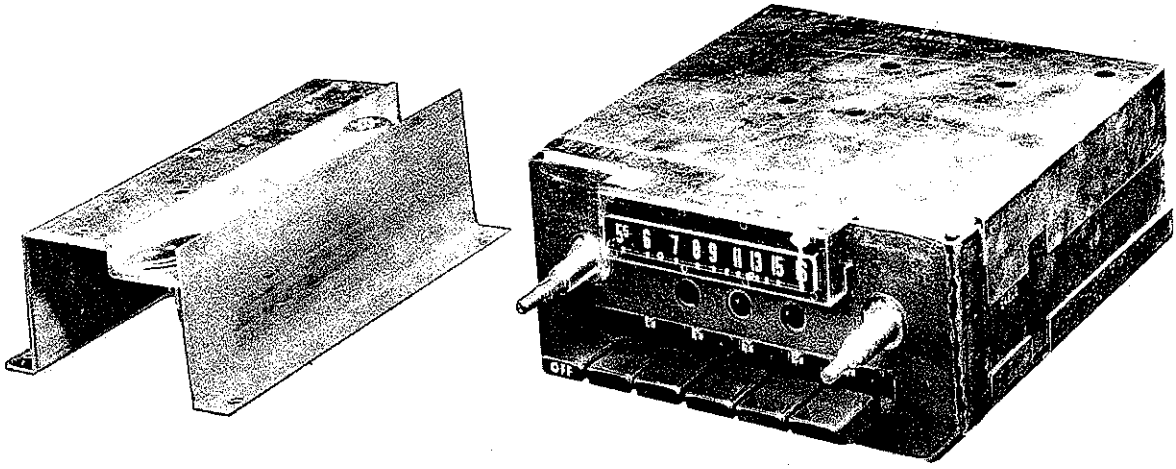
PHOTOFACT* Folder

FORD
MODEL 84MS (FEV-18805-F)



TRADE NAME	Ford Model 84MS (FEV-18805-F) For 1958 Ford Thunderbird Automobiles
MANUFACTURER	Motorola Inc., 4545 W. Augusta Blvd., Chicago 51, Illinois
TYPE SET	Battery Operated Custom Built AM Automobile Receiver with Transistorized Output
TUBES (Four)	Types 12AF6 RF Amplifier, 12AD6 Converter, 12BL6 IF Amplifier, 12DL8 Det.-AVC-AF Amp.
POWER SUPPLY	12 Volt Storage Battery — RATING 1.8 Amp. @ 12.6 Volts DC
TUNING RANGE—BROADCAST	535KC to 1610KC

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Top and bottom covers should be in place.
Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.1mfd	High side to antenna receptacle. Low side to chassis.	262.5KC (400~ Mod)	High Freq. End Stop	Across Voice Coil	A1, A2, A3, A4	Adjust for maximum output.
2.	Fig. 1	Thru dummy to antenna receptacle.	1610KC	"	"	A5, A6, A7	"
	Steps 3 and 4 are not necessary unless tuner has been tampered with or associated components have been replaced. If necessary, back tuning cores (A8, A9, A10) 1/4" out of coils. (Alignment tool Motorola #66A76278 may be used). Repeat step 2.						
3.	Fig. 1	Thru dummy to antenna receptacle.	1180KC	1 9/64" from High Freq. End Stop	Across Voice Coil	A8, A9, A10	Adjust for maximum output.
4.	"	"	1610KC	High Freq. End Stop	"	A5, A6, A7	Adjust for maximum output. Repeat steps 3 and 4. Cement cores.
5.	"	"	600KC @ 5 micro-volts	Tune for 600KC signal	"	R3	Adjust for 1.79 volts output.
6.	With radio installed in car and antenna fully extended, tune in a weak station near 1200KC and adjust A7 for maximum output.						

PUSHBUTTON ADJUSTMENT

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

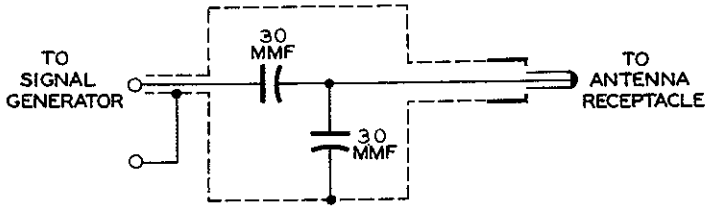


FIG. 1

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The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1958 Howard W. Sams & Co., Inc., Indianapolis 5, Indiana. Printed in U.S. of America

H592

FORD MODEL 84MS (FEV-18805-F)
FORD MODEL 84MS (FEV-18805-F)
SET 413 FOLDER 9

PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	RF Amplifier	12AF6	
V2	Converter	12AD6	
V3	IF Amplifier	12BL6	
V4	Det.-AVC-AF Amp.	12DL8	

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA				NOTES
			CBS PART No.	RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
X1	2N176	Output	CBS-2N155	2N176		2N176	
X2	2N176	Output	CBS-2N155	2N176		2N176	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	MOTOROLA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	100	16	23B560487 ①	AFH3-00-90		WP300.51			R2664 *
B	■500	16							
C	▲100	16							

① In some versions C1B is 400mfd (C1 Part #23B542329).
* Non-catalog item.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

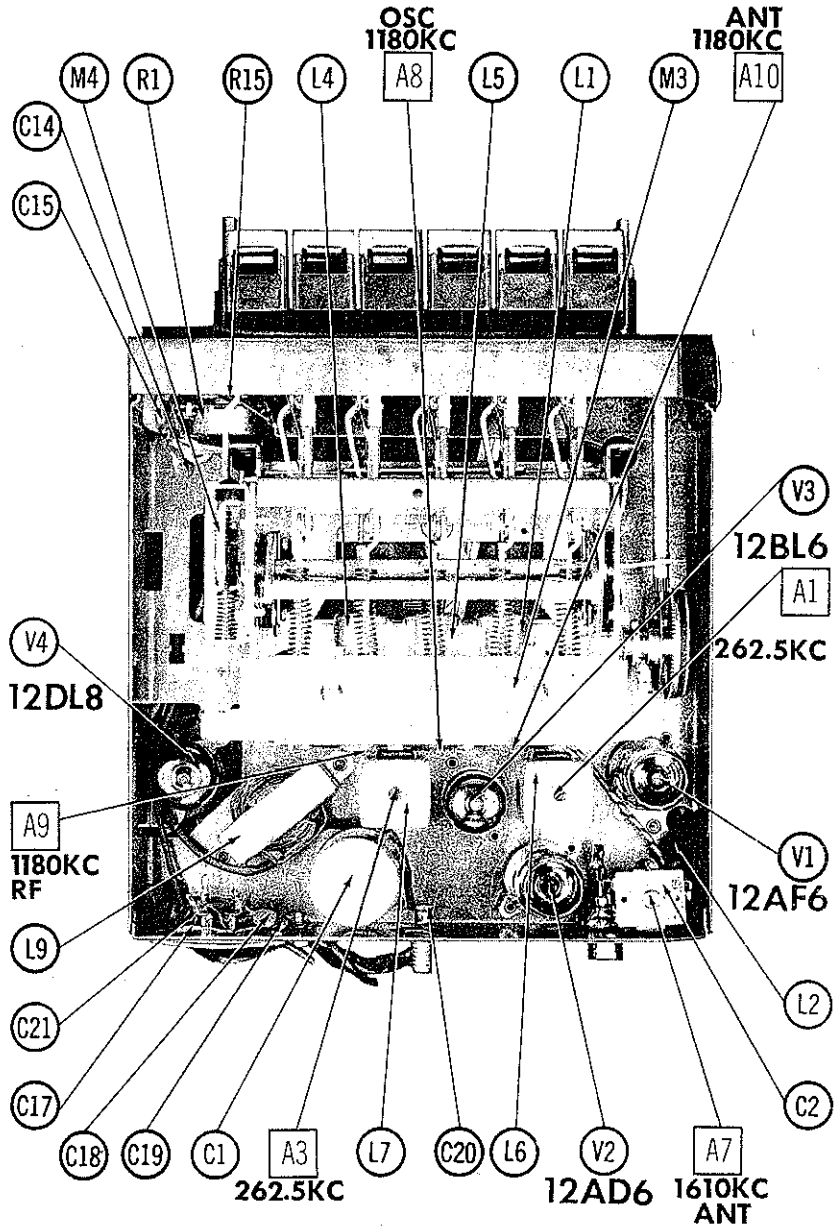
ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT	MOTOROLA PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
C2	20-180		20B560719						
C3	150		21R121228	N750-DI 150	DTN-150	C10T15U		5TCU-T15	N750 10%
C4	22		21R120539	N750-DI 22	DTN-22	C10Q22U		5TCU-Q22	N750 10%
C5	.1	200	8R121573	P288N-1	DF-104	CUB2P1	GEM-201	2TM-P1	
C6	75-380		20K511136						
C7	47		21R114207	N750-DI 47	DTN-47	C10Q47U	NT-5447	5TCU-Q47	N750 10%
C8	47		21R114207	N750-DI 47	DTN-47	C10Q47U	NT-5447	5TCU-Q47	N750 10%
C9	47		21R125783						N750 5%
C10	400-520		20K560628						
C11	10000		21R482726	BPD-01	DD-103	BYA10S1	DC511	5HK-S1	
C12	100		21R410036	N750-DI 100	DTN-100	C10T1U	NT-531	5TCU-T1	N750 10%
C13	100		21R410036	N750-DI 100	DTN-100	C10T1U	NT-531	5TCU-T1	N750 10%
C14	1000		21R410127	BPD-001	DD-102	BYA6D1	DC521	5HK-D1	
C15	1000		21R410127	BPD-001	DD-102	BYA6D1	DC521	5HK-D1	
C16	5000		21R115312	BPD-005	DD-502	BYA10D5	DC525	5HK-D5	
C17	220		21R410115	BPD-00022	DD-221	L10T22	UC-5322	5GA-T22	
C18	220		21R410115	BPD-00022	DD-221	L10T22	UC-5322	5GA-T22	
C19	220		21R410115	BPD-00022	DD-221	L10T22	UC-5322	5GA-T22	
C20			21A560232						
C21			21A560232						

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESIST-ANCE	WATTS	MOTOROLA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
R1A	4meg	½	18B560007				■ UE3813	Tone
B	1meg	½						Volume, Tap @ 500K
R2	400Ω	1(WW)	18B541877					Balance
R3	1000Ω	1(WW)	18K732740					Sensitivity

■ "STA-LOC" Equivalent: FF46L, OS1187, RU16T55, IS1687.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

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

ITEM No.	RATING OHMS	RATING WATT	MOTOROLA PART No.	NOTES
R4	3.3meg		6K119407	
R5	1.5meg		6R6460	
R6	8.2meg		6R5585	
R7	1500Ω		6R6038	
R8	4700Ω		6K121847	
R9	1meg		6K124494	
R10	3.3meg		6K121278	
R11	4.7meg		6K121277	
R12	33K		6K121704	
R13	47K		6K121687	

ITEM No.	RATING OHMS	RATING WATT	MOTOROLA PART No.	NOTES
R14	15meg		6R476065	
R15	56K		6K127541	
R16	10meg		6K119408	
R17	10Ω		6R118245	
R18	.33Ω		17K542316	
R19	7.5Ω Cold		6K542314	
R20	.33Ω		17K542316	
R21	7.5Ω Cold		6K542314	
R22	10Ω		6R118245	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA MOTOROLA PART No.	Meissner PART No.	Merit PART No.	Miller PART No.	Ram PART No.	NOTES
L1	Ant. Coil	24C535458					Note 1
L2	RF Choke	24A538910					Includes 15mmf Cap.
L3	IF Trap Coil	24K560753		TV-193	6110		63 Microhenries
L4	RF Coil	24C535459					Note 1
L5	Osc. Coil	24C535456					Note 1
L6	Input IF	24K560419	16-6752	BC-350	12-H1	RF-3	
L7	Output IF	24B542371					
L8	RF Choke	24C539614	19-3180	TV-184	6180	VP-5	180 Microhenries

Note 1. Part of M3.

FILTER CHOKE

ITEM No.	RATINGS CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000 ∿)	REPLACEMENT DATA MOTOROLA PART No.	Halldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
L9	1.8A	.3Ω	.004 Hy.	25K560710						

TRANSFORMER (INTERSTAGE)

ITEM No.	Turns Ratio PRI.	SEC. 1	SEC. 2	REPLACEMENT DATA MOTOROLA PART No.	Halldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T1	5.5 :	1		25K542303							
	5.5 :		1								

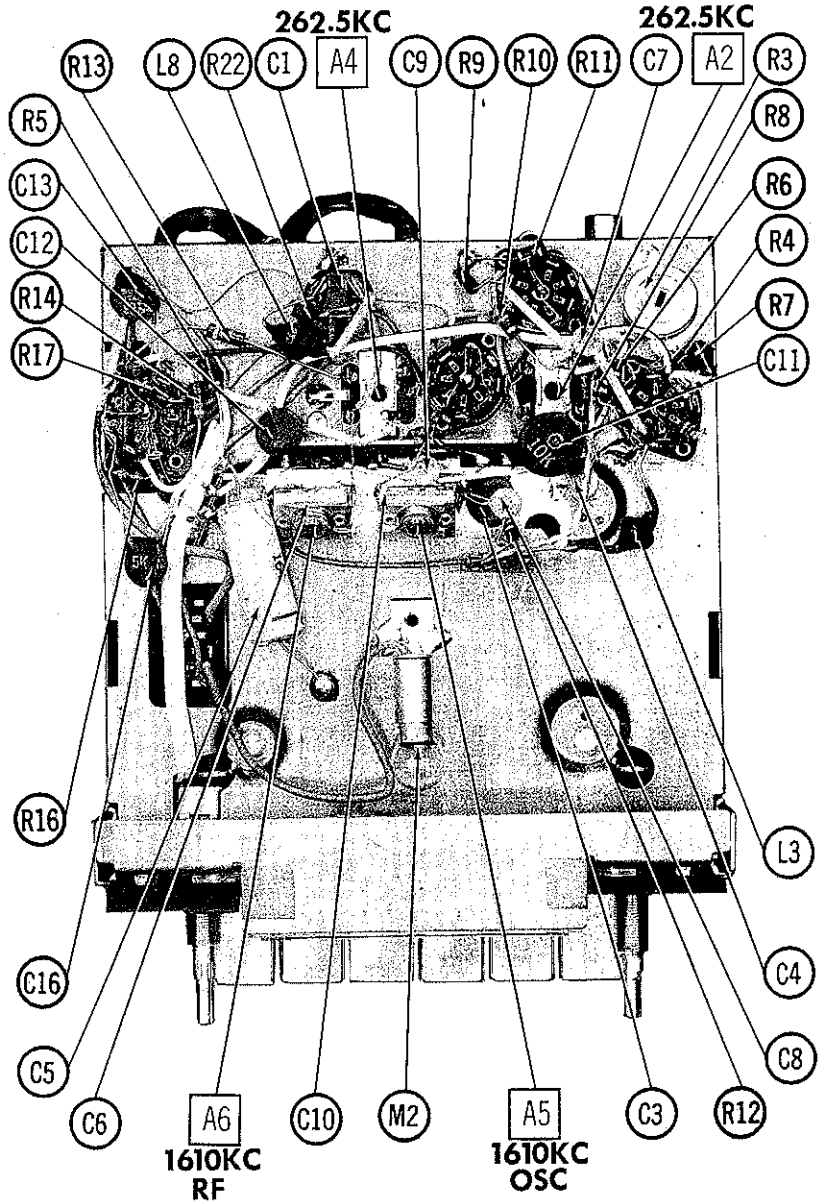
TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE PRI.	SEC.	REPLACEMENT DATA MOTOROLA PART No.	Halldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T2	47Ω CT	3-4Ω	25K542313							

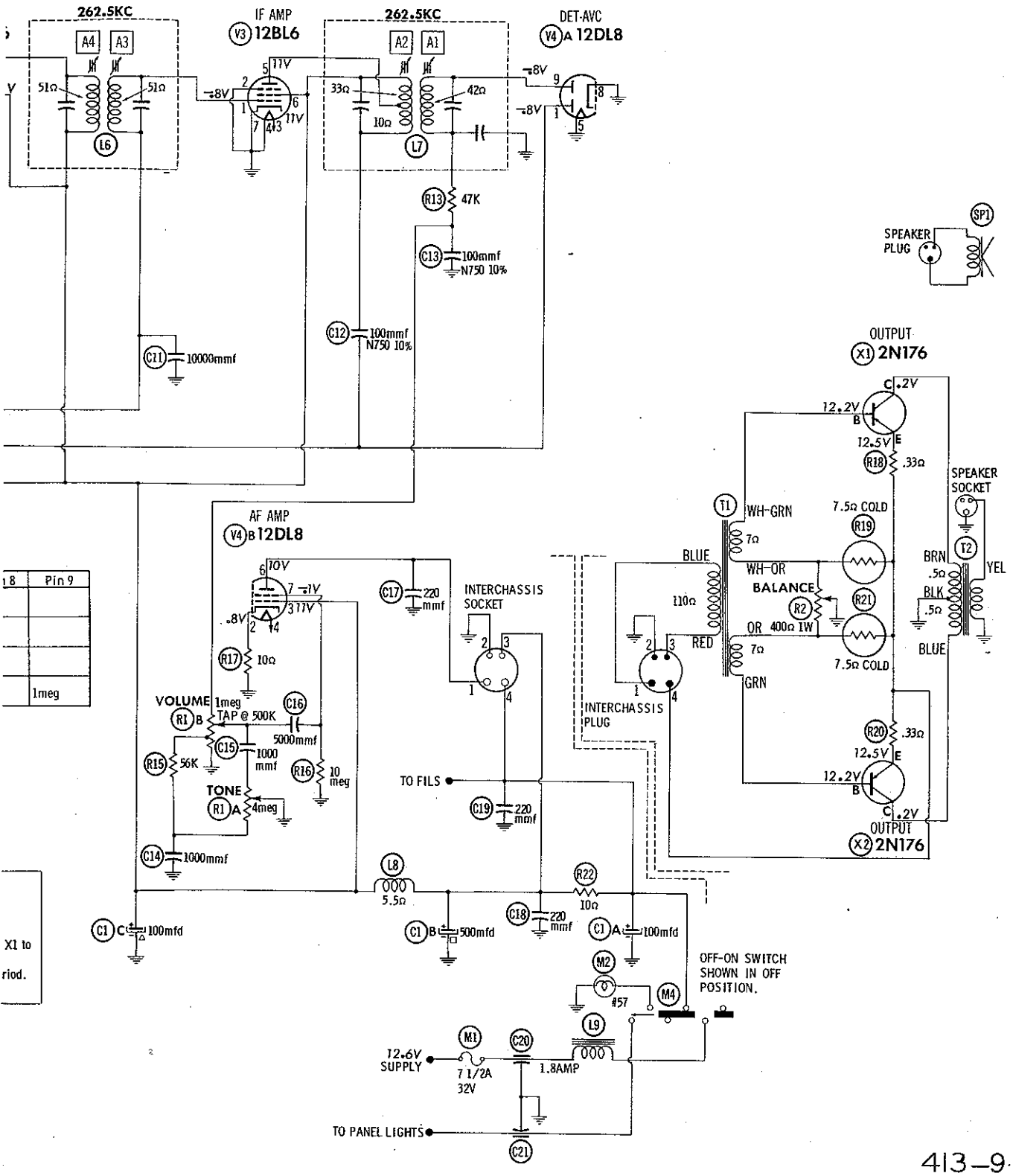
SPEAKER

ITEM No.	TYPE SIZE	FIELD	V. C. IMP.	REPLACEMENT DATA MOTOROLA PART No.	QUAM PART No.	NOTES
SP1	6"x 9"	PM	3-4Ω	50D542405		

CHASSIS—BOTTOM VIEW



Right Portion



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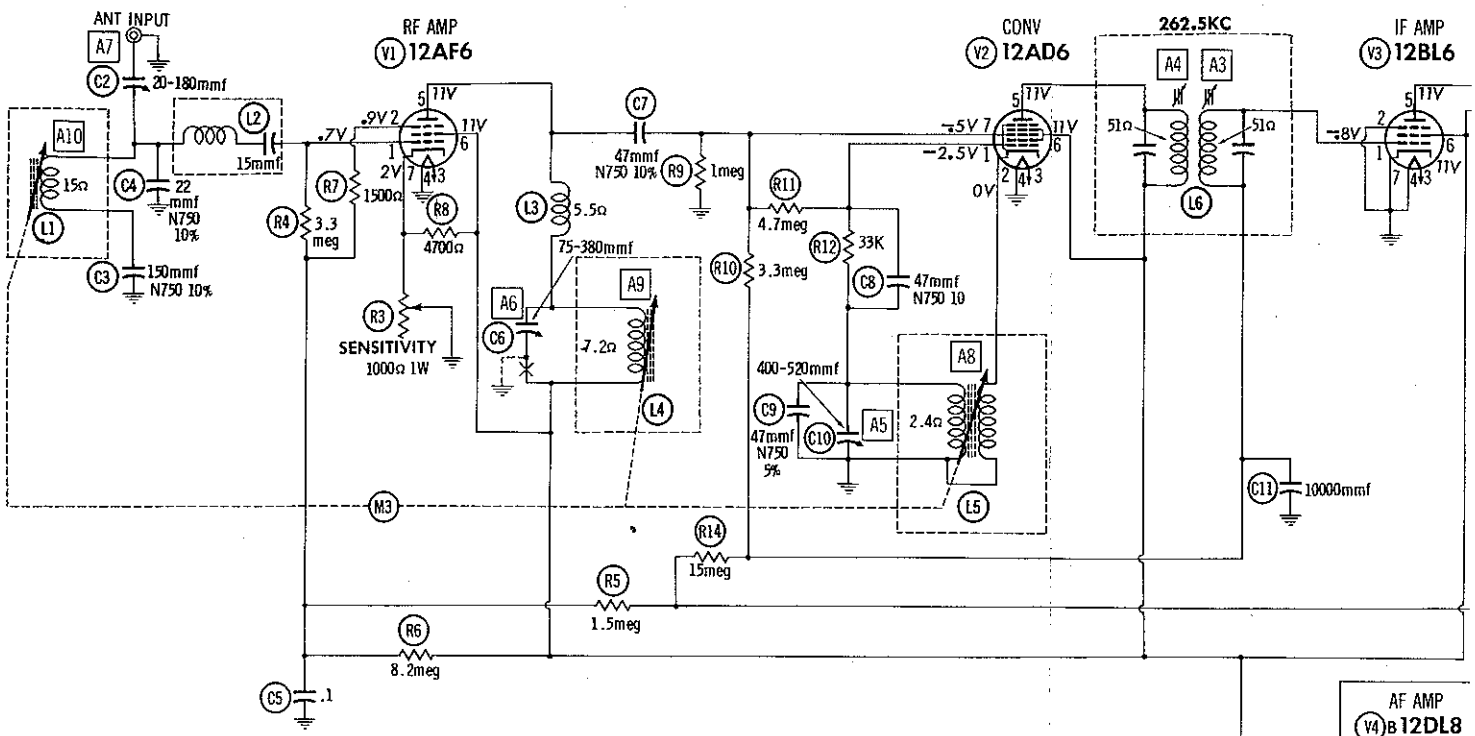
Left Portion

note overlap



RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12AF6	9meg	9meg	1.2Ω	0Ω	†28Ω	†15Ω	550Ω		
V2	12AD6	33K	.6Ω	1.2Ω	0Ω	†66Ω	†15Ω	730K		
V3	12BL6	3.2meg	0Ω	1.2Ω	0Ω	†48Ω	†15Ω	0Ω		
V4	12DL8	5.3meg	10Ω	†15Ω	1.2Ω	0Ω	†120Ω	10meg	0Ω	1meg

TRANSISTOR CIRCUIT RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.
† MEASURED FROM POSITIVE TERMINAL OF C1A.

1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Battery voltage maintained at 12.6 volts for voltage readings.
5. Nominal tolerance on component values makes posssible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

BALANCE ADJUSTMENT (R2)

After replacing a transistor, the bias should be checked.
1. Set R2 to its mid-range.
2. Connect an accurate low range DC VTVM from the collector of X1 to the collector of X2.
3. Apply power to the receiver and allow a 15 minute warm-up period.
4. Adjust R2 for a zero meter reading.

⊖ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

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

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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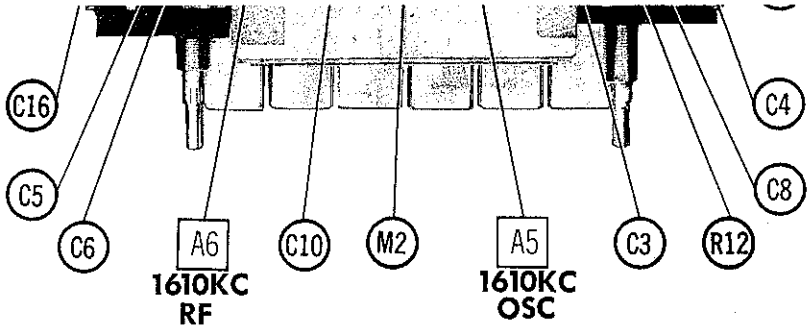
	5.5 :	SEC. 2 / 1								

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA							NOTES
	PRI.	SEC.	MOTOROLA PART No.	Halldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	47Ω CT	3-4Ω	25K542313							

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	MOTOROLA PART No.	QUAM PART No.	
SP1	6"x 9"	PM	3-4Ω	50D542405		



PARTS LIST AND DESCRIPTIONS (Continued)

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			MOTOROLA PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1		7½A 32V	65R122346	9K561110				

MISCELLANEOUS

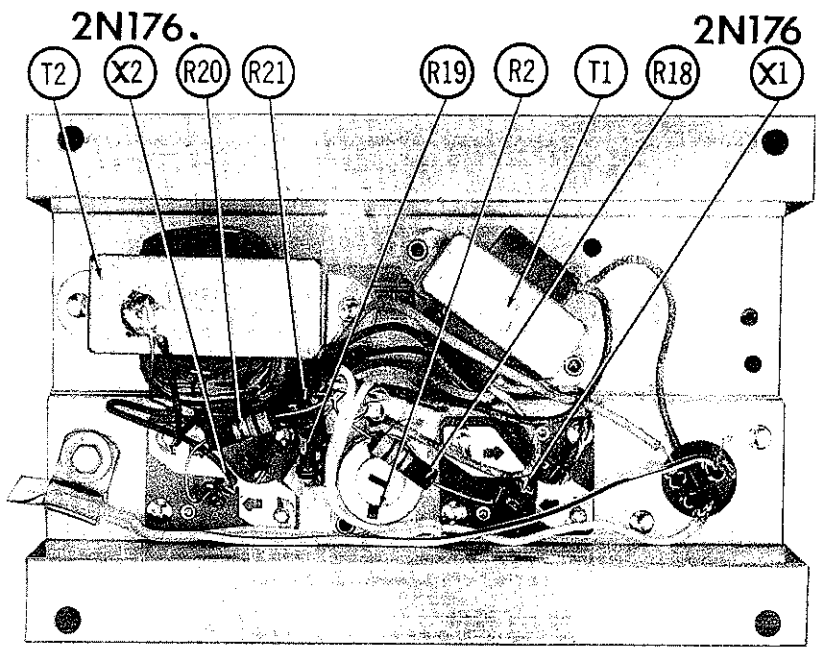
ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M2	Lamp	65R535060	#57
M3	Tuner	77D560626	(AT-229) Complete, Less Manual Tuning Shaft
M4	Switch	40A560051	On-Off, Slide Type

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Knob	36B539472	Volume & Tuning
Knob	36B560029	Disc, Tone & Dummy
Pushbutton	38B560075	Station Selector (5 used)
Pushbutton	38K560076	Off
Dial Scale	34B560031	

WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors
Shielded Hook-up Wire ..... Use BELDEN No. 8885
Bonding Strap ..... Use BELDEN No. 8661

POWER CHASSIS