



SERVICE NOTE

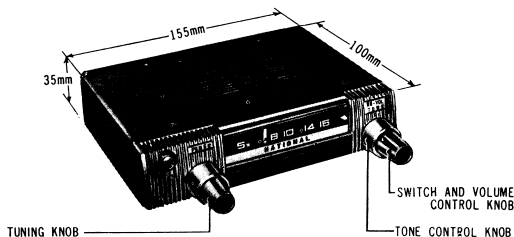


N1

NATIONAL CAR RADIO

PORTABLE CAR RADIO

Model ATP-100A



② Steps of adjustment. (See Fig. 2-3)

Adjustment step	Component to be adjusted	Signal frequency	Dial setting	Remarks	
1	IFT	T ₄ (black)	455KC	Around 1,500KC where there is no signal.	Repeat the adjustment step No. 1~4 three or four times so to get maximum output.
2		T ₃ (white)	"		
3		T ₂ (blue)	"		
4		T ₁ (pink)	"		
5	Oscillator	Core of oscillation coil L ₃	600KC	600KC point	Repeat two to three times so as to get proper reception at 600KC & 1400KC
6		Oscillation trimmer C ₈	1400KC	1400KC point	
7	RF, ANT matching	RF trimmer C ₄	"	"	Adjust to get the maximum output.
8		ANT trimmer C ₁₅	"	"	

SPECIFICATION

CIRCUIT SYSTEM

μ-tuning, superheterodyne with one RF amplification, push-pull class-B output.

TUNING RANGE535~1605kc
INTERMEDIATE FREQUENCY.....455kc
SELECTIVITY16dB (at ±10kc)

SENSITIVITY

CAR RADIO 20μV (at 300mW output)
PORTABLE RADIO 20μV (at 50mW output)

FREQUENCY RESPONSE	150% -10dB	12dB
	400% 0dB	0dB
	4000% -16dB	-16dB
POWER OUTPUT	Undistorted	800mW
	Maximum	1.5W
POWER SUPPLY12V (Storage Battery)	6V (Four "AA" size cells)
POWER CONSUMPTIONApprox. 3W 0.2A@13.2V DC (at 500mW output)	Approx. 0.3W 50mA@6V DC (at 50mW output)
LOUDSPEAKER	Size & Type	120mm (4 1/4") P. M.
	Voice coil impedance	8 ohm.
ANTENNA CAPACITY	80 PF

DIMENSIONS

	Portable Unit	Case Unit	Speaker Unit
Height	35mm (1 3/8")	40mm (1 9/16")	140mm (5 1/2")
Width	155mm (6 1/8")	161mm (6 3/8")	160mm (6 3/8")
Depth	100mm (3 15/16")	145mm (5 3/4")	73mm (2 7/8")

WEIGHT	0.8kg (Approx. 2 lbs.) (Including battery)	0.61kg (Approx. 1 1/2 lbs.)	0.53kg (Approx. 1 1/8 lbs.)
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TRANSISTOR COMPLEMENT

- | | |
|------------------------------------|--|
| (1) Type 2SA102.....RF. Ampe. | (5) Type 2SB172..... Audio Driver |
| (2) Type 2SA102..... Converter | (6) Type 2SB178..... Push-pull Output |
| (3) Type 2SA102..... 1st IF. Ampe. | (7) Type 2SB178..... Push-pull Output |
| (4) Type 2SA102..... 2nd IF. Ampe. | A crystal diode is used as 2nd detector. |

③ Alignment point & signal frequency.

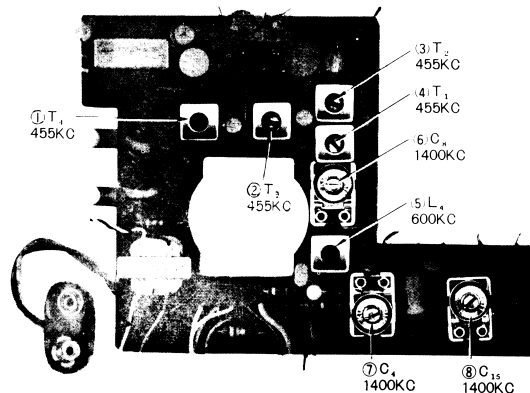
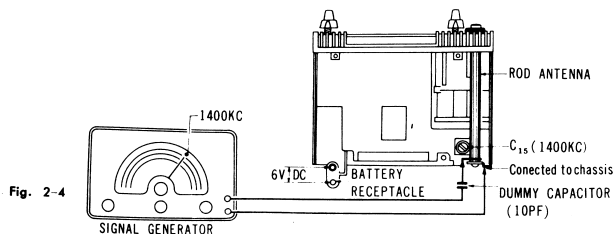
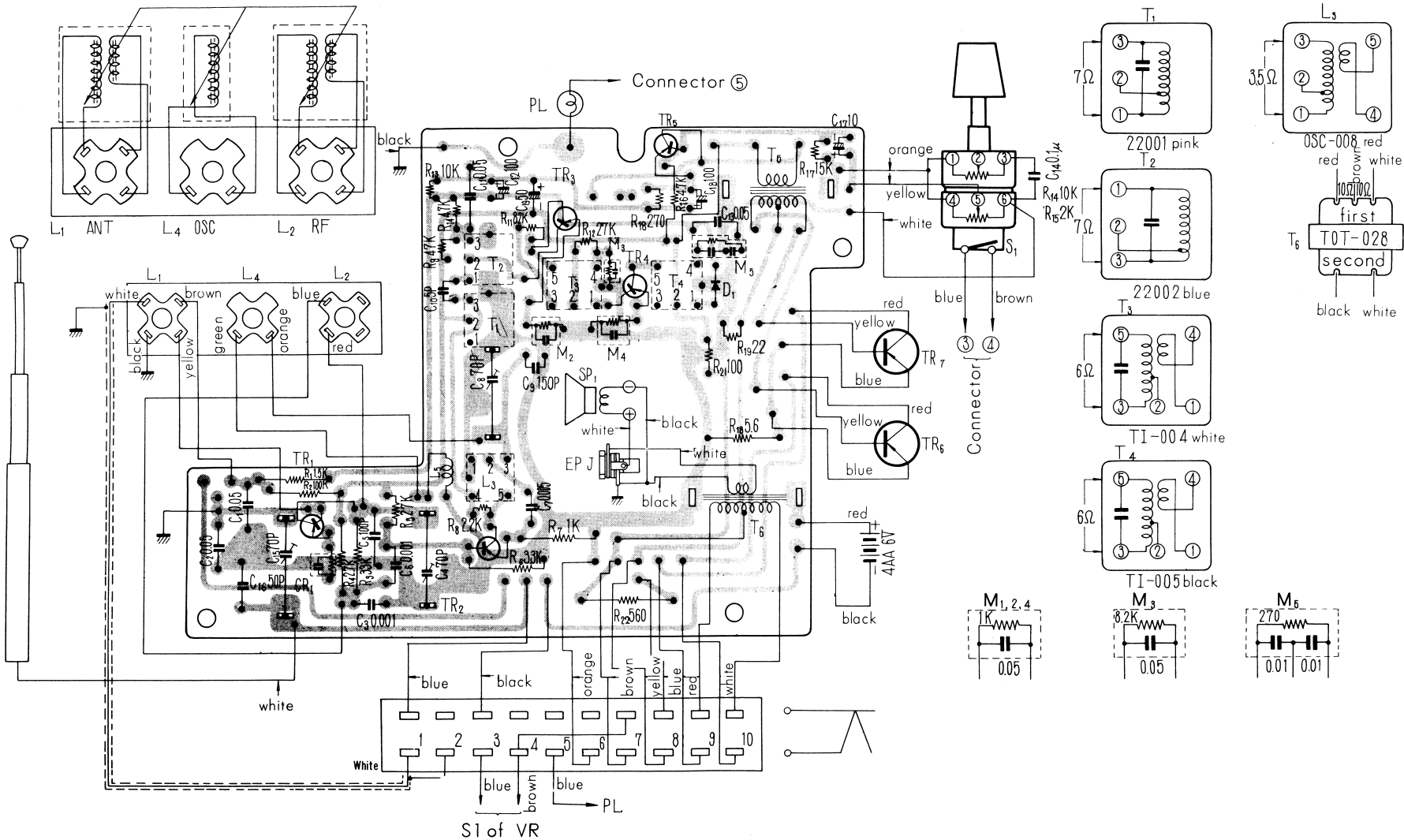


Fig. 2-3



NATIONAL MODEL ATP-100A

PRINTED CIRCUIT BOARD (AT-22PA)



2-3 How to string the dial rope (See Fig. 2-7)

Note: Use only about 0.7mm ϕ string. If thicker or thinner string is used, dial indication will not be properly done.

1. Take off a backplate behind dial plate.
2. Turn the tuning knob clockwise at most. At this time the dust core gets fully out of the coil.
3. Extend the dial rope through the holes in the tuning shaft as shown in Fig. 2-8
4. Mount the backplate.
5. Turn tuning knob clockwise at most and set the pointer at the right STOP END MARK of the backplate. (See Fig. 2-5)

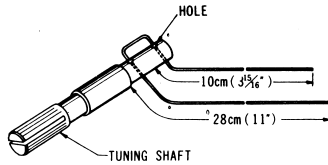


Fig. 2-8

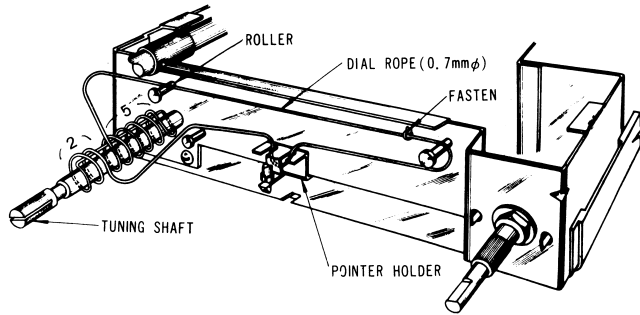


Fig. 2-7

3. PARTS LIST

NOTE: Be sure to include code number and type number with any orders for replacement parts.

Main parts are marked with *

SYMBOL	CODE No.	TYPE No.	SYMBOL	CODE No.	TYPE No.
TRANSISTORS			R ₂	002023	ERC-16BK104 (100ka)
TR ₁	015018	2SA102/A A	R ₃	002025	ERC-16BK333 (33ka)
TR ₂	015007	2SA102/C B	R ₄	002027	ERC-16BK272 (2.7ka)
TR ₃ , TR ₄	015008	2SA102/B A	R ₅ , R ₁₂	002019	ERC-16BK273 (27ka)
TR ₅	015014	2SB172/A	R ₇	002006	ERC-16BK102 (1ka)
TR ₆ , TR ₇	015023	2SB178/A. D (pare)	R ₈	002010	ERC-16BK222 (2.2ka)
DIODE			R ₉	002020	ERC-16BK473 (47ka)
D ₁	016001	OA70	R ₁₀ , R ₁₆	002015	ERC-16BK472 (4.7ka)
RESISTORS			R ₁₁	002022	ERC-16BK823 (32ka)
R ₁	002007	ERC-16BK152 (1.5ka)	R ₁₃	002014	ERC-16BK103 (10ka)
			R ₁₄ , R ₁₅	228015	V182LDS-MA

PRINTED CIRCUIT BOARD (AT-22PB)

NAT ATP-100A

