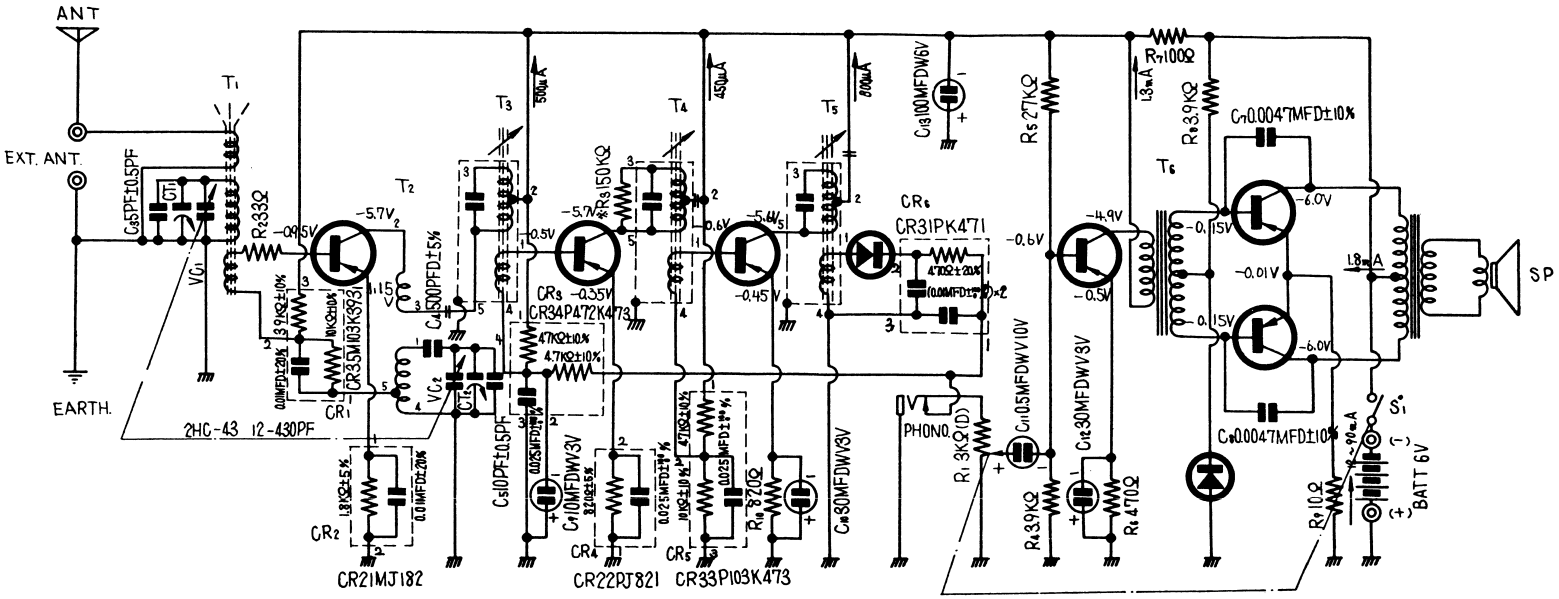
MODEL BT-152A

TR-1	TR-2	TR-3	D-1	TR-4	TR-5 & TR-6
2SA102	2SA101	2SA101	OA70	2SB175	2SB176x2
CONV.	1ST IF AMP.	2ND IF AMP.	DET & A.G.C.	AF AMP.	OUTPUT



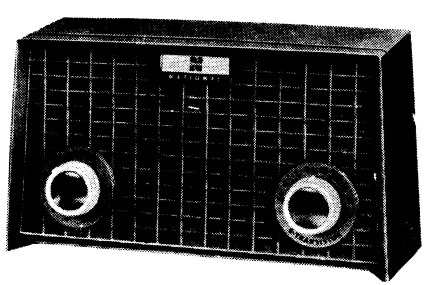
Notes:

1. S_1 : Power switch now at "OFF" position.
2. Voltages indicated in the schematic diagram are the actual values measured with 10KΩ/V circuit tester.
3. R_3 is damping resistor. 150KΩ is to be used or not.

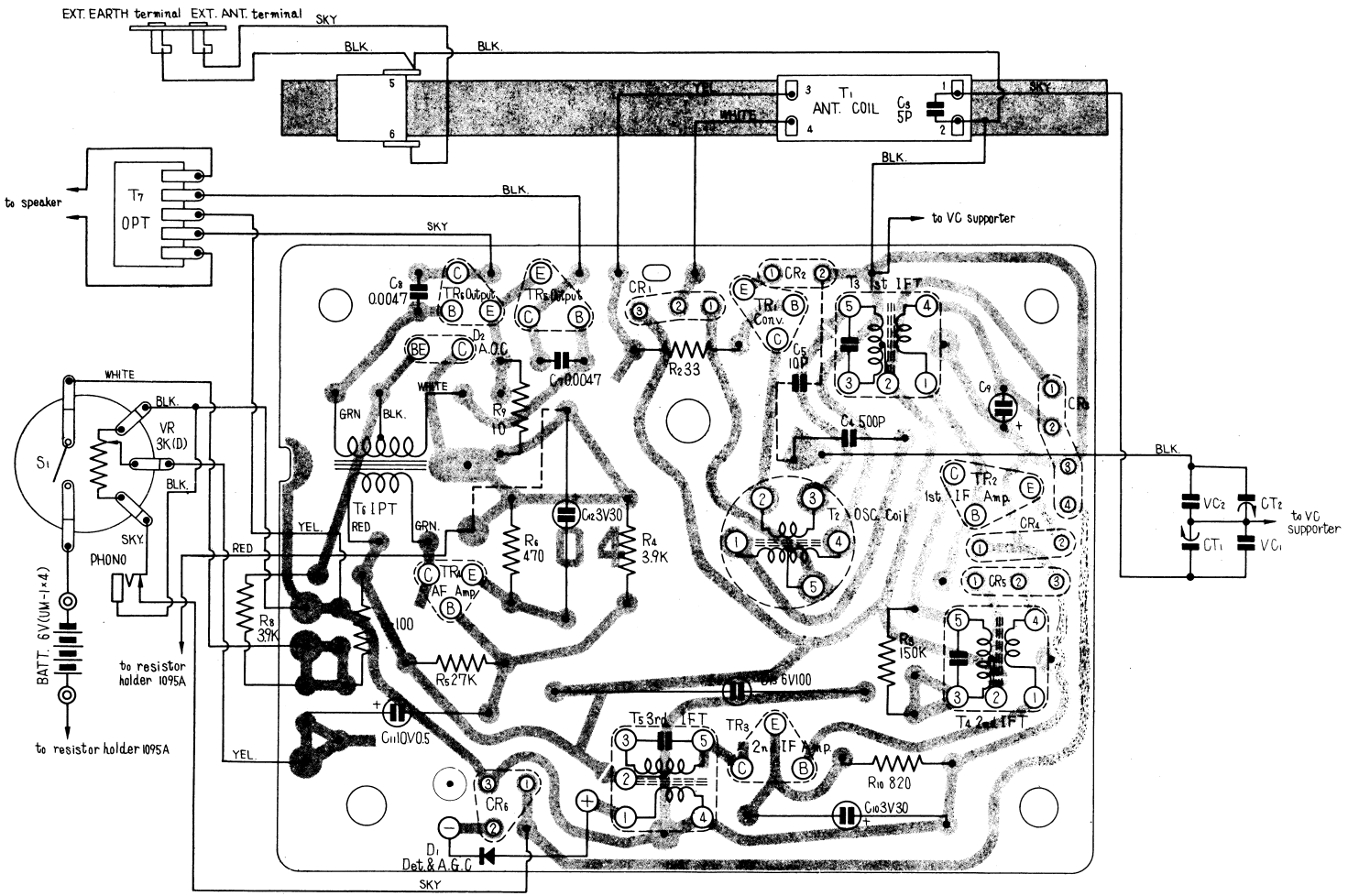
• IB at no signal 8mA
at maximum output 90mA

SPECIFICATIONS

Frequency Range :	540 ~ 1600 KC/s (556 ~ 187.5m)
Intermediate Frequency :	455 KC/s
Sensitivity :	300 μV / m / 50 mW
Power Output :	150 mW undistorted 280 mW maximum
Batteries :	6V (Four No. 1 penlight dry cells 1.5V) (NATIONAL UM-1 or equivalents)
Speaker :	10cm (4″) PM dynamic speaker Voice coil impedance, 3Ω



MODEL BT-152A

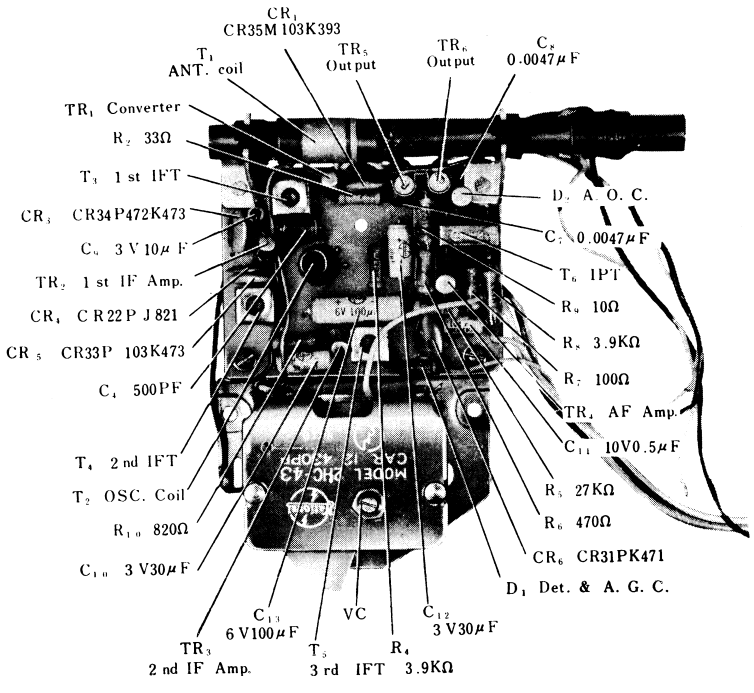


Notes:

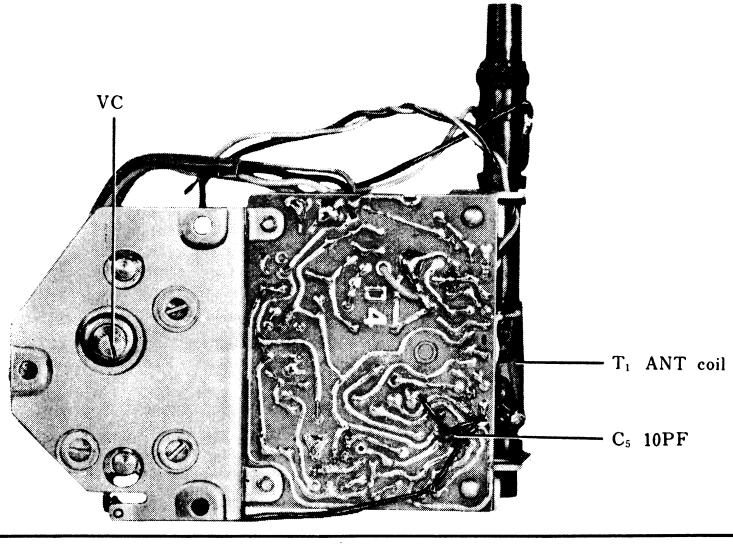
1. All resistance values in ohms (K=1000).
2. All capacitance values in micro farads, except those indicated in micro micro farads (P=$\mu\mu$F).
3. Lead wires on the printed circuit board are indicated in dotted lines.

COIL TRIMMER & TRANSISTOR LOCATION

(FRONT VIEW)



(BACK VIEW)



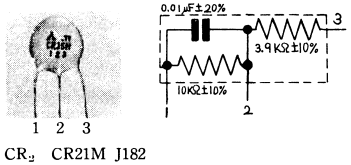
ALIGNMENT PROCEDURE

OUTPUT METER ..... Connect Output Meter across speaker voice coil terminals.
OUTPUT LEVEL ..... Attenuate Signal Generator output always to maintain 1.07 volt on Output Meter to prevent overloading of the receiver.
SIGNAL GENERATOR ..... Modulate Signal Generator at 1000 c/s and connect the lead wire of Signal Generator output to Radiation Loop Coil.
RADIO RECEIVER..... Place the radio 60cm (24″) away from Radiation Loop Coil. Set volume control to maximum.
RADIATION LOOP COIL... Make up a 20 turn, 25cm (10″) diameter bobbin, using 1mm (0.04″) copper wire.

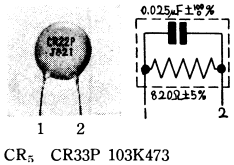
Circuit	Step	Signal Generator Output	Dial setting	Adjusting for maximum output
IF	1	455 KC	Variable capacitor at maximum capacity	IF Transformers T_5, T_4, T_3
	2	455 KC		Repeat three times step (1)
RF	3	1500 KC	1500 KC	OSC. trimmer CT_2
	4	600 KC	600 KC	ANT. coil T_1
	5	Only when the dial pointer slips too much, please adjust the step described below.		
		600 KC	600 KC	OSC. coil T_2
	6	Only when you adjust step (5), please repeat also three times steps (3) and (4).		
	7	1500 KC	1500 KC	ANT. trimmer CT_1

Internal connection of the coupled parts

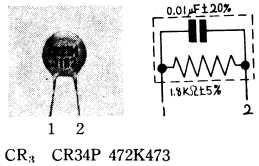
CR_1 CR35M K393



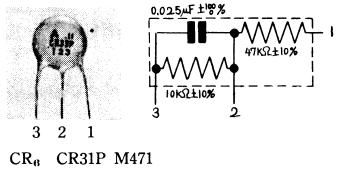
CR_4 CR22P J821



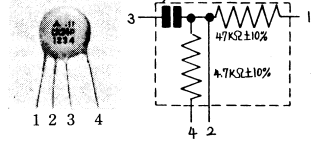
CR_2 CR21M J182



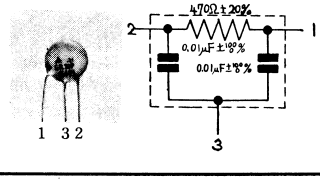
CR_5 CR33P 103K473



CR_3 CR34P 472K473



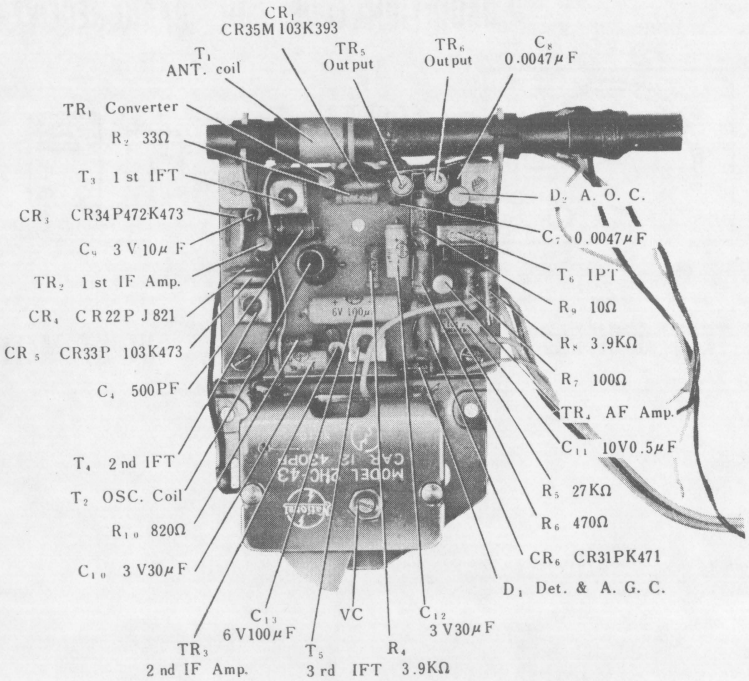
CR_6 CR31P M471



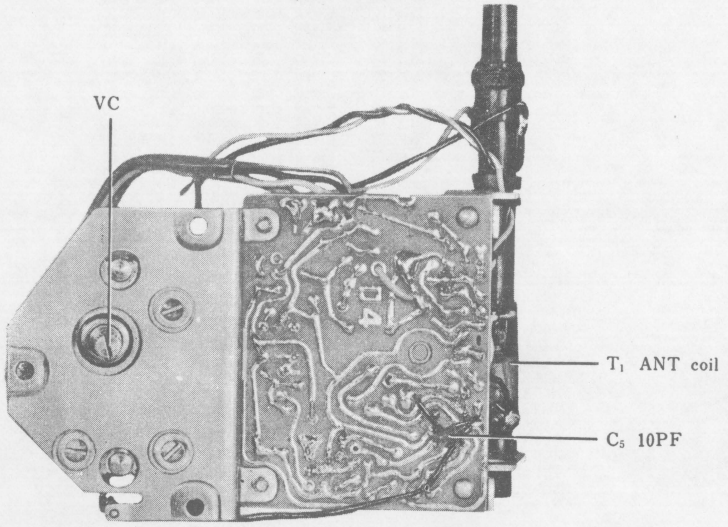
NATIONAL MODEL BT-152A

COIL TRIMMER & TRANSISTOR LOCATION

(FRONT VIEW)



(BACK VIEW)



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	7	1500 KC	1500 KC	ANT. trimmer CT_1

Internal connection of the coupled parts

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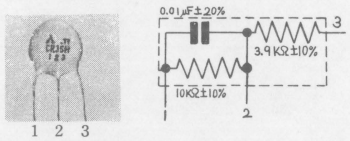
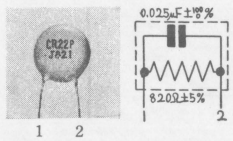
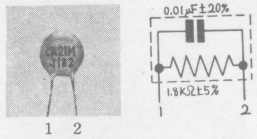


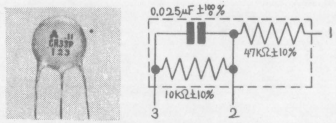
CR_4 CR22P J821



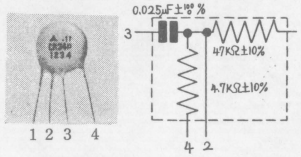
CR_2 CR21M J182



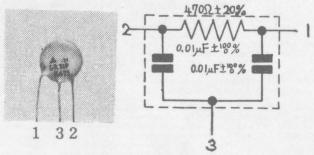
CR_5 CR33P 103K473



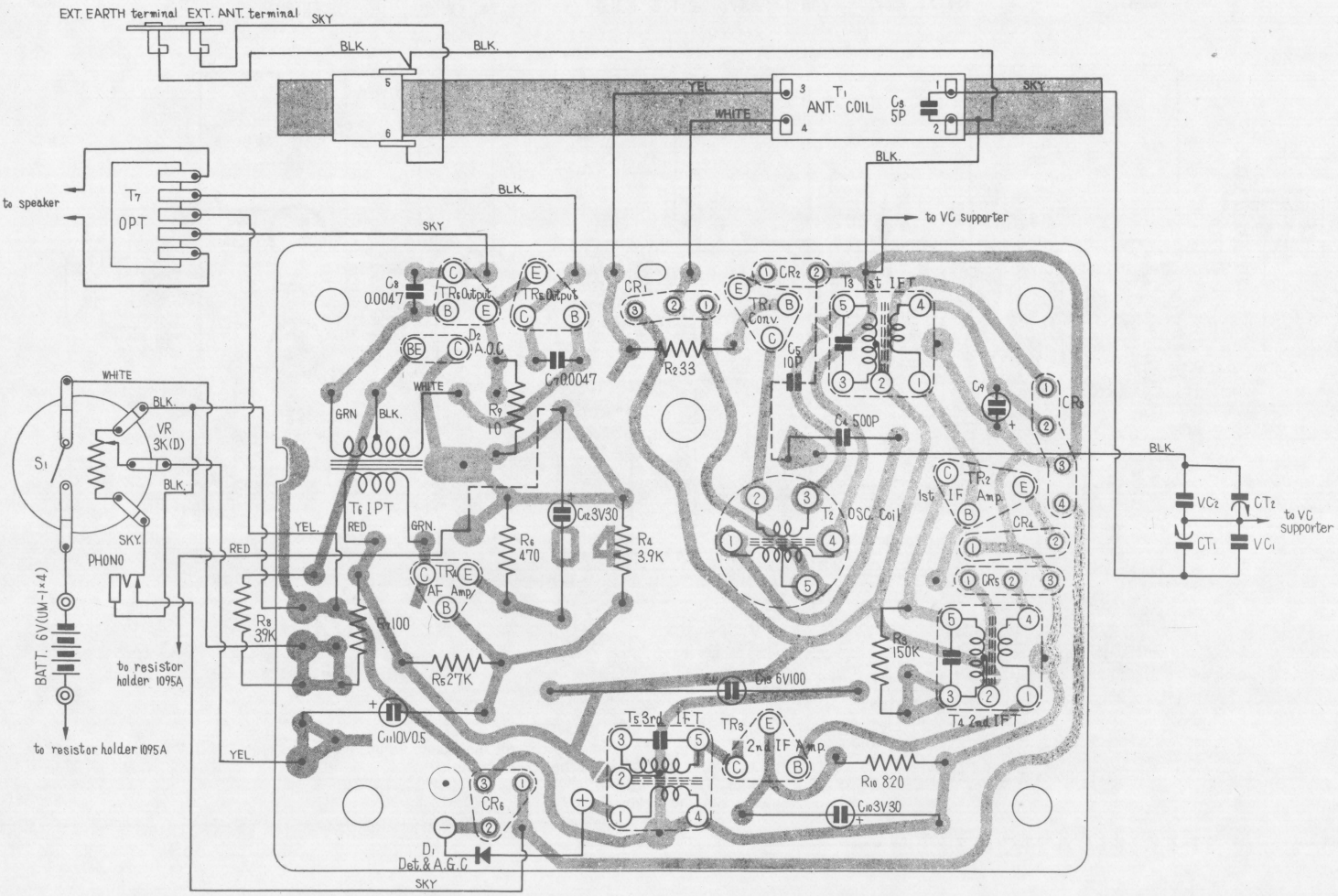
CR_3 CR34P 472K473



CR_6 CR31P M471



MODEL BT-152A



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