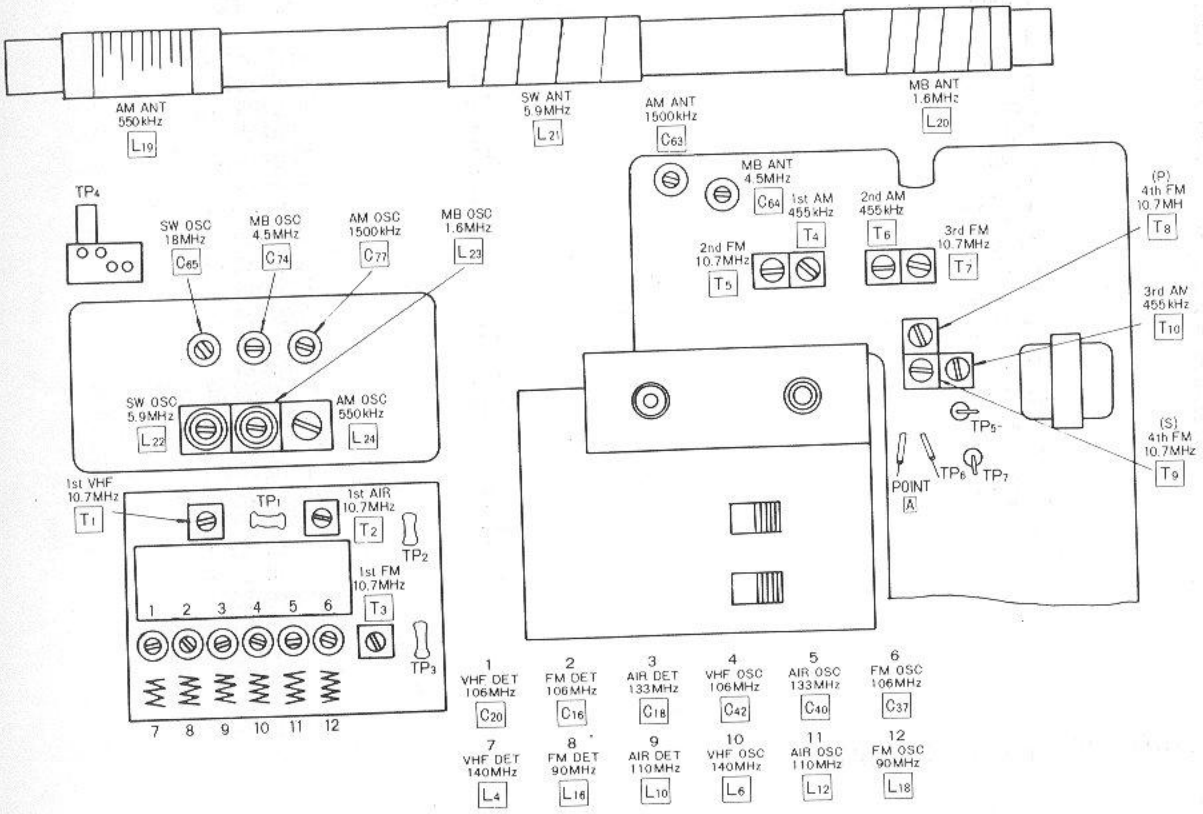


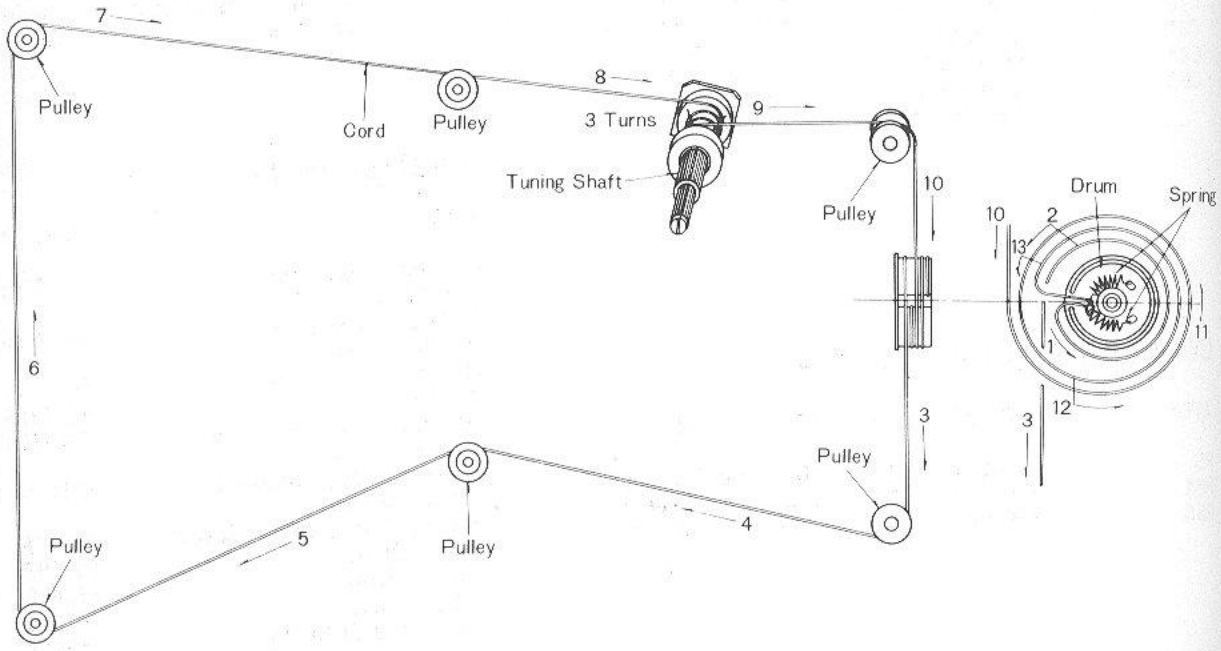
Alignment Points

■ DIAL CORD INSTALLATION GUIDE

1. Dial cord length is 47¼".
2. Tuning gang is positioned at minimum capacity.
3. Arrows (1~13) indicate correct order and direction of installation stringing dial cord.
4. Cement dial cord ends.

■ TO MOUNT DIAL POINTER

1. Set tuning gang to fully closed position.
2. Set band selector switch to "FM" position.
3. Set dial pointer to start point of dial scale.
4. Attach dial cord to dial pointer.



ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

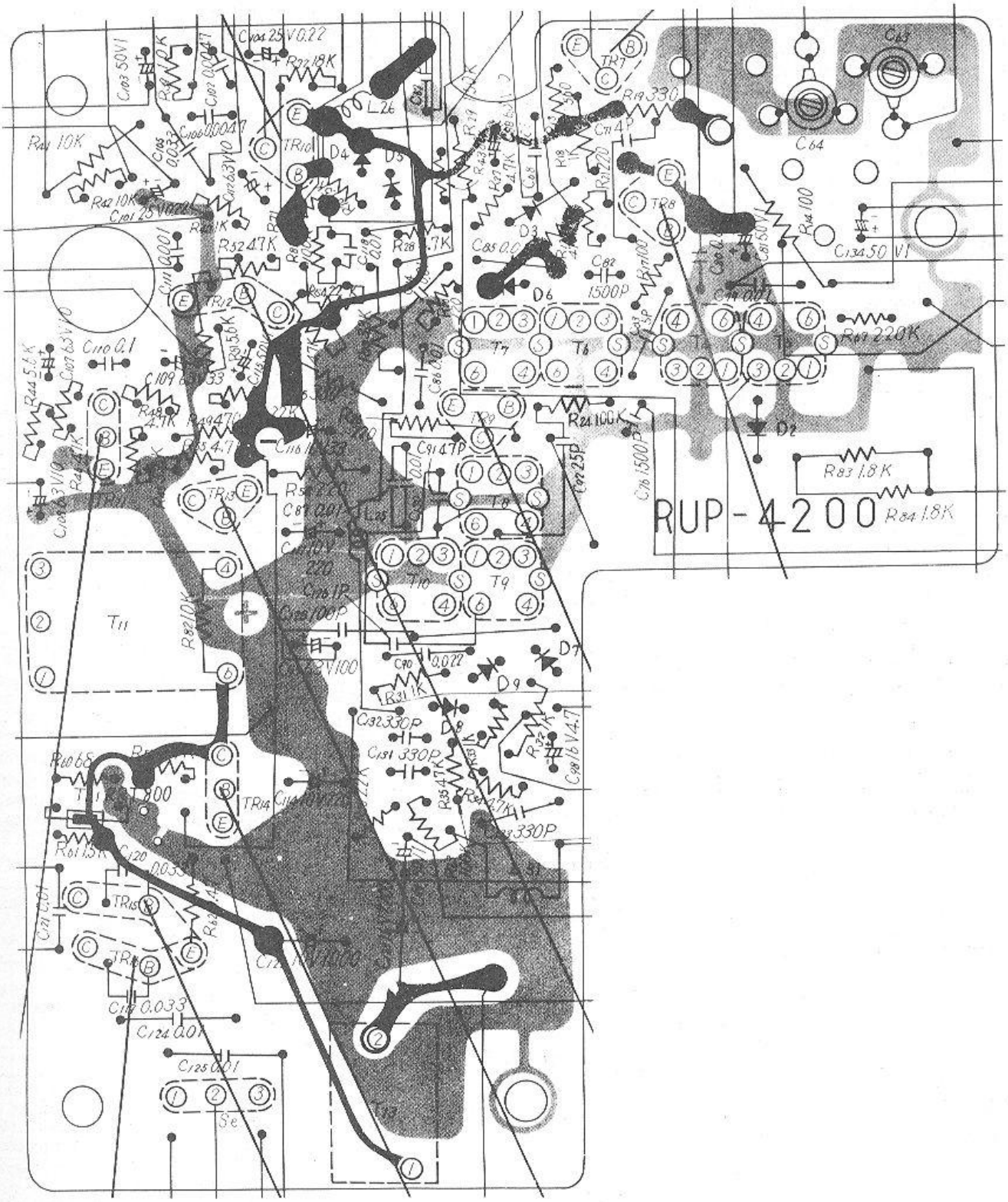
Notes :

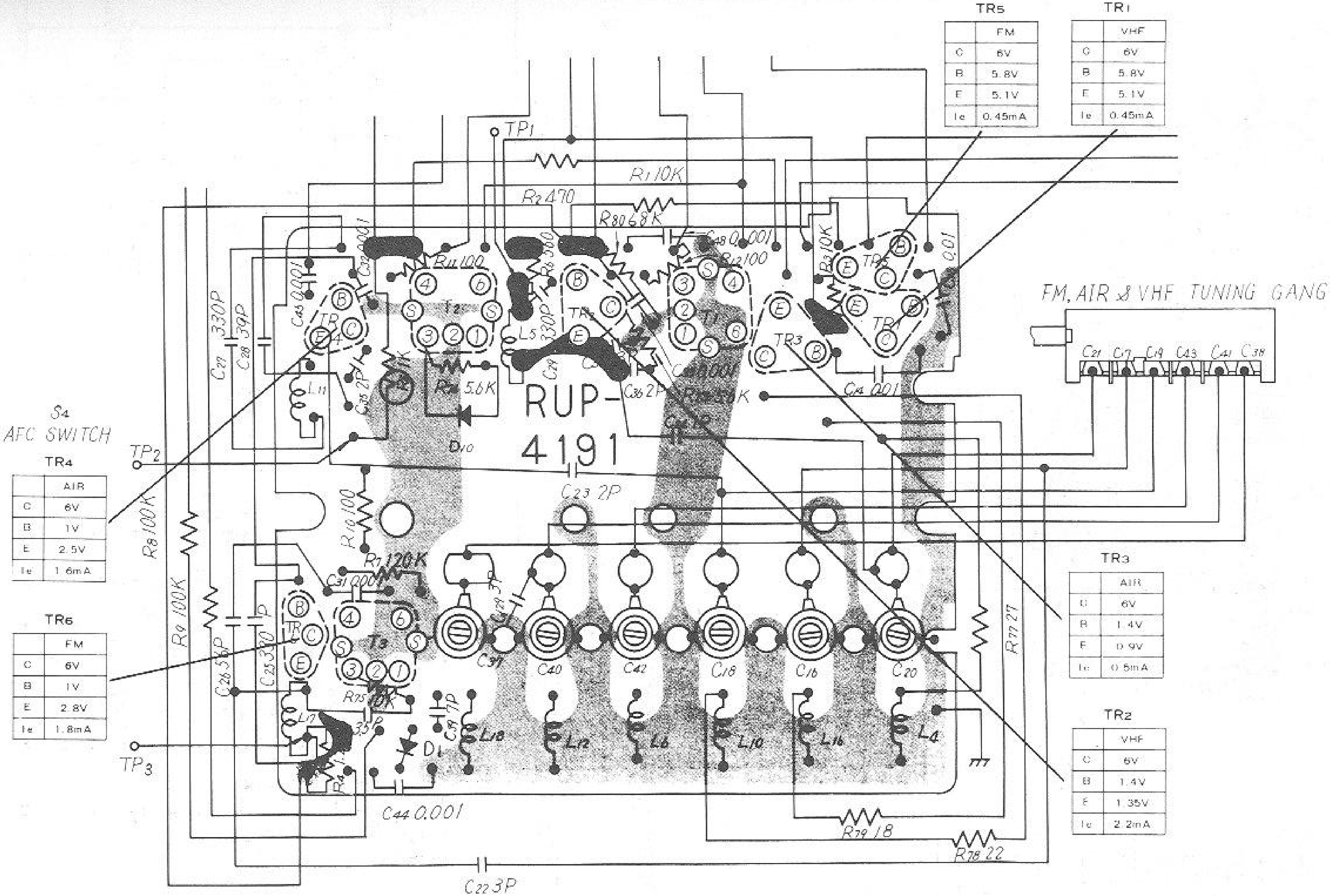
1. Volume control——Maximum, Minimum (FM-IF)
2. Treble control——Maximum
3. Bass control——Maximum
4. Band selector switch——AM, MB, SW, FM, VHF, AIR
5. Squelch switch——OFF
6. AC-BATT. selector switch——BATT
7. AFC switch——OFF (FM-IF & RF)
8. Fine Tuning——Center
9. PHONO-RADIO selector switch——RADIO
10. Power source voltage——DC 6 volts
11. Output of signal generator should be no higher than necessary to obtain an output reading.

Notes : 1. When alignment step 2~4, unsolder lead between test point **TP6** and point [A] before alignment and resolder it after alignment.
2. When alignment step 6~11, connect 12mmf between test point **TP4** and chassis before alignment and remove it after alignment.

	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING (DISTANCE)	INDICATOR (VTVM or SCOPE)	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
	AM, MB & SW IF ALIGNMENT					
1	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz 30% Mod. with 400Hz.	Point of non-interference. (on/about 600 kHz)	Output meter across voice coil.	T_4 (1st IFT) T_6 (2nd IFT) T_{10} (3rd IFT)	Adjust for maximum output.
	FM-IF ALIGNMENT					
2	High side thru. 0.001 mfd to point **TP3**, Common to chassis.	10.7 MHz (400 kHz SWP.)	Point of non-interference. (on/about 90 MHz).	Connect vert. amp. of scope to point **TP6**, Common to chassis.	T_3 (1st FM IFT) T_5 (2nd FM IFT) T_7 (3rd FM IFT) T_8 (4th FM IFT) (Primary)	Adjust for maximum amplitude and proper linearity between ±100 kHz markers. (Refer to fig. 1)
	VHF-IF ALIGNMENT					
3	High side thru. 0.001 mfd to point **TP1**, Common to chassis.	10.7 MHz (400 kHz SWP.)	Point of non-interference. (on/about 152 MHz)	Connect vert. amp. of scope to point **TP6**, Common to chassis.	T_1 (1st VHF IFT)	Adjust for maximum amplitude and proper linearity between ±100 kHz markers. (Refer to fig. 1)
	AIR-RF ALIGNMENT					
4	High side thru. 0.001 mfd to point **TP2**, Common to chassis.	10.7 MHz (400 kHz SWP.)	Point of non-interference.	Connect vert. amp. of scope to point **TP6**, Common to chassis.	T_2 (1st AIR IFT)	Adjust for maximum amplitude and proper linearity between ±100 kHz markers. (Refer to fig. 1)
	FM-DET ALIGNMENT					
5	High side thru. 0.001 mfd to point **TP3**, Common to chassis.	10.7 MHz (400 kHz SWP.)	Point of non-interference.	Connect vert. amp. of scope to point **TP7**, Common to chassis.	T_9 (4th FM IFT) (Secondary)	Adjust **T9** so that 10.7 MHz marker appears at the center (Refer to fig. 2)
	AM-RF ALIGNMENT					
6	Fashion loop of several turns of wire and radiate signal into loop of receiver.	550 kHz	550 kHz (15/32")	Output meter across voice coil.	L_{24} (OSC Coil) (*)L_{19} (ANT Coil)	Adjust for maximum output. Adjust L_{19} by moving coil bobbin along ferrite core.
7	〃	1500 kHz	1500 kHz (3 7/8")	〃	C_{77} (OSC Trimmer) C_{63} (ANT Trimmer)	Adjust for maximum output. Repeat steps (6) and (7).
	MB-RF ALIGNMENT					
8	Fashion loop of several turns of wire and radiate signal into loop of receiver.	1.6 MHz	1.6 MHz (7/32")	Output meter across voice coil.	L_{23}(OSC Coil) (*)L_{20}(ANT Coil)	Adjust for maximum output. Adjust L_{20} by moving coil bobbin along ferrite core.
9	〃	4.5 MHz	4.5 MHz (4 1/32")	〃	C_{74} (OSC Trimmer) C_{64} (ANT Trimmer)	Adjust for maximum output. Repeat steps (8) and (9).
	SW-RF ALIGNMENT					
10	Fashion loop of several turns of wire and radiate signal into loop of receiver.	5.9 MHz	5.9 MHz (5/32")	Output meter across voice coil.	L_{22} (OSC Coil) (*)L_{21} (ANT Coil)	Adjust for maximum output. Adjust L_{21} by moving coil bobbin along ferrite core.
11	〃	18 MHz	18 MHz (4 3/32")	〃	C_{65} (OSC Trimmer)	Adjust for maximum output. Repeat steps (10) and (11).

*Cement antenna bobbin with wax after completing alignment.


RUP-4200



TR5

	FM
C	6V
B	5.8V
E	5.1V
Ie	0.45mA

TR1

	VHF
C	6V
B	5.8V
E	5.1V
Ie	0.45mA

TR4

	AIR
C	6V
B	1V
E	2.5V
Ie	1.6mA

TR6

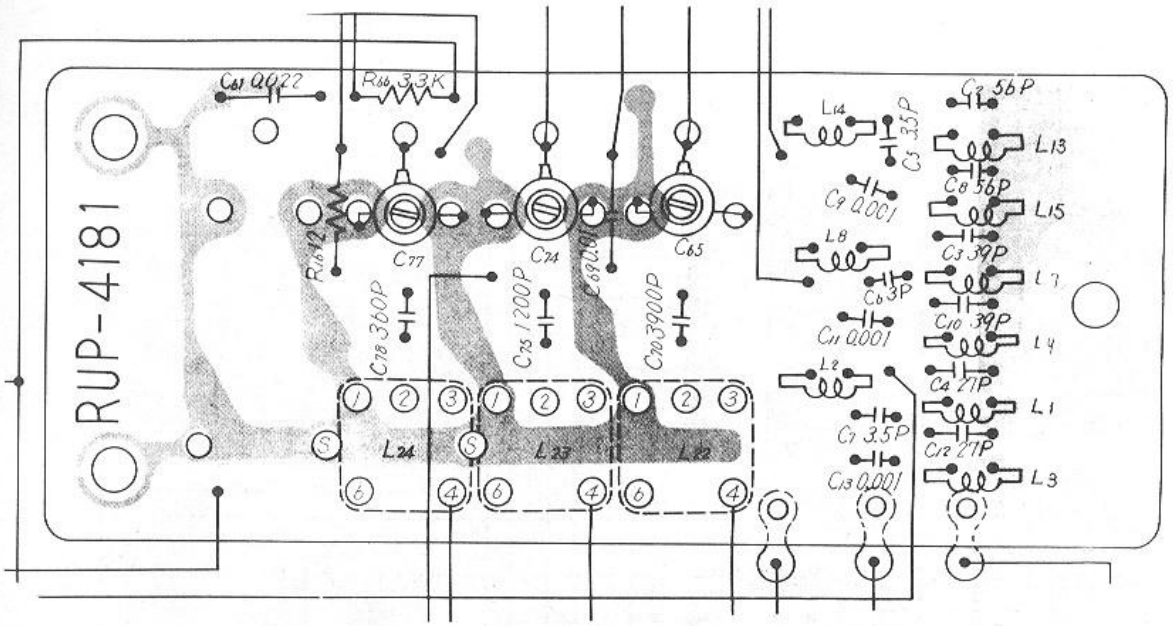
	FM
C	6V
B	1V
E	2.8V
Ie	1.8mA

TR3

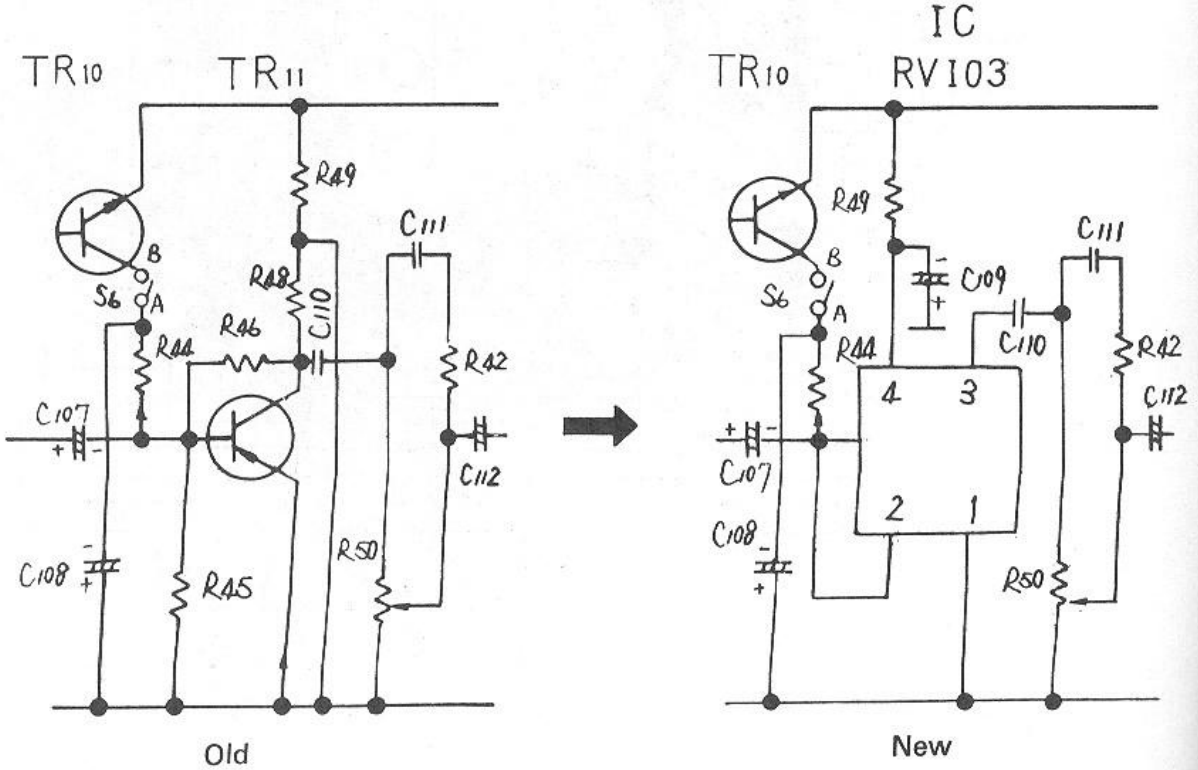
	AIR
C	6V
B	1.4V
E	0.9V
Ie	0.5mA

TR2

	VHF
C	6V
B	1.4V
E	1.35V
Ie	2.2mA



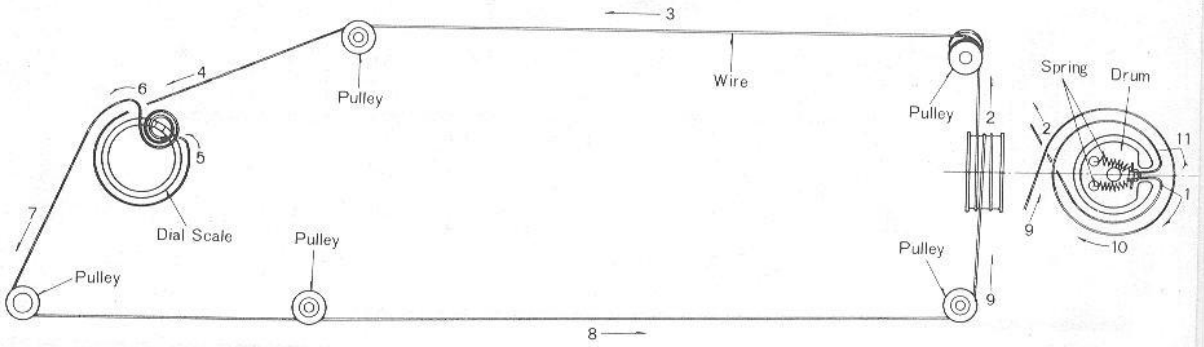
■ Schematic Diagram



	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING (DISTANCE)	INDICATOR (VTVM or SCOPE)	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
	FM-RF ALIGNMENT					
12	Connect to point **TP4** through FM Dummy antenna Common to chassis. (Refer to fig. 3)	90 MHz (unmod.)	90 MHz (1 3/32")	Output meter across voice coil.	L18 (OSC Coil) L16 (FM DET Coil)	Adjust for maximum output.
13	〃	106 MHz (unmod.)	106 MHz 3 9/16"	〃	C37 (FM OSC Trimmer) C16 (FM Trimmer)	Adjust for maximum output. Repeat steps (12) and (13)
	AIR-RF ALIGNMENT					
14	Connect to point **TP4** through FM Dummy antenna. Common to chassis. (Refer to fig. 3)	110 MHz (unmod.)	110 MHz (2 7/32")	Output meter across voice coil.	L12 (AIR OSC Coil) L10 (AIR DET Coil)	Adjust for maximum output.
15	〃	133 MHz (unmod.)	133 MHz (3 19/32")	〃	C40 (AIR OSC Trimmer) C18 (AIR DET Trimmer)	Adjust for maximum output. Repeat steps (14). and (15).
	VHF-RF ALIGNMENT					
16	Connect to point **TP4** through FM Dummy antenna. Common to chassis. (Refer to fig. 3)	140 MHz (unmod.)	140 MHz (2 27/32")	Output meter across voice coil.	L6 (VHF OSC Coil) L4 (VHF DET	Adjust for maximum output.
17	〃	106 MHz (unmod.)	106 MHz (3 13/32")	〃	C42 (VHF OSC Trimmer) C20 (VHF DET Trimmer)	Adjust for maximum output. Repeat steps (16) and (17).

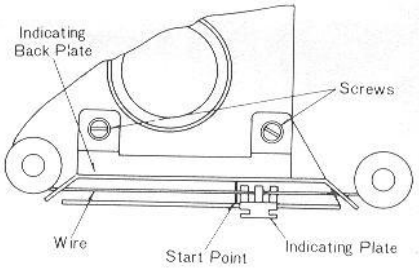
BAND SELECTOR WIRE INSTALLATION GUIDE

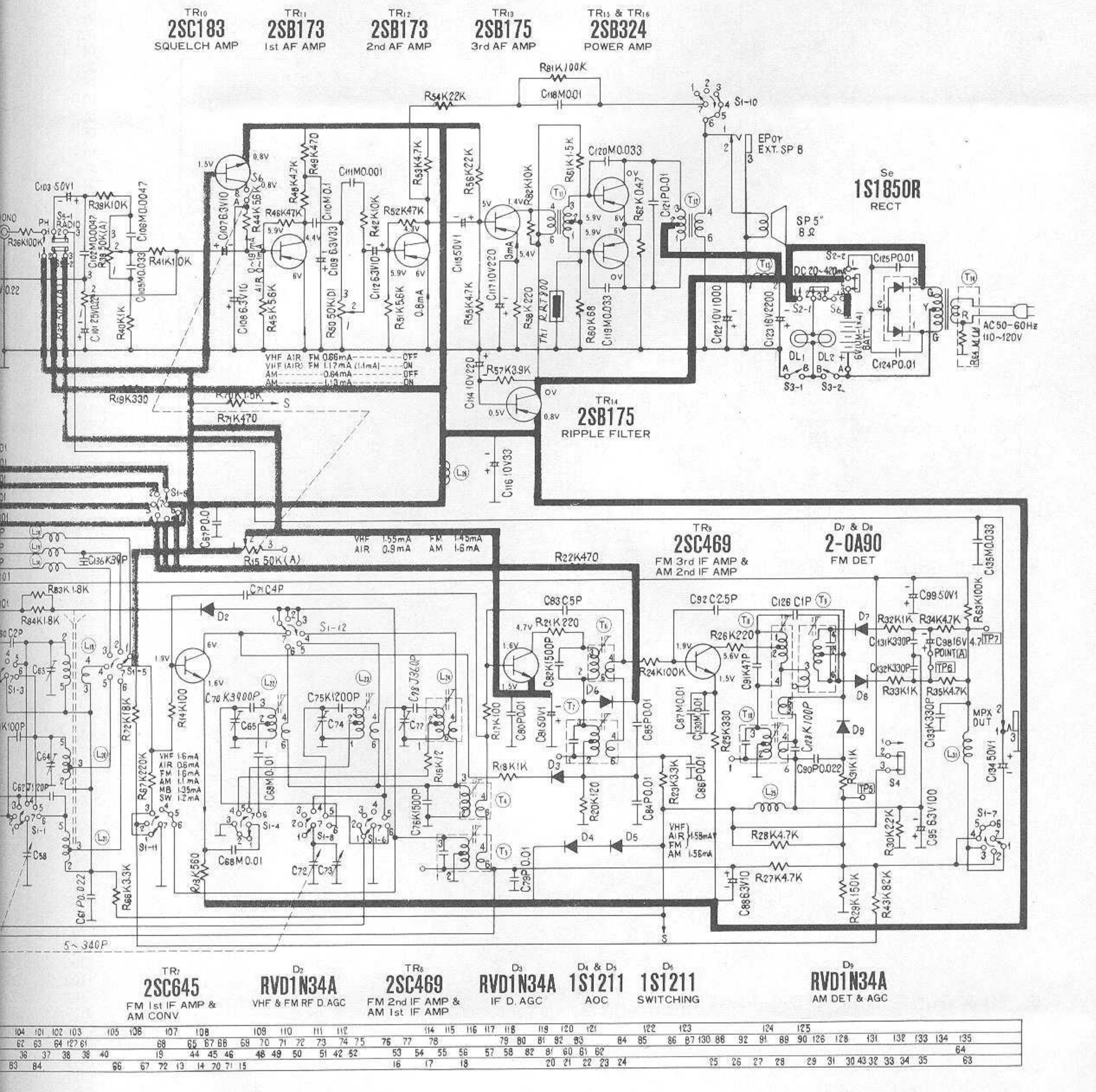
1. Set Band selector switch to AM position.
2. Set dial scale to AM position.
3. Band selector wire length is 47 1/4".
4. Arrows (1~11) indicate correct order and direction of installation band selector wire.
5. Resolder wire ends.



TO MOUNT INDICATING PLATE

1. Set band selector switch to AM position.
2. Remove two indicating back plate screws.
3. Set left side of indicating plate to start mark of chassis.
4. Attach wire to indicating plate.





kΩ/V from

22mA
85mA

Notes :

1. S_{1-1}~S_{1-13} : Band selector switch in "VHF" position.
2. S_{2-1}, S_{2-2} : AC-Battery selector switch in "BATTERY" position.
3. S_{3-1}, S_{3-2} : Power source switch in "OFF" position.
4. S_4 : AFC switch in "ON" position.
5. S_{5-1}, S_{5-2} : Phono-Radio selector switch in "RADIO" position.
6. S_6 : Dial light switch in "OFF" position.
7. S_7 : Squelch control in "OFF" position.
8. DC voltage measurements are taken with circuit tester 10KΩ/V from negative terminal of battery.
   TR_1 & TR_2.....VHF position TR_5 & TR_6..... FM position
   TR_3 & TR_4.....AIR position TR_7~TR_{10} ... AM position
9. Battery current:
   No signal FM & AM..... 22 mA
   Maximum output FM & AM.....385 mA

SEMICONDUCTORS

ITEM	PART NO./TYPE
D1	1S351
D2	RVD1N34A (1N34A)
D3	RVD1N34A (1N34A)
D4	1S1211
D5	1S1211
D6	1S1211
D7	0A90
D8	0A90
D9	RVD1N34A (1N34A)
D10	0A90
IC	RV102 (RV103)
SE	1S1850R
TR1	2SC429
TR2	2SC429
TR3	2SC429
TR4	2SC645
TR5	2SC429
TR6	2SC645
TR7	2SC645
TR8	2SC469
TR9	2SC469
TR10	2SC183
TR11	2SB173
TR12	2SB173
TR13	2SB175
TR14	2SB175
TR15	2SB324
TR16	2SB324

ELECTROLYTIC/VARIABLE CAPS

ITEM	PART NO.	VALUE
C16	ECV1ZW10P12	Trimmer
C17, C19, C21, C38, C41, C43	PVC2R-3	Tuning Gang
C18	ECV1ZW10P12	Trimmer
C20	ECV1ZW10P12	Trimmer
C37	ECV1ZW10P12	Trimmer
C40	ECV1ZW10P12	Trimmer
C42	ECV1ZW10P12	Trimmer
C58 & C72	PVC2R-3	Trimmer
C63	ECV1ZW20P12	Trimmer
C64	ECV1ZW10P12	Trimmer
C65	ECV1ZW20P12	Trimmer
C73	ECV1YW02D59A	Fine Tuning
C74	ECV1ZW20P12	Trimmer
C77	ECV1ZW20P12	Trimmer
C81	ECEA50V1	1mfd 50V
C88	ECEA6V10	10mfd 6.3V
C95	ECEA6V100	100mfd 6.3V
C98	ECEA16V4R7	4.7mfd 16V
C99	ECEA50V1	1mfd 50V
C101	ECAF25VR22	.22mfd 25V
C103	ECEA50V1	1mfd 50V
C104	ECA525VR22	.22mfd 25V
C107	ECEA6V10	10mfd 6.3V
C108	ECEA6V10	10mfd 6.3V
C109	ECEA6V33	33mfd 6.3V
C112	ECEA6V10	33mfd 6.3V
C122	ECEA10V1000	1000mfd 10V
C114	ECEA10V220	220mfd 10V
C115	ECEA50V1	1mfd 50V
C116	ECEA10V33	33mfd 10V
C117	ECEA10V220	220mfd 10V
C123	ECEB16V2200	2200mfd 16V
C134	ECEA50V1	1mfd 50V

CONTROLS/SPECIAL RESISTORS

ITEM	PART NO.	DESCRIPTION
R15	EVJA0BT12A54	50K Squelch/Switch
R37	EVAG0AA01A54	50K Treble
R38	EVAG0AA01A54	50K Bass
R50	EVAG0AA01A54	50K Volume

COILS/TRANSFORMERS

ITEM	PART NO.
L1	RLQY05S-5
L2	RLQY25S-5
L3	RLQY05S-5
L4	RLD4Y53
L5	RLQX121-1
L6	RLD4Y43
L7	RLQY10S-5
L8	RLQY50S-5
L9	RLQY10S-5
L10	RLD4Y54
L11	RLQX121-1
L12	RLD4Y44
L13	RLQY10S-5
L14	RLQX121-1
L15	RLQY10S-5
L16	RLD4Y43
L17	RLQX121-1
L18	RLD4Y45
L19	RLF9H11
L20	RLF9H11
L21	RLF9H11
L22	RL03R26-T
L23	RL03P60
L24	RL02C44
L25	RLQX121-1
L26	RLQX121-1
L28	RLQX121-1
L29	RLQX121-1
L30	RLQX121-1
L31	RLQX121-1
T1	RL14B152
T2	RL14B152
T3	RL14B152
T4	RL12B156
T5	RL14B351
T6	RL12B156
T7	RL14B351
T8	RL14B508
T9	RL14B552
T10	RL12B457
T11	RLT3G10-S
T12	RLT2112-S
T13	RLT6E1-S
T14	RLT5J62-W (Model RF-1600) RLT5J31-W (Model RF-1600C)

MISCELLANEOUS

ITEM	NAME	PART NO.
S1	Switch, Band Selector	ESRE6C6L50A
S2	Switch, AC-Battery	RSS153
S3	Switch, Power	RSH62
S4	Switch, AFC	RSS91-1
S5	Switch, Phono-Radio	
S6	Switch, Dial Lamp	
SP	Speaker (5")	EAS12P70SA
	Antenna, Telescopic	XEARDT160GA
	Earphone	EAE1TB

CABINET PARTS

NAME	PART NO.
Cabinet, Complete (Model RF-1600)	RYARF1600MA
Cabinet, Complete (Model RF-1600C)	RYARF1600CMA
Cabinet Front, Complete	RYMRF1600MA
Cabinet Back, Complete (Model RF-1600)	RYFRF1600MA
Cabinet Back, Complete (Model RF-1600C)	RYFRF1600CMA
Handle	RKH94S
Button, Dial Lamp	RBC3-1
Knob, Band Selector	RBS59
Knob, Tuning	RBT168
Knob, Fine Tuning	RBF28
Knob, Volume	RBE102
Knob, Bass	RBE102
Knob, Treble	RBE102
Knob, Squelch	RBV135-1
Dial Pointer	RDP298