

AMERICAN MOTORS
MODEL 8990378 (6MA)

TRADE NAME American Motors Model 8990378 (Motorola Model 6MA) (For 1956 Hudson Wasp & Hornet and 1956 Nash Statesman & Ambassador Automobiles)

MANUFACTURER Motorola Inc., 4545 W. Augusta Blvd., Chicago 51, Illinois

TYPE SET Battery Operated Custom Built AM Superheterodyne Automobile Receiver

TUBES (Six) Types 12BA6 RF Amplifier, 12BE6 Converter, 12BA6 IF Amplifier, 12CR6 Det.-AVC-AF Amp., 12AB5 Output, 12X4 Rectifier

POWER SUPPLY 12 Volt Storage Battery

TUNING RANGE—BROADCAST 540KC-1605KC

RATING 3 Amp. @ 12.6 Volts DC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

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

Tone control to "high".

Steps 3, 4 and 5 not necessary except in case of tampering or tuner component replacements.

Manufacturer recommends using alignment tool part #66A76278 for step 4.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1. IMF D	High side to pin 7 (grid) of 12BE6 (V2). Low side to chassis.	265KC (400Mod)	High frequency end stop	Across voice coil	A1, A2, A3, A4	Adjust for maximum output.
2. Fig. 1	Thru dummy to antenna receptacle	1605KC	"	"	A5, A6, A7	"
3. "	"	"	"	"	A5, A6, A7	If tuner core adjustment is necessary back out tuner cores 1" so that they will not effect trimmer. Adjust for maximum output.
4. "	"	1180KC	Using tuning control move carriage in 19/64" from position in step 3.	"	A8, A9, A10	Adjust in order given for maximum output.
5. "	"	1605KC	High frequency end stop.	"	A5, A6, A7	Adjust for maximum output.

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

PUSH BUTTON ADJUSTMENT

Pull push button to the right and out. Tune to desired station manually. Press push button in firmly. Repeat for remaining push buttons.

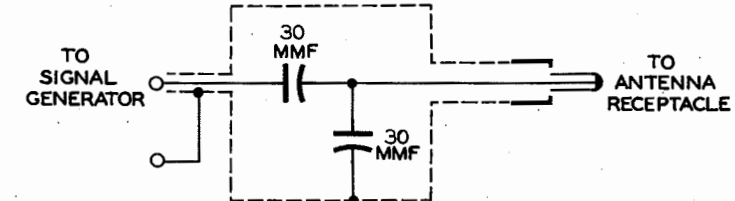
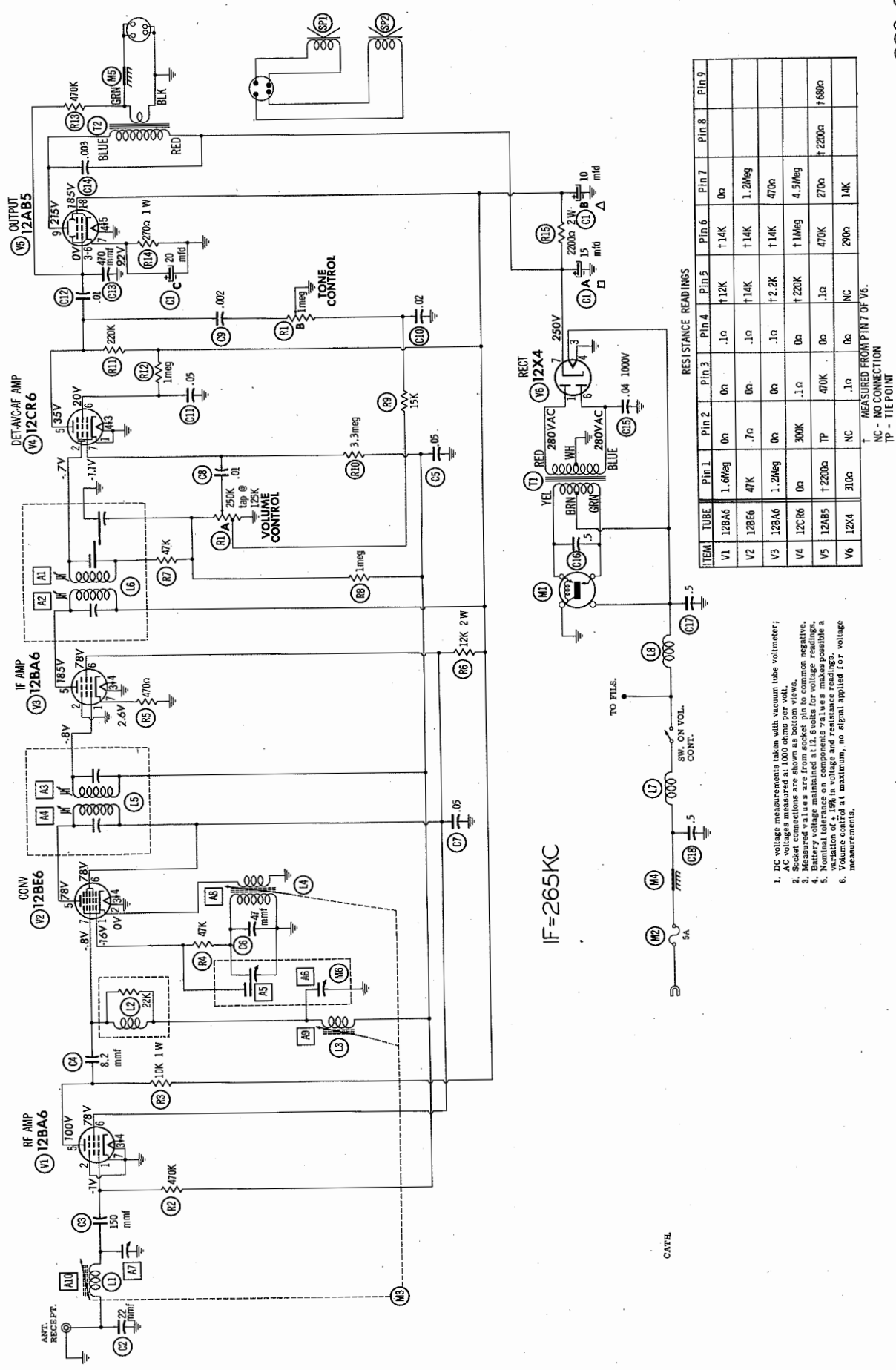


FIG. 1
HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana

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RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12BA6	1.6Meg	0	0	.1	11K	11K	0		
V2	12BE6	47K	.7	0	.1	11K	11K	1.2Meg		
V3	12BA6	1.2Meg	0	0	.1	11K	11K	470		
V4	12CR6	0	30K	.1	0	11K	11K	4.5Meg		
V5	12AB5	1200	TP	470K	0	.1	470K	270	1200	1600
V6	12X4	310	NC	.1	0	NC	200	1K		

MEASURED FROM PIN 7 OF V6.
NC - NO CONNECTION
TP - TIE POINT

- 1. DC voltage measurements taken with vacuum tube voltmeter.
- 2. AC voltage measurements at 1000 ohms per volt.
- 3. Measured values are shown as bottom views.
- 4. Measured values are from side view for pin 7 of 12BE6 (V2).
- 5. Nominal tolerance on components is 1% for voltage readings.
- 6. Variation of $\pm 15\%$ in voltage and resistance readings.
- 7. Volume control at maximum, no signal applied for voltage measurement.

PARTS LIST AND DESCRIPTIONS
 TUBES (GENERAL ELECTRIC, SYLVANIA)

AMERICAN MOTORS
 MODEL 8990378

ITEM No.	USE	TYPE	NOTES
V1	RF Amplifier	12BA6	
V2	Converter	12BE6	
V3	IF Amplifier	12BA6	

ITEM No.	USE	TYPE	NOTES
V4	Det.-AVC-AF Amplifier	12CR6	
V5	Output	12AB5	
V6	Rectifier	12X3	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	CAP.	VOLTS	REPLACEMENT DATA				SPRAGUE PART No.
				MOTOROLA PART No.	AEROVOX PART No.	CORNEILL-DUBILIER PART No.	MALLORY PART No.	
C1A	15	350	350	23A485677	AFT3-104	C077	FP328	T-465
C1B	10	350	350					
C1C	20	25						TVL-3630

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	CAP.	VOLTS	REPLACEMENT DATA				NOTES
				MOTOROLA PART No.	AEROVOX PART No.	CORNEILL-DUBILIER PART No.	MALLORY PART No.	
C2	22	150		21R120539	NP0-D122	TCZ-22	NP0K-220	5TCC-Q22
C3	150			21R120112	BDP-00015	DD-151	8L1-151	5GA-T15
C4	8.2	200		21R120547	NP0-S18.2	DD-151	NP0A-8R2	2TM-S5
C5	.05	400		21R121005	BDP-05	TCN-47	NP0A-8R2	5TCU-Q47
C6	.05	400		21R121587	BDP-05	DF-503	NP0A-8R2	4TM-S1
C7	.05	400		21R121587	BDP-05	DF-503	NP0A-8R2	4TM-S2
C8	.01	400		8R121002	BDP-01	DF-503	NP0A-8R2	4TM-S3
C9	.002	600		8R121003	BDP-02	DF-503	NP0A-8R2	4TM-S4
C10	.02	200		8R121003	BDP-02	DF-503	NP0A-8R2	4TM-S5
C11	.05	200		8R121005	BDP-05	DF-503	NP0A-8R2	4TM-S1
C12	.01	400		8R121005	BDP-01	DF-503	NP0A-8R2	4TM-S2
C13	.003	600		21R121554	BDP-00047	DD-471	NP0A-8R2	5GA-T47
C14	.04	1000		8R121569	DI-0003	DD-471	NP0A-8R2	10TM-S4
C15	.5	100		8R122076	VHC36	DD-471	NP0A-8R2	68P20
C17	.5	100		8R122076	VHC36	DD-471	NP0A-8R2	68P20
C18	.5	100		8R122076	VHC36	DD-471	NP0A-8R2	68P20

CONTROLS

ITEM No.	RATING	RESISTANCE	WATTS	REPLACEMENT DATA			INSTALLATION NOTES
				MOTOROLA PART No.	CENTRALAB PART No.	IRC PART No.	
R1A	250K	1Meg	1/2	18B53577	F1-44	R2-51	Volume (Panel)-lapped @125K
R1B	1Meg				R2-51		Tone (Rear)
R1C	Switch				KB-4		Attach to R1B

RESISTORS

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

ITEM No.	RATING	OHMS	WATT	REPLACEMENT DATA			NOTES
				MOTOROLA PART No.	IRC PART No.	NOTES	
R2	470K			6R6032	BTS-470K		
R3	10K		1	6R6430	BTA-10K		
R4	47K			6R6056	BTS-47K		
R5	470Ω			6R6090	BTS-470		
R6	12K		2	6R5766	BTS-12K		
R7	47K			6R6056	BTS-47K		
R8	1Meg			6R6004	BTS-1Meg		

TRANSFORMER (POWER)

ITEM No.	RATING	PRI.	SEC. 1	SEC. 2	SEC. 3	REPLACEMENT DATA		
						MOTOROLA PART No.	Merit PART No.	Thorndson PART No.
T1	12.6VCT	560VCT				25C530737-A		
	@1.6A	@.082A						

PARTS LIST AND DESCRIPTIONS (Continued)
 TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	PRI.	SEC.	REPLACEMENT DATA			NOTES
				MOTOROLA PART No.	Merit PART No.	Thorndson PART No.	
T2	7.5KΩ	3-4Ω	25B530178-0	Z1115	A-2900	A-3878	
						24552	S-7X

SPEAKER

ITEM No.	RATINGS	SIZE	FIELD	Y. C. IMP.	REPLACEMENT DATA			NOTES
					MOTOROLA PART No.	QUAM PART No.	RCA TYPE No.	
SP1	5 x 7"	PM	3-4Ω	3-4Ω	57A1	57A1	257S1	
SP2	5 x 7"	PM	3-4Ω	3-4Ω	50K530293	57A1	257S1	

COILS (RF-IF)

ITEM No.	USE	DC RES.	PRI. SEC.		MOTOROLA PART No.	REPLACEMENT DATA			NOTES
						MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	Ant. Coil	L42			24K530048				Core part #70K530035 48 Microhenries, wound on 224K530035 Core part #70K530035
L2	RF Coil	5.3Ω			24A530029				
L3	RF Coil	L40			24K530042				Core part #70K530035 1 Microhenry
L4	Osc. Coil	18Ω			24K530042				
L5	Input IF	40Ω			24K530159				21.2 Microhenries
L6	RF Choke	50Ω			24K530153				
L7	RF Choke	0Ω			24K530209				
L8	Choke	.10			24A534494				

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FREQUENCY	REPLACEMENT DATA			NOTES
				MOTOROLA PART No.	CORNEILL-DUBILIER PART No.	MALLORY PART No.	
M1	Interrupter	12V	115%	48B522000	6301	GB59	
						6301	

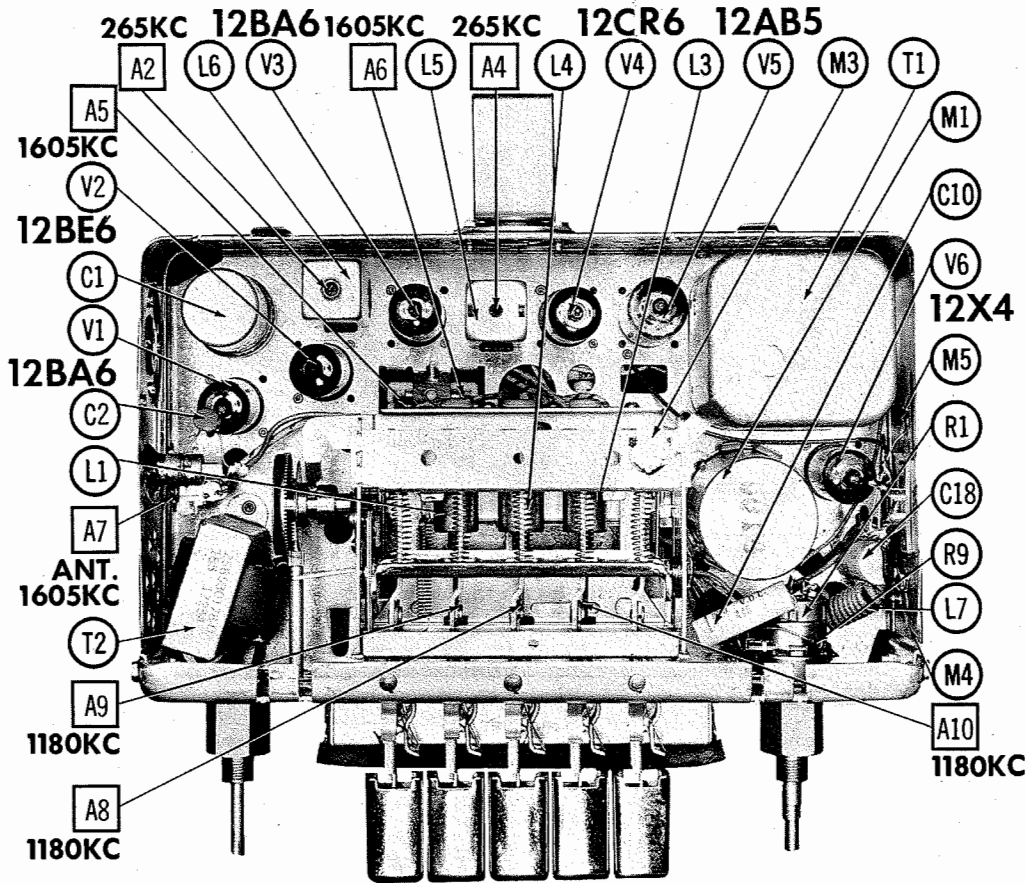
FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA			NOTES
			MOTOROLA PART No.	LITTELFUSE PART No.	BUSS PART No.	
M2	LAG	5A	65R122345	9K538119	155004	
		32V		(LAG 5A)	AGA5	HRF

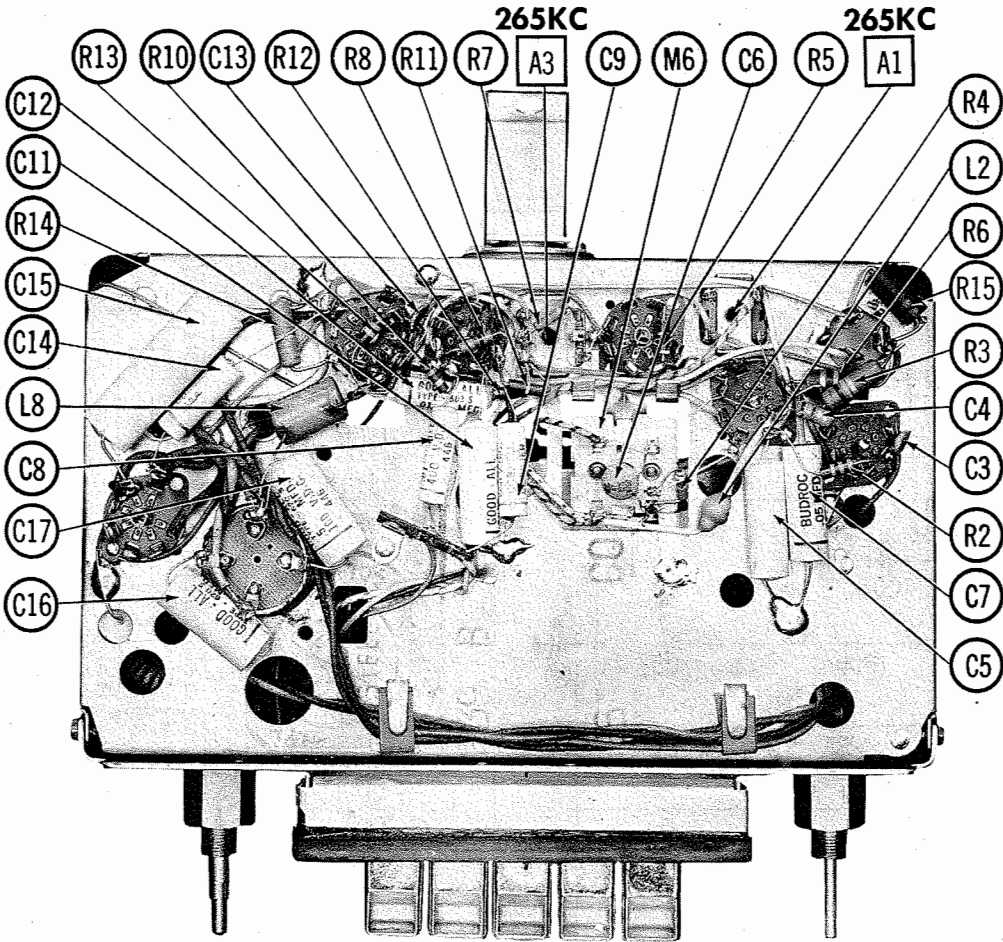
MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M3	Tuner	77D535541	Permeability (Model AT-17), includes L1, L3, L4
M4	Spark Plate	64K531872	Power input
M5	Spark Plate	64K531872	Audio output (T2) secondary
M6	Trimmer Cap.	20B535030	Dual trimmer; osc., A5 (370-450MMF); RF, A6 (230-330MMF). Unit also consists of 47MMF
A7	Trimmer Cap.	20A501419	On-off-tone
	Knob	36K538715	Tuning
	Knob	36K538715	Volume
	Pushbutton	36S535178	5 used
	Dial Pointer	1V557546	

CHASSIS—TOP VIEW



CHASSIS—BOTTOM VIEW



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