

General Electric Co.

Model: JB513

Chassis:

Year: Pre April 1941

Power:

Circuit:

IF:

Tubes:

Bands:

Resources

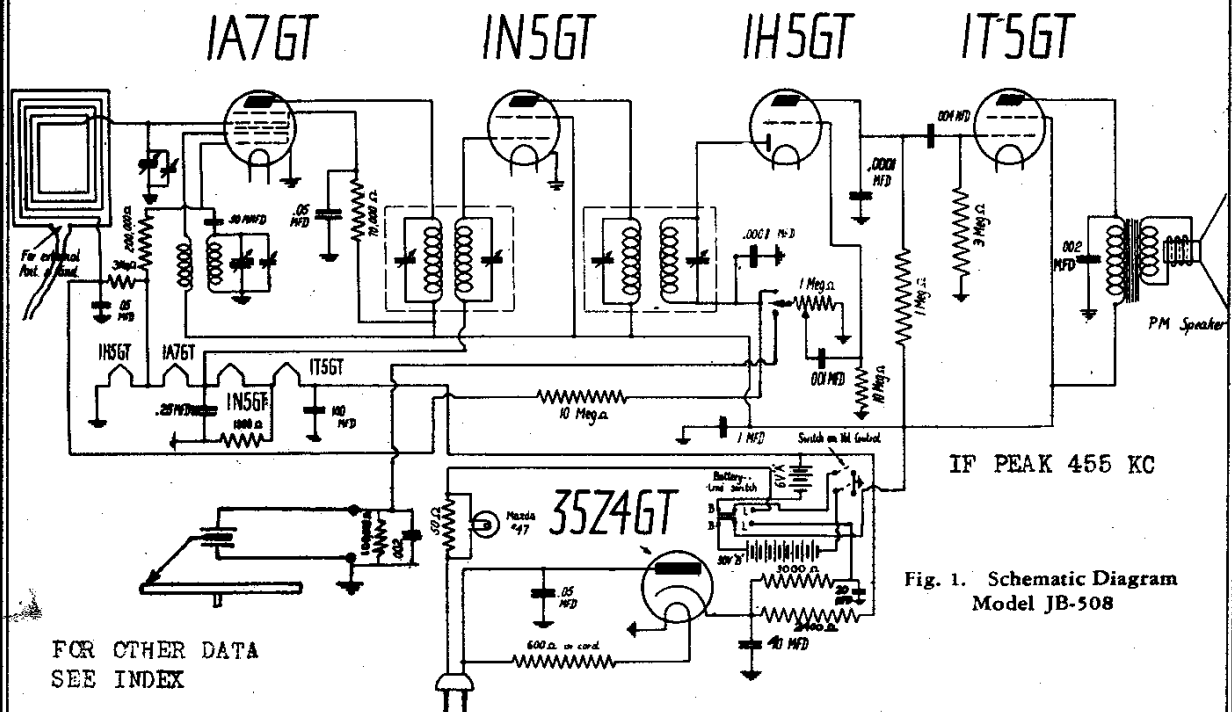
Riders Volume 12 - GE 12-30

Riders Volume 12 - GE 12-31

Riders Volume 12 - GE 12-63

MODELS J-71, JB-508,
JB-513, JB514

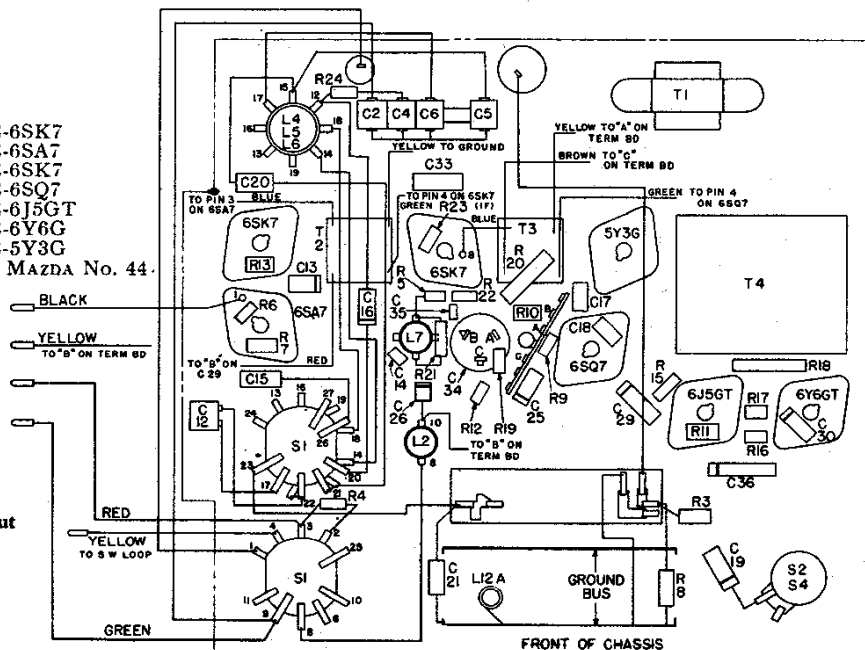
GENERAL ELECTRIC CO.



MODEL J-71

Tubes

R.F. Amplifier.....	GE-6SK7
Converter and Oscillator.....	GE-6SA7
I.F. Amplifier.....	GE-6SK7
Det., Aud., AVC.....	GE-6SQ7
Audio Driver.....	GE-6J5GT
Audio Output.....	GE-6V6G
Rectifier.....	GE-5Y3G
Dial Lamp.....	(2) MAZDA No. 44.



Note: The oscillator coil and band-switch terminals are numbered in the Chassis Parts Layout, Fig. 6, to assist in locating the corresponding numbered points on the Schematic Diagram, Fig. 1. This numbering will also assist in rewiring if the coil or switch is replaced. I.F. transformer connections are shown as an aid in replacement.

SETTING UP THE RECEIVER

The following remarks will assist the serviceman in correctly setting up this receiver for use:

- (1) In order to press the volume or tuning knobs all the way on their respective shafts, the dial reflector plate should be held in place by pressure from the rear.

- (2) The black speaker lead should be connected to the speaker terminal which is grounded to the speaker frame.
- (3) A method of setting up station keys which will assure driftproof adjustments is to screw the iron core all the way out and then turn slowly inward until the desired station is tuned in.

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MODELS JB508,
JB-513, JB514

SERVICE DATA

Over-all Dimensions

Model	JB-508	JB-513, JB-514
Height	9½ inches	11 inches
Width	14 inches	14½ inches
Depth	15 inches	5 inches
Wt. with batteries	19½ lbs.	13¾ lbs.

Rectifier

Models JB-508, JB-513	GE-35Z4GT
Model JB-514	GE-117Z8GT

Tuning Control Drive Ratio..... 6:1

Electrical Specifications

- AC or DC Power Supply—105-125 Volts—40-60 cycles on AC
- Battery Power Supply
6 Volt "A" Supply, 90 Volt "B" supply
Recommended batteries for 275-hour life (Maximum daily operation—4 hours)
(a) "A" Battery—one Eveready No. 747 or equivalent
(b) "B" Batteries—two Eveready No. 482 or equivalent

Tuning Frequency Range..... 540—1700 KC

Intermediate Frequency..... 455 KC

Maximum Power Output..... 200 Milliwatts

Loudspeaker—Alnico Magnetic Dynamic

Outside Cone Diameter	5 inches
Voice Coil Impedance (400 cycles)	3.5 ohms

Tubes

Converter and Oscillator	GE-1A7GT
I.F. Amplifier	GE-1N5GT
Det., Aud., AVC	GE-1H5GT
Power Output	GE-1T5GT

BATTERY AND TUBE INSTALLATION

Models JB-513 and JB-514

The batteries may be installed or replaced without removing the Beam-a-Scope antenna from the chassis. Place the two "B" batteries on the bottom of the cabinet with the terminal sockets facing each other. Place the "A" battery on top of the "B" batteries with its terminal socket toward the left.

To replace tubes it is necessary to detach the Beam-a-Scope from the supporting blocks. Do not strain the two leads connected to the Beam-a-Scope.

Model JB-508

To install or replace batteries remove the five wood screws which hold the motorboard in place, and raise the panel. (NOTE—The motor crank must be removed from the crank socket before the panel can be raised.) The panel can be freed if the two plug connectors are pulled out of the socket terminals in the chassis apron.

Access to the battery compartment having been made, loosen the battery block held by the wing nuts. Place the two "B" batteries in the bottom sections, terminals inward, and insert the two 3-prong plug connectors. The "A" battery is placed on top of the "B" batteries with terminal toward the removable block and the 2-prong plug connector attached. Replace the battery block and tighten the wing nuts.

ALIGNMENT PROCEDURE

Alignment Frequencies

I.F. 455 KC Broadcast—1700 and 1500 KC

General Alignment Notes

This receiver must be removed from the carrying case in order to perform the alignment. Special care must be exercised to place the batteries, Beam-a-Scope and chassis in the same relative positions with respect to one another as these components occupied in the case; otherwise, alignment will not be satisfactory. When aligning Model JB-508 the radio-and phono switch must be on "radio."

The Models JB-513 and JB-514 are portable, five-tube, superheterodyne receivers which are designed to operate on any one of three types of power supplies as listed under electrical specifications. Features of design include power selector switch, built-in Beam-a-Scope, 5-inch dynapower speaker and automatic volume control. Model JB-508 and JB-513 have a dial light which operates when the receiver is connected to an AC or DC power supply.

The Model JB-508 is a portable radio-phonograph combination employing a radio chassis similar to JB-513. The phonograph consists of a spring-wound Swiss motor and crystal pickup. The Swiss motor will play two 10-inch records with one winding. A speed regulator controls the speed above and below 78 R.P.M.

Model JB-514 has full Underwriters' approval.

To switch these models from battery to external power supply operation, open the small door in the side of the cabinet, slide the button switch to "Line," which is to the right, and insert the cord plug in a power supply of the proper voltage and frequency. The button switch selects the battery or line power supply.

When these models are working on batteries, they will perform as soon as turned "on." However, when operating on an external power supply, sufficient time must be allowed for the tubes to become heated. When operating from a DC source of power, it is necessary to insert the power plug with the proper polarity; otherwise, the receiver will fail to function. If any hum is noticed when the receiver is used on AC, reverse the power plug in the receptacle.

Outside antenna connections may be made to two black leads available in the chassis compartment.

I.F. Alignment

With batteries, Beam-a-Scope and chassis in position for alignment as mentioned above, connect an output meter across the voice coil. Rotate the volume control to maximum. Set test oscillator to 455 KC. Attach the test oscillator output leads to the two flexible leads of the Beam-a-Scope antenna. Keep the test oscillator output as low as a readable meter reading will permit. Adjust all I.F. trimmers for maximum output.

R.F. Alignment

Connect the signal generator output leads to the two flexible leads on the receiver Beam-a-Scope. Adjust the signal generator to 1700 KC and set the tuning condenser to minimum capacity. Turn the trimmer screw of the cut section of the tuning condenser (oscillator) until the signal is tuned in on the receiver. Change the signal to 1500 KC, retune the tuning condenser to this frequency and adjust the trimmer screw of the antenna section for maximum output.

VOLTAGE CHART

(Receiver connected to 120 Volt AC line)

Tubes	Plate to Gnd. Volts	Screen to Gnd. Volts	Filament to Gnd. Volts	Filament Volts
1A7GT	92	38	3.2	1.6
1N5GT	92	92	4.8	1.6
1H5GT	10		1.6	1.6
1T5GT	88	92	6.4	1.6
35Z4GT*	120 AC		125 Cathode to Gnd.	30
117Z8GT**	120 AC		125 Cathode to Gnd.	120 AC

* Used only in Models JB-513 and JB-508.

** Used only in Model JB-514.

Line—120 Volts AC.

Maximum Volume—Gang Closed—No signal input.

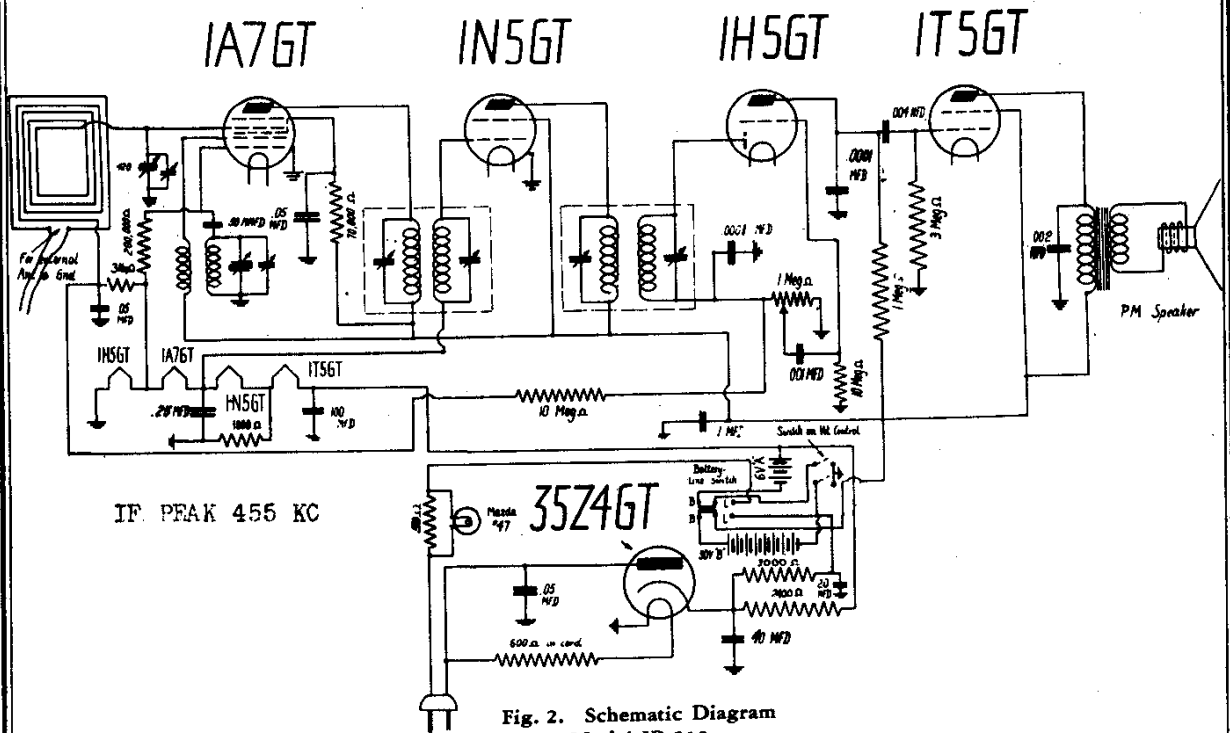
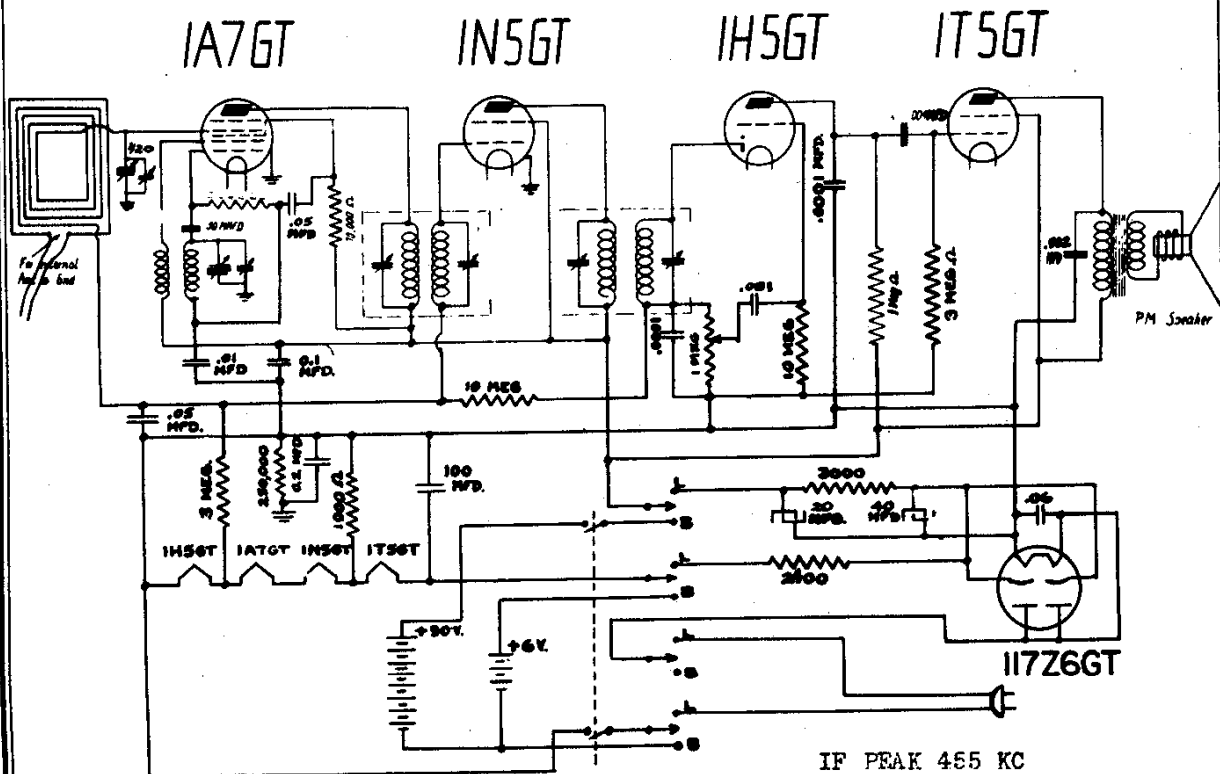
All voltages measured to chassis ground in Models JB-508 and JB-513.

Voltages measured to B minus in Model JB-514.

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MODEL JB-513

MODEL JB-514

Fig. 2. Schematic Diagram
Model JB-513Fig. 3. Schematic Diagram
Model JB-514