MODEL CR-530N

ORDER NO. CRCI-2008

NATIONAL Service Manual

8-TRANSISTOR CAR RADIO

MODEL CR-530N

SPECIFICATIONS

Frequency Range :	MW 535-1605 KC (561-187 m)
Intermediate Frequency :	450 KC
Transistors :	2SA102 RF Amplifier
	2SA102 Converter
	2SA102 1st IF Amplifier
	2SA102 2nd IF Amplifier
	2SB175A AF Amplifier
	2SB345 AF Driver
	2SB127, 2SB127 Power Amplifier (push-pull)
	OA70 AGC
Diodes :	OA70 Detector
Sensitivity :	20μV for 0.5W Output
Power Output :	6W Maximum
Power Supply Voltage :	DC 11-16V(standard voltage : 13.2V) Negative ground
Power Consumption :	Approx. 5.3W (0.4A @13.2V)at 0.5W output
Output Impedance :	3~8Ω
Dimensions :	Height 2''
	Width 6¾''
	Depth 4¾''
Weight :	Approx. 3 lbs.

<EXPORT DIVISION>

MATSUSHITA ELECTRIC TRADING CO., LTD.
P. O. Box 288, Central Osaka, Japan

MATSUSHITA COMMUNICATION INDUSTRIAL CO., LTD.
CAR RADIO DEPT.

PARTS LOCATION WITH UPPER COVER REMOVED

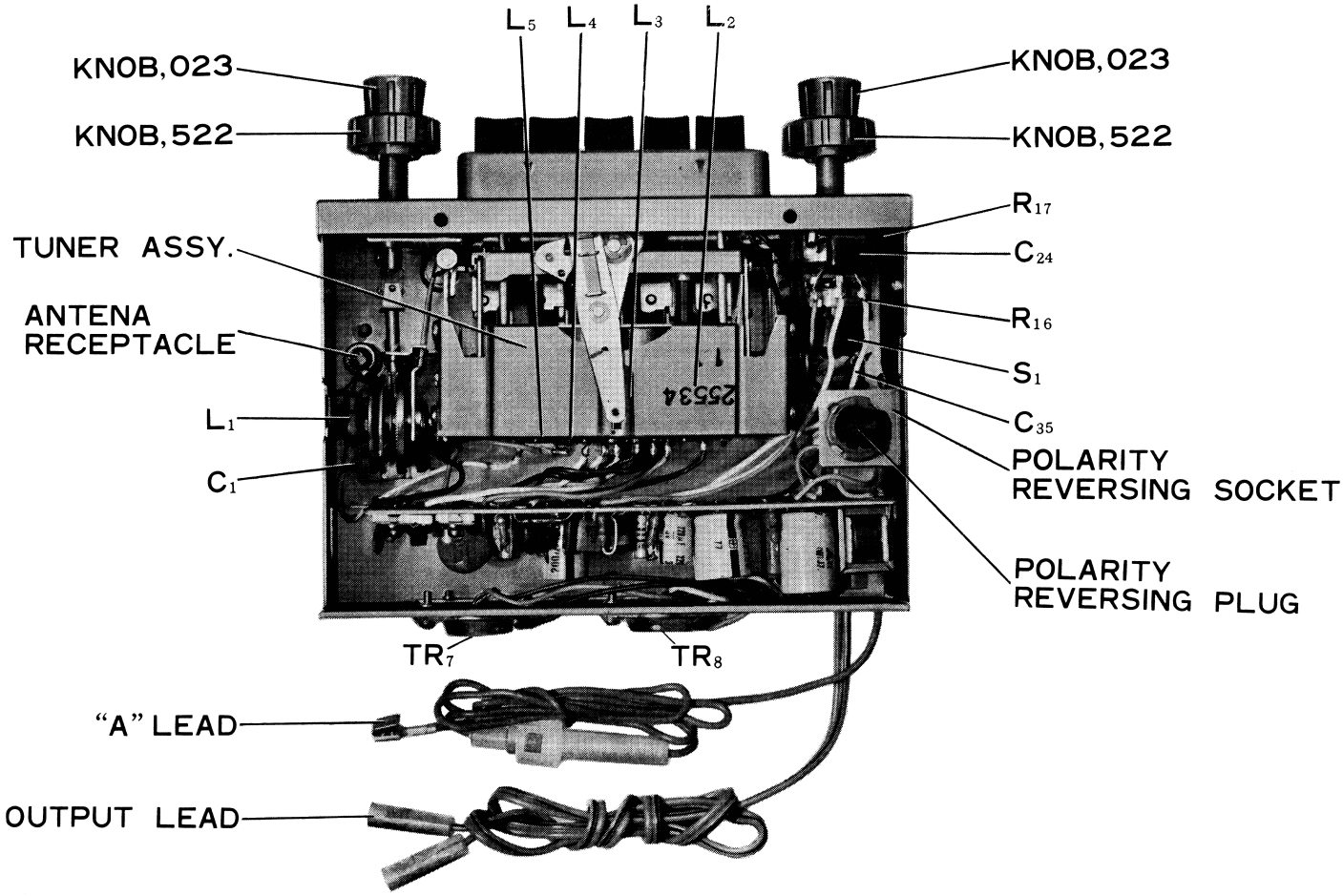
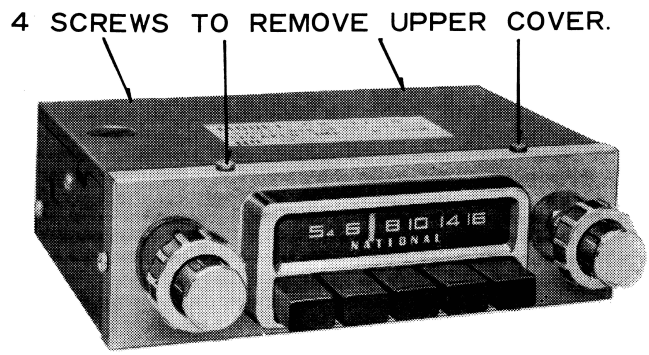


Fig. 1 Top VieW-Parts Identification.



RESISTORS

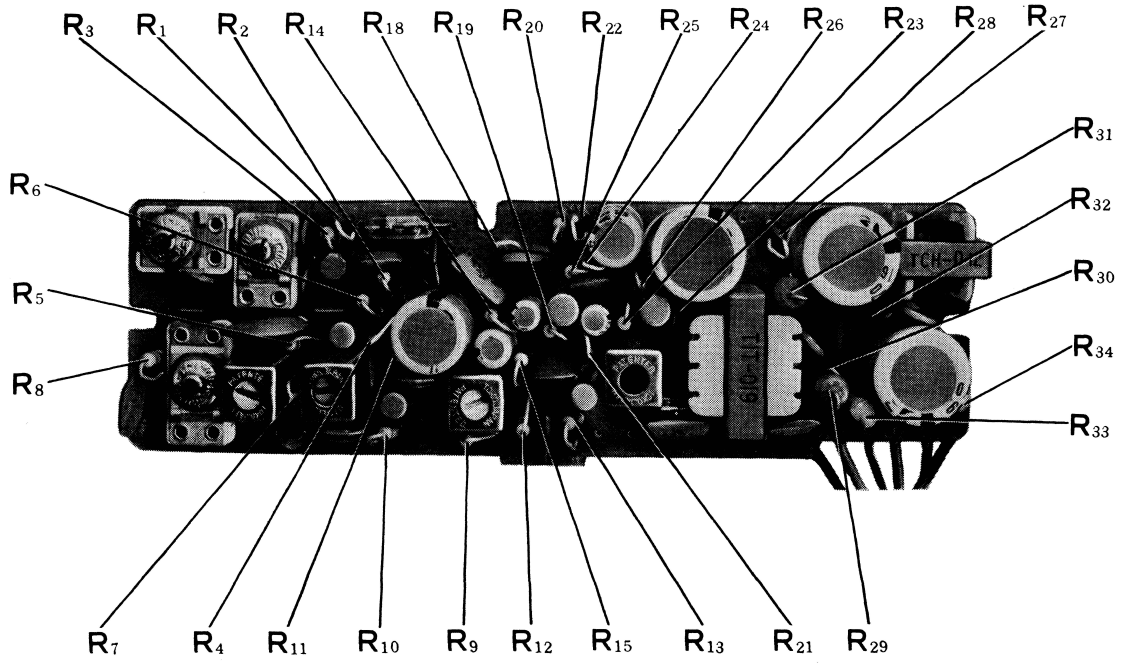


Fig. 2 Component View - Parts Identification.

TRANSISTORS, CONDENSERS, TRASFORMERS & COILS

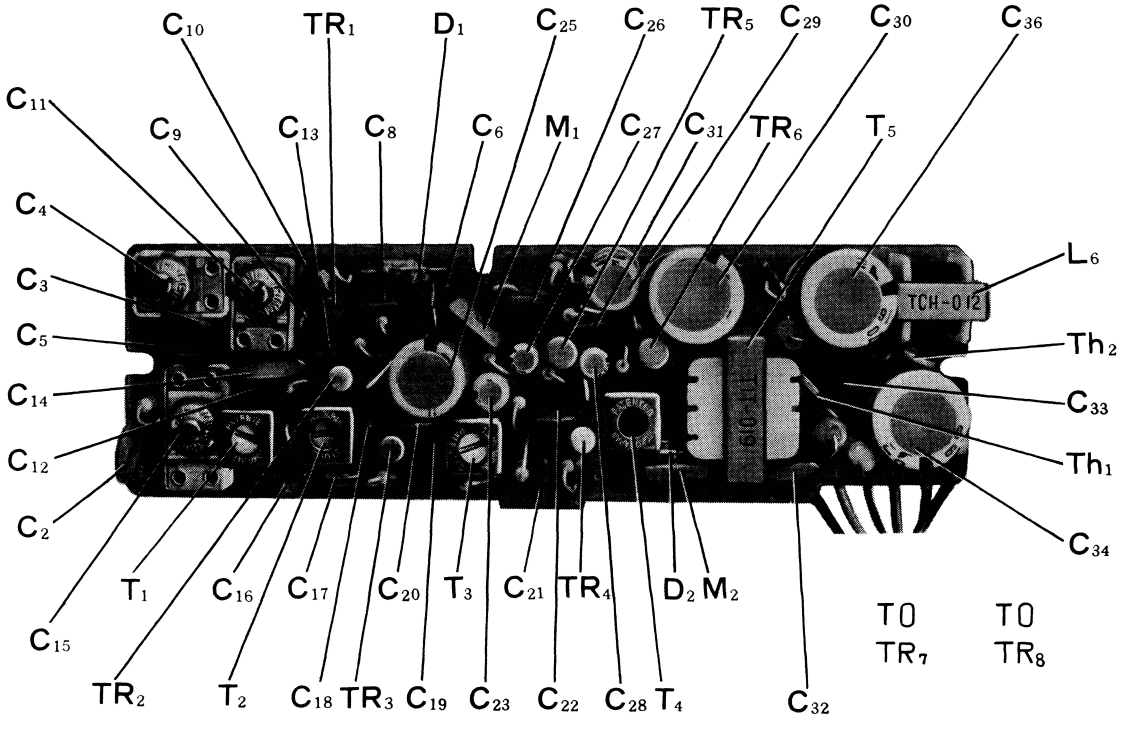


Fig. 3 Component Viw - Parts Identification.

ALIGNMENT INSTRUCTIONS

Check for specified source voltage. 13.2V

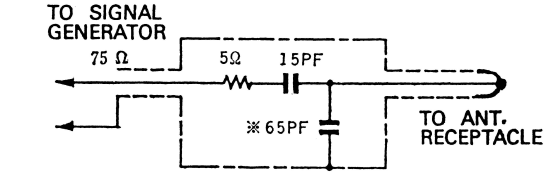
Set volume control to maximum.

Set tone control to treble.

Use only enough generator output to provide a usable indication.

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1 ~ 4	Through dummy (Fig. 4) to antenna receptacle.	450 Kc (400~Mod.)	Point of nou interference.	Output meter across voice coil.	T_1, T_2, T_3, T_4.	Adjust for maximum output.
5	〃	530 Kc (400~Mod.)	Tune for max.	〃	C_{15}	〃
6 ~ 8	〃	1400 Kc (400~Mod.)	Tune to signal.	〃	C_{10}, C_4 C_1.	〃

With radio installed in car and antenna fully extended, tune in a weak station near 1400 KC and adjust C_1 for maximum output.



※ Includes the feeder capacity.

Fig. 4 Dummy Antenna Detail.

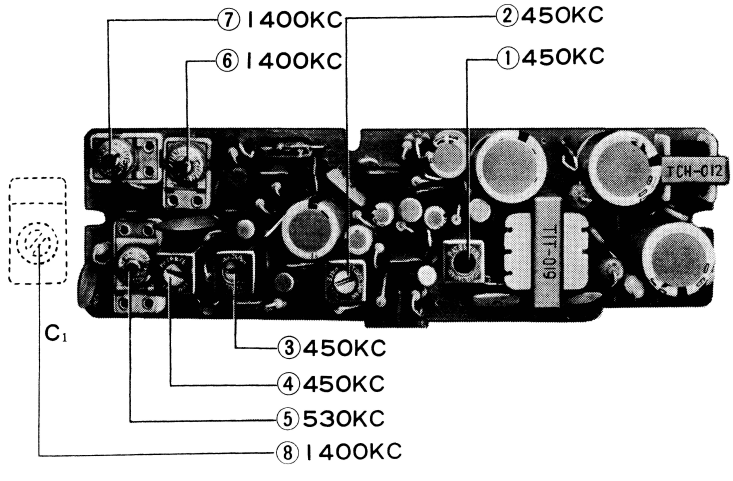


Fig. 5 Component View-Alignment Points.

REPLACEMENT PARTS LIST

MODEL CR - 530N

REF. NO.	CODE NO.	PART NO.	DESCRIPTION
		TRANSISTORS AND DIODES	
TR_1	215008	2SA102 BA	RF Amplifier
TR_2	215031	2SA102 CA	Ccnverter
TR_3	215008	2SA102 BA	1st IF Amplifier
TR_4	215031	2SA102 CA	2nd IF Amplifier
TR_5	215002	2SB175A	AF Amplifier
TR_6	215053	2SB345	AF Driver
TR_7, TR_8	215042	2SB127	Power Amplifier (push-pull)
D_1, D_2	216001	OA70	Detectcr & ACC
		CAPACITORS	
C_1	203069	TM-150	150 pf Trimmer
C_2	210303	CC613SL201KZ50	200 pf 50WV, ±10% Titanium
C_3	207001	MS-05502K	0.005 μf 50WV, ±10% Polyester
C_4	203062	TT-70	70 pf Trimmer
C_5	210226	CC602SL400KZ50	40 pf 50WV, ±10% Polyester
C_6	207006	MS-05503M	0.05 μf 50WV, ±20% Polyester
C_7	207020	MH-05204M	0.2 μf 50WV, ±20% Polyester
C_8	207006	MS-05503M	0,05 μf 50WV, ±20% Polyester
C_9	210207	CC601SL100FZ50	10 pf 50WV, ±1 pf Titanium
C_{10}	210226	CC602SL400KZ50	40 pf 50WV, ±10% Titanium
C_{11}	203062	TT-70	70 pf Trimmer
C_{12}	207001	MS-05502K	0.005 μf 50WV, ±10% Polyester
C_{13}	207010	MS-05103K	0.01 μf 50WV, ±10% Polyester
C_{14}	210069	CC-63TH341JO	340 pf 50WV, ±5 % Titanium
C_{15}	203058	TA-150	150 pf Trimmer
C_{16}	210206	CC601SL040DZ50	4 pf 50WV, ±0.25pf Titanium
C_{17}, C_{18}	207006	MS-05503M	0.05 μf 50WV, ±20% Polyester
C_{19}	210204	CC-601SL050DZ50	5 pf 50WV, ±0.5pf Titanium
C_{20}, C_{21}, C_{22}	207006	MS-05503M	0.05 μf 50WV, ±20% Polyester
C_{23}	208248	ECE-A6V33H	33 μf 6WV, Electrolytic
C_{24}	207011	MS-05204M	0.2 μf 50WV, ±20% Polyester
C_{25}	208249	ECE-A10V220H	220 μf 10WV, Electrolytic
C_{26}	207006	MS-05503M	0.05 μf 50WV, ±20% Polyester
C_{27}	208188	ECE-A6V10	10 μf 6WV, Electrolytic
C_{28}	208188	ECE-A6V10	10 μf 6WV, Electrolytic
C_{29}	208250	ECE-A3V200	200 μf 3WV, Electrolytic
C_{30}	208251	ECE-A15V300	300 μf 15WV, Electrolytic
C_{31}	207008	MS-05303M	0.03 μf 50WV, ±20% Polyester
C_{32}, C_{33}	207006	MS-05503M	0.05 μf 50WV, Electrolytic
C_{34}	208198	ECE-A16V470	470 μf 16WV, Electrolytic
$C_{35-1, 2, 3}$	203003	SP-6C-401X2	400 pf × Spark Plate
C_{36}	208252	ECE-A16V500	500 μf 15WV, Electrolytic
		RESISTORS AND THERMISTORS	
R_1	202831	TRD-14VK684	680KΩ ¼Watt, ±10% Carbon
R_2	202628	TRD-14VK561	560Ω ¼Watt, ±10% Carbon
R_3	202612	TRD-14VK682	6.8KΩ ¼Watt, ±10% Carcon
R_4	202632	TRD-14VK471	470Ω ¼Watt, ±10% Carbon
R_5	202830	TRD-14VK392	3.9KΩ ¼Watt, ±10% Carbon
R_6	202602	TRD-14VK102	1KΩ ¼Watt, ±10% Carbon
R_7	202635	TRD-14VK333	33KΩ ¼Watt, ±10% Carbon

REF. NO.	CODE NO.	PART NO.	DESDRIPTION
R_8	202612	TRD-14VK682	6.8KΩ ¼Watt, ±10% Carbon
R_9	202608	TRD-14VK472	4.7KΩ ¼Watt, ±10% Carbon
R_{10}	202624	TRD-14VK683	68KΩ ¼Watt, ±10% Carbon
R_{11}	202602	TRD-14VK102	1K Ω ¼Watt, ±10% Carbon
R_{12}	202611	TRD-14VK822	8.2KΩ ¼Watt, ±10% Carbon
R_{13}	202604	TRD-14VK563	56KΩ ¼Watt, ±10% Carbon
R_{14}	202602	TRD-14VK102	1K Ω ¼Watt, ±10% Carbon
R_{15}	202623	TRD-14VK103	10KΩ ¼Watt, ±10% Carbon
R_{16}, R_{17}	228040	EVF-G8S29342	10KΩ / 15KΩ Volume Control with S.
R_{18}	202605	TRD-14VK332	330Ω ¼Watt, ±10% Carbon
R_{19}	202604	TRD-14VK563	56KΩ ¼Watt, ±10% Carbon
R_{20}	202615	TRD-14VK151	150Ω ¼Watt, ±10% Carbon
R_{21}	202605	TRD-14VK332	3.3KΩ ¼Watt, ±10% Carbon
R_{22}	202832	TRD-14VK221	220Ω ¼Watt, ±10% Carbon
R_{23}	202614	TRD-14VK153	15KΩ ¼Watt. ±10% Carbon
R_{24}	202605	TRD-14VK332	3.3KΩ ¼Watt, ±10% Carbon
R_{25}	202619	TRD-14VK104	100KΩ ¼Watt, ±10% Carbon
R_{26}	202804	TRD-14VK271	270Ω ¼Watt, ±10% Corbon
R_{27}	202832	TRD-14VK221	220Ω ¼Watt, ±10% Carbon
R_{28}	202609	TRD-14VK473	47KΩ ¼Watt, ±10% Carbon
R_{29}	202807	TRD-14TJ151	150Ω ¼Watt, ± 5 % Carbon
R_{30}	202837	TRD-14VK8R2	8.2Ω ¼Watt, ±10% Carbon
R_{31}	202688	TRD-12TJ151	150Ω ½Watt, ± 5 % Carbon
R_{32}	202837	TRD-14VK8R2	8.2Ω ¼Watt, ±10% Carbon
R_{33}, R_{34}	234029	ERW-12RN0R2	0.2Ω ½Watt, ±10% Wirewound
Th_1 Th_2	216064	ERT-007BY8R0K	8Ω Thermistor
		COILS AND TRANSGORMERS	
L_1	224054	Lo-004	Loading
L_2, L_3, L_4, L_5	230454	AT-25534	Tuner Assembly
L_6	224013	TCH-012	Filter Choke Coil
L_1	225054	IF-22030	1st IFT : 450KC
L_2	225055	IF-22031	2ud IFT : 450KC
L_3	225056	IF-22032	3nd IFT : 450KC
L_4	225057	IF-22033	4th IFT : 450KC
L_5	223021	TIT-019	145Ω : 8.5Ω Input Transformer
		COMPONENT COMBINATION	
M_1, M_2,	231001	RC-12004MYTZ	R : 270Ω, C : 0.01 μf×2
		COMPONENT COMBINATION	
	218002		1A Fuse
	217015	Pilot Lamp, 70011	12 Volt, 3 Watt
	229009		Antenna Receptacle
	229020	4P-GP	Polarity Reversing plug
	229047	4P-GRB	Polarity Reversing Socket
	258037	Pilot Lamp Holder, 037	
	251137	Knob, 023	Knob, Tuning & Knob, Volume Control
	251138	Knob, 522	Knob, Dummy & Knob, Tone Control
	252215	Dial Plate, 525N	
	243051	Dial Pointer, 014	
	254037	Knob Felt, 003	
	264011		Lock Nut, 9 mm ∅
	252112	Shatt Collar, 002	

PRICE OF MANUAL $ 1.00

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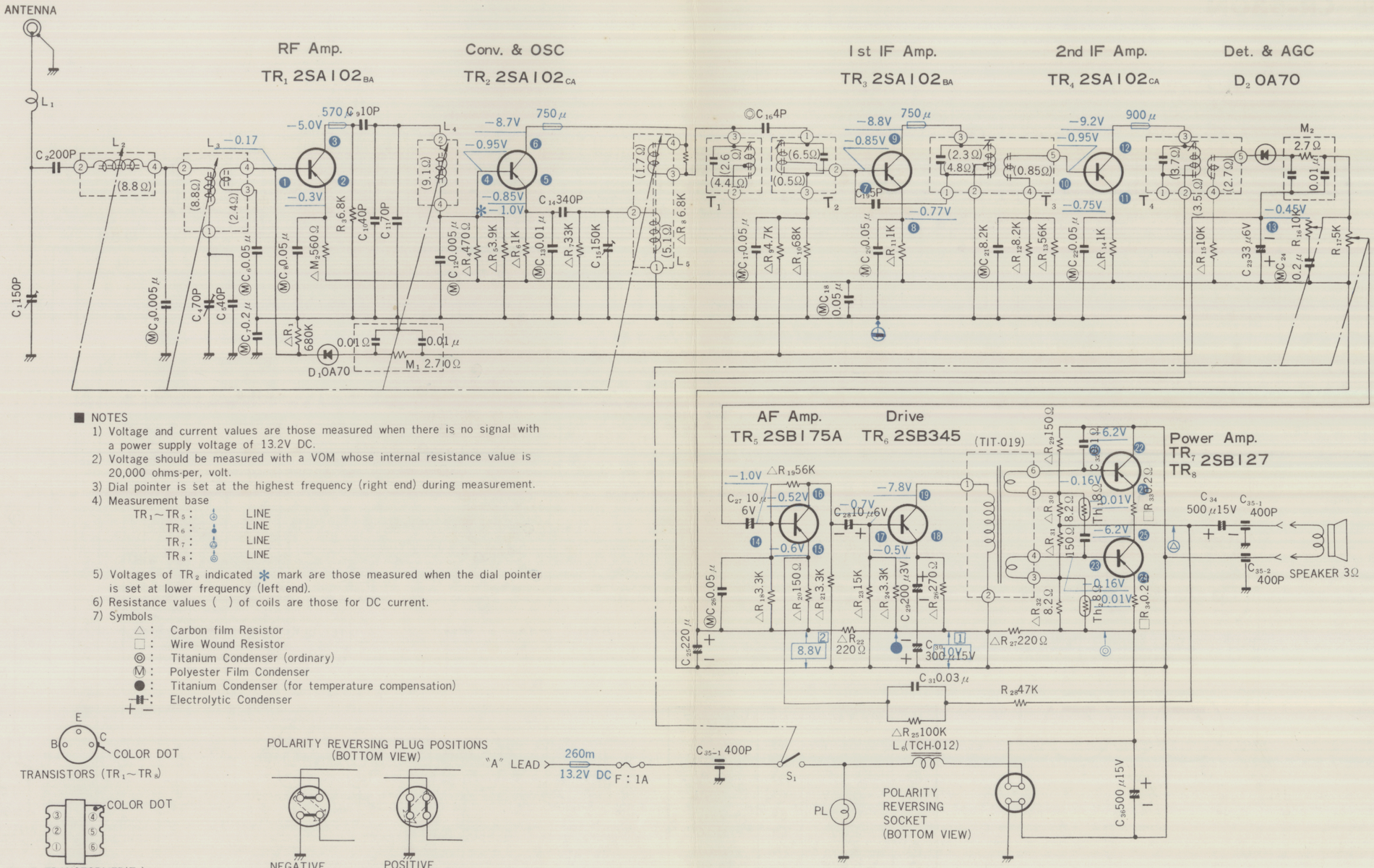
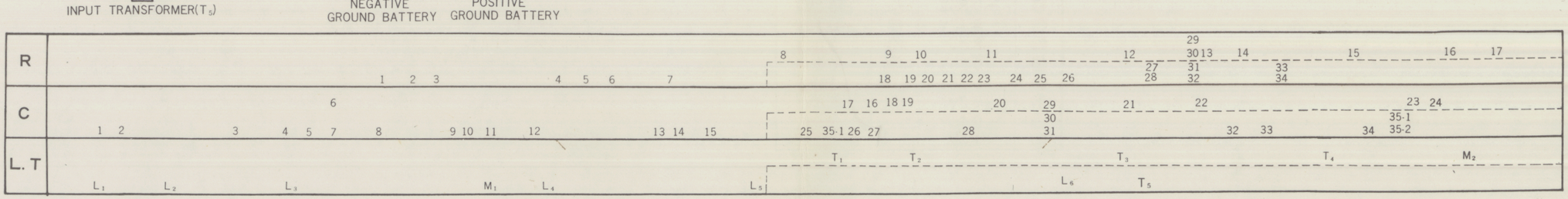
SCHEMATIC DIAGRAM OF MODEL CR-530N



Vol Control must be 5K OR Place 4.7K. ACROSS POT. A.G.C.

■ NOTES

1) Voltage and current values are those measured when there is no signal with a power supply voltage of 13.2V DC.
2) Voltage should be measured with a VOM whose internal resistance value is 20,000 ohms-per, volt.
3) Dial pointer is set at the highest frequency (right end) during measurement.
4) Measurement base
   - $TR_1 \sim TR_5$: LINE
   - TR_6 : LINE
   - TR_7 : LINE
   - TR_8 : LINE
5) Voltages of TR_2 indicated ✻ mark are those measured when the dial pointer is set at lower frequency (left end).
6) Resistance values ( ) of coils are those for DC current.
7) Symbols
   - △ : Carbon film Resistor
   - □ : Wire Wound Resistor
   - ◎ : Titanium Condenser (ordinary)
   - Ⓜ : Polyester Film Condenser
   - ● : Titanium Condenser (for temperature compensation)
   - ⫼ : Electrolytic Condenser



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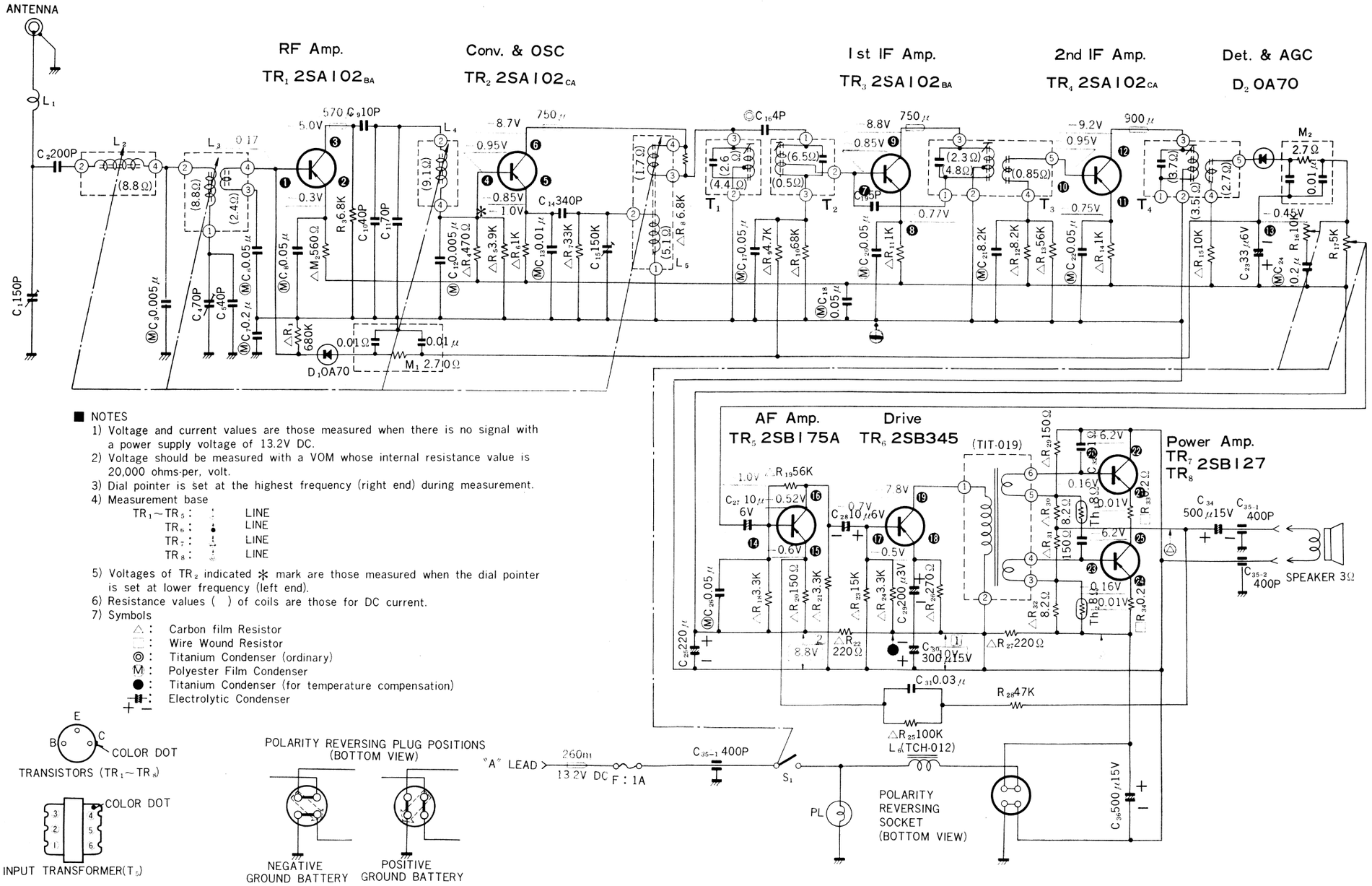

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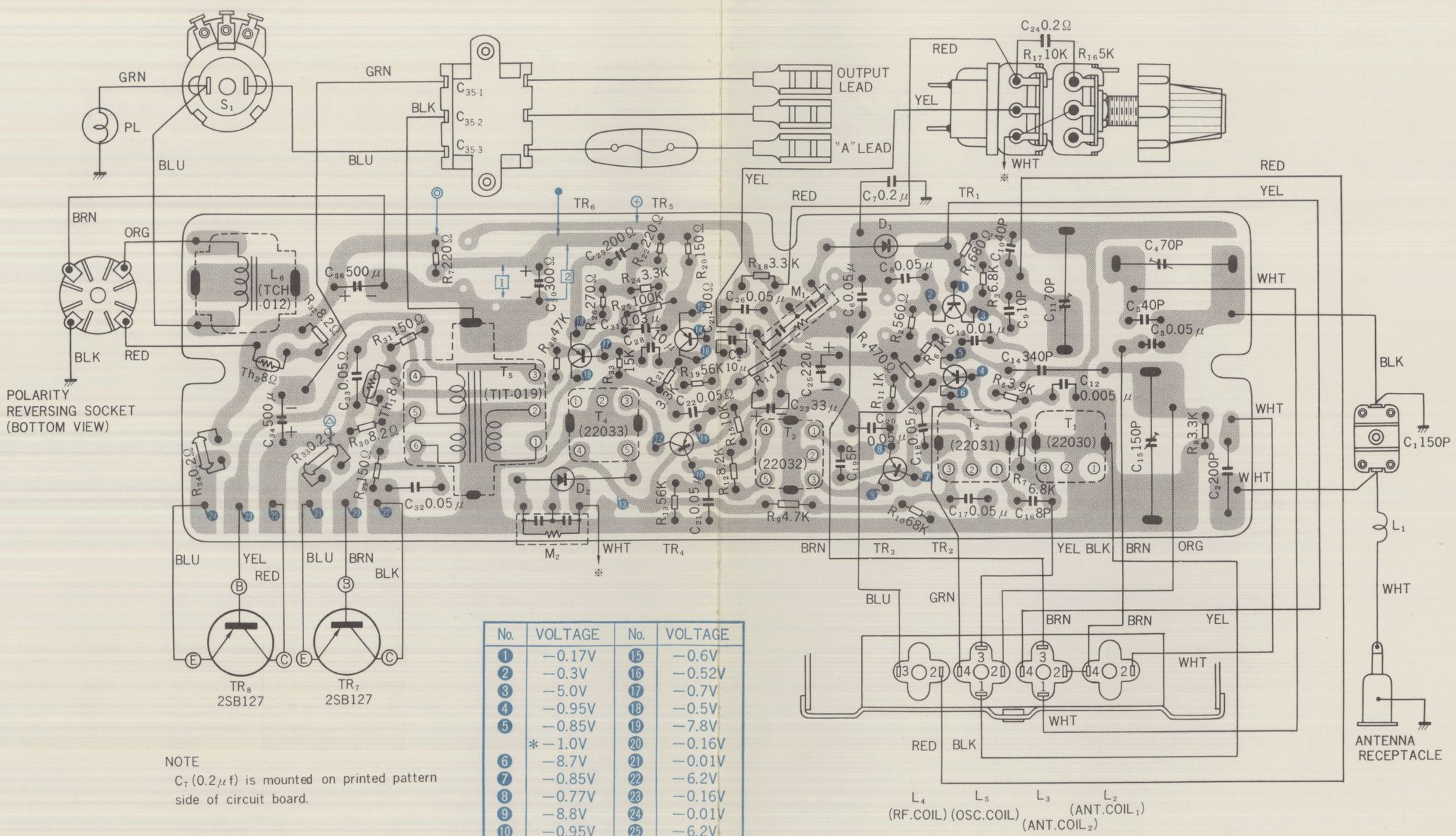
R	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
C	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35-1 35-2
L. T	L_1 L_2 L_3 M_1 L_4 L_5 T_1 T_2 T_3 T_4 M_2 L_6 T_5

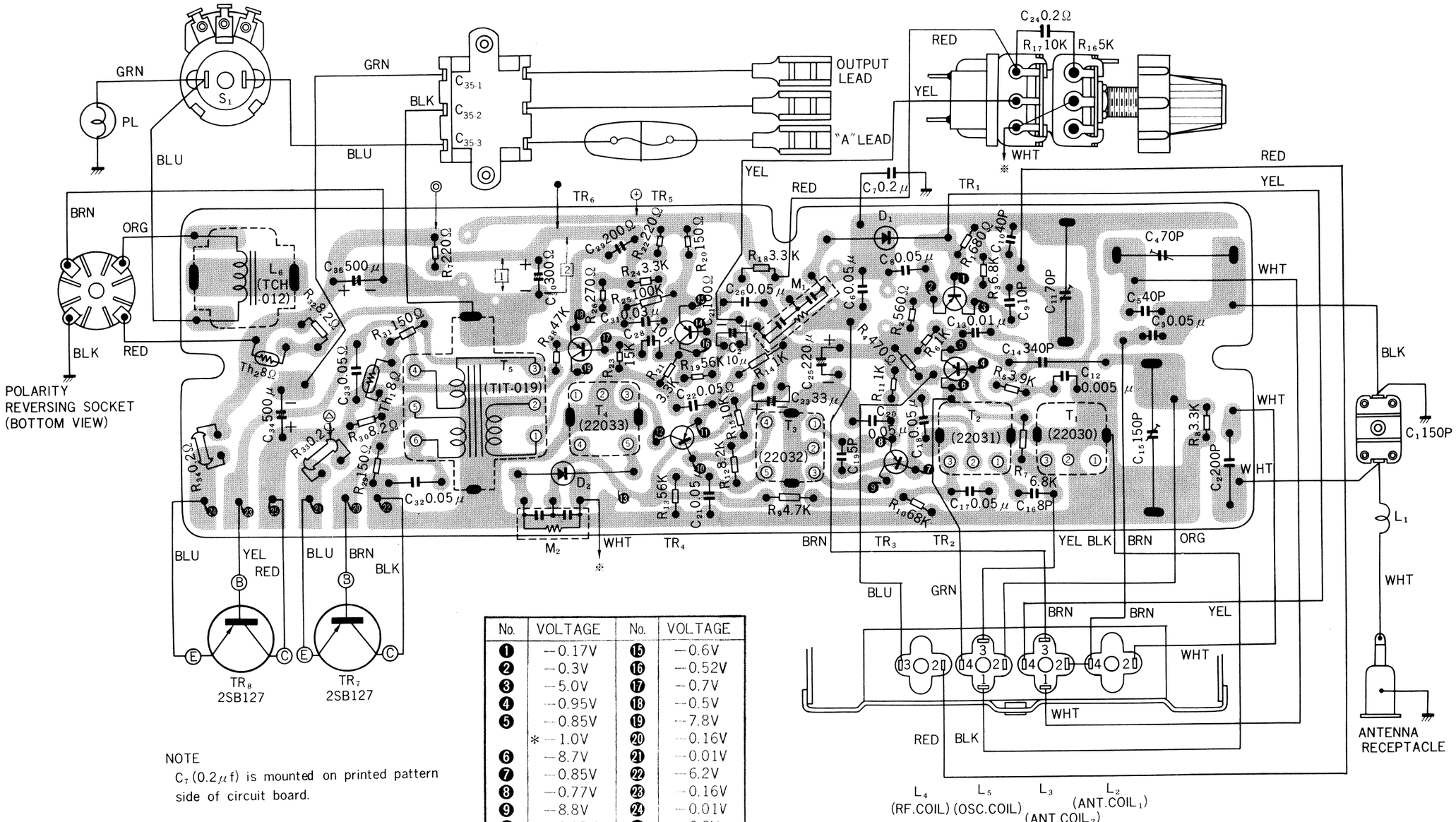
MODEL CR-530N



No.	VOLTAGE	No.	VOLTAGE
1	−0.17V	15	−0.6V
2	−0.3V	16	−0.52V
3	−5.0V	17	−0.7V
4	−0.95V	18	−0.5V
5	−0.85V	19	−7.8V
	*−1.0V	20	−0.16V
6	−8.7V	21	−0.01V
7	−0.85V	22	−6.2V
8	−0.77V	23	−0.16V
9	−8.8V	24	−0.01V
10	−0.95V	25	−6.2V
11	−0.75V	1	10V
12	−9.2V	2	8.8V
13	−0.45V		
14	−1.0V		

NOTE
C_7 (0.2μf) is mounted on printed pattern side of circuit board.

MODEL CR-530N



No.	VOLTAGE	No.	VOLTAGE
❶	−0.17V	⓯	−0.6V
❷	−0.3V	⓰	−0.52V
❸	−5.0V	⓱	−0.7V
❹	−0.95V	⓲	−0.5V
❺	−0.85V	⓳	−7.8V
	* −1.0V	⓴	−0.16V
❻	−8.7V	㉑	−0.01V
❼	−0.85V	㉒	−6.2V
❽	−0.77V	㉓	−0.16V
❾	−8.8V	㉔	−0.01V
❿	−0.95V	㉕	−6.2V
⓫	−0.75V	1	10V
⓬	−9.2V	2	8.8V
⓭	−0.45V		
⓮	1.0V		

NOTE
C_7 (0.2μf) is mounted on printed pattern side of circuit board.