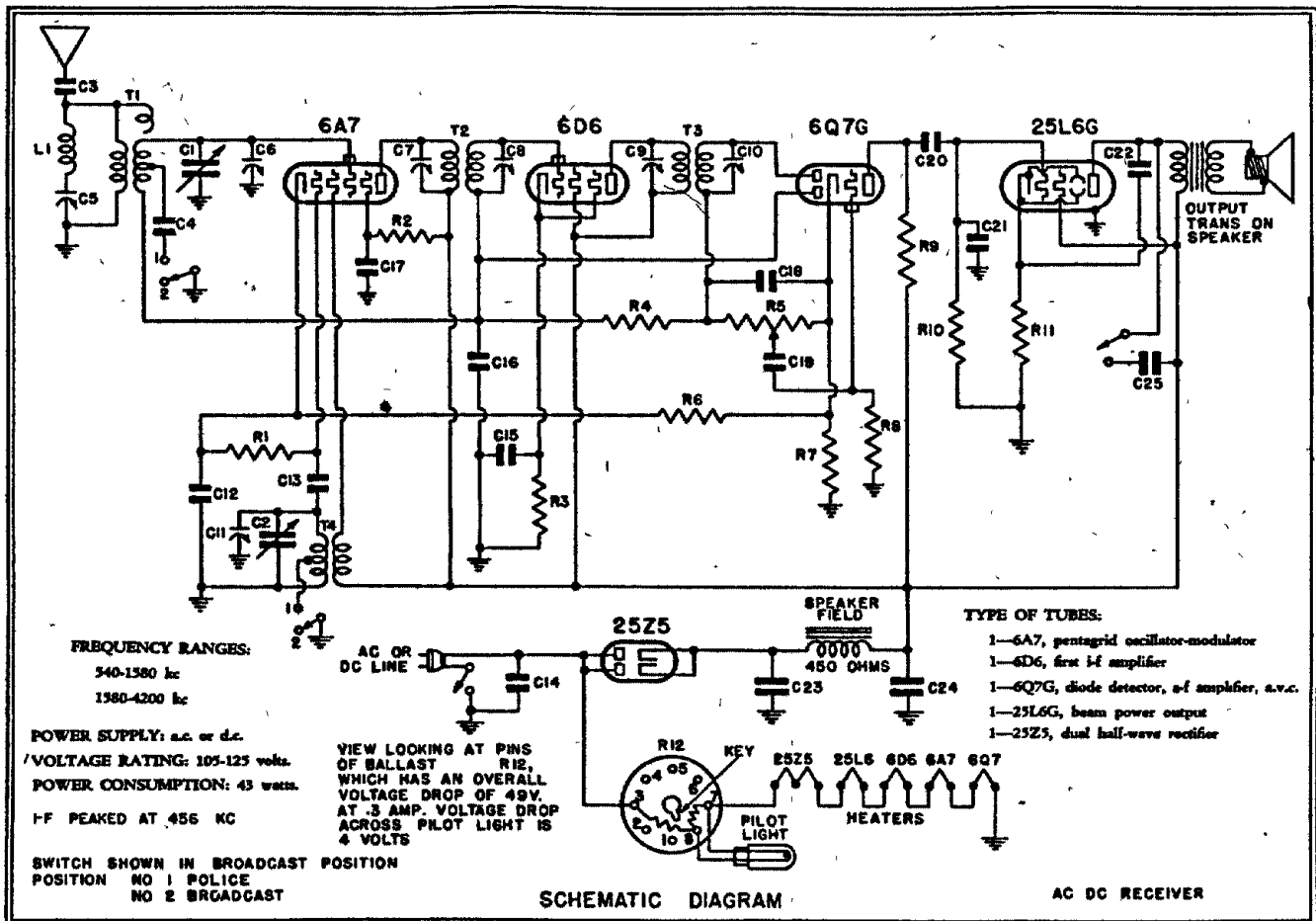


EMERSON RADIO & PHONOGRAPH CORP

MODEL BH-203



REPLACEMENT PARTS LIST

*Item	Part No.	DESCRIPTION
T1	3RT-364A	Two-band antenna coil
T2	3RT-320B	456 kc first i-f transformer
T3	3RT-321B	456 kc second i-f transformer
T4	3RT-319A	Two-band oscillator coil
L1	4DT-343	456 kc adjustable wave-trap
R1	KR-33	50,000 ohm 1/4 watt carbon resistor
R2	ZZR-196	30,000 ohm 1/4 watt carbon resistor
R3	JCR-293	410 ohm 1/2 watt wire wound resistor
R4, R8	HR-42	2 megohm 1/4 watt carbon resistor
R5	3FR-256	Volume control with line switch—500,000 ohms
R6, R7	3CR-294	240 ohm 1/2 watt wire-wound resistor
R9	KR-35	250,000 ohm 1/4 watt carbon resistor
R10	KR-36	500,000 ohm 1/4 watt carbon resistor
R11	3FR-293	140 ohm 1/2 watt wire-wound resistor
R12	2UR-224	Plug-in type ballast resistor
C1, C2	5HC-387	Two-gang variable condenser
C3	3HC-274	0.002 mf, 600 volt tubular condenser
C4	4DC-367	0.0012 mf mica condenser
C5		Trimmer, part of wave-trap assembly
C6, C11		Trimmer, part of variable condenser
C7, C8		Trimmer, part of first i-f transformer assembly
C9, C10		Trimmer, part of second i-f transformer assembly
C12, C17	AC-6	0.1 mf, 200 volt tubular condenser
C13	AAC-106A	0.00005 mf mica condenser
C14	2VC-242A	0.1 mf, 400 volt molded condenser
C15	FC-29	0.02 mf, 200 volt tubular condenser
C16, C25	BC-12	0.05 mf, 200 volt tubular condenser
C18, C21	AC-384	0.0002 mf, 600 volt tubular condenser
C19	KC-58	0.01 mf, 400 volt tubular condenser
C20	LC-65	0.02 mf, 400 volt tubular condenser
C22	3C-336	0.025 mf, 400 volt tubular condenser
C23, C24	4CC-261	20 mf, 150 volt wet electrolytic condenser
	KRS-231A	Wave-band switch
	3FS-231	5 1/4" dynamic speaker
	4BL-94	Pilot light, 6.3 volt, .25 amp., Mazda No. 44
	3ES-256A	Tone control switch
	5HD-49	Six-button mechanical tuning unit
	5HYZ-801	Station name tube (complete set)
	5HYZ-802	Calluloid station name tube caps (set of 6)
	5EB-56	Pilot light socket

The color coding of the i-f transformer leads is as follows:

Grid—green
Grid return—black
Plate—blue
B plus—red

*Item number locates the article on the schematic diagram.

†These trimmers are part of coil assemblies and cannot be supplied separately.

‡These trimmers are part of variable condenser and cannot be supplied separately.

VOLTAGE ANALYSIS

Readings should be taken with a 1000 ohms-per-volt meter. Voltages listed below are from point indicated to ground (chassis) with the volume control turned on full and no signal. Line voltage for these readings was 117.5 volts, 60 cycles, a.c. All readings except cathodes and heaters were taken on 250 volt scale.

Tube	Plate	Screen	Cathode	Osc. Plate	Fil.
6A7	100	50	2.3	100	6.3
6D6	100	100	3.5	—	6.3
6Q7G	43	—	1.2	—	—
25L6G	92	100	6.5	—	25.0

Voltage at 25Z5 cathode—130 volts. Voltage across speaker field—30 volts. Voltage drop across ballast resistor (pins Nos. 3, 7)—49 volts. Voltage drop across pilot light section (pins Nos. 6 and 7)—4 volts.

ADJUSTMENTS

An oscillator with frequencies of 456 and 1400 kc is required.

An output meter should be used across the voice coil or output transformer for observing maximum response.

The set's oscillator is higher in frequency than the signal, so images should be observed on the low frequency side of the signals.

The last motion in adjusting trimmers should always be a tightening one, not a loosening one.

Never leave a trimmer with the outside plate so loose that there is no tension on the screw. Either bend the plate up or remove the screw entirely.

Always use as weak a test signal as possible during alignment.

Use a .0001 mf mica condenser as a dummy antenna during alignment.

Location of Coils and Trimmer Adjustments

The two i-f transformers are in oblong coil cans located on top of the chassis deck. The first i-f transformer is the one behind the variable condenser. The trimmers for these transformers are accessible through holes in the tops of the cans.

The 456 kc wave-trap is mounted on the top of the chassis to left of variable condenser. Its trimmer is mounted on the trap.

The antenna coils for the broadcast and police bands are wound on one form and are mounted underneath the chassis deck below the variable condenser.

The oscillator coils for the broadcast and police bands are wound on one form and are mounted on the rear wall of the chassis deck near the variable condenser.

The trimmers for the broadcast antenna and oscillator coils are located on the variable condenser. The trimmer on the section closest to dial is for the antenna coil.

I-f Transformer and Wave-Trap Alignment

Turn the switch clockwise to the broadcast position and rotate the variable condenser to the minimum capacity position. Feed 456 kc to the grid cap of the 6A7 tube through a .02 mf condenser and adjust the four i-f trimmers for maximum response. Feed 456 kc to the antenna lead and adjust first the oscillator trimmer (on right section of variable condenser) then the antenna trimmer (on left section of variable condenser) for maximum response. The police band is self-tracking and does not require any adjustment.

R-f Alignment

With the wave-band switch (rear of chassis) in the broadcast position, loosen indicator drive pulley set screw and set the dial indicator at 140. Feed 1400 kc through a .0001 mf condenser to the antenna lead and adjust first the oscillator trimmer (on right section of variable condenser) for maximum response. The police band is self-tracking and does not require any adjustment.