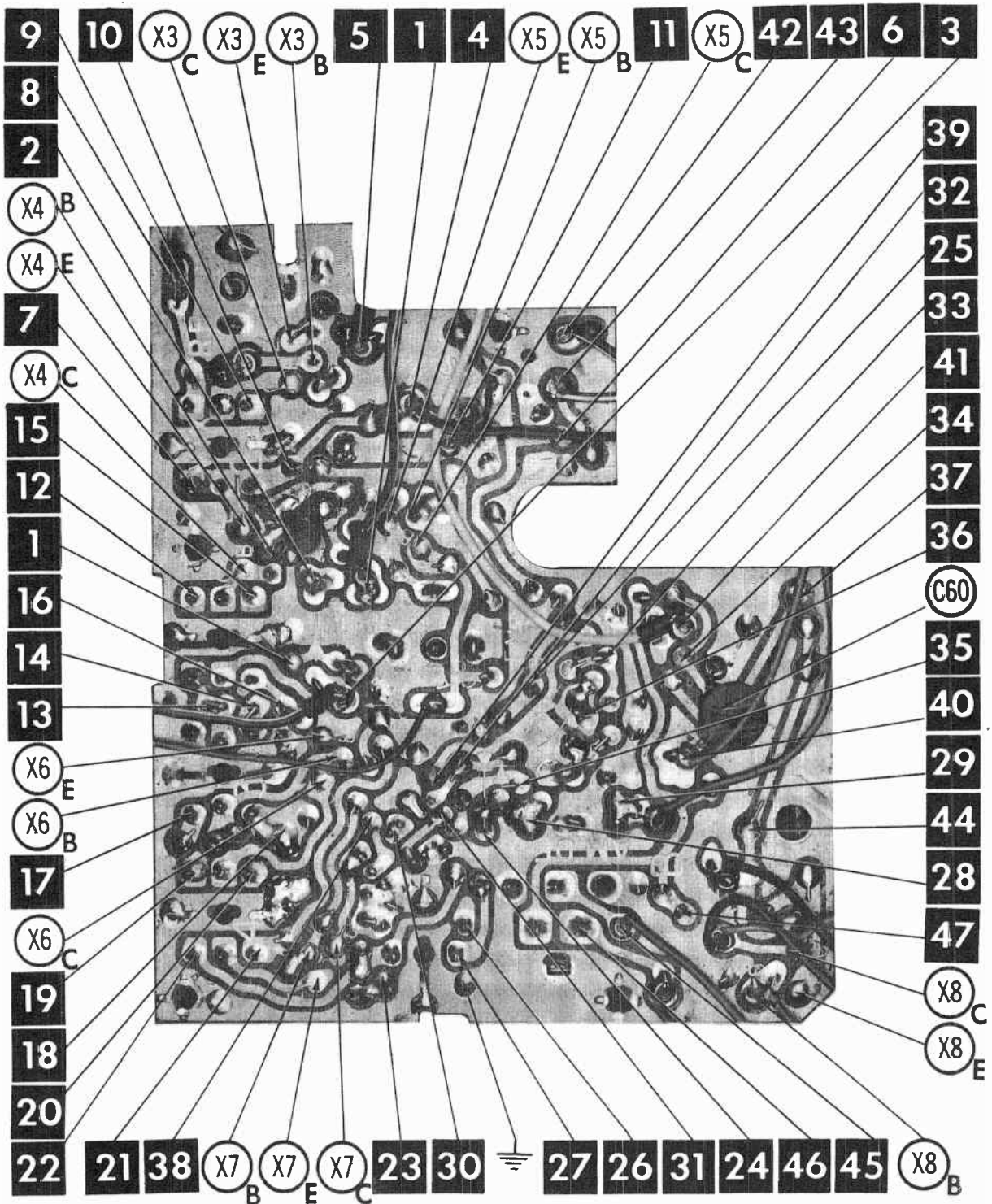
5. Remove radio from under instrument panel.

SPEAKER

1. Remove "A" lead from speaker connector.
2. Use 3/8" wrench and remove 2 nuts holding speaker mounting plate. Remove speaker and mounting plate.



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



A Howard W. Sams CIRCUITRACE® Photo

1615 KC

A8

C27

M13

L6

T1

M1

L18

L17

B

C60

X9

262 KC

A2

C68

A

A6

A14

A4

C

1615 KC 10.7 MC 262 KC

1615 KC

A7

10.7 MC

C31

A16

A17

10.7 MC

C68

A15

L12

262 KC

M12

A3

L15

10.7 MC

A12

A13

L13

R51

R50

C8

A1

262 KC

L14

A11

10.7 MC

A19

10.7 MC

C1

R46

A10

600 KC

L7

L13

R51

R50

C8

A1

262 KC

L14

A11

10.7 MC

A19

10.7 MC

C1

R46

L8

M2

A5

L10

L11

A9

L9

C34

C66

R53

L16

C65

C2

R1

600 KC

600 KC

ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

Use only enough generator output to provide a usable indication.

Suggested Alignment Tools: A1 thru A10, A20, A22, A23 .. GENERAL CEMENT #8290, 8868, 9087
 WALSCO #2525, 2528, 2587
 All thru A19 GENERAL CEMENT #8282, 8606, 9302
 WALSCO #2543, 2544, 2588
 A21, A24, A25 GENERAL CEMENT #9296, 9297, 9304
 WALSCO #2510, 2546, 2547

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
High side thru .1mf to point $\diamond A$, low side to ground.	262KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
Check setting of oscillator coil core (A5). Rear of core should be 1 5/ 8" from mounting end of coil form.					
High side thru 82mmf to antenna receptacle, low side to ground.	1615KC	High Freq. End Stop.	Output Meter across voice coil.	A6, A7, A8	Adjust for maximum.
"	600KC	600KC Signal	"	A5, A9, A10	Adjust for maximum. Repeat step 2.
With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and adjust A8 for maximum output.					

FM ALIGNMENT USING AM SIGNAL GENERATOR - SELECTOR IN FM POSITION

High side thru 68mmf to antenna terminal, low side to ground.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MC (Unmod.)	Point of non-interference.	DC probe of VTVM to point $\diamond B$; common to ground.	All thru A18	Adjust for maximum.
"	"	DC probe to point $\diamond C$; common to ground.	A19	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.
108MC (Unmod.)	108MC	DC probe of VTVM to point $\diamond B$; common to ground.	A20	Adjust for maximum.
92MC	92MC	"	A21	"
104MC (Unmod.)	104MC	DC probe of VTVM to point $\diamond B$; common to ground.	A22, A23	Adjust for maximum.
92MC	92MC	"	A24, A25	"

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

High side thru 68mmf to antenna terminal, low side to ground.
 Use 60% frequency modulated signal with 450KC sweep. Use 120% sawtooth voltage in scope for horizontal deflection.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MC (450KC Swp.)	Point of non-interference.	Vert. amp. of scope to point $\diamond B$; low side to ground.	All thru A18	Disconnect stabilizing capacitor C 4 . Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown. Reconnect C 4 .
"	"	Vert. amp. to point $\diamond C$; low side to ground.	A19	Adjust to place marker at center of crossover lines similar to Fig. 2. SLIGHTLY retouch A11 for maximum amplitude and straightness of crossover lines.

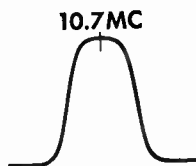


FIG. 1

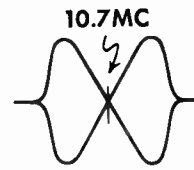
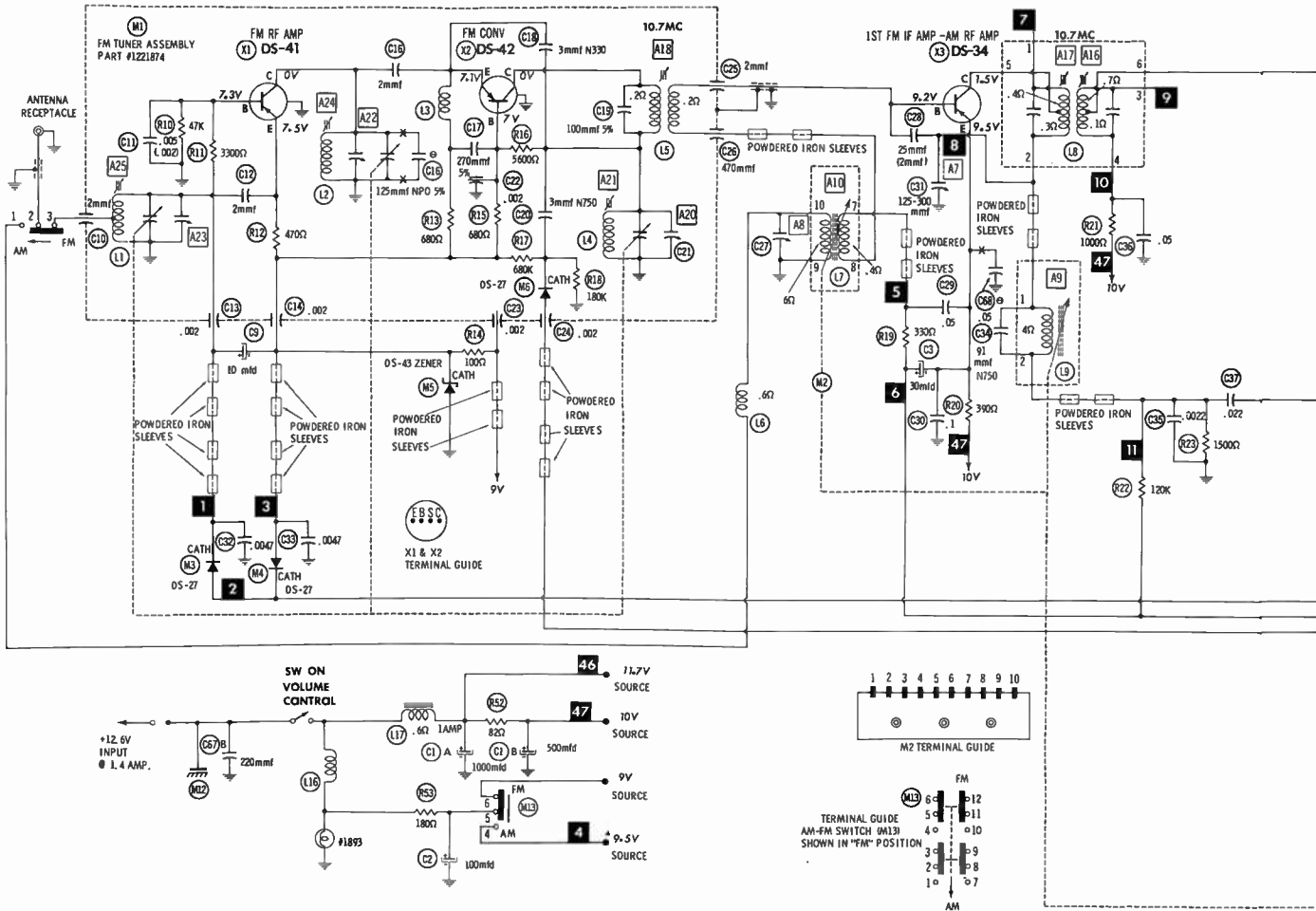


FIG. 2

PUSH-BUTTON ADJUSTMENT

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

OLDSMOBILE MODEL 982212

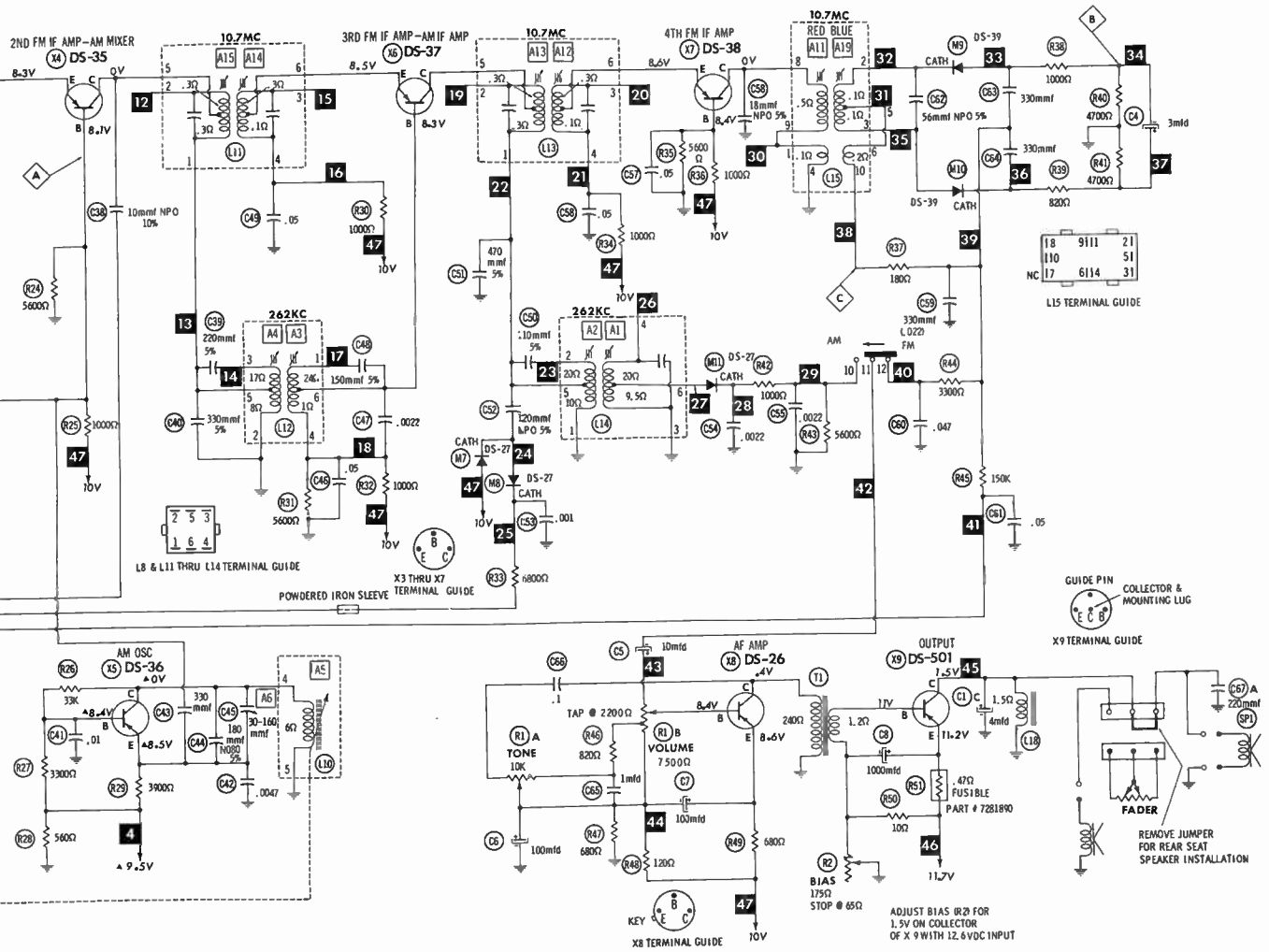


ALL VOLTAGES TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED
 A MEASURED IN "AM" POSITION

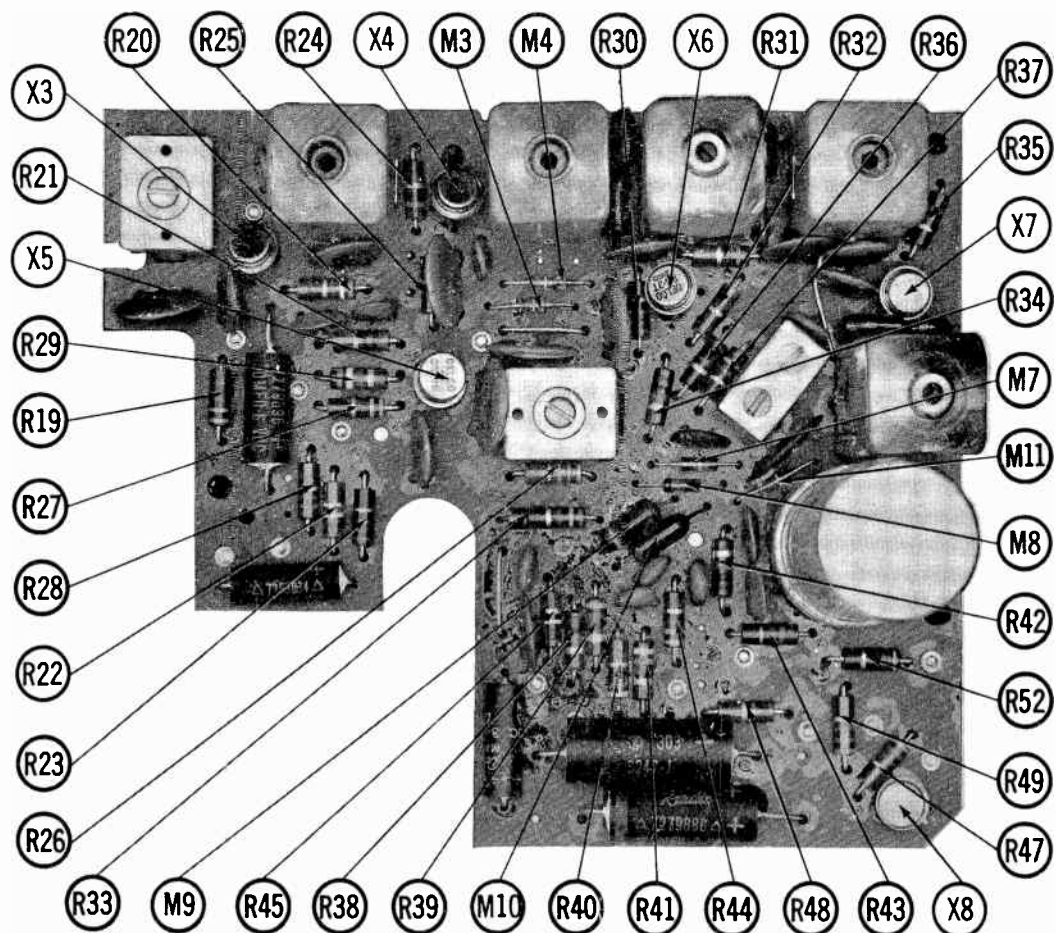
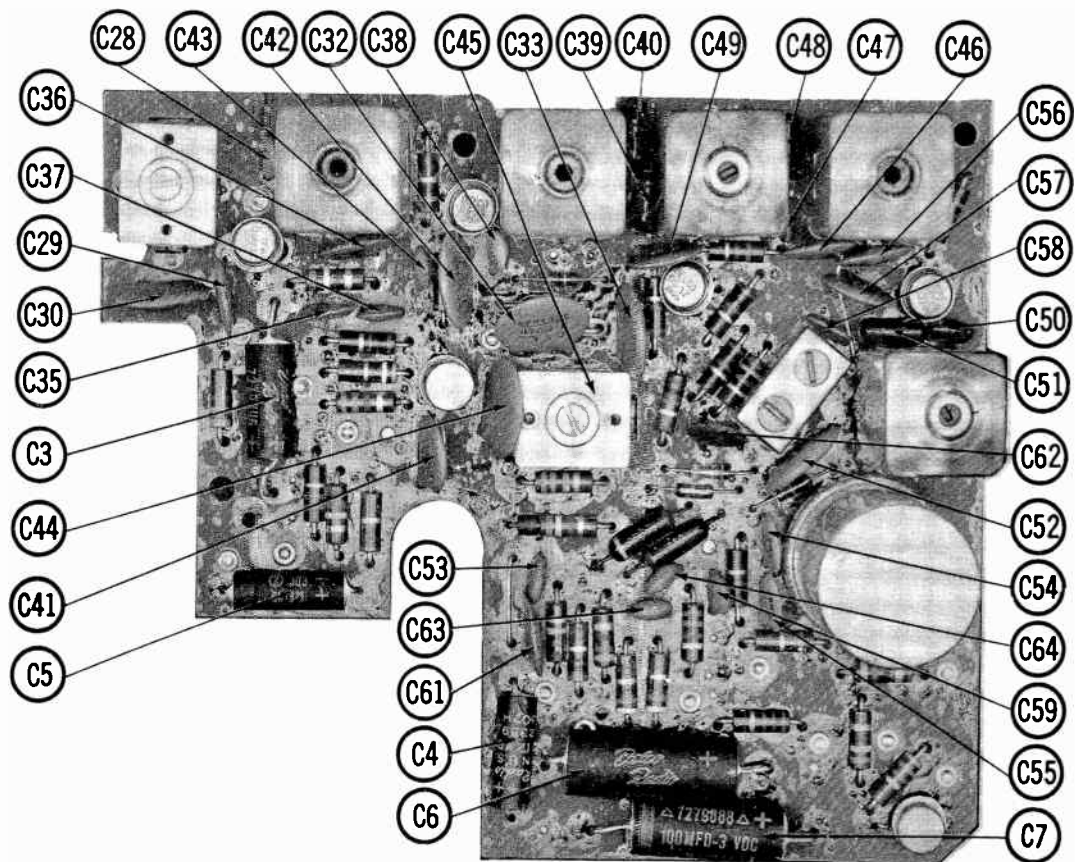
- ⊙ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise 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
 with CIRCUITRACE

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OLDSMOBILE MODEL 982212



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-41	FM RF Amp.	DS-41		2N1177	PNP
X2	DS-42	FM Conv.	DS-41		2N1179	PNP
X3	DS-34	1st FM IF Amp. - AM RF Amp.	DS-34		2N1180	PNP
X4	DS-35	2nd FM IF Amp. - AM Mixer	DS-34		2N1180	PNP
X5	DS-38	AM Osc.	DS-25	GE-1	2N1639	PNP
X6	DS-37	3rd FM IF Amp. - AM IF Amp.	DS-34		2N1180	PNP
X7	DS-38	4th FM IF Amp.	DS-34		2N1180	PNP
X8	DS-26	AF Amp.	DS-26	GE-2	2N591	PNP
X9	DS-501	Output	DS-501	GE-4		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	1000	16	7283675					FPS-300, 91	PCLS-3021, 8*
C2	100	16	7283372	PTT86	NLW100-25	MT1-20	BL2050	TT25X100	TL-1162
C3	30	6	7279896	PTT27	NLW30-6	MT1-5	BL1321	TT6X30	TE-1092
C4	3	12	7282359	PTT50	NLW3-15	MT1-3	MLV5-3	TT6X3	TE-1082
C5	10	12	7283834	PTT53	NLW10-15	MT1-5	BL1241	TT12X10	TL-1182
C6	100	16	7283372	PTT86	NLW100-25	MT1-20	BL2050	TT25X100	TL-1162
C7	100	3	7279888	PTT13	NLW100-3	MT1-21	BL1610	TT6X100	TL-1059, 5
C8	1000	2	7285035	FRS1130	BR1000-6	QTI-32	BL2310	TC310	TVA-1104
C9	10	12	7283834	PTT53	NLW10-15	MT1-5	BL1241	TT12X10	TL-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	2								
C11	.005	(.002) †	BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50	
C12	2		NPO-DI 2, 2	TCZ-2R2	C10V15C	CCTO-2R2	CNO-522	10TCC-V22	
C13	.002								
C14	.002								
C15	125 NPO 5%	Note 1			C10T12C	CCTO-121	CNO-312	10TCC-T12	
C16	2		NPO-DI 2, 2	TCZ-2R2	C10V15C	CCTO-2R2	CNO-522	10TCC-T12	
C17	270 125V 5%			CPR-270J					
C18	3 N330							10TCS-V30	
C19	100 125V 5%			CPR-100J					
C20	3 N750								
C21									
C22	.002								
C23	.002								
C24	.002								
C25	2								
C26	470								
C27		#7283618							
C28	25	(2mm) †	BPD-000025	DD-250	LA10Q25-SL	CCD-250	GP425	5GA-Q25	
C29	.05 16V			DDA-503				HY535	
C30	.1 16V			DDA-104				HY550	
C31	125-300	#7281932							
C32	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B-247	5HK-D47	
C33	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B-247	5HK-D47	
C34	91 N750								
C35	.0022		DI-2200	OF-222	JB6D22	CCD-222	GP222	10TS-D22	
C36	.05 16V			DDA-503				HY535	
C37	.022			DD-203	BYA6S2	CCD-203	CNO-410	5HK-S22	
C38	10 NPO 10%		NPO-DI 10	DTZ-10	C10Q1C	CCTO-100	CNO-410	10TCC-Q10	
C39	220 5%			DTZ-220			CNO-322	10TCC-T22	
C40	330 5%							10TCC-T33	
C41	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10	
C42	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B-247	5HK-D47	
C43	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33	
C44	180 N080 5%							10TCN-T18	
C45	30-160	#7282165							
C46	.05 16V			DDA-503				HY535	
C47	.0022		DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22	
C48	150 5%			DTZ-150	C10T15C		CNO-315	10TCC-T15	
C49	.05 18V			DDA-503				HY535	
C50	110								
C51	470 5%								
C52	120 NPO 5%				C10T12C		CNO-312	10TCC-T12	
C53	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10	
C54	.0022		DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22	
C55	.0022		DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22	
C56	.05		BPD-05	DD-502		CCD-503	GP150	5HK-S50	
C57	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50	
C58	18 NPO 5%						CNO-418	10TCC-Q18	
C59	330	(.022) †	DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33	
C60	.047 25V			DA-503				HY535	
C61	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50	
C62	56 NPO 5%						CNO-456	10TCC-Q56	
C63	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33	
C64	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33	
C65	1 mfd 3V							HY135	
C66	.1 75V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10	
C67A	220		DI-220	DD-221	LA10T22-S3	CCD-221	GP322	10TS-T22	
B	220		DI-220	DD-221	LA10T22-S3	CCD-221	GP322	10TS-T22	
C68	.05	Note 1		DDA-503				HY535	

Note 1. Not used in some versions. # Delco Part Number. † Alternate Value.

OLDSMOBILE MODEL 982212

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			DELCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A B	Tone Volume & Switch	10K 7500Ω Tap @ 2200Ω	7284310	F1-10K, R14-7500, FFS102, RFS109, AK-26, KR-4			■ UE4411-S
R2	Bias	175Ω Stop @ 65Ω	7275554				PFL175-S

■ "STA-LOC" Equivalent: FK14A, RU752T53, OS1000A, IS1500, US41

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		DELCO PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	FM Ant.	①					① Part of M1 ② Part of M2
L2	FM RF	①					
L3	RF Choke	①					
L4	FM Osc.	①					
L5	1st FM IF	①					
L6	RF Choke (8uh)	7255738	BC-566	4611	RTC-8521	T822	
L7	AM Ant.	7282586 ②					
L8	2nd FM IF	1221860					
L9	AM RF	7282585 ②					
L10	AM Osc.	1221616 ②					
L11	3rd FM IF	1221861					
L12	1st AM IF	1221858					
L13	4th FM IF	1221861					
L14	2nd AM IF	1221859					
L15	Ratio Det.	7283623		2073	RTC-9272		
L16	"A" Lead Choke (1.4uh)	7241708					

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.	
L17	1 Amp.	.6Ω	8.5MH	7284029	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.	
L18	29.5MH	7282278					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	10:	1	7283586	A-4094	TA-51	TR-186	TY4XT	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		DELCO PART No.	QUAM PART No.	
SP1	4" x 10" PM 10Ω	7281633 ①	410A2Z10	① Alternate Part #7282423

MISCELLANEOUS

ITEM No.	PART NAME	DELCO PART No.	NOTES
M1	FM Tuner	1221874	
M2	AM Tuner		
M3	AFC Det.	DS-27	
M4	AFC Det.	DS-27	
M5	Zener Diode	DS-43	
M6	AFC Det.	DS-27	
M7	AVC Det.	DS-27	
M8	AVC Det.	DS-27	
M9	Ratio Det.	DS-39	
M10	Ratio Det.	DS-39	
M11	AM Det.	DS-27	
M12	Spark Plate	7271564	
M13	Band Switch	7284009	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Dial Glass	7284304	Pointer Assembly	1221852
Knob - Tuning or Volume	587467	Push Buttons (Set of 5)	1221853
Knob - Tone	587074	Push Buttons (Individual)	7281705
Knob - Dummy	587075		

WIRING DATA

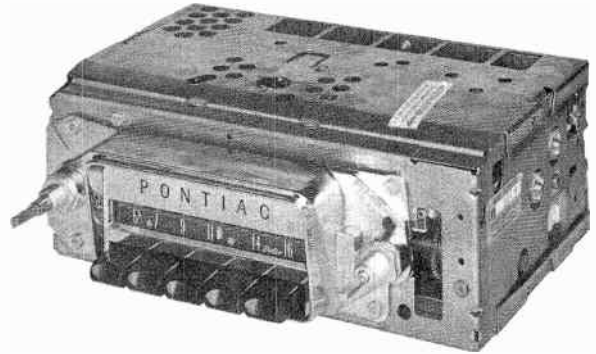
General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap	Use BELDEN No. 8661 (3/8 In.) or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



PHOTOFACT[®] with

CIRCUITRACE[®]

TRADE NAME : Pontiac Model 983875 (1963 Tempest)
 SUPPLIER : (Parts) United Delco Distributors
 TYPE SET : 5 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .54 Amp. @ 12.6VDC
 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 #5009, 8728A, 8987
 WALSCO #2531-X, 2536
 A6, A7, A8.....GENERAL CEMENT #8290, 8868
 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.	262KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
Check setting of oscillator coil core (A5). Rear of core should be 1 3/8" from mounting end of coil form.						
2.	High side thru 82mmf to antenna receptacle, low side to ground.	1615KC	High Freq. End Stop.	Output Meter across voice coil.	A6, A7, A8	Adjust for maximum.
3.	"	600KC	600KC Signal	"	A5, A9, A10	Adjust for maximum. Repeat step 2.
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.

REMOVAL INSTRUCTIONS

NOTE: To replace transistors, remove radio.

RADIO

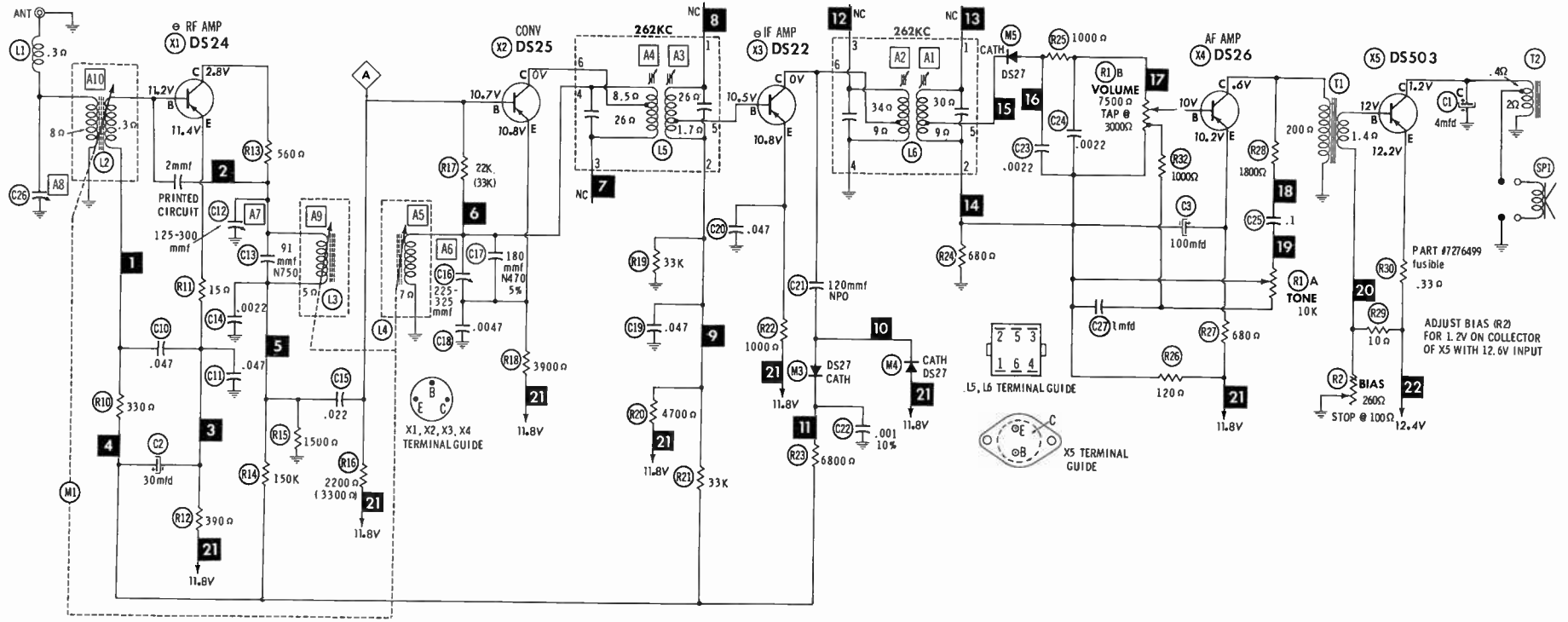
1. Use Allen wrench and remove 3 control knobs.
2. Use 1/2" Spanner wrench and remove nut from tuning shaft bushing. Remove dummy knob.
3. Use 5/8" wrench and remove control bushing nuts. Remove 2 escutcheons.
4. Disconnect speaker connector & antenna lead.

5. Use 7/16" wrench and remove bolt from bottom of radio.
6. Remove radio from under instrument panel.

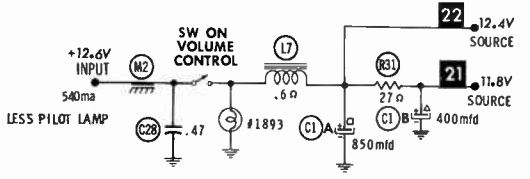
SPEAKER

1. Disconnect "A" lead from speaker connector.
2. Use 7/16" wrench and remove 2 nuts from speaker bracket.
3. Remove speaker bracket and speaker.

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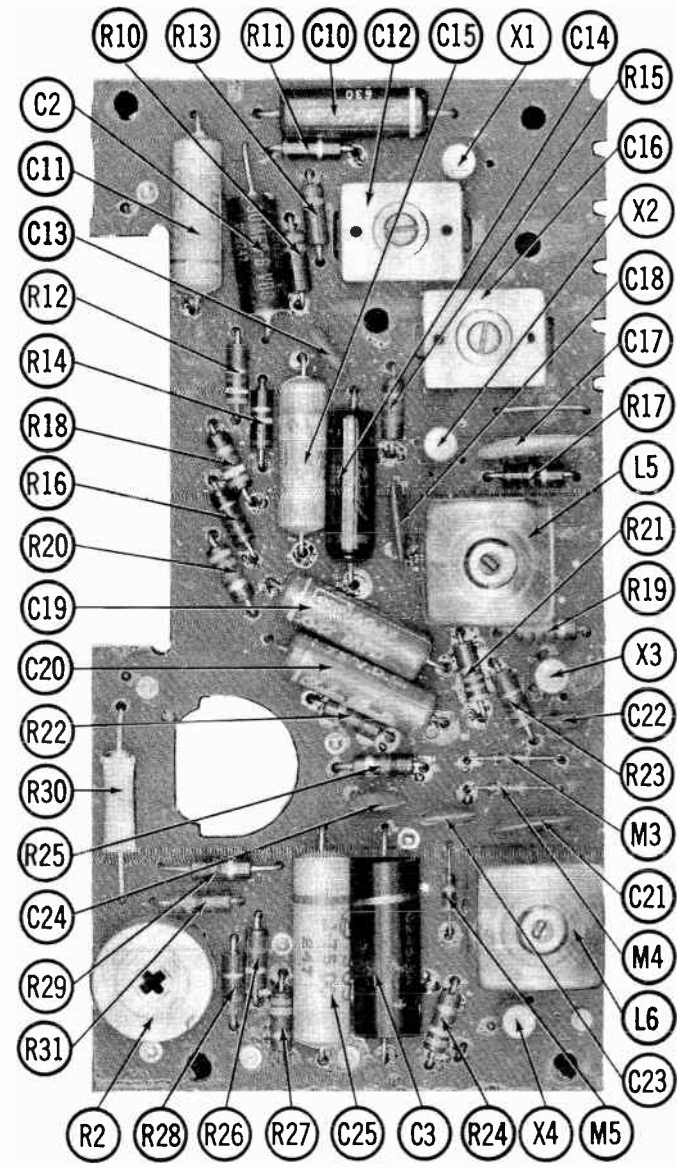
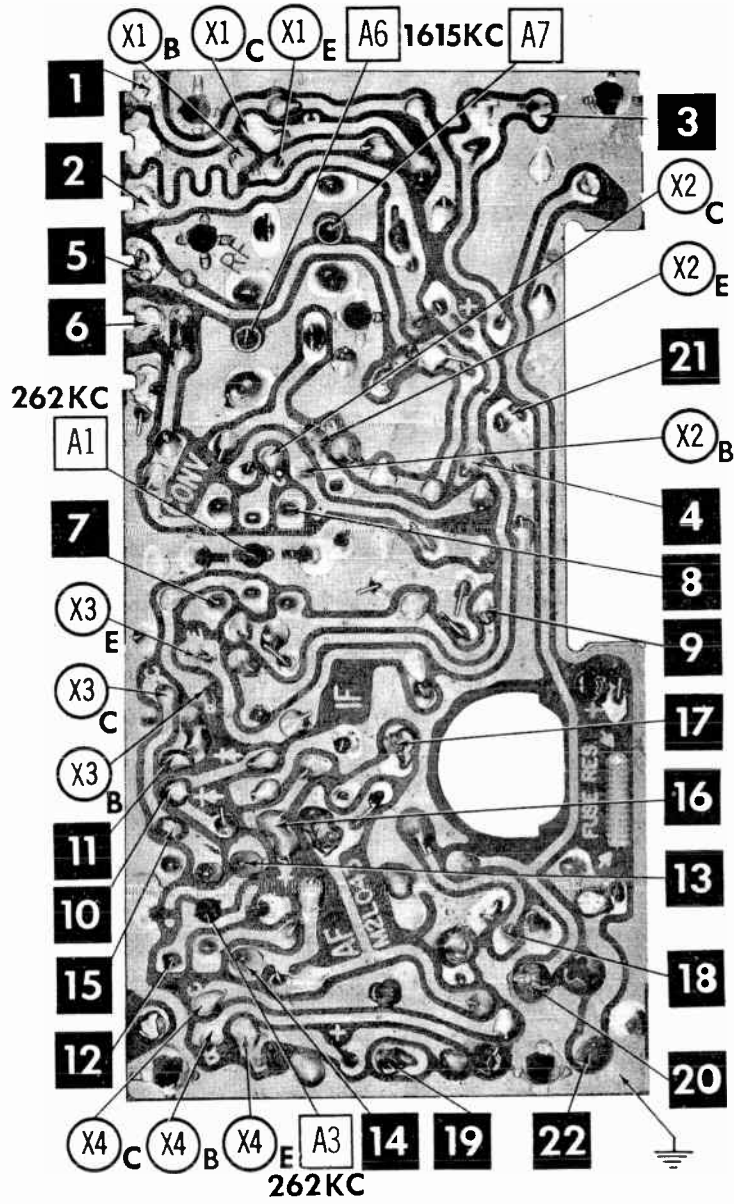


- ⊙ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise 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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PONTIAC MODEL 983875



PONTIAC MODEL 983875

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-24	RF Amp.	DS-25	GE-1	2N1637	PNP
X2	DS-25	Conv.	DS-25	GE-1	2N1639	PNP
X3	DS-22	IF Amp.	DS-25	GE-1	2N1638	PNP
X4	DS-26	AF Amp.	DS-26	GE-2	2N591	PNP
X5	DS-503	Output	DS-503	GE-3	2N301	PNP (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.	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	850	16	7282272	AFH3-54-30		XC3-6.1		WP-300, 7A	TVL-3021
B	400	16							
C	4	11.5VAC							
C2	30	6	7279896	PTT27	NLW30-15	MT1-13	MLV30-6	TT6X30	TE-1092
C3	100	3	7279888	PTT13	NLW100-3	MT1-18	MLV100-3	TT6X100	TE-1059.5

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	.047	#7281932	P288N-047	DD-503	CUB2S47	IDP-2-473	GEM-4147	4TM-S47	
C11	.047		P288N-047	DD-503	CUB2S47	IDP-2-473	GEM-4147	4TM-S47	
C12	125-300								
C13	91 N750				TCN-91	C10Q91U			
C14	.0022			P288N-0022	DD-222	CUB6D22	6DP-1-222	GEM-6222	6TM-D22
C15	.022		#7281933	P288N-022	DDM-203	CUB4S22	IDP-1-223	GEM-4122	2TM-S22
C16	225-325								
C17	180 N470 5%		#7284768						
C18	.0047			DI 4700	DD-472		CCD-472		10TS-D47
C19	.047			P288N-047	DD-503	CUB2S47	IDP-2-473	GEM-4147	4TM-S47
C20	.047			P288N-047	DD-503	CUB2S47	IDP-2-473	GEM-4147	4TM-S47
C21	120 NPO		NPO-DI 120	DTZ-120		CNO-312		10TCC-T12	
C22	.001 10%		DI 1000	DD-102	L10D1	CCD-102	GP210	10TS-D10	
C23	.0022		DI 2200	DD-222	L10D22	CCD-222	GP222	10TS-D22	
C24	.0022		DI 2200	DD-222	L10D22	CCD-222	GP222	10TS-D22	
C25	.1		P215IN-1	DDA-104	BC2P1J	IDP-2-104	ACE-401	2SE-P10	
C26		#7281971							
C27	1mf			UK-105	HCC3105P			HY-135	
C28	.47			UK10-404	HCC10474Z			HY-330	

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 Volume & Switch	10K 7500Ω Tap [ⓐ] 3000Ω	7282522	F1-10K, R14-7500, FFS103, RFS113, AK-26, KR-4				UE4438-S
R2					Bias	260Ω Stop [ⓐ] 100Ω	7275474	

"STA-LOC" Equivalent: FJ14A, RU752T53, OS1187, JS1812, US41.

COILS (RF-IF)

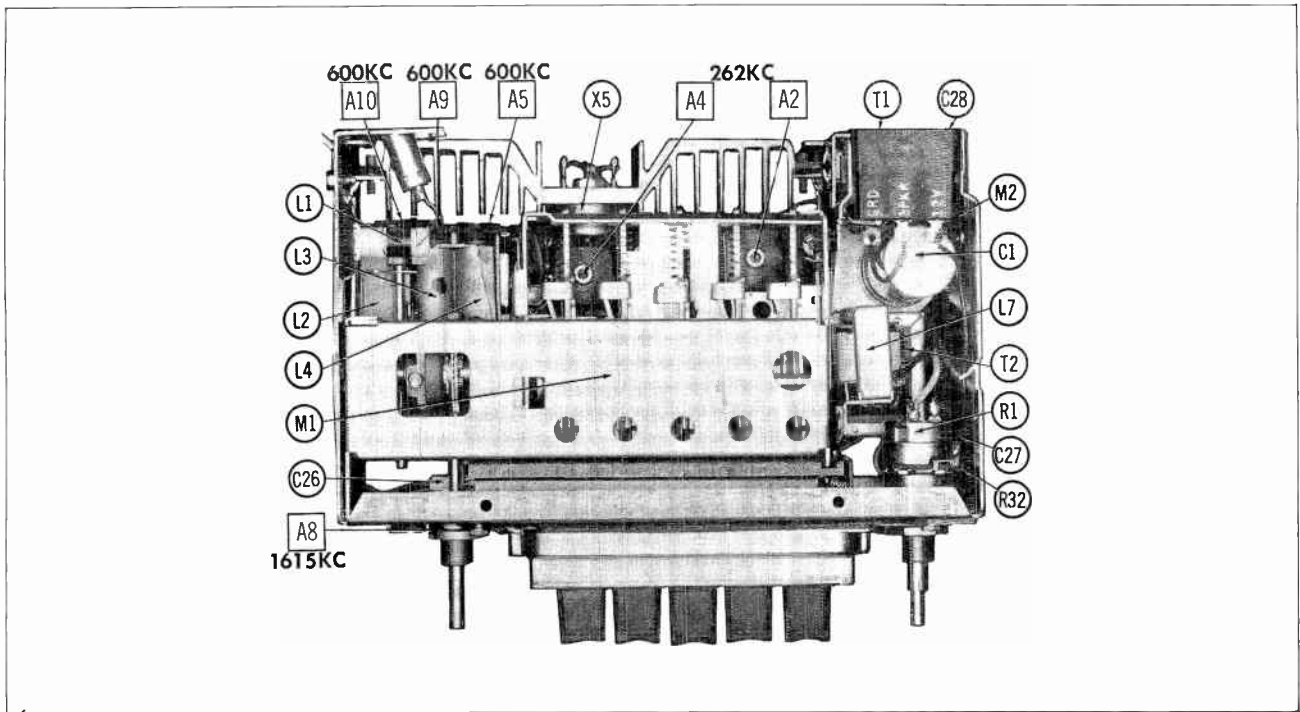
ITEM No.	USE	REPLACEMENT DATA					NOTES
		DELCO PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.2uh)	7281946	BC-565	4610	RTC-8520	T859	① Part of M1
L2	Ant.	7281716 ①					
L3	RF	7282042 ①					
L4	Osc.	7281717 ①					
L5	Input IF	1221856				TA653	
L6	Output IF	1221857					

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	540MA	.1Ω	8MH	1221623	C-4095	TC-2	TR-154	TY17XT	

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	T1	10:	1	7280915	A-4094	TA-51	TR-186	



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 (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
		DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	12Ω Tap @ 10Ω	7282057					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		DELCO PART No.	QUAM PART No.	
SP1	4" x 10" PM 10Ω	7281652	410A2Z10	

MISCELLANEOUS

ITEM No.	PART NAME	DELCO PART No.	NOTES
M1	Tuner	7281697	
M2	Spark Plate	7271564	
M3	AVC Det.	DS-27	
M4	AVC Det.	DS-27	
M5	Audio Det.	DS-27	

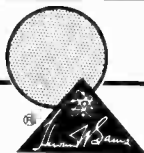
CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Dial Glass	7284064	Pointer Assembly	1221848
Knob, Tuning or Volume	544207	Push Buttons (Set of 5)	1221849
Knob, Tone	539611	Push Buttons (Individual)	7276507
Knob, Dummy	539610		

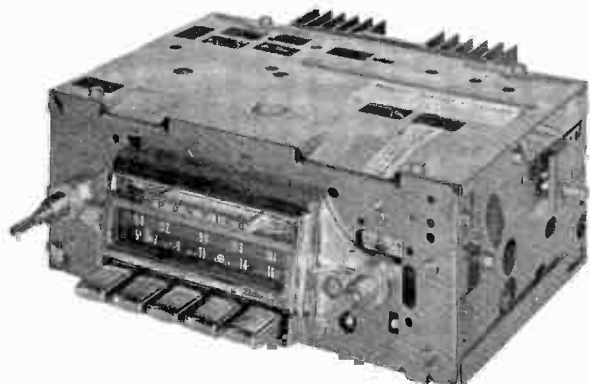
WIRING DATA

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 : Pontiac Model 983945 (1963)
 SUPPLIER: (Parts) United Delco Distributors
 TYPE SET : 9 Transistor AM-FM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : 1.1 Amp. @12.6 VDC
 TUNING RANGE: BROADCAST 540 - 1615KC
 FREQ. MOD. 88 - 108MC

PONTIAC MODEL 983945

REMOVAL INSTRUCTIONS

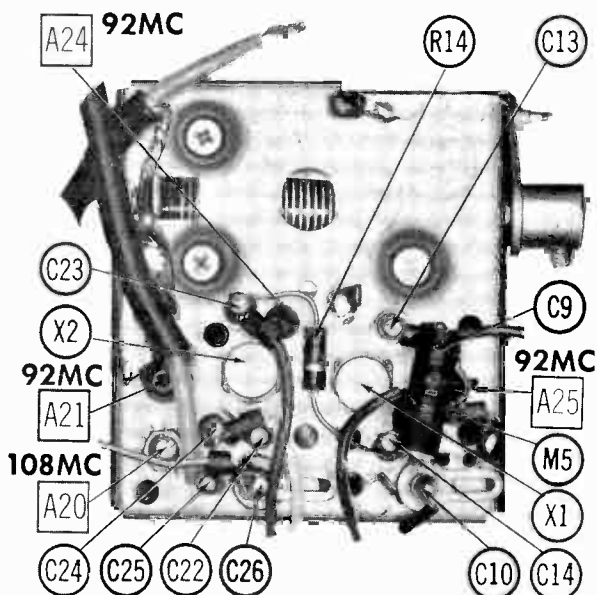
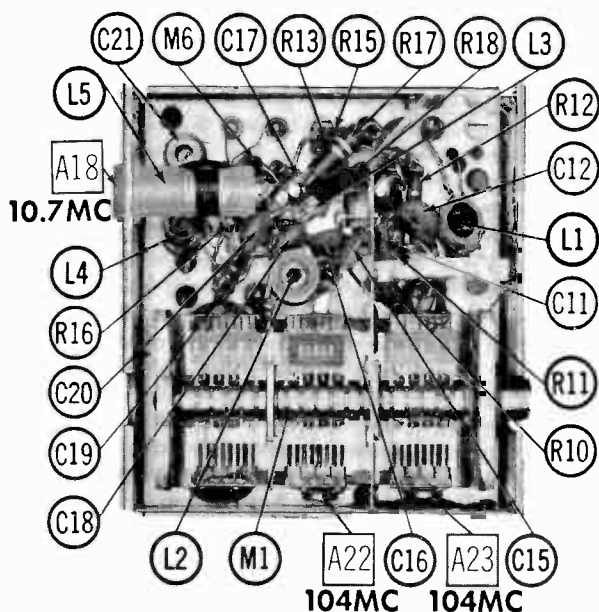
NOTE: To replace transistors, remove radio.

RADIO

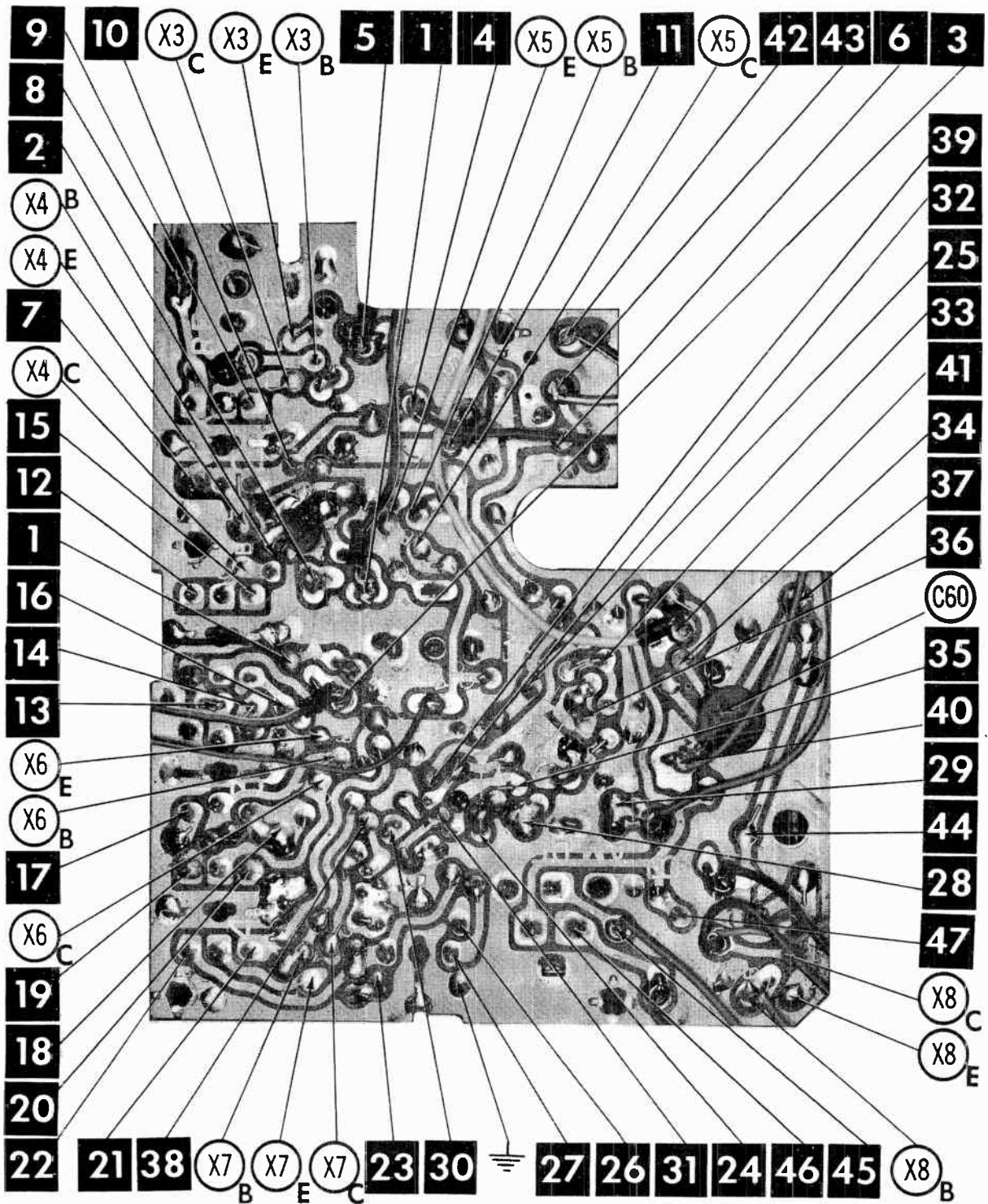
1. Use Allen wrench and remove tuning and volume knobs.
2. Use 5/8" wrench and remove nuts from control bushings. Remove ferrule.
3. Disconnect antenna lead, speaker connector and dial lamp.
4. Remove radio from under instrument panel.

SPEAKER

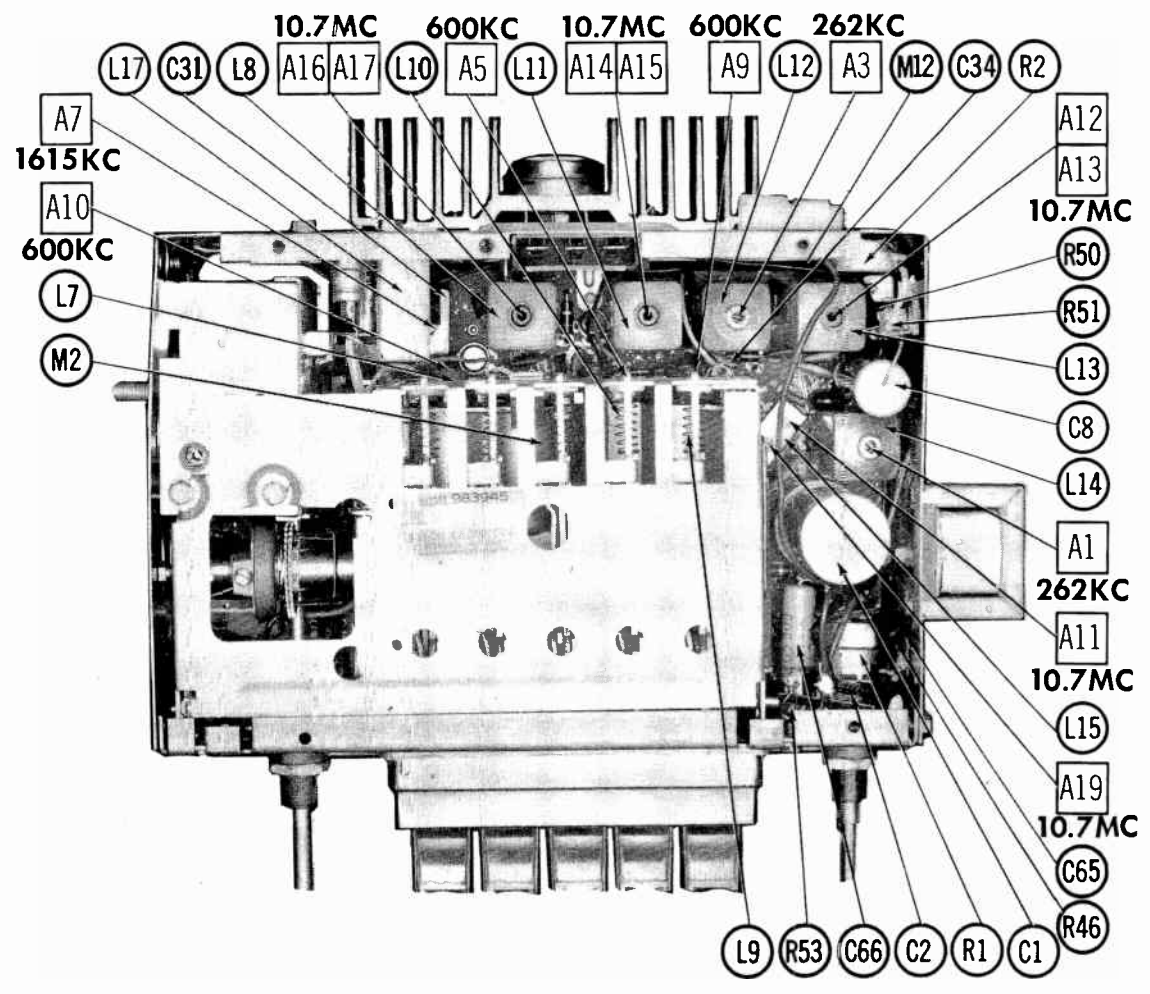
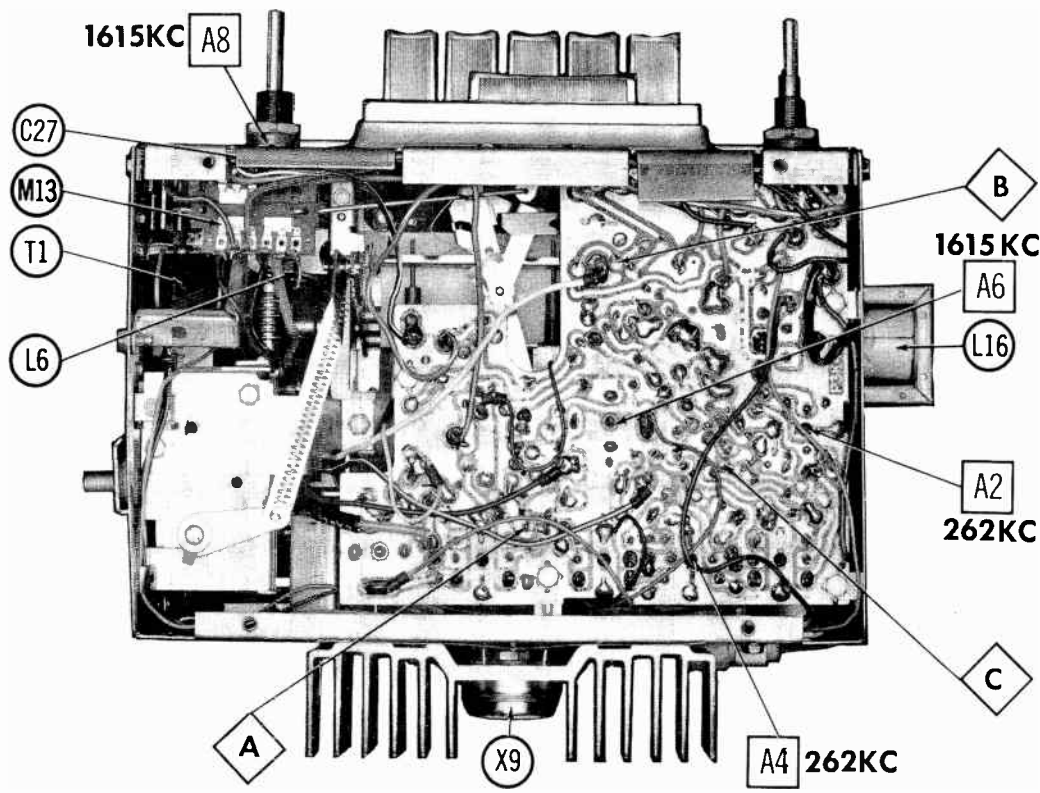
1. Disconnect "A" lead from speaker connector.
2. Use 7/16" wrench and remove 4 nuts holding speaker. Remove speaker.



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A Howard W. Sams CIRCUITRACE Photo



ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

Use only enough generator output to provide a usable indication.

Suggested Alignment Tools: A1 thru A10, A20, A22, A23 .. GENERAL CEMENT #8290, 8868, 9087
 WALSCO #2525, 2528, 2587
 All thru A19 GENERAL CEMENT #8282, 8606, 9302
 WALSCO #2543, 2544, 2588
 A21, A24, A25 GENERAL CEMENT #9296, 9297, 9304
 WALSCO #2510, 2546, 2547

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
High side thru .1mfd to point $\diamond A$, low side to ground.	262KC (400% Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
Check setting of oscillator coil core (A5). Rear of core should be 1 5/8" from mounting end of coil form.					
High side thru 82mmf to antenna receptacle, low side to ground.	1615KC	High Freq. End Stop.	Output Meter across voice coil.	A6, A7, A8	Adjust for maximum.
"	600KC	600KC Signal	"	A5, A9, A10	Adjust for maximum. Repeat step 2.
With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and adjust A8 for maximum output.					

FM ALIGNMENT USING AM SIGNAL GENERATOR - SELECTOR IN FM POSITION

High side thru 68mmf to antenna terminal, low side to ground.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MC (Unmod.)	Point of non-interference.	DC probe of VTVM to point $\diamond B$; common to ground.	All thru A18	Adjust for maximum.
"	"	DC probe to point $\diamond C$; common to ground.	A19	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.
108MC (Unmod.)	108MC	DC probe of VTVM to point $\diamond B$; common to ground.	A20	Adjust for maximum.
92MC	92MC	"	A21	"
104MC (Unmod.)	104MC	DC probe of VTVM to point $\diamond B$; common to ground.	A22, A23	Adjust for maximum.
92MC	92MC	"	A24, A25	"

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

High side thru 68mmf to antenna terminal, low side to ground.
 Use 60% frequency modulated signal with 450KC sweep. Use 120% sawtooth voltage in scope for horizontal deflection.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MC (450KC Swp.)	Point of non-interference.	Vert. amp. of scope to point $\diamond B$; low side to ground.	All thru A18	Disconnect stabilizing capacitor C4. Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown. Reconnect C4.
"	"	Vert. amp. to point $\diamond C$; low side to ground.	A19	Adjust to place marker at center of crossover lines similar to Fig. 2. SLIGHTLY retouch A11 for maximum amplitude and straightness of crossover lines.

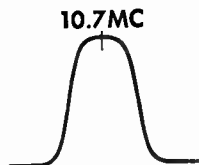


FIG. 1

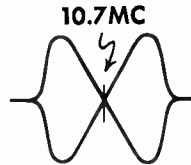
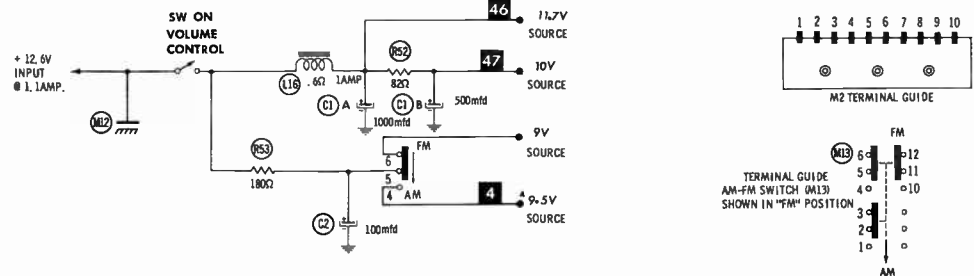
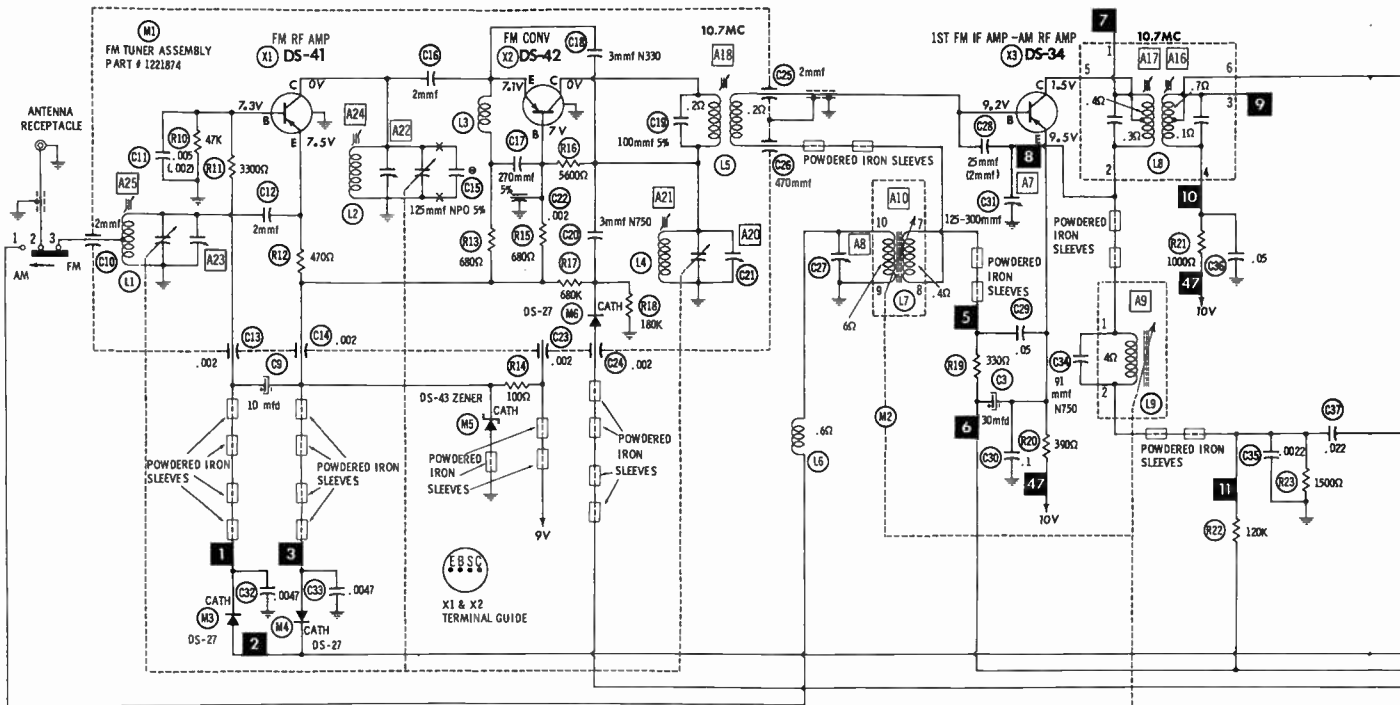


FIG. 2

- PUSH-BUTTON ADJUSTMENT**

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

PONTIAC MODEL 983945



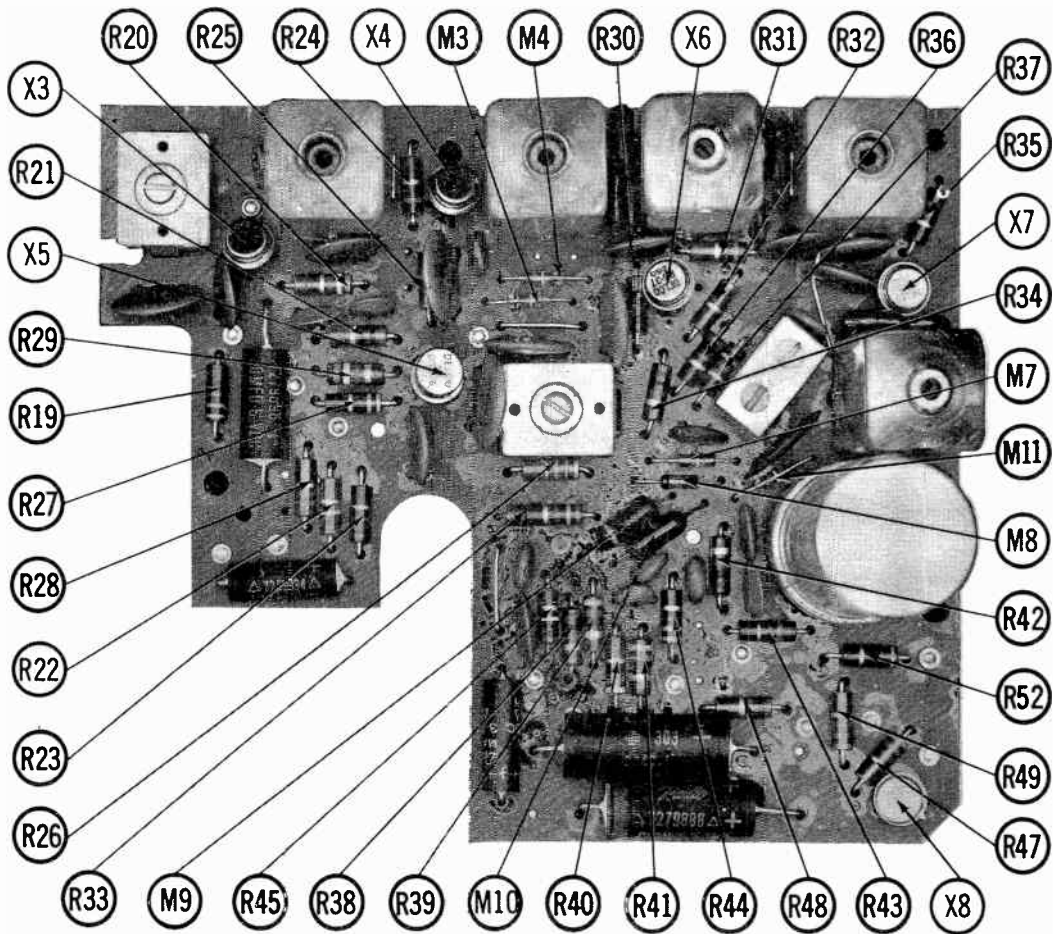
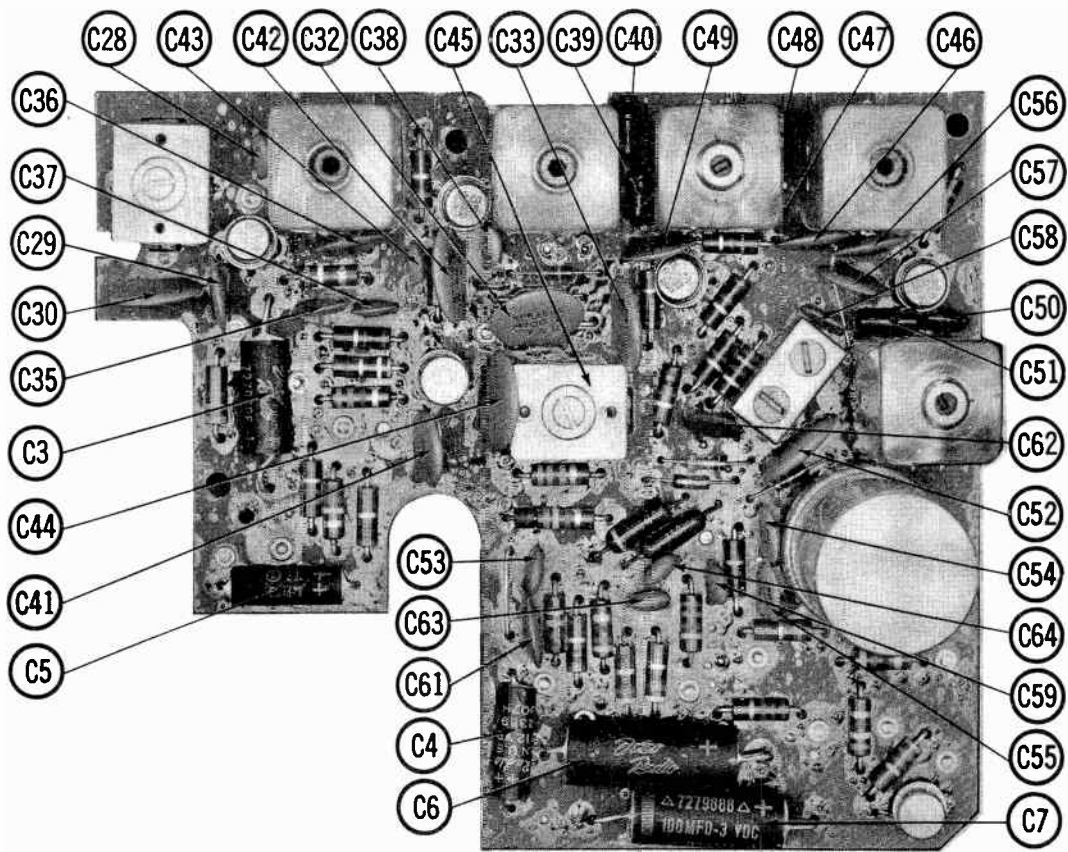
ALL VOLTAGES TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED
 ▲ MEASURED IN "AM" POSITION

- ⊙ 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 PHOTOFACIT STANDARD NOTATION SCHEMATIC

with **CIRCUITRACE**

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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-41	FM RF Amp.	DS-41		2N1177	PNP
X2	DS-42	FM Conv.	DS-41		2N1179	PNP
X3	DS-34	1st FM IF Amp. - AM RF Amp.	DS-34		2N1180	PNP
X4	DS-35	2nd FM IF Amp. - AM Mixer	DS-34		2N1180	PNP
X5	DS-36	AM Osc.	DS-25	GE-1	2N1639	PNP
X6	DS-37	3rd FM IF Amp. - AM IF Amp.	DS-34		2N1180	PNP
X7	DS-38	4th FM IF Amp.	DS-34		2N1180	PNP
X8	DS-26	AF Amp.	DS-26	GE-2	2N591	PNP
X9	DS-501	Output	DS-501	GE-4		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	1000	16	7283675					FPS-300, 91	PCL5-3021, 8*
B	500	16							
C	4	11.5AC							
C2	100	16	7283372	PTT86	NLW100-25	MT1-20	BL2050	TT25X100	TL-1162
C3	30	6	7279896	PTT27	NLW30-6	MT1-5	BL1321	TT6X30	TE-1092
C4	3	12	7282359	PTT50	NLW3-15	MT1-3	MLV5-3	TT6X3	TE-1082
C5	10	12	7283834	PTT53	NLW10-15	MT1-5	BL1241	TT12X10	TL-1182
C6	100	16	7283372	PTT86	NLW100-25	MT1-20	BL2050	TT25X100	TL-1162
C7	100	3	7279888	PTT13	NLW100-3	MT1-21	BL1610	TT6X100	TL-1059, 5
C8	1000	2	7285035	PRS1130	BR1000-6	QT1-32	BL2310	TC310	TVA-1104
C9	10	12	7283834	PTT53	NLW10-15	MT1-5	BL1241	TT12X10	TL-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	2							
C11	.005	(.002) †	BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C12	2		NPO-DI 2.2	TCZ-2R2	C10V15C	CCTO-2R2	CNO-522	10TCC-V22
C13	.002							
C14	.002							
C15	125 NPO 5%	Note 1						
C16	2		NPO-DI 2.2	TCZ-2R2	C10T12C	CCTO-121	CNO-312	10TCC-T12
C17	270 125V 5%			CPR-270J	C10V15C	CCTO-2R2	CNO-522	10TCC-V22
C18	3 N330							10TCS-V30
C19	100 125V 5%			CPR-100J				
C20	3 N750							
C21								
C22	.002							
C23	.002							

FIXED CAPACITORS (cont)

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.
C24	.002							
C25	2							
C26	470							
C27		#7283618 (2mmf) †	BPD-000025	DD-250	LAI0Q25-8L	CCD-250	GP425	5GA-Q25
C28	25			DDA-503				HY-535
C29	.05 16V			DDA-104				HY-550
C30	.1 16V							
C31	125-300	#7281932	BPD-0047	DD-502	BYA10D47	CCD-502	GP250	5HK-D60
C32	.0047		BPD-0047	DD-502	BYA10D47	CCD-502	GP250	5HK-D60
C33	.0047							
C34	91 N750			CF-222	JB6D22	CCD-222	GP222	10TS-D22
C35	.0022		DI-2200	DDA-503				HY-535
C36	.05 16V			DD-203	BYA6S2	CCD-203		5HK-S22
C37	.022			DTZ-10	C10Q1C	CCTO-100	CNO-410	10TCC-Q10
C38	10 NPO 10%		NPO-DI 10	DTZ-220			CNO-322	10TCC-T22
C39	220 5%							10TCC-T33
C40	330 5%							
C41	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C42	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B-247	5HK-D47
C43	330		DI-330	DD-331	LAI0T33-0A	CCD-331	GP333	10TS-T33
C44	180 N080 5%							10TCN-T18
C45	30-160	#7282165						
C46	.05 16V			DDA-503				HY-535
C47	.0022		DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22
C48	150 5%			DTZ-150	C10T15C		CNO-315	10TCC-T15
C49	.05 16V	#7283845		DDA-503				HY-535
C50	110 5%							
C51	470 5%							
C52	120 NPO 5%				C10T12C		CNO-312	10TCC-T12
C53	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C54	.0022		DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22
C55	.0022		DI-2200	CF-222	JB6D22	CCD-222	GP222	10TS-D22
C56	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50
C57	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50
C58	18 NPO 5%						CNO-418	10TCC-Q18
C59	330		DI-330	DD-331	LAI0T33-C4	CCD-331	GP333	10TS-T33
C60	.047 25V			DA-503				HY-535
C61	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50
C62	56 NPO 5%						CNO-456	10TCC-Q56
C63	330		DI-330	DD-331	LAI0T33-0A	CCD-331	GP333	10TS-T33
C64	330		DI-330	DD-331	LAI0T33-C4	CCD-331	GP333	10TS-T33
C65	1 mfd 3V							HY-135
C66	.1 75V		P488N-1	DE-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10

Note 1. Not used in some versions.

Delco Part Number.

† Alternate Value.

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.	
RIA	Tone	10K	7282440	F1-10K,				UE4409-S
B	Volume & Switch	7500Ω Tap @ 2200Ω		R14-7500,				
R2	Bias	175Ω Tap @ 65Ω	7275554	FFS102, RFS113, AK26, KR-4				PFL-175-S

* "STA-LOC" Equivalent: FJ14A, RU752T53, OS1125, IS1687, US41

PONTIAC MODEL 983945

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
		DELCO PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	FM Ant.	①					① Part of M1. ② Part of M2.
L2	FM RF	①					
L3	RF Choke	①					
L4	FM Osc.	①					
L5	1st FM IF	①					
L6	RF Choke (8uh)	7255738	BC-566	4611	RTC-8521	T822	
L7	AM Ant.	7282586					
L8	2nd FM IF	1221860					
L9	AM RF	7282585					
L10	AM Osc.	1221616					
L11	3rd FM IF	1221861					
L12	1st AM IF	1221858					
L13	4th FM IF	1221861					
L14	2nd AM IF	1221859					
L15	Ratio Det.	7283623		2073	RTC-9272		

MISCELLANEOUS

ITEM No.	PART NAME	DELCO PART No.	NOTES
M1	FM Tuner	1221874	
M2	AM Tuner		
M3	AFC Det.	DS-27	
M4	AFC Det.	DS-27	
M5	Zener Diode	DS-43	
M6	AFC Det.	DS-27	
M7	AVC Det.	DS-27	
M8	AVC Det.	DS-27	
M9	Ratio Det.	DS-39	
M10	Ratio Det.	DS-39	
M11	AM Det.	DS-27	
M12	Spark Plate	7271564	
M13	Band Switch	7284009	

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.	
L16	1 Amp.	.6Ω	8MH	1221623	C-4095	TC-2	TR-154	TY17XT	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Dial Glass	7283594	Push Buttons (Set of 5)	1221899
Knob-Tuning, Volume	544207	Push Buttons (Individual)	7281968
Knob - Tone	544309	Pointer Assembly	1221513
Knob -Dummy	544472		

CHOKE (AUDIO OUTPUT)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L17	29.5 MH	7282278					

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.)

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
			DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T1	10:	1	7283586	A-4094	TA-51	TR-186	TY4XT	

SPEAKER

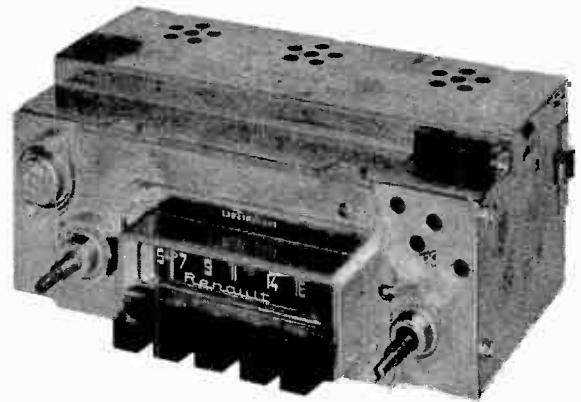
ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		DELCO PART No.	QUAM PART No.	
SP1	4" x 10" PM 10Ω	7281642	410A2Z10	



PHOTOFACT[®] with

CIRCUITRACE[®]

TRADE NAME : Renault Model 3TMXD (55556) 1963
 SUPPLIER : Motorola Inc.
 9401 W. Grand Ave., Franklin Park, Ill.
 TYPE SET : 5 Transistor AM Receiver
 POWER SUPPLY : 12 Volt Storage Battery
 RATING : .65 Amp. @ 12.6 VDC
 TUNING RANGE : BROADCAST 540 - 1615KC



ALIGNMENT INSTRUCTIONS

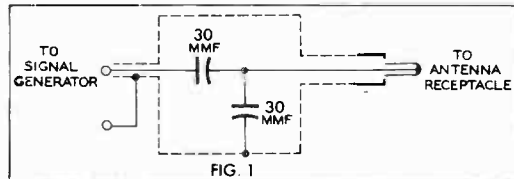
Check for specified source voltage.
 Use only enough generator output to provide a usable indication.
 Suggested Alignment Tools:

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 (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	"
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

RADIO

NOTE: All transistor; remove radio to replace.

1. Pull off knobs
2. Use 11/16" wrench and remove 2 nuts from control bushings.
3. Remove trim plate.
4. Disconnect "A" lead, speaker leads, & antenna lead.
5. Use 3/8" wrench and remove metal screw from bottom

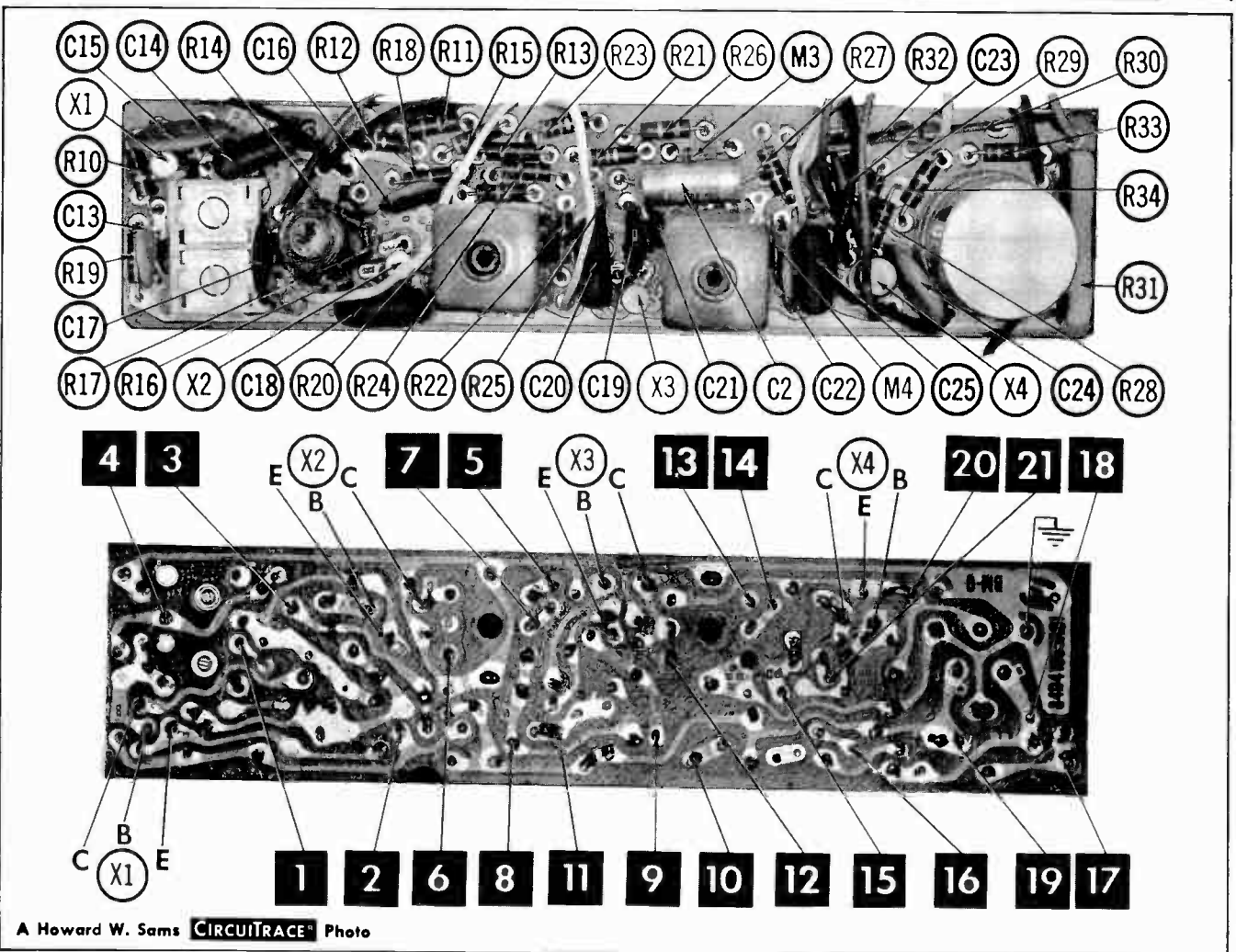
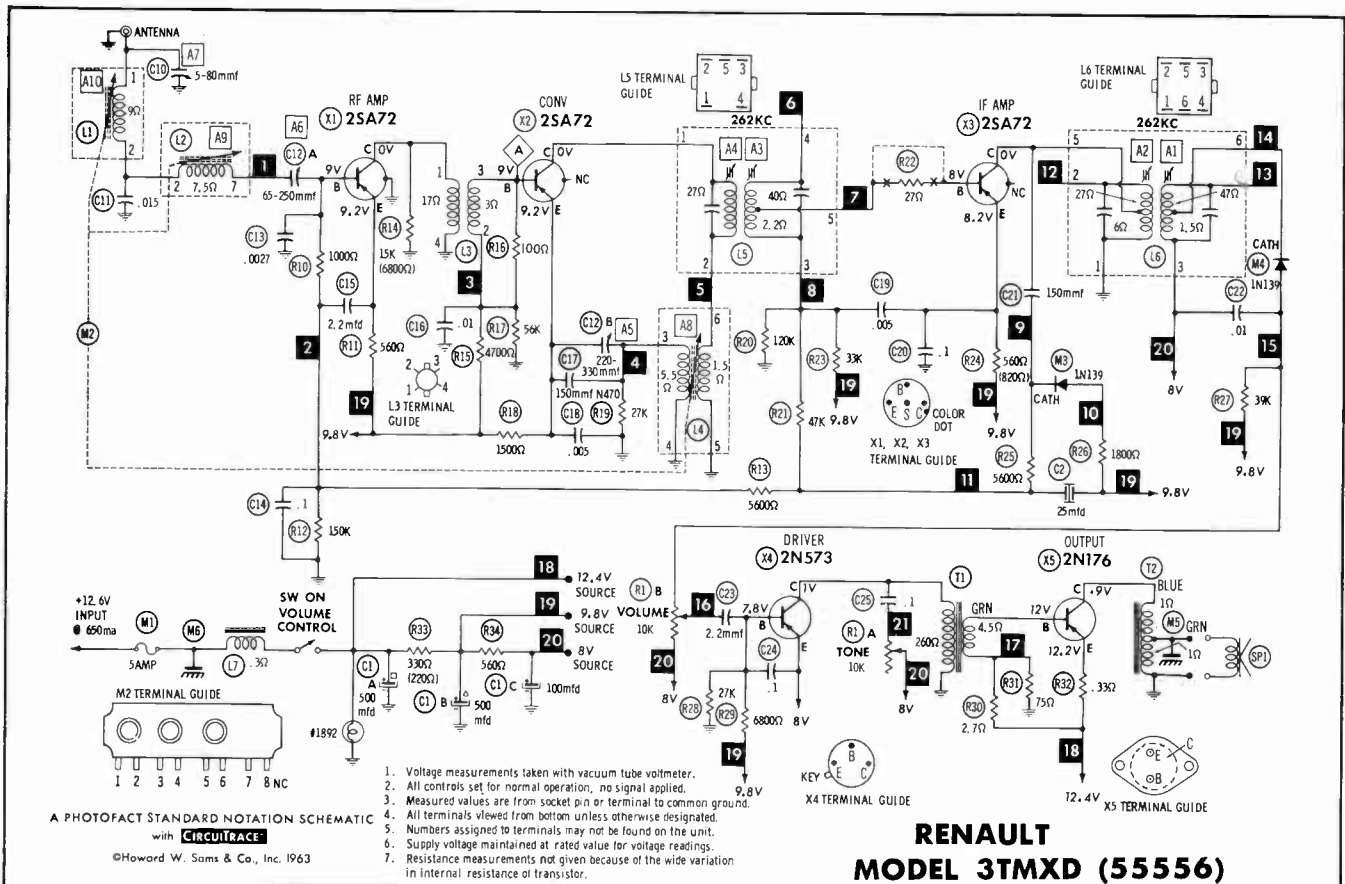
brace.

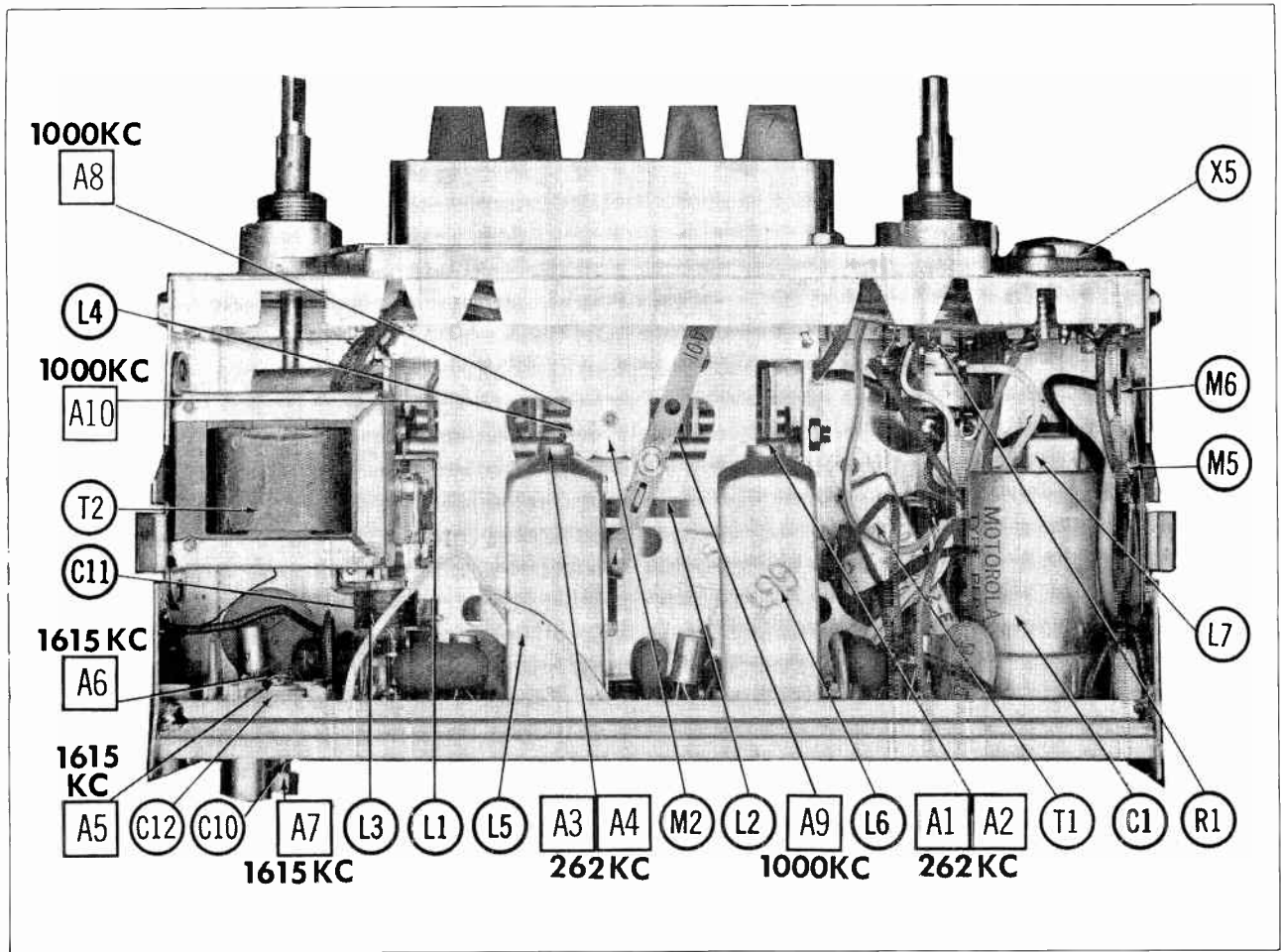
6. Remove radio from under instrument panel.

SPEAKER

1. Use 3/8" wrench and remove 3 metal screws from mounting bracket.
2. Remove speaker and bracket from under instrument panel.

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





RENAULT MODEL 3TMDXD (55556)

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	2N1637	PNP
X2	2SA72	Conv.	DS-25	GE-1	2N1639	PNP
X3	2SA72	IF Amp.	DS-25	GE-1	2N1639	PNP
X4	2N573	Driver	DS-26	GE-2	2N591	PNP
X5	2N176	Output	DS-520	GE-3	2N176	PNP (Note 1)

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		MOTOROLA PART No.	REPLACEMENT DATA					
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	500	16	23C40516A02					PFP300, 18	PCLS-3026, 11*
B	500	16							
C	100	16							
C2	25	6NP	23C40071A05	PRS7200	BBR25-25			TCN1025	

* 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	#20K534810						
C11	.015		BPD-015	DD-153	BYA10S15	CCD-153	GP115	10TS-S15
C12A	85-250	#20C40254A04						
B	220-330							
C13	.0027			DM-302				
C14	.1 100V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-40I	4TM-P10
C15	2.2mfd 3V			UK-225	HCC3225P			HY-150
C16	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C17	150 N47g							10TCT-T15
C18	.005 100V		P288N-005	CPR-5000J	DPMS6D5	1DP-1-502	PVC-625	6PS-D50
C19	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50

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 (cont)

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.
C20	.1 100V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10
C21	150		DI-150	DD-151	LA10T15-83	CCD-151	GP315	5GA-T15
C22	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C23	2.2mfd 3V			UK-225	HCC3225P			HY-150
C24	.1		TTD-1	CK-104	H6		TA-010	TG-P10
C25	.1 100V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10

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.
RIA	Tone	10K	18C40764A02				
B	Volume & Switch	10K					

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					① Part of M2 or Coil Assembly Part #1V41000A29
L2	Ant.	①					
L3	RF	24C41077A01					
L4	Osc.	①					
L5	Input IF	24D40074A07					
L6	Output IF	24D40075A07					

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	650MA	.3Ω	5MH	25C40759A02	C-4095	TC-1	TR-156	TY18XT	

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	15:	1	25C40744A02			TR-187		

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
		MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	23Ω Tap @ 8Ω	25C40760A02			TR-169		

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MOTOROLA PART No.	QUAM PART No.	
SP1	5" x 7" PM 8Ω	50C40856A01	57A1Z8	

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	65R122345	9B41932A01	301005	155004	AGA5	HMP

MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M2	Tuner (AT-378)	77D40985A01	
M3	AVC (1N139)	48K134587	
M4	Detector (1N139)	48K134587	
M5	Spark Plate	64K530177	
M6	Spark Plate	64K530177	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Dial Scale	34B41006A01	Pointer Assembly	1B40961A03
Knob - Tuning or Volume	36B543876	Push Button	38B562848
Knob - Tone or Dummy	36B543877	Trim Plate	13C40990A01

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 : Riverside Models FJB-6619/ A,
FJB-6658

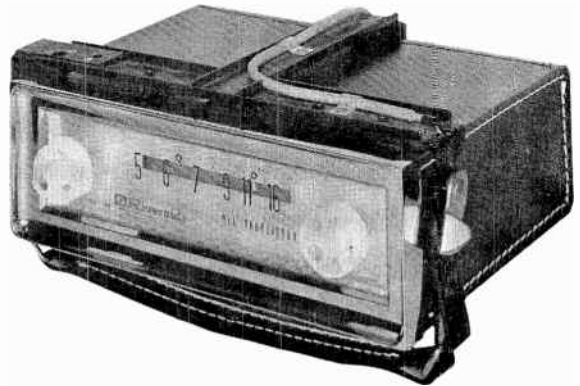
SUPPLIER : Montgomery Ward & Company
619 Chicago Ave., Chicago 7, Illinois

TYPE SET : 6 Transistor Auto-Portable AM Receiver

POWER SUPPLY : 12 Volt Storage Battery (Auto)
9 Volts DC (Portable)

RATING : 450MA @ 12.6VDC (or)
12MA @ 9VDC

TUNING RANGE : BROADCAST 540 - 1610KC

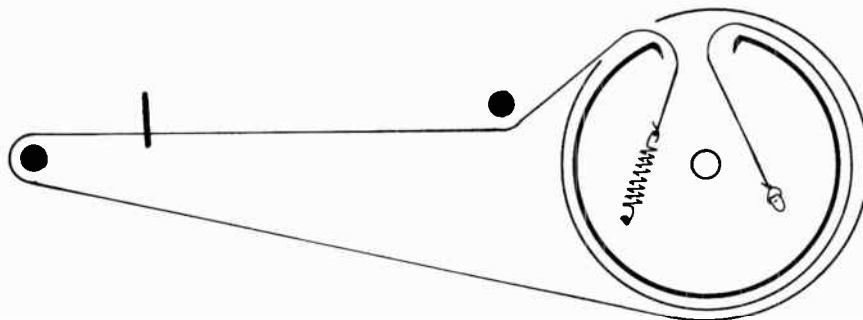


ALIGNMENT INSTRUCTIONS

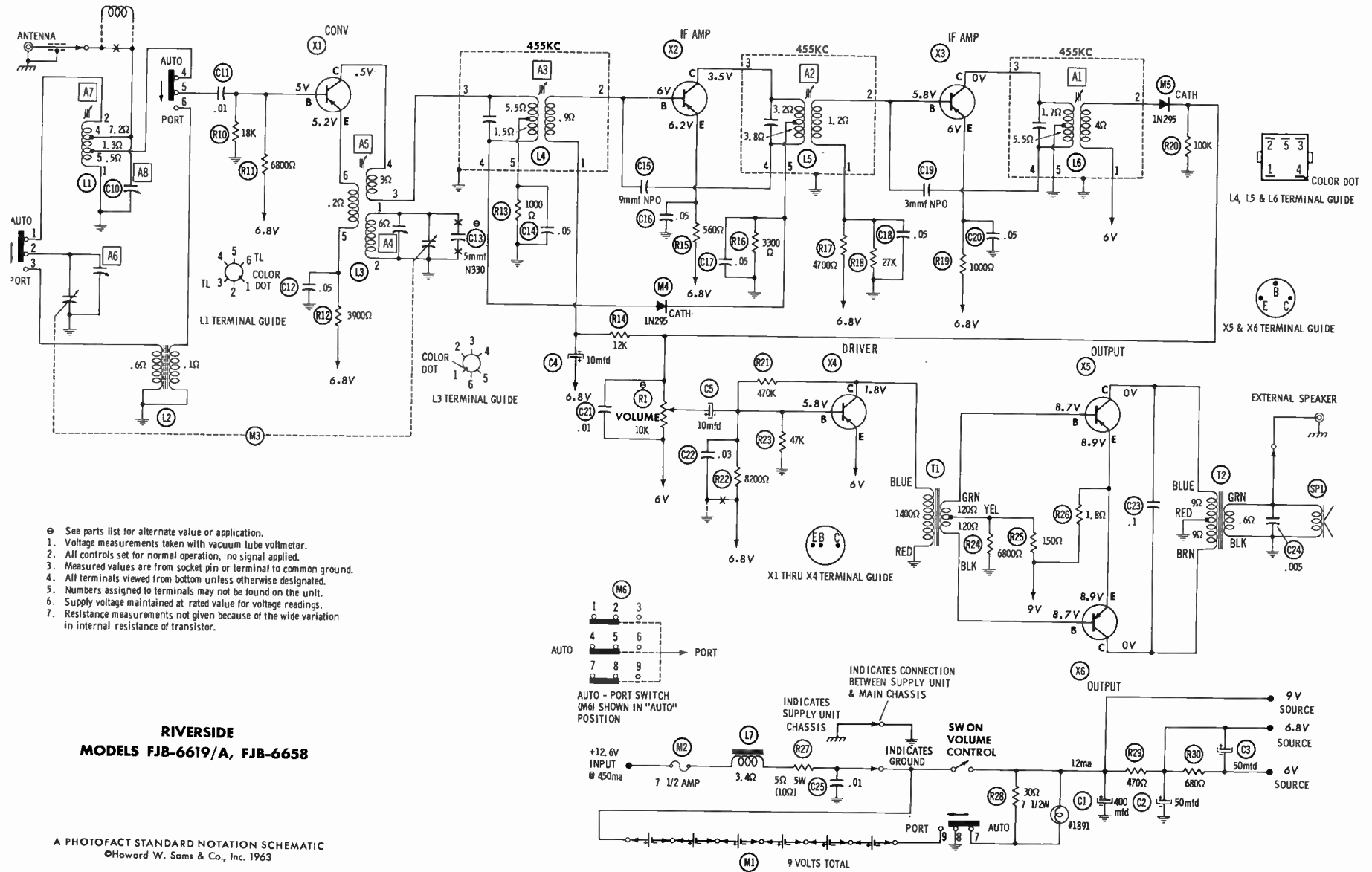
Check for specified source voltage.
Fashion loop of several turns of wire and connect generator across loop.
Adjust output of generator to radiate only enough signal into receiver to obtain a suitable indication.
Suggested Alignment Tools:
A1, A2, A3..... GENERAL CEMENT #5097, 8727..... WALSCO #2515
A4, A6, A8..... GENERAL CEMENT #8290, 8868, 9087..... WALSCO #2525, 2528, 2587
A5, A7..... GENERAL CEMENT #8282, 8606, 9302..... WALSCO #2543, 2544, 2588

	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	455KC (400v Mod.)	Tuning gang fully open.	Output Meter across voice coil.	A1, A2, A3	Adjust for maximum. Repeat as required.
2.	1620KC	"	"	A4	Adjust for maximum.
3.	600KC	Tune to Signal.	"	A5, A7	Rock tuning gang and adjust for maximum. Repeat steps 2 and 3.
4.	1400KC	"	"	A6, A8	Adjust for maximum.

DIAL CORD STRINGING



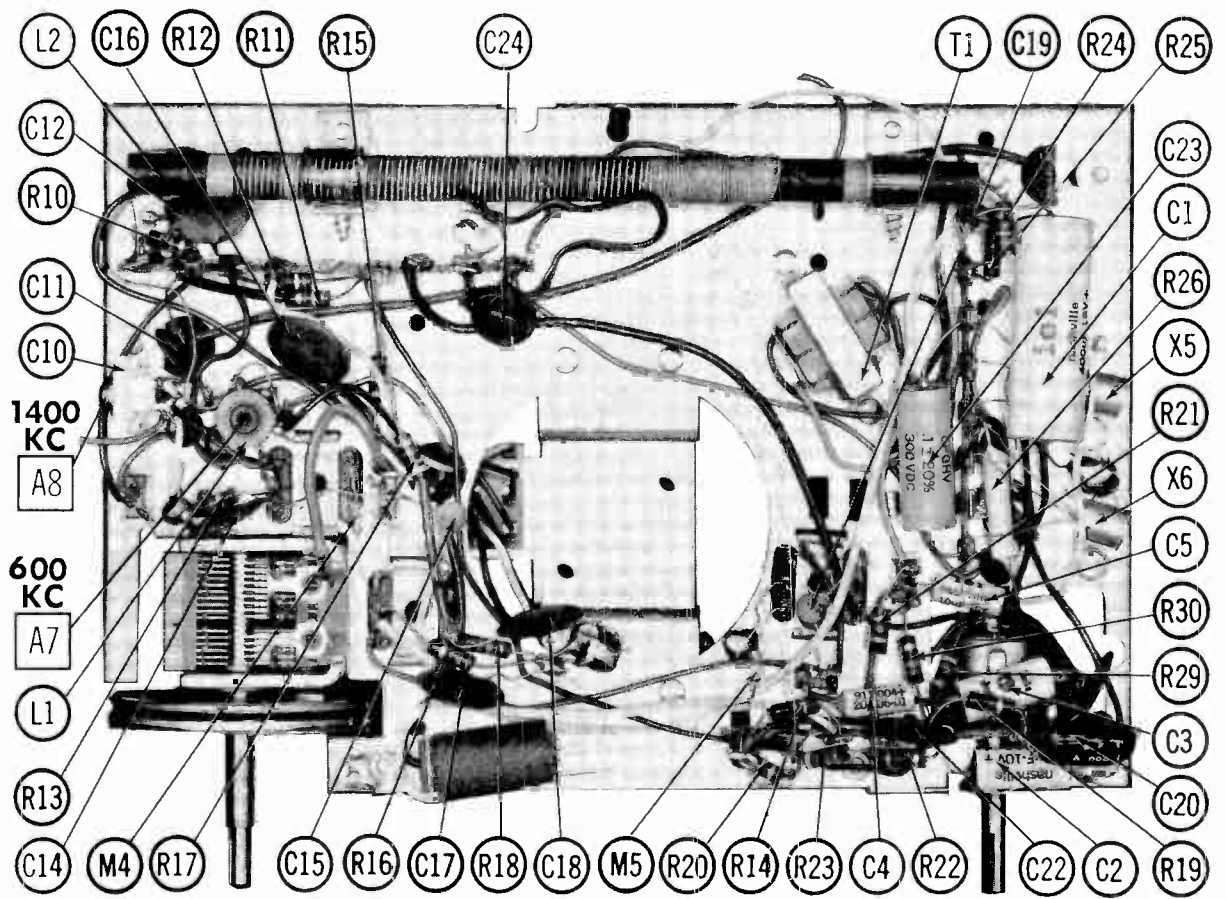
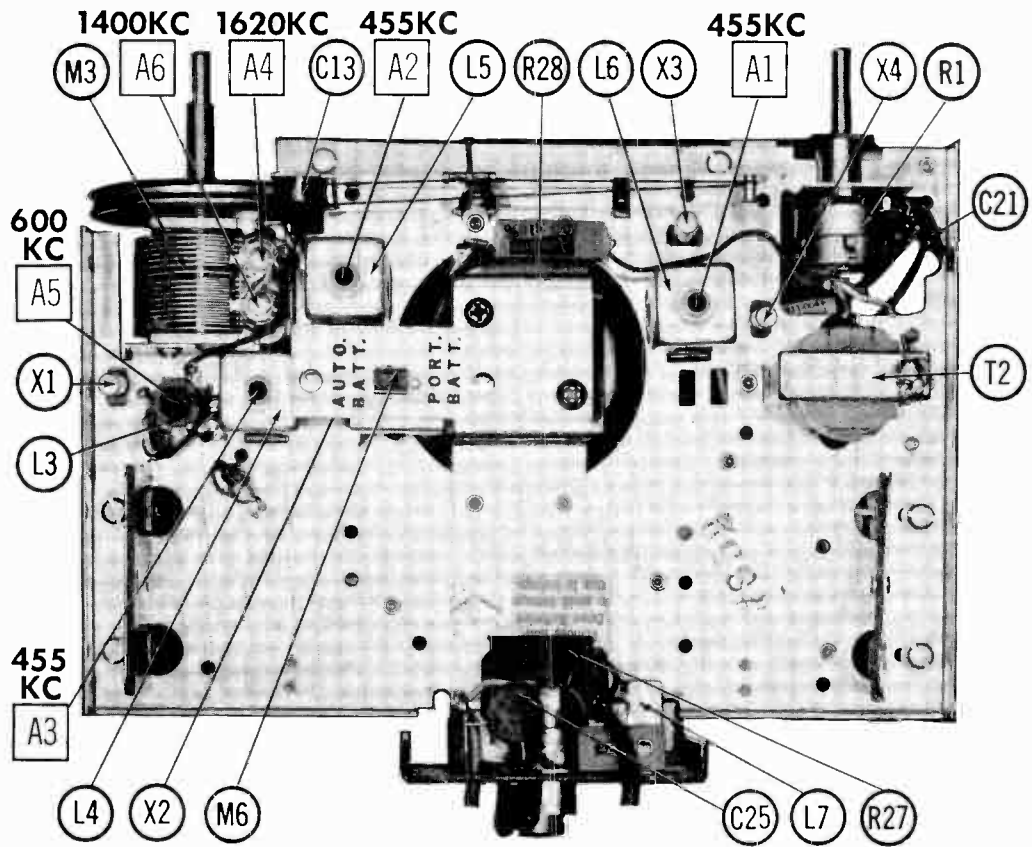
HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana



- ⊖ 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.

RIVERSIDE
MODELS FJB-6619/A, FJB-6658

A PHOTOFAC 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	RS-884	Converter	DS-25	GE-1		PNP
X2	RS-885	IF Amp.	DS-25	GE-1		
X3	RS-885	IF Amp.	DS-25	GE-1		
X4	RS-888	Driver	DS-28	GE-2	2N406	
X5	RS-887	Output	DS-26	GE-2	2N408	
X8	RS-887	Output	DS-26	GE-2	2N408	

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.
C1	400	15	20-407	PRS1220	BR500-15	QT1-30	BL2340	TC-1505	TVA-1162
C2	50	10	20-506	PTT45	NLW50-10	MT1-18	BL1531	TT10X50	TE-1119
C3	50	10	20-506	PTT45	NLW50-10	MT1-16	BL1531	TT10X50	TE-1119
C4	10	10	20-106	CRE457A	NLW10-15	MT1-5	MLV10-15	TT15X10	TE-1155
C5	10	10	20-106	CRE457A	NLW10-15	MT1-5	MLV10-15	TT15X10	TE-1155

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	.01	Note 1 #15-9G	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10	
C11	.05		TTD-05	CK-503	H5		TA-150	TG-S50	
C12	.05								
C13	5 N330							10TCS-V50	
C14	.05			TTD-05	CK-503	H5		TG-S50	
C15	9 NPO						TA-150		
C16	.05			TTD-05	CK-503	H5	TA-150	TG-S50	
C17	.05			TTD-05	CK-503	H5	TA-150	TG-S50	
C18	.05			TTD-05	CK-503	H5	TA-150	TG-S50	
C19	3 NPO			NPO-DI 3	DTZ-3R3	C10V33C	CCTO-3R3	CNO-533	10TCC-V30
C20	.05 100V			P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-2147	2TM-S47
C21	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C22	.03			TTD-03	CK-303				TG-S30
C23	.1 300V			P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10
C24	.005			BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C25	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10

Note 1. Not used in some versions.
Riverside Part Number.

CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA					
			RIVERSIDE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1	Volume & Switch	10K	80A1620①	F2-10K, SFS210, KR-4				UA14A, SD3500, US41 or (U18, DS-37, US26) or (RU14A, SL35, IS1375, US41)

① Part #80A835C used in some versions.

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	Ant. Matching	14A1834					TC615
L2	Loop	10A675A					
L3	Osc.	14A767					
L4	1st IF	14-18					
L5	2nd IF	14-19					
L6	3rd IF	14-20					

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.	
L7	450MA	3.4Ω	37MH	75A1636				

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA				NOTES	
	PR.	SEC.	RIVERSIDE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.		TRIAD PART No.
T1	2.2:	1	75A787C①	A-2781	TA-35	TR-264	TY-56X	① Part #78A787C used in Models FJB-6619A, FJB-6658

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			RIVERSIDE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PR.	SEC.						
T2	100Ω CT	3-4Ω	75A1561①	A-2749	TA-39	TR-193	TY-30X	① Part #78A1561 used in Models FJB-6619A, FJB-6658

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		RIVERSIDE PART No.	QUAM PART No.	
SP1	5" PM 3-4Ω	73B836	5A1	

BATTERIES

ITEM No.	VOLTAGE	RIVERSIDE PART No.	REPLACEMENT DATA			NOTES
			BURGESS	EVEREADY	MALLORY	
M1	1.5V		AL-2 (or 230)	E95 (or A100)	MN1300 (or M132R)	8 Required

FUSES

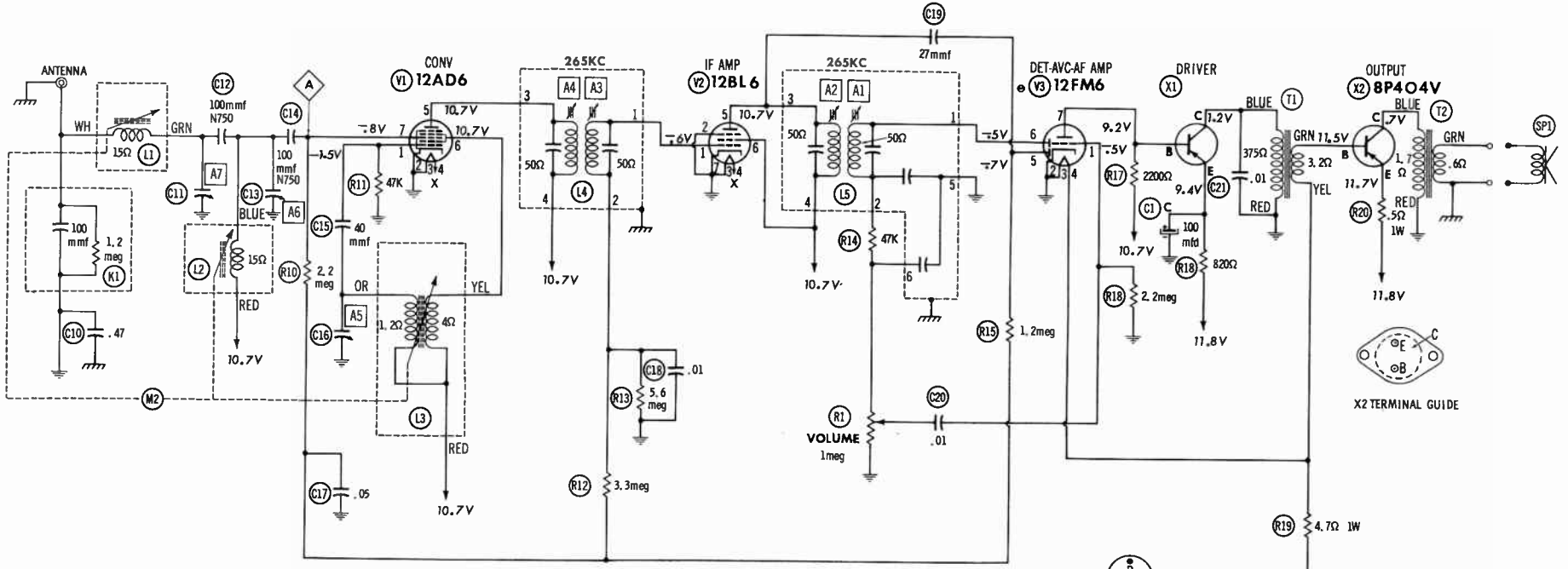
ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			RIVERSIDE PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M2	SFE	7½A			30707.5	155009	SFE 7½	HMH

MISCELLANEOUS

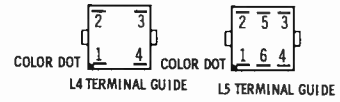
ITEM No.	PART NAME	RIVERSIDE PART No.	NOTES
M3	Tuning Gang	35A1852	
M4	AVC Det.	1N295	
M5	Audio Det.	1N295	
M6	Switch, Battery	94A1637	

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 8870 (3/4 In.)



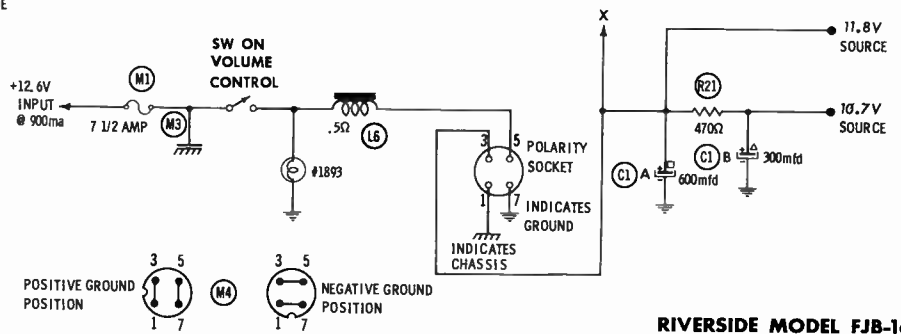
- ⊖ See parts list for alternate value or application.
1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 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.



RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
V1	12AD6	47K	0Ω	FIL	FIL	†530Ω	†470Ω	11meg
V2	12BL6	5.6meg	0Ω	FIL	FIL	†530Ω	†470Ω	0Ω
V3	12FM6	2.2meg	0Ω	FIL	FIL	10meg	1.5meg	†2800Ω

† MEASURED FROM PIN 3 OF POLARITY SOCKET.



RIVERSIDE MODEL FJB-16567A

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

AMPEREX		GENERAL ELECTRIC		RCA		RAYTHEON		SYLVANIA	
ITEM No.	USE	TYPE		ITEM No.	USE	TYPE			
V1 V2	Converter IF Amplifier	12AD6 12BL6		V3	Det. -AVC-AF Amp.	12FM6 (12AE6)*			

* Alternate

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1 X2	6-63 8P404V	Driver Output	DS-26 DS-520	GE-2 GE-3	2N501 2N301	PNP PNP (Note 1)

Note 1. When replacing, apply silicone 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 B C	800 300 100	15 15 15	20-327	AFH3-00-95.4	B0045 BR250-15			WP300.87	PC1S-3026.10*

* 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 C11 C12 C13	.47 200V 100 N750	#28-800-2	P288N-47 N750-DI 100	DTN-100	PM2P47 C10T1U	2DP-5-474 CCTN-101	PVC-2047 CN7-310	2PS-P47 10TCU-T10
C14 C15 C18 C19	100 N750 40	#28-400-4	N750-DI 100 DI-39	DTN-100 DD-390	C10T1U LA10Q39-S3	CCTN-101 CCD-390	CN7-310 GP439	10TCU-T10 5GA-Q39
C17 C18 C19 C20 C21	.05 100V .01 27 .01 .01	#28-461	P288N-05 BPD-01	DD-103 TCN-27	PM2S5 BYA10S1	IDP-2-503 CCD-103	PVC-215 B-110 CN7-427	2PS-S50 5HK-S10 10TCU-Q27
			BPD-01 BPD-01	DD-103 DD-103	BYA10S1 BYA10S1	CCD-103 CCD-103	B-110 B-110	5HK-S10 5HK-S10

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.
R1	Volume & Switch	1meg	80A1720	B-70-S, AK-28	A47-1meg-Z, FS-3, XB-2, SWE-13	BUB †, CF26, SS1, GC	U53, EB158, US-26

† Cut off 5/8" for exact length

COMPONENT COMBINATIONS

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

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 L2 L3 L4 L5	Ant. Ant. Osc. Input IF Output IF	Ⓛ Ⓛ Ⓛ 14-265X 14-267X	BC-350 BC-354	6584 6585	RTC-8638 RTC-8640	T604 T606	Ⓛ Part of M2

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.	
L6	900ma	5Ω	10MH	75A1269	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.	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		RIVERSIDE PART No.	QUAM PART No.	
SP1	5" PM 3-4Ω	73A1275	5A07R	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			RIVERSIDE PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	SFE	7½A	108-100		30707.5	15507.5	SFE-7½	HMH

MISCELLANEOUS

ITEM No.	PART NAME	RIVERSIDE PART No.	NOTES
M2 M3 M4	Tuner Spark Plate Polarity Plug	78A1721 45-959	

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. 8881 (3/8 In.) or 8870 (3/4 In.)



PHOTOFACT[®] with

CIRCUITRACE[®]

TRADE NAME : Studebaker Models AC-3352, AC-3354,
AC-3377 (1963 Studebakers)

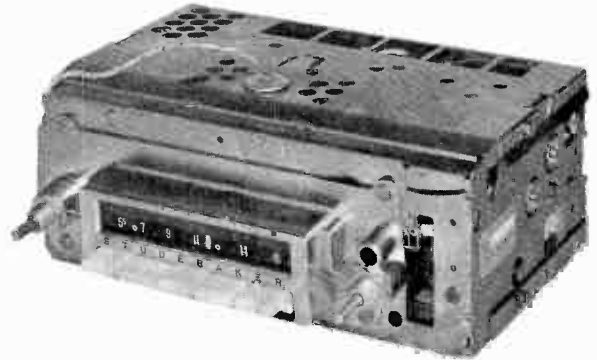
SUPPLIER: (Parts) United Delco Distributors

TYPE SET : 5 Transistor AM Receiver

POWER SUPPLY: 12 Volt Storage Battery

RATING: 1.4 Amp. @ 12.6VDC (Less Lamp)

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, A9, A10....GENERAL CEMENT #5009, 8728A, 8987 WALSCO #2531X, 2536 A6, A7, A8..... GENERAL CEMENT #9087, 8290, 8868 WALSCO #2525, 2528, 2587					PUSH-BUTTON ADJUSTMENT 1. Pull button out. 2. Tune manually to desired station. 3. Press button in firmly. 4. Repeat for remaining buttons.	
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.	
Check setting of oscillator coil core (A5). Rear of core should be 1 3/8" from mounting end of coil form.						
2. High side thru 82mmf to antenna receptacle, low side to ground.	1615KC	High Freq. End Stop.	Output Meter across voice coil.	A6, A7, A8	Adjust for maximum.	
3. "	600KC	600KC Signal	"	A5, A9, A10	Adjust for maximum. Repeat step 2.	
With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and adjust A8 for maximum output.						

REMOVAL INSTRUCTIONS

NOTE: To replace transistors remove radio.

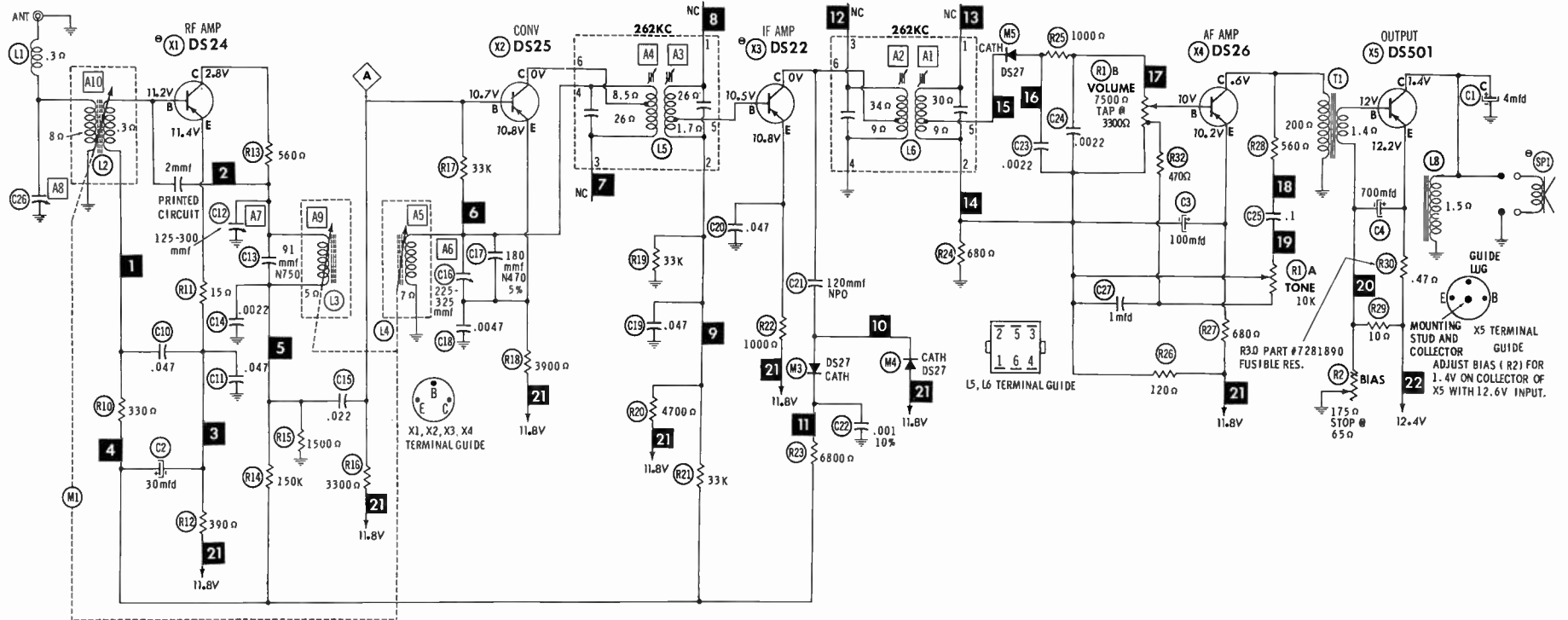
RADIO

1. Remove knobs.
2. Use 5/8" wrench and remove 2 nuts from control bushings.
3. Disconnect speaker connector and antenna lead.
4. Remove Phillips head screw from bottom of radio.
5. Remove radio from under instrument panel.

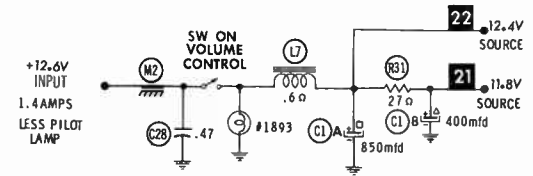
SPEAKER

1. Disconnect fuse holder.
2. Use 3/8" wrench and remove 4 nuts from speaker mounting bolts.
3. Remove speaker.

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



- ⊕ 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.

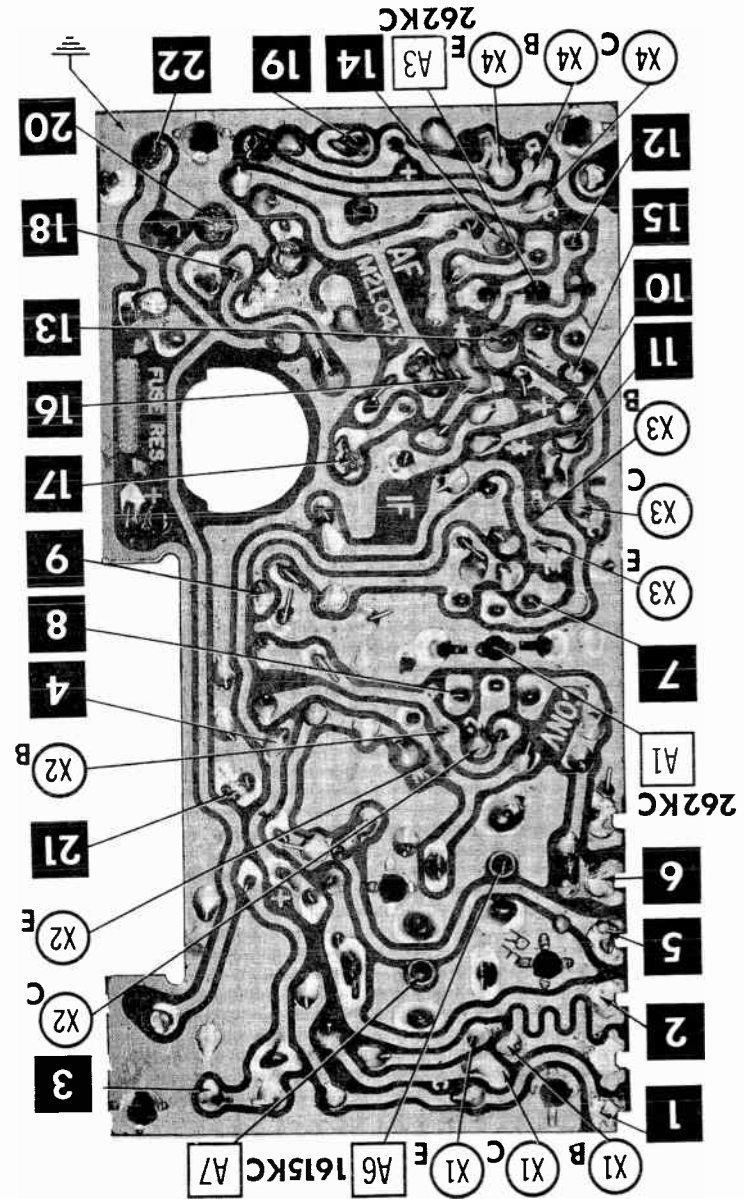
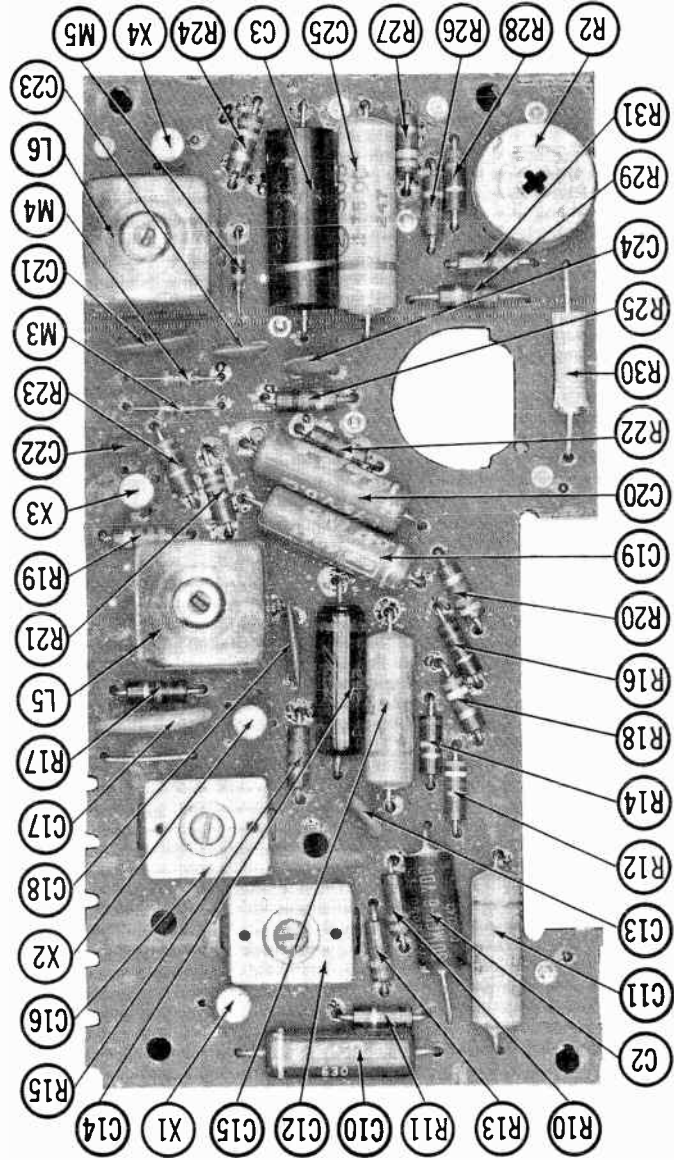


A PHOTOFAC STANDARD NOTATION SCHEMATIC
with **CIRCUITRACE**
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STUDEBAKER
MODELS AC-3352, AC-3354, AC-3377

STUDEBAKER MODELS AC-3352, AC-3354, AC-3377

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
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	DS-24	RF Amp.	DS-25	GE-1	2N1637	PNP
X2	DS-25	Converter	DS-25	GE-1	2N1639	PNP
X3	DS-22	IF Amp.	DS-25	GE-1	2N1638	PNP
X4	DS-26	AF Amp.	DS-26	GE-2	2N591	PNP
X5	DS-501	Output	DS-501	GE-4		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	850	16	7282272	AFH3-54-30		XC3-6,1		WP300,7A	TVL-3021
C1B	400	16							
C1C	4	LL 5AC							
C2	30	6							
C3	100	3	7279886	PTT27	NLW30-15	MT1-13	MLV30-6	TT6X30	TE-1092
C4	700	1	7279888	PTT13	NLW100-3	MT1-18	MLV100-3	TT6X100	TE-1059,5
			7284518 ①	PRS1130	BR-1000-6		BL-2211	TC310	TVAS-1097*

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.
 ① Alternate Part #7282769.

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	.047	#7281932	P288N-047	DD-503	CUB2S47	1DP-2-473	GEM-4147	4TM-847	
C11	.047		P288N-047	DD-503	CUB2S47	1DP-2-473	GEM-4147	4TM-847	
C12	125-300								
C13	91 N750								
C14	.0022	#7281933	P288N-0022	TCN-91	C10Q91U		GEM-6222	6TM-D22	
C15	.022		P288N-022	DD-222	CUB6D22	6DP-1-222	GEM-4122	2TM-S22	
C16	225-325			DDM-203	CUB4S22	1DP-1-223			
C17	.180 N470 5%		#7284768						
C18	.0047	#7284026	DI-4700	DD-472		CCD-472		10TS-D47	
C19	.047		P288N-047	DD-503	CUB2S47	1DP-2-473	GEM-4147	4TM-S47	
C20	.047		P288N-047	DD-503	CUB2S47	1DP-2-473	GEM-4147	4TM-S47	
C21	120 NPO			NPO-D1 120	DTZ-120		CNO-312	10TCC-T12	
C22	.001 10%		DI-1000	DD-102	L10D1	CCD-102	GP210	10TS-D10	
C23	.0022		DI-2200	DD-222	L10D22	CCD-222	GP222	10TS-D22	
C24	.0022		DI-2200	DD-222	L10D22	CCD-222	GP222	10TS-D22	
C25	.1	#7284026	P2151N-1	DDA-104	BC2P1J	1DP-2-104	GEM-401	2SE-P10	
C26									
C27	1mfd				UK-105	HCC3105P			HY-135
C28	.47			P288N-47		CUB2P47	1DP-4-474		2TM-P47

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	10K	7284052	F1-10K, R14-7500, FFS102, RFS110, AK26, KR-4			
B	Volume & Switch	7500Ω Tap @ 3300Ω					
R2	Bias	175Ω Stop @ 65Ω	7275554				PFL-175-S

COILS (RF-IF)

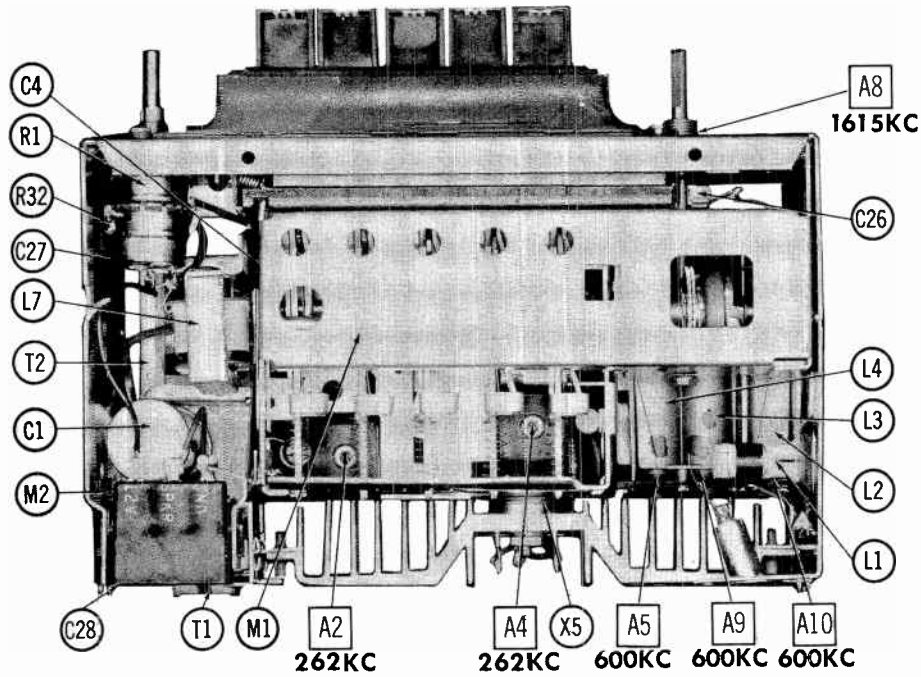
ITEM No.	USE	REPLACEMENT DATA					NOTES
		DELCO PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke(6.2uh)	7281946	BC-565	4610	RTC-8520	T859	① Part of M1
L2	Ant.	7281716 ①					
L3	RF	7282042 ①					
L4	Obs.	7281717 ①					
L5	Input IF	1221856					
L6	Output IF	1221857					

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	1.4 Amp	.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	29.5MH	7282278					



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
			DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T1	10:	1	7280915	A-4094	TA-51	TR-186	TY4XT	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		DELCO PART No.	QUAM PART No.	
SP1	4" x 10" PM 10Ω	7284300	410A2Z10	Model AC-3352 Model AC-3377 Model AC-3354
	4" x 10" PM 10Ω	7284279		
	5" x 7" PM 10Ω	7284380		

MISCELLANEOUS

ITEM No.	PART NAME	DELCO PART No.	NOTES
M1	Tuner	7281697	
M2	Spark Plate	7271564	
M3	AVC Det.	DS-27	
M4	AVC Det.	DS-27	
M5	Audio Det.	DS-27	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Dial Glass	7284049	Knob - Dummy	7282937
Knob - Tuning or Volume	7282934	Pointer Assembly	1221871
Knob - Tone	7282936	Push Button	7280954

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 8870 (3/4 In.)

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