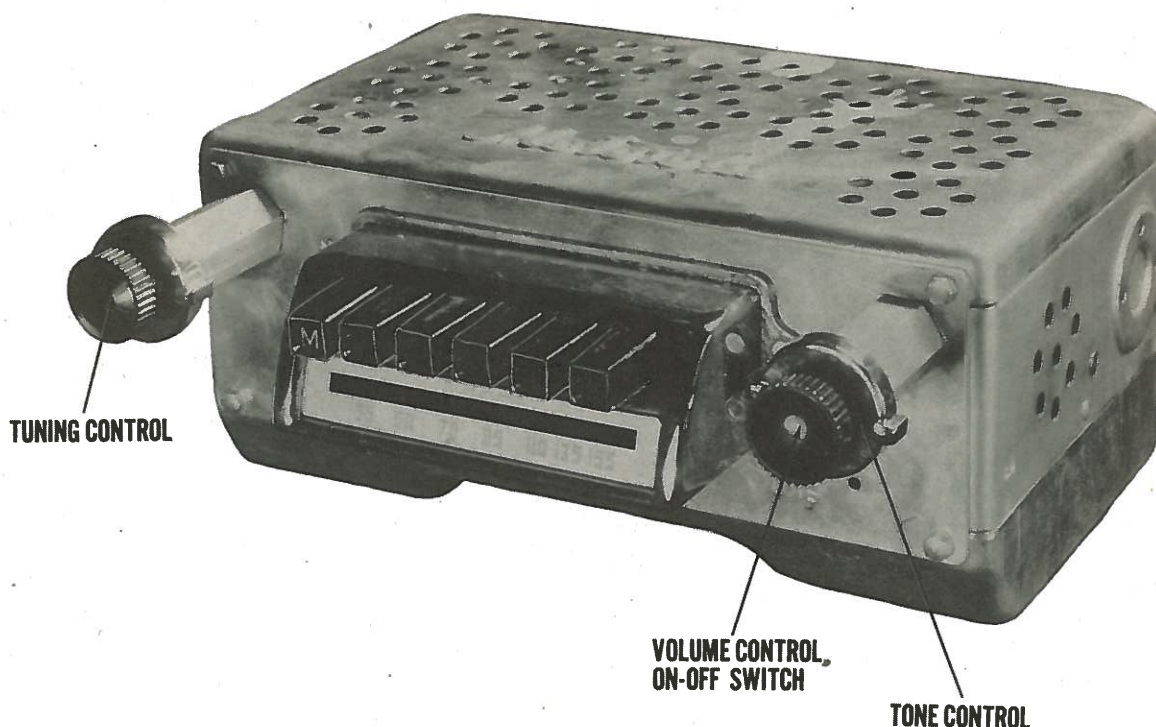


MOTOROLA
CHASSIS 10AMOTOROLA
CHASSIS 10A

MOTOROLA MODEL BKO-A

TRADE NAME Motorola, Models BKO-A, CT8-A, GM9T-A, HNO, ILOT, PC9-A (Ch. 10A)
 MANUFACTURER Motorola Inc., 4545 Augusta Blvd., Chicago, Illinois
 TYPE SET Battery Operated Universal Automotive Superheterodyne Receiver
 TUBES (SIX) Types 6BA6 RF Amp., 6BE6 Converter, 6BA6 IF Amp., 6AT6 DET-AVC-AF, 6AQ5 Power Output, 6X4 Rectifier

POWER SUPPLY 6 Volt Storage Battery
 TUNING RANGE—BROADCAST 535-1600KC

RATING 6.5 Amp. at 6 Volts DC

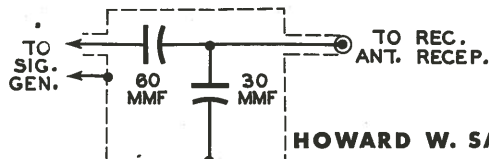
ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

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.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1. .1MFD	High side to pin 7 (Grid) of 6BE6 (V2). Low side to chassis.	455KC (400 μ Mod.)	Tuning cores fully open	Across voice coil	A1, A2 A3, A4	Adjust for maximum output.
2. See fig 1.	High side thru dummy to antenna receptacle. Low side to chassis.	1610KC	"	"	A5, A6, A7	Check to see that tuning cores project 1 1/8 ins. out of the cans. Adjust A5, A6 and A7 for maximum output.
3. "	"	1425KC	Set carriage 1 3/8" from front edge of coil forms.	"	A8, A9, A10	Adjust in the order given for maximum output.
4. "	"	Turn gen. power off	Set carriage 17/32" from front edge of coil forms.	Not used	All	Adjust for maximum noise. If more than 1/2 turn is required, repeat steps 2, 3 and 4 until less than 1/2 turn is required.

AFTER SET IS INSTALLED, FULLY EXTEND THE ANTENNA AND TUNE IN A WEAK STATION NEAR 1400KC. ADJUST A7 FOR MAXIMUM VOLUME.

PUSHBUTTON ADJUSTMENTS



To set pushbuttons push the #1 button in as far as it will go and hold in that position. Tune in the station desired with the manual tuning knob and release button and knob after tuning in the station. Repeat this procedure to set the remaining four pushbuttons.

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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

MOTOROLA
MODEL BKO-A

CHASSIS—TOP VIEW

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		MOTOROLA PART No.	STANDARD REPLACEMENT		
V1	RF Amp.	6BA6	6BA6	7BK	
V2	Converter	6BE6	6BE6	7CH	
V3	IF Amp.	6BA6	6BA6	7BK	
V4	DET-AVC-AF	6AT6	6AT6	7BT	
V5	Power Output	6AQ5	6AQ5	7BZ	
V6	Rectifier	6X4	6X4	5BS	

CAPACITORS

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

ITEM No.	RATING		REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES	
	CAP.	VOLT	MOTOROLA PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.		SPRAGUE PART No.
C1A	30	350	23A473015	AFH6H6G4A		UP335-330 C		EL-323	■ Filter
B	30	350							▲ Filter
C	20	25							Output Cath. Byp.
C2	90		21B591682						Fixed Trimmer
C3	.006	100	8A4529	P488-006	D6-562	PTE6D6	GP2M-0056	TM-26	Ant. Coupling
C4	.05	100	8R13514	P288-05	DF-503	PTE4S5		TM-15	RF Cath. Byp. *
C5	.05	100	8R13514	P288-05	DF-503	PTE4S5		TM-15	Conv. Cath. Byp. *
C6	.05	400	8R14791	P488-05	DF-503	PTE4S5		TM-15	Decoupling
C7	.1	400	8R13166	P488-1	DF-104	PTE4P1		TM-1	Decoupling
C8	5		21K70720	GP5K	TCZ-4.7	5W5V5	NPOK-5	MS-55	RF Coupling
C9	50	300	21R6513	1468-00005	D6-500	5W5Q5	GPIK-50	IFM-45	OSC. Grid Cap.
C10	400		21A71872						Fixed Trimmer
C11	.05	100	8R13514	P288-05	DF-503	PTE4S5		TM-15	AVC Filter
C12	100		21B77562	GP100M	D6-101	5W5T1	GPIK-100	IFM-31	Diode RF Filter
C13	100		21B77562	GP100M	D6-101	5W5T1	GPIK-100	IFM-31	Diode RF Filter
C14	5		21K70720	GP5K	TCZ-4.7	5W5V5	NPOK-5	MS-55	IF Coupling
C15	.01	100	8R472754	P488-01	D6-103	PTE4S1	811-01	TM-11	Tone Comp.
C16	.05	100	8R13514	P288-05		PTE4S5		TM-15	Audio Coupling
C17	500	500	21R6639	1468-0003	D6-501	5W5T5	GPIK-500	IFM-35	AF Amp. Plate Byp.
C18	.006	400	8K71910	P488-006	D6-562	PTE6D6	GP2M-0056	TM-26	Tone Comp.
C19	.03	400	8R71911	P488-03		PTE6S3		TM-13	Audio Coupling
C20	.006	400	8K71910	P488-006	D6-562	PTE6D6	GP2M-0056	TM-26	Output Plate Byp.
C21	.006	1600	8K12840	P1688-006		PTE16D6		MB-26	Buffer
C22	.5	100	8K17028	P288-5		GT2P5		68P20	Hash Filter
C23	.5	100	8K17028	P288-5		GT2P5		68P20	Hash Filter

* Not used in all models.

CONTROLS

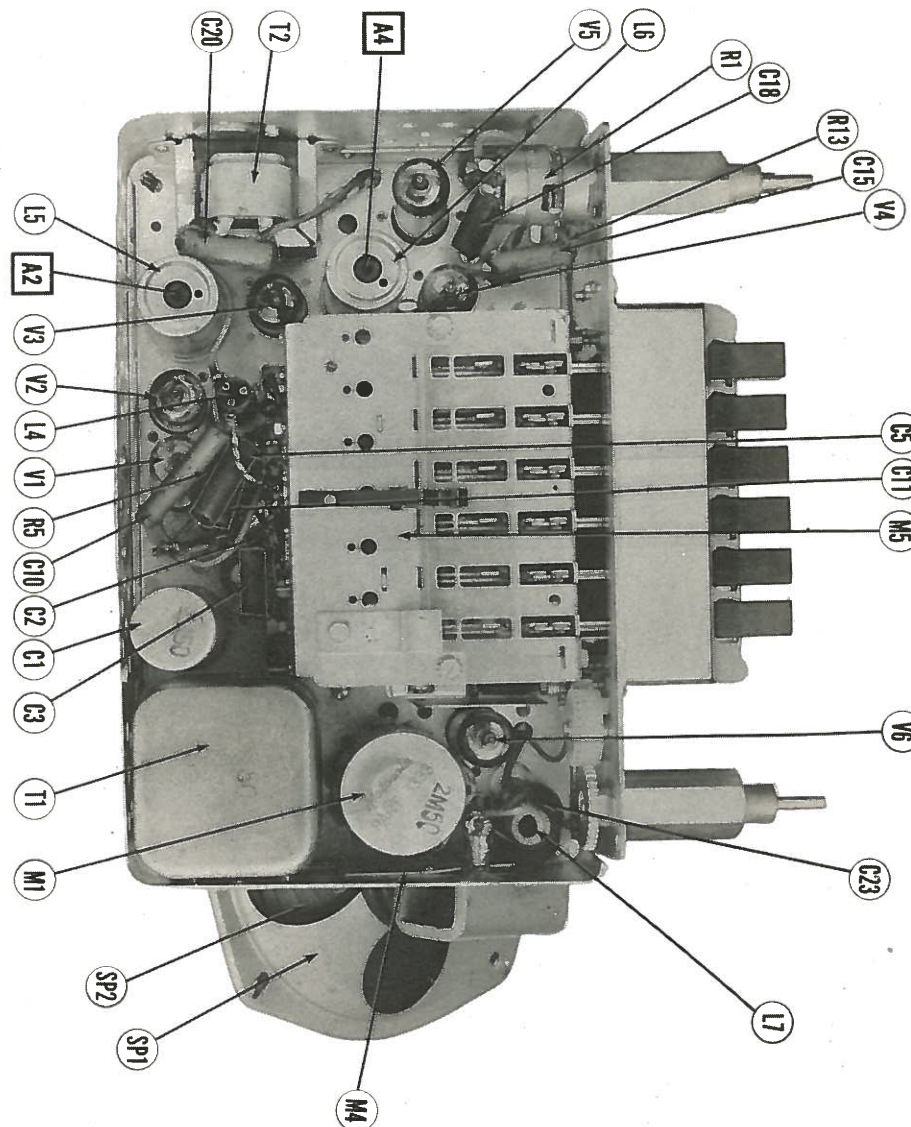
ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	MOTOROLA PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	
R1A	500KΩ			Concentrikrit B11-133 *			Tone control-front
B	500KΩ			B18-133X *			Volume control-rear-tapped at 50KΩ
C	Shaft End Switch		18A591550	E-187 *		SBBT-563-S	Attach per instr. in "Concentrikrit".
D				76-2 *			Attach per instr. in "Concentrikrit".

* Additional parts to be used with "Concentrikrit".

Wire both sections of switch in parallel. Use original sleeve bushing.

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	MOTOROLA PART No.	IRC PART No.	
R2	470KΩ		8R6032	BTS-470K	RF Grid
R3	390Ω		8R5554	BW-1-390	RF Cathode
R4	100KΩ		8R6075	BTS-100K	Conv. Grid
R5	220Ω			BW-1-220	Conv. Cathode-See Note 1
R6	47KΩ		8R6056	BTS-47K	Osc. Grid
R7	10KΩ	2	8R476080	BT-2-10K	Screen Dropping
R8	390Ω		8R5554	BW-1-390	IF Cathode-See Note 2
R9	330Ω		8R6010	BW-1-330	Decoupling
R10	1 Meg.		8R6004	BTS-1 Meg.	AVC Network
R11	1 Meg.		8R6004	BTS-1 Meg.	Diode Load
R12	47KΩ		8R6056	BTS-47K	Diode Filter
R13	22KΩ		8R6028	BTS-22K	Tone Compensation



PARTS LIST AND DESCRIPTIONS (Continued)

R14	2700Ω		6R5577	BTS-2700	Tone Compensation
R15	3.3 Meg.		6R2118	BTS-3.3 Meg.	AF Amp. Grid
R16	470KΩ		6R6032	BTS-470K	AF Amp. Plate
R17	220KΩ		6R6015	BTS-220K	Output Grid
R18	270Ω		6R6336	BW-1-270	Output Cathode
R19	1000Ω	2	6R476004	BW-2-1000	Filter
R20	10KΩ		6R6054	BTS-10K	Buffer
R21	56Ω		6R5614	BW-1-56	Noise Suppression
R22	56Ω		6R5614	BW-1-56	Noise Suppression

Note 1. Not used in all models.

Note 2. Some models use 150Ω resistor in this application.

TRANSFORMER (VIBRATOR)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	MOTOROLA PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T1	5.7VDC ④ 3.4A	540VCT .061ADC			25B472533	P-6471	P-2972 ①	

① Drill one new mounting hole,

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE	DC RES.			MOTOROLA PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
T2	6KΩ	3.6Ω	340Ω	.3Ω	25B70171	A-2930	A-3877	RO-13 ①	① Drill one new mounting hole.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
	FIELD	V. C. IMP.	MOTOROLA PART No.	JENSEN PART No.	QUAM PART No.	
SP1	PM	3.8Ω	50B473783	ST-110		② Used in model 110T
	CONE DIA.	V. C. DIA.	50B592352 ②	MOD. P6-V	6A1	
SP2	6"	9/16"				

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	MOTOROLA PART No.	MEISSNER PART No.	
L1	Ant. Coil	11Ω		24B71881		Specify paint dot color when ordering Specify paint dot color when ordering Specify paint dot color when ordering
L2	RF Coil	11Ω		24B71881		
L3	Osc. Coil	2.8Ω		24B71879		
L4	Osc. Coil	2.8Ω		24B70227		Complete with capacitor and core, less shield Complete with capacitor and core, less shield
L5	Padder	14Ω	14Ω	24B485670	16-6678	
L6	1st IF	14Ω	14Ω	24B485670	16-6678	
L7	2nd IF	0Ω		24K591605		
L8	Hash Choke	0Ω		24A472535		

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FRE-QUENCY	REPLACEMENT DATA				INSTALLATION NOTES
				MOTOROLA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	RADIART PART No.	
M1	Int.	6V	115 ~	48B3333	A-200	C-00	5342	

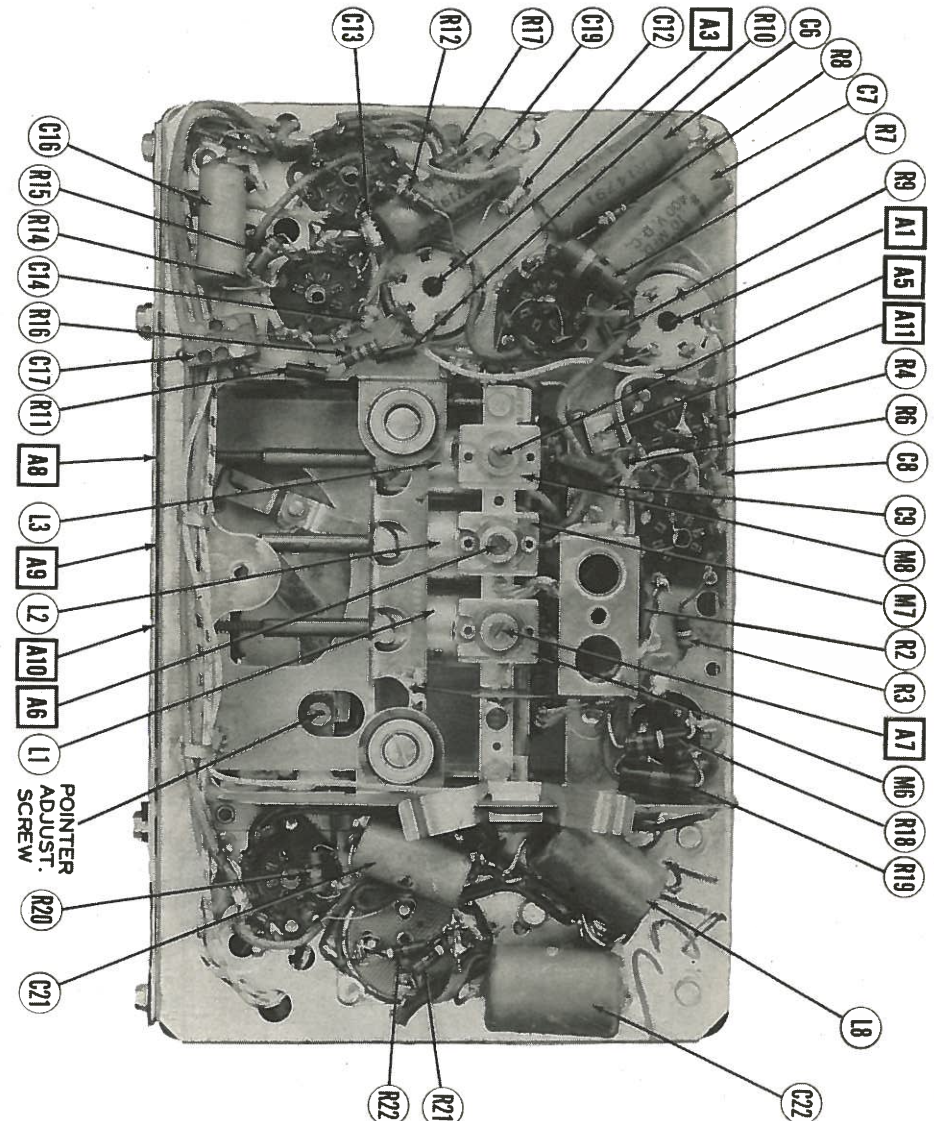
DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		NOTES
					MOTOROLA PART No.		
M2	Bayonet	6-8	.25	Blue	65X10667		Type #44

MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M3	Fuse	65A10266	10 Amp. 3AG
M4	Spark Plate	1A472606	Assembly
M5	Tuner	1X472770	
M6	Trimmer Strip	20A480600	Ant. Adj. (A7)
M7			RF Adj. (A8)
M8			Osc. Adj. (A5)

CHASSIS—BOTTOM VIEW

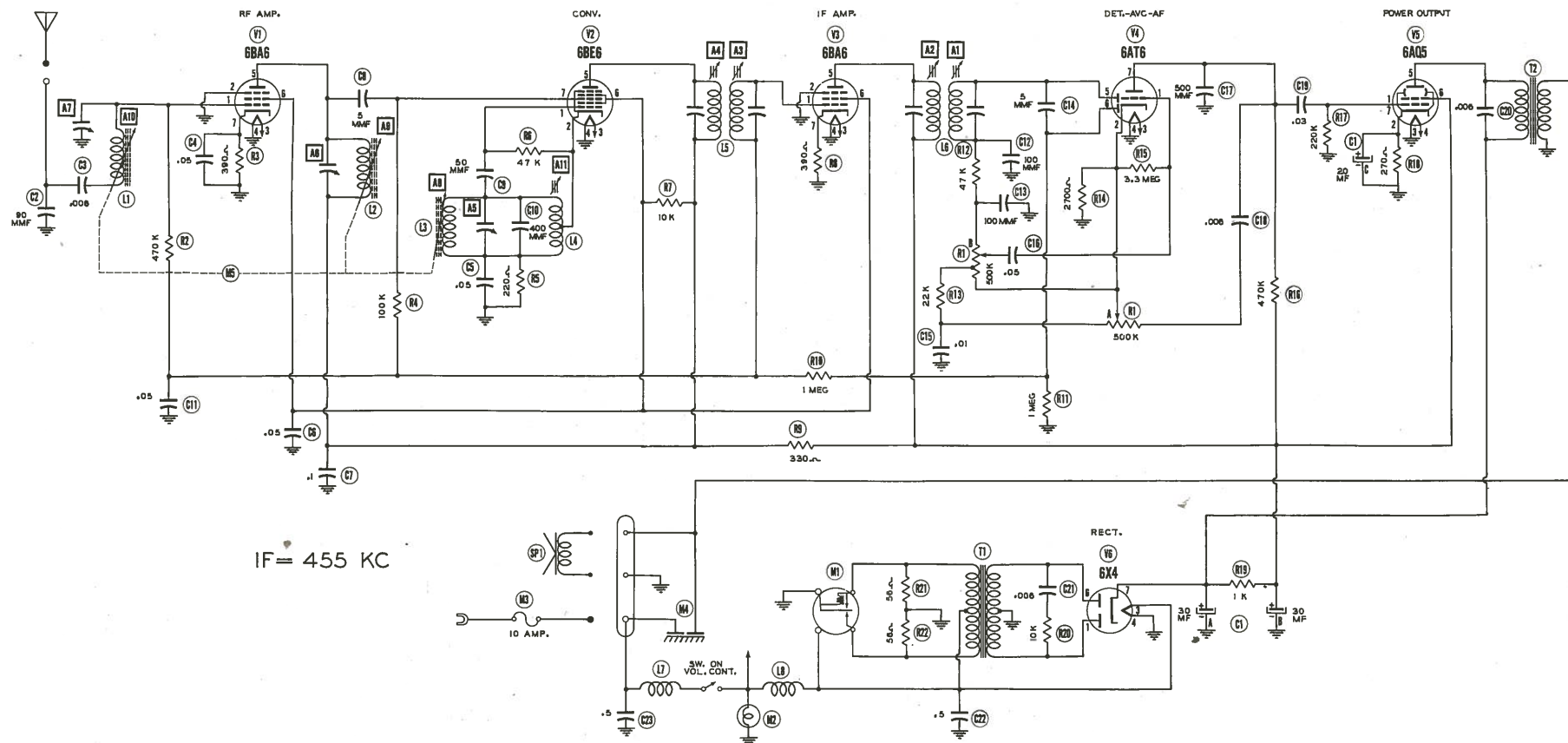


MOTOROLA
MODEL BKO-A

MOTOROLA
MODEL BKO-A

SET 106

FOLDER 10



IF = 455 KC

VOLTAGE READINGS							
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6
V 1	6BA6	0V.	0V.	8.3VDC	0V.	180VDC	84VDC
V 2	6BE6	1-4.3VDC	1.8VDC	8.3VDC	0V.	180VDC	85VDC
V 3	6BA6	0V.	0V.	8.3VDC	0V.	180VDC	85VDC
V 4	6AT6	0V.	1VDC	8.3VDC	0V.	3VDC	0V.
V 5	6AQ5	3VDC	10VDC	0V.	8.3VDC	210VDC	194VDC
V 6	6X4	285VAC	285VAC	8.3VDC	0V.	8.3VDC	280VAC

† TAKEN WITH VACUUM TUBE VOLTMETER.

RESISTANCE READINGS							
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6
V 1	6BA6	2.5 Meg.	0Ω	.3Ω	0Ω	11.3KΩ	111.3KΩ
V 2	6BE6	47KΩ	250Ω	.3Ω	0Ω	11.3KΩ	111.3KΩ
V 3	6BA6	2 Meg.	0Ω	.3Ω	0Ω	11KΩ	111.3KΩ
V 4	6AT6	3 Meg.	2.7KΩ	.3Ω	0Ω	500KΩ	1 Meg.
V 5	6AQ5	220KΩ	270Ω	0Ω	.3Ω	1340Ω	13KΩ
V 6	6X4	360Ω	10.3KΩ	.3Ω	0Ω	.3Ω	360Ω

† MEASURED FROM PIN 1 OF V6.

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106-10

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Battery voltage maintained at 6 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of $\pm 15\%$ in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.