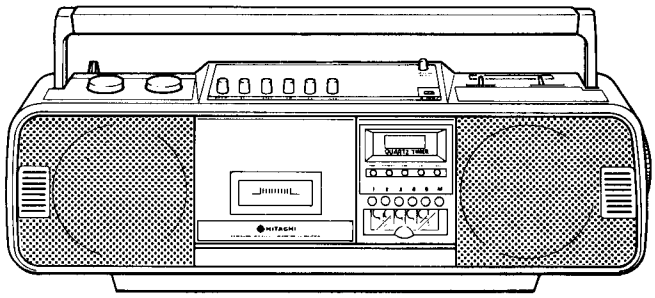
HITACHI
SERVICE MANUAL

TY	No. 592 EF

TRK-640 [E, E(BS), W, AU, H, HC]
TRK-650 [E, E(BS)]
TRK-P65 [E, E(BS)]

TN-21VC-1454 Chassis



TRK-P65

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THE DIFFERENCE OF MODEL ● LA DIFFERENCE DE MODELE

	TRK-640	TRK-650	TRK-P65
PRESET/TIMER P.W.B. Sous-plaquette présélection/minuterie (PRESET/TIMER)	—	USE	USE
PRESET SWITCH (S701 ~ S706) COMMUTATEUR DE PRESELECTION (S701 ~ S706)	—	—	USE
PRESET VOLUME (RV701 ~ RV705) VOLUME DE PRESELECTION (RV701 ~ RV705)	—	—	USE

SAFETY PRECAUTIONS

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety-related characteristics, always use genuine Hitachi's replacement parts. Especially critical parts in the power circuit block should not be replaced with other makers. Critical parts are marked with ⚠ in the circuit diagram and printed wiring board.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without danger of electrical shock.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

RADIO CASSETTE TAPE RECORDER

September 1988 **YOKOHAMA WORKS**

SPECIFICATIONS

● RADIO SECTION

Circuit System: FM/AM-2bands superheterodyne [for H, HC] (except TRK-650/P65)
FM/SW/MW/LW-4bands superheterodyne [for E, E(BS)]
FM/SW2/SW1/MW-4bands superheterodyne [for W,AU] (except TRK-650/P65)

Tuning Range: FM: 88 to 108 MHz [except E, E(BS)]
FM: 87.5 to 108 MHz [for E, E(BS)]
SW: 6 to 18 MHz [for E, E(BS)]
SW2: 7 to 22 MHz [for W, AU]
SW1: 2.3 to 7 MHz [for W, AU]
MW(AM): 530 to 1,605 kHz
LW: 150 to 285 kHz [for E, E(BS)]

Intermediate Frequency: FM: 10.7 MHz
SW/MW/LW: 465 kHz [for E, E(BS)]
SW2/SW1/MW(AM): 455 kHz [except E, E(BS)]

Sensitivity: FM: 20 dB (pra.)
14 dB (max.)
SW: 38 dB (pra.) [for E, E(BS)]
30 dB (max.) [for E, E(BS)]
SW2: 36 dB (pra.) [for W, AU]
32 dB (max.) [for W, AU]
SW1: 54 dB (pra.) [for W, AU]
45 dB (max.) [for W, AU]
MW(AM): 54 dB (pra.)
46 dB (max.)
LW: 60 dB (pra.) [for E, E(BS)]
57 dB (max.) [for E, E(BS)]

Antennas (Aerials): FM/SW/SW2: ROD. antenna
SW1/MW(AM)/LW: Built in ferrite antenna

● TAPE RECORDER SECTION

Tape: Cassette tape
Track System: 4tracks 2channels stereo
Tape Speed: 4.75 cm/sec.
Recording System: AC bias (TAPE2)
Erasing System: Magnet erase (TAPE2)
Erasing Ratio: 50 dB

Frequency Response: Normal: 80 to 10,000 Hz
Signal to Noize Ratio: 40 dB
Wow and Flutter: 0.25% (W·RMS)
Cross Talk: Between tracks: 60 dB
Between channels: 40 dB

Input sensitivity and impedance: CD/Line-in: 600 mV, 100 kΩ
Output road impedance: Speakers: 8 Ω
Distortion: 3%
Motor: DC micro motor
Head: Permalloy

● GENERAL SECTION

Semiconductors: ICs: 5
Transistors: 3 [except E, E(BS)] (for TRK-64
4 [for E, E(BS)] (for TRK-640)
7 [for E, E(BS)] (for TRK-650)
9 [for E, E(BS)] (for TRK-P65)
Diodes: 8 [except W] (for TRK-640)
9 [for W] (for TRK-640)
10 (for TRK-650)
16 (for TRK-P65)
LEDs: 1

Power Supply: AC: 120V, 60 Hz [for H, HC]
AC: 220V, 50 Hz [for E]
AC: 240V, 50 Hz [for E(BS), AU]
AC: 110−127V/200−220V/230−250V, 50/60 Hz [for W]
DC: 9V [IEC R20 ("D" CELL) x 6 or equivalen
Car: Use car-battery adaptor [for W]

Power Consumption: 10W
Power Output: PMP 5W (AC operation)
1.2W/CH (10% T.H.D. DC operation)
Speakers: 10cm (x 2)
Dimensions: 480 (W) x 150 (H) x 110 (D) mm
Weight: 2.95 kg (with batteries)

Specifications are subject to change without notice for performance improv ment.

PRÉCAUTIONS DE SÉCURITÉ

Les précautions suivantes doivent être observées chaque fois qu'une réparation doit être faite.

1. Etant donné que de nombreux composants de l'appareil possèdent des caractéristiques relatives à la sécurité, utiliser uniquement des pièces de rechange d'origine Hitachi pour effectuer un remplacement. Ceci se rapporte notamment aux pièces critiques du bloc d'alimentation qui ne doivent en aucun cas être remplacées par celles d'autres fabricants. Les pièces critiques sont accompagnés du symbole ⚠ dans le plan de circuit et sur le plan de base.
2. Avant de retourner l'appareil répare au client le technicien doit procéder à un essai complet pour s'assurer qu'il ne présente aucun danger de chocs électriques.

CARACTÉRISTIQUES TECHNIQUES

● SECTION RADIO

Systéme de circuit: 2 gammes d'ondes FM/AM
à superhétérodyne [pour H, HC]
(sauf TRK-650/P65)
4 gammes d'ondes FM/OC/PO/GO
à superhétérodyne [pour E, E(BS)]
4 gammes d'ondes FM/OC2/OC1/PO
à superhétérodyne [pour W, AU]
(sauf TRK-650/P65)

Gammes d'accord: FM: De 88 à 108 MHz [sauf E, E(BS)]
FM: De 87,5 à 108 MHz [pour E, E(BS)]
OC: De 6 à 18 MHz [pour E, E(BS)]
OC2: De 7 à 22 MHz [pour W, AU]
OC1: De 2,3 à 7 MHz [pour W, AU]
PO(AM): De 530 à 1605 kHz
GO: De 150 à 285 kHz [pour E, E(BS)]

Fréquence intermédiaire:	FM: 10.7 MHz OC/PO/GO: 465 kHz [pour E, E(BS)] OC2/OC1/PO(AM): 455 kHz [sauf E, E(BS)]
Sensibilite:	FM: 20 dB (utile) 14 dB (max.) OC: 38 dB (utile) [pour E, E(BS)] 30 dB (max.) [pour E, E(BS)] OC2: 36 dB (utile) [pour W, AU] 32 dB (max.) [pour W, AU] OC1: 54 dB (utile) [pour H, HC, W, W(UN), W(UNS), AU] 45 dB (max.) [pour H, HC, W, W(UN), W(UNS), AU] PO(AM): 54 dB (utile) 46 dB (max.) GO: 60 dB (utile) [pour E, E(BS)] 57 dB (max.) [pour E, E(BS)]
Antennes: (aériens)	FM/OC/OC2: antenne fige (aérien) OC1/PO(AM)/GO: antenne en ferrite incorporée (aérien)

● SECTION LECTEUR-ENREGISTREUR DE CASSETTE

Bande:	En cassette
Système de piste:	4 pistes, 2 canaux stéréo
Vitesse de défilement:	4,75 cm/s
Système d'enregistrement:	Polarisation c.a. (TAPE2)
Système d'effacement:	Aimant (TAPE2)
Taux déffacement:	50 dB
Réponse en fréquence:	Normal: De 80 à 10000 Hz
Rapport signal-bruit:	40 dB
Pleurage et scintillement:	0,25% (watts effic.)
Diaphonie:	Entre les pistes: 60 dB Entre les canaux: 40 dB
Impédance et sensibilité d'entrée:	CD/entrée ligne: 600 mV, 100 kΩ
Impédance de charge de sortie:	Hauf-parleur: 8 ohms
Distortion:	3%
Moteur:	Micro moteur CC
Tête:	Permalloy

● CARACTÉRISTIQUES GÉNÉRALES

Semi conducteurs:	Circuits intégrés: 5 Transistors: 3 [sauf E, E(BS)] (pour TRK-640) 4 [pour E, E(BS)] (pour TRK-640) 7 [pour E, E(BS)] (pour TRK-650) 9 [for E, E(BS)] (pour TRK-P65) Diodes: 8 [sauf W] (pour TRK-640) 9 [pour W] (pour TRK-640) 10 [for TRK-650] 16 [for TRK-P65] Diodes électroluminescentes: 1
Alimentation:	Secteur alternatif: 120V, 60 Hz [pour H, HC] 220V, 50 Hz [pour E] 240V, 50 Hz [pour E(BS), AU] 110−127V/200−220V /230−250V, 50/60 Hz [pour W] Courant continu: 9V [IEC R20 (pile "D") x 6 ou l'équivalent] Voiture: utilisen un adaptateur pour batterie [pour W]
Consommation électrique:	10W
Niveau de sortie:	20W PMP (fonctionnement sur le secteur) 1.2W/canal (C.C. à 10% D.H.T.)
Haut-parleurs:	10 cm (x 2)
Dimensions:	480 (L) x 150 (H) x 110 (P) mm
Poids:	2.95 kg (piles comprises)

Les caractéristiques techniques peuvent être modifiées sans préavis pour améliorations des performances.

DISASSEMBLY

1. Front Case (Fig. 1, 2)

Remove the battery cover, one screw ① and eight screws ②. Pull the front case out in the direction of arrow Ⓐ.

When the front case has been pulled halfway out, remove connector Ⓐ (two places) on the radio P.W.B. and remove one 1P plug.

2. Radio P.W.B. (Fig. 2)

After removing the front case, remove one screw ③ and remove connectors Ⓐ (two places), Ⓑ, Ⓒ, Ⓓ, and Ⓔ on the radio P.W.B.. Pull the radio P.W.B. out in the direction of arrow Ⓑ.

3. Cassette Chassis (Fig. 3)

After removing two screws ④, remove radio P.W.B. connectors Ⓑ and Ⓔ (Fig. 2) and two tabs. Pull the cassette chassis forward in the direction of arrow Ⓒ.

4. Power supply P.W.B. (Fig. 4)

Remove two screws ⑤, one screw ⑥ and one screw ⑦.

5. Audio P.W.B. (Fig. 5)

After removing the tone control knob and volume control knob, remove one screw ⑧, remove connector Ⓕ on the audio P.W.B. in the direction of arrow Ⓓ.

6. LED P.W.B. (Fig. 6)

Remove one screw ⑨ and remove the LED P.W.B..

7. PRESET-TIMER P.W.B. (Fig. 6)

Remove three screws ⑩ and remove radio P.W.B. connectors Ⓒ and Ⓓ (Fig. 2) in the direction of arrow Ⓔ. (The TRK-640 does not use a PRESET/TIMER P.W.B..)

8. Mic P.W.B. (Fig. 6)

Pull the mic P.W.B. out in the direction of arrow Ⓕ.

DÉMONTAGE

1. Boîtier avant (Fig. 1, 2)

Enlever le couvercle de logement des piles, une vis ① et huit vis ②. Dégager le boîtier avant dans la direction de la flèche Ⓐ.

Une fois que le boîtier avant a été dégagé à moitié, enlever le connecteur Ⓐ (deux endroits) de la sous-plaquette radio et enlever une fiche 1P.

2. Sous-plaquette radio (Fig. 2)

Après avoir enlevé le boîtier avant, enlever une vis ③ et enlever les connecteurs Ⓐ (deux endroits), Ⓑ, Ⓒ, Ⓓ et Ⓔ de la sous-plaquette radio. Dégager la sous-plaquette radio dans la direction de la flèche Ⓑ.

3. Châssis cassette (Fig. 3)

Après avoir enlevé deux vis ④, enlever les connecteurs Ⓑ et Ⓔ (Fig. 2) de la plaquette princepale et deux onglets. Dégager le châssis cassette vers l'avant dans la direction de la flèche Ⓒ.

4. Sous-plaquette d'alimentation (Fig. 4)

Enlever deux vis ⑤, une vis ⑥ et une vis ⑦.

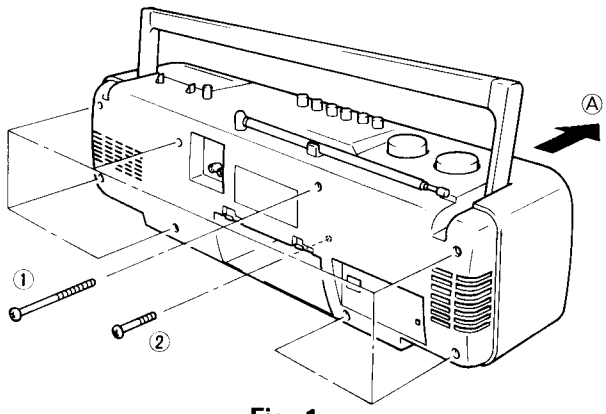


Fig. 1

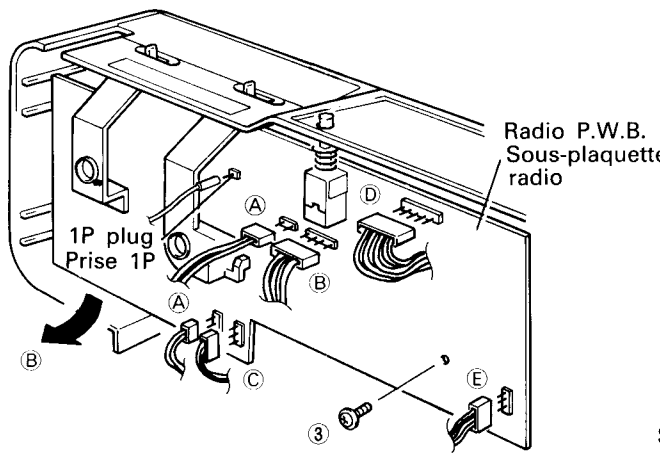


Fig. 2

5. Sous-plaquette audio (Fig. 5)

Après avoir enlevé le bouton de contrôle de tonalité et le bouton de contrôle de volume, enlever une vis ⑧, enlever le connecteur Ⓕ de la sous-plaquette audio dans la direction de la flèche Ⓓ.

6. Sous-plaquette LED (Fig. 6)

Enlever une vis ⑨ et enlever la sous-plaquette LED.

7. Sous-plaquette présélection/minuterie PRESET-TIMER (Fig. 6)

Enlever trois vis ⑩ et enlever les connecteurs Ⓒ et Ⓓ (Fig. 2) de la sous-plaquette radio dans la direction de la flèche Ⓔ.

(Le TRK-640 n'utilise pas de sous-plaquette PRESET-TIMER.)

8. Sous-plaquette micro (Fig. 6)

Dégager la sous-plaquette micro dans la direction de la flèche Ⓕ.

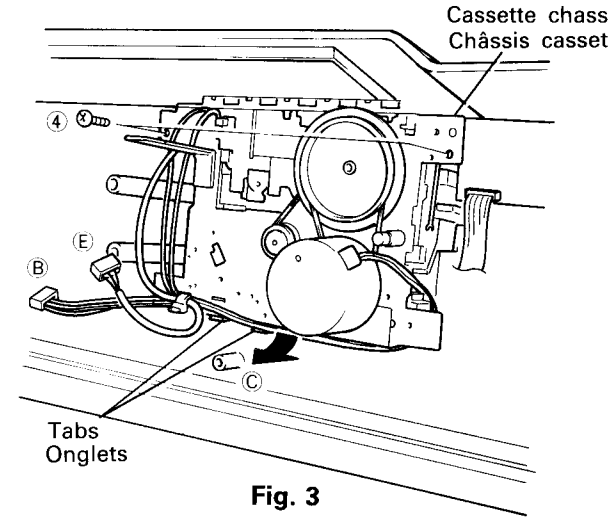


Fig. 3

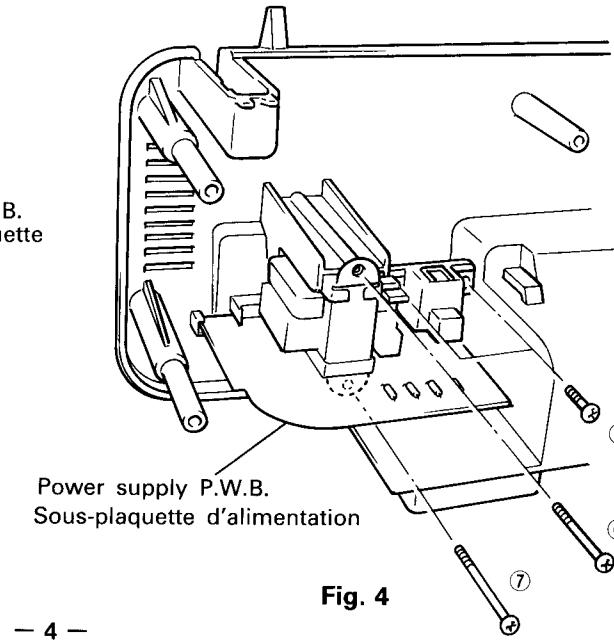


Fig. 4

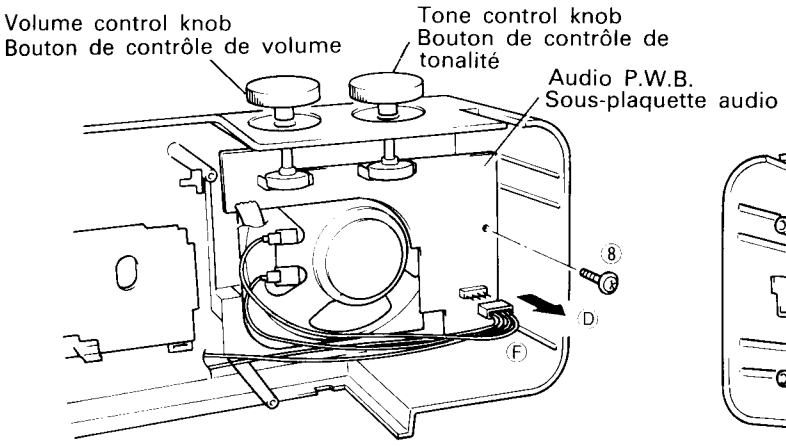


Fig. 5

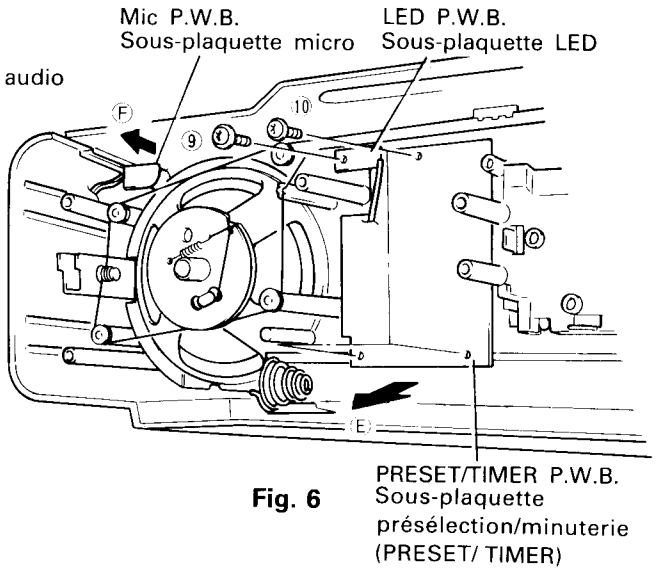


Fig. 6

DIAL CORD STRINGING

Wind the pulley all the way counter-clockwise and string the points together in order of the numbers. After stringing, align the pointer in the setting position.

CHEMINEMENT DU CORDON D'ACCORD

Enrouler le câble de poulie dans le sens contraire des aiguilles d'une montre et le faire passer successivement aux points indiqués. Une fois cette opération terminée, mettre le palpeur sur la position de réglage.

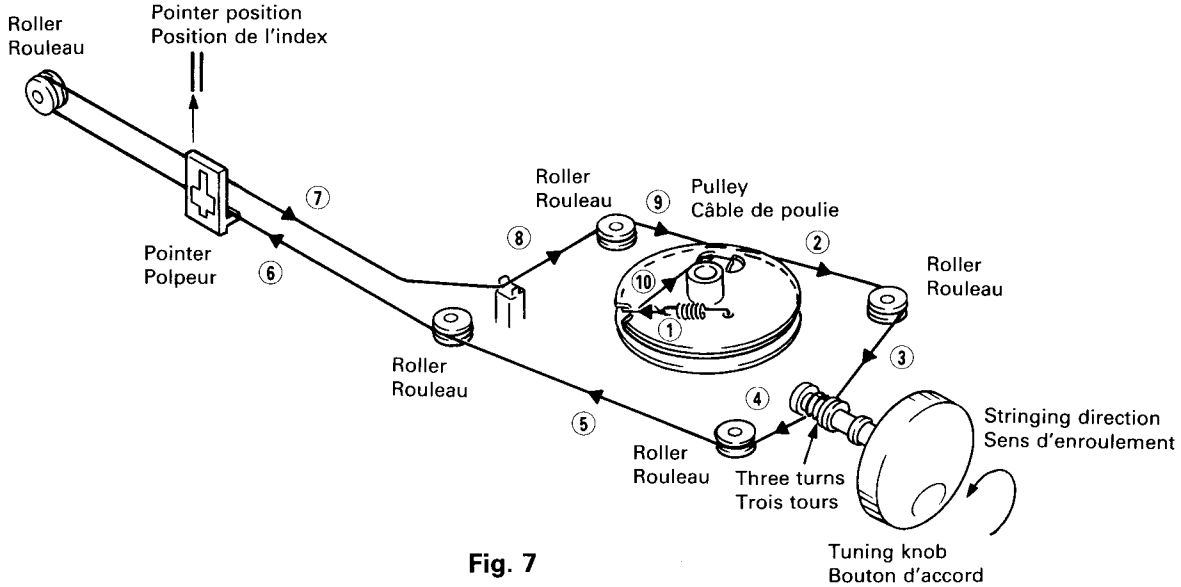


Fig. 7

ADJUSTMENT

1. RADIO SECTION

- **Adjustment points [for E, E(BS)]**

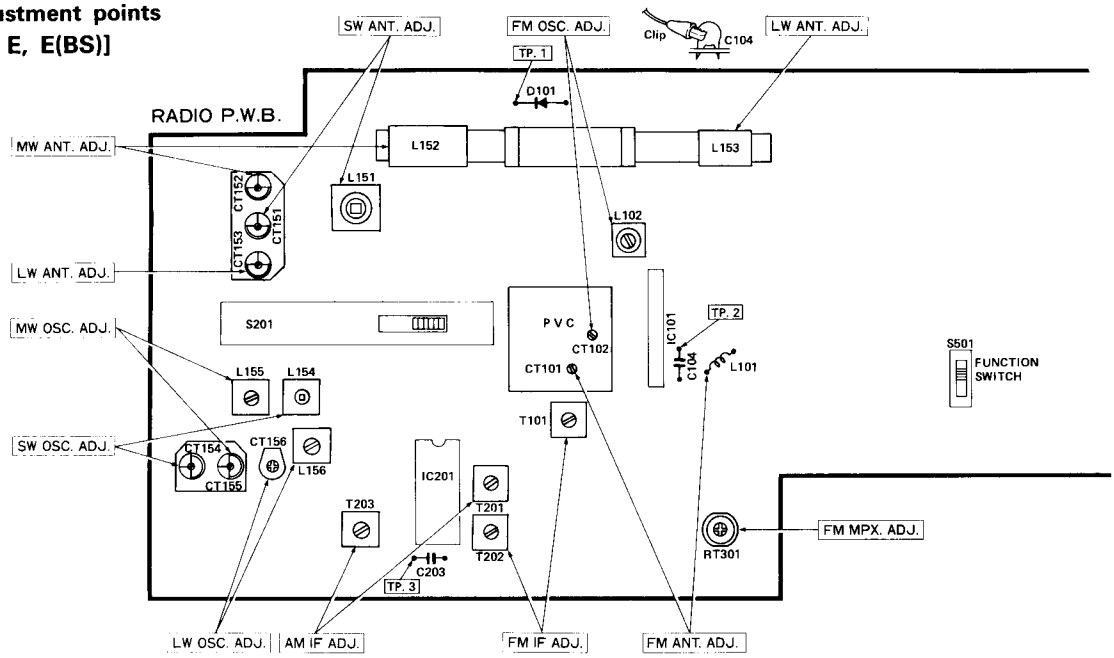


Fig. 8

(1)-1 AM Section for E, E(BS) (FM/SW/MW/LW 4-bands)

Step		Adjustment Item	Measuring Instrument and Connection			Genescope or Signal Generator Frequency	Dial Pointer Position	Adjust	Reading
			Measuring Instrument	Input Terminal	Output Terminal				
1	(1)	AM IF	• Genescope (465 kHz)	Ferrite antenna (Note 3)	TP3	465 kHz	Highest	T201 T203	(Note 1)
	(2)					Repeat step (1)			
2	(1)	SW OSC. (Covering)	• AM signal generator (400 Hz, 30% mod.) • VTVM • Oscilloscope	TP1 (through SW dummy antenna) (Note 2)	TP3	5.8 MHz	Lowest	L154	Max.
	(2)					18.5 MHz	Highest	CT154	
	(3)					Repeat steps (1) and (2)			
3	(1)	SW ANT. (Tracking)				6.5 MHz	6.5 MHz	L151	Max.
	(2)					16 MHz	16 MHz	CT151	
	(3)					Repeat steps (1) and (2)			
4	(1)	MW OSC. (Covering)	• AM signal generator (400 Hz, 30% mod.) • VTVM • Oscilloscope	Ferrite antenna (Note 3)	TP3	515 kHz	Lowest	L155	Max.
	(2)					1,650 kHz	Highest	CT155	
	(3)					Repeat steps (1) and (2)			
5	(1)	MW ANT. (Tracking)				600 kHz	600 kHz	L152	Max.
	(2)					1,400 kHz	1,400 kHz	CT152	
	(3)					Repeat steps (1) and (2)			
6	(1)	LW OSC. (Covering)	• AM signal generator (400 Hz, 30% mod.) • VTVM • Oscilloscope	Ferrite antenna (Note 3)	TP3	145 kHz	Lowest	L156	Max.
	(2)					290 kHz	Highest	CT156	
	(3)					Repeat steps (1) and (2)			
7	(1)	LW ANT. (Tracking)				160 kHz	160 kHz	L153	Max.
	(2)					270 kHz	270 kHz	CT153	
	(3)					Repeat steps (1) and (2)			

● **Adjustment points**
[for W, AU (TRK-640)]

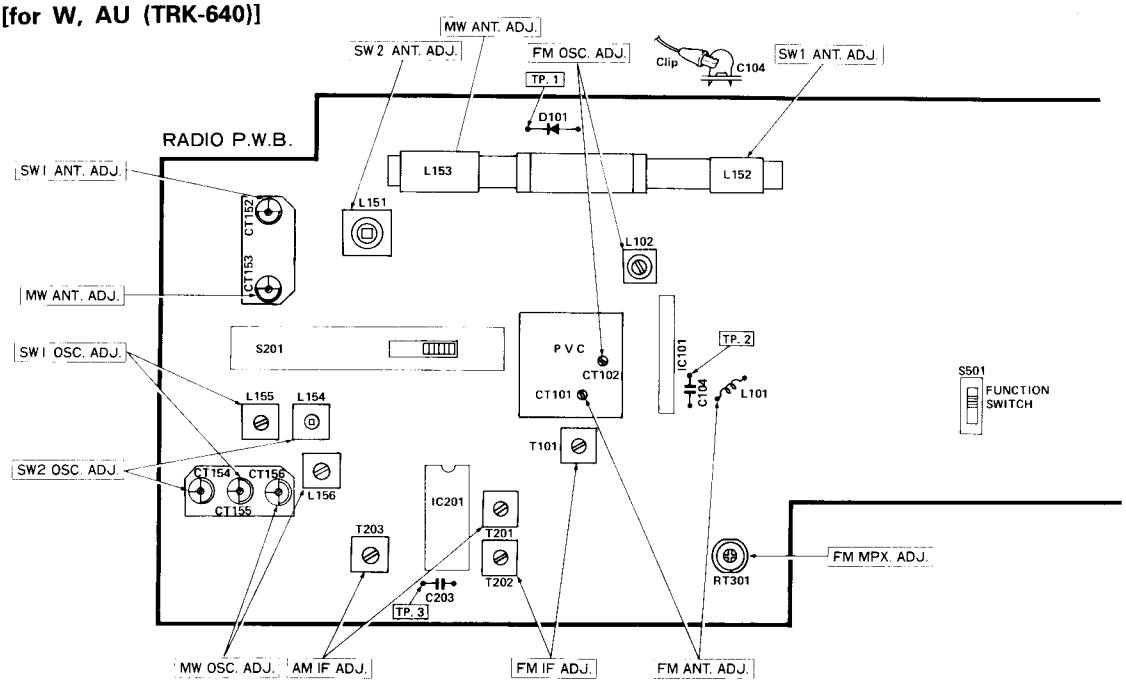


Fig. 9

(1)-2 AM Section for W, AU (FM/SW2/SW1/MW 4-bands)

Step		Adjustment Item	Measuring Instrument and Connection			Genescope or Signal Generator Frequency	Dial Pointer Position	Adjust	Reading
			Measuring Instrument	Input Terminal	Output Terminal				
1	(1)	AM IF	• Genescope (455 kHz)	Ferrite antenna (Note 3)	TP3	455 kHz	Highest	T201 T203	(Note 1)
	(2)					Repeat step (1)			
2	(1)	SW2 OSC. (Covering)	• AM signal generator (400 Hz, 30% mod.) • VTVM • Oscilloscope	TP1 (through SW dummy antenna) (Note 2)	TP3	6.7 MHz	Lowest	L154	Max.
	(2)					23 MHz	Highest	CT154	
	(3)					Repeat steps (1) and (2)			
3	(1)	SW2 ANT. (Tracking)				8 MHz	8 MHz	L151	Max.
						20 MHz	20 MHz	CT151	
4	(1)	SW1 OSC. (Covering)	• AM signal generator (400 Hz, 30% mod.) • VTVM • Oscilloscope	Ferrite antenna (Note 3)	TP3	2.2 kHz	Lowest	L155	Max.
	(2)					7.3 kHz	Highest	CT155	
	(3)					Repeat steps (1) and (2)			
5	(1)	SW1 ANT. (Tracking)				2.7 kHz	2.7 kHz	L152	Max.
	(2)					6.3 kHz	6.3 kHz	CT152	
	(3)					Repeat steps (1) and (2)			
6	(1)	MW OSC. (Covering)	• AM signal generator (400 Hz, 30% mod.) • VTVM • Oscilloscope	Ferrite antenna (Note 3)	TP3	515 kHz	Lowest	L156	Max.
	(2)					1,650 kHz	Highest	CT156	
	(3)					Repeat steps (1) and (2)			
7	(1)	MW ANT. (Tracking)				600 kHz	600 kHz	L153	Max.
	(2)					1,400 kHz	1,400 kHz	CT153	
	(3)					Repeat steps (1) and (2)			

● **Adjustment points [for H, HC (TRK-640)]**

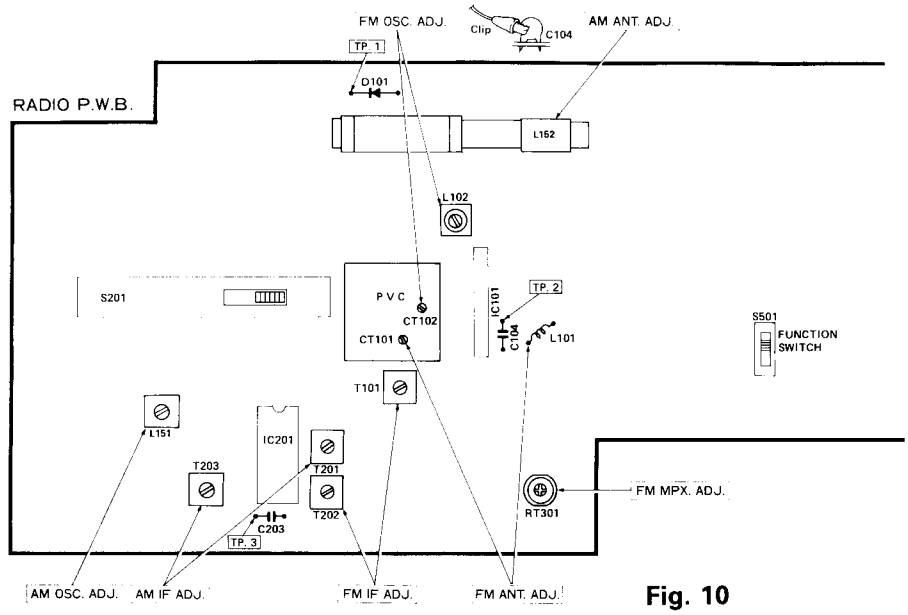


Fig. 10

(1)-3 AM Section for H, HC (FM/AM 2-bands)

Step		Adjustment Item	Measuring Instrument and Connection			Genescope or Signal Generator Frequency	Dial Pointer Position	Adjust	Reading
			Measuring Instrument	Input Terminal	Output Terminal				
1	(1)	AM IF	• Genescope (455 kHz)	Ferrite antenna (Note 3)	TP3	455 kHz	Highest	T201 T203	(Note 1)
	(2)					Repeat step (1)			
2	(1)	AM OSC. (Covering)	• AM signal generator (400 Hz, 30% mod.) • VTVM • Oscilloscope	Ferrite antenna (Note 3)	TP3	515 kHz	Lowest	L151	Max.
	(2)					1,650 kHz	Highest	CT161 (PVC)	
	(3)					Repeat steps (1) and (2)			
3	(1)	AM ANT. (Tracking)				600 kHz	600 kHz	L152	Max.
	(2)					1,400 kHz	1,400 kHz	CT152 (PVC)	
	(3)					Repeat steps (1) and (2)			

TRK-640/650

(2)-1 FM Section

*** : For E**

Step		Adjustment Item	Measuring Instrument and Connection			Genescope or Signal Generator Frequency	Dial Pointer Position	Adjust	Reading
			Measuring Instrument	Input Terminal	Output Terminal				
1	(1)	FM IF	Turn T202 fully counterclockwise			10.7 MHz	Highest	T101	(Note 5)
	(2)	S-Curve	• Genescope (10.7 MHz)	TP2	TP3			T202	(Note 6)
2	(1)	FM OSC. (Covering)	• FM signal generator (400 Hz, 30% dev.) • Oscilloscope • VTVM	TP1 (through FM dummy antenna) (Note 7)	TP3	*87.4 MHz 87 MHz	Lowest	L102	Max.
	(2)					*108.35 MHz 109 MHz	Highest	CT102	
	(3)					Repeat steps (1) and (2)			
3	(1)	FM ANT. (Tracking)				90 MHz	90 MHz	L101	Max.
	(2)					106 MHz	106 MHz	CT101	
	(3)					Repeat steps (1) and (2)			
4	(1)	FM MPX (Multiplex)	• Frequency counter	Connect a 10 μF/25V electrolytic capacitor between the NO. 1 pin of IC301 and GND	No. 6 pin of IC301	—	—	RT301	38 kHz ± 50 Hz (Note 8)

TRK-P65

- **Adjustment points**

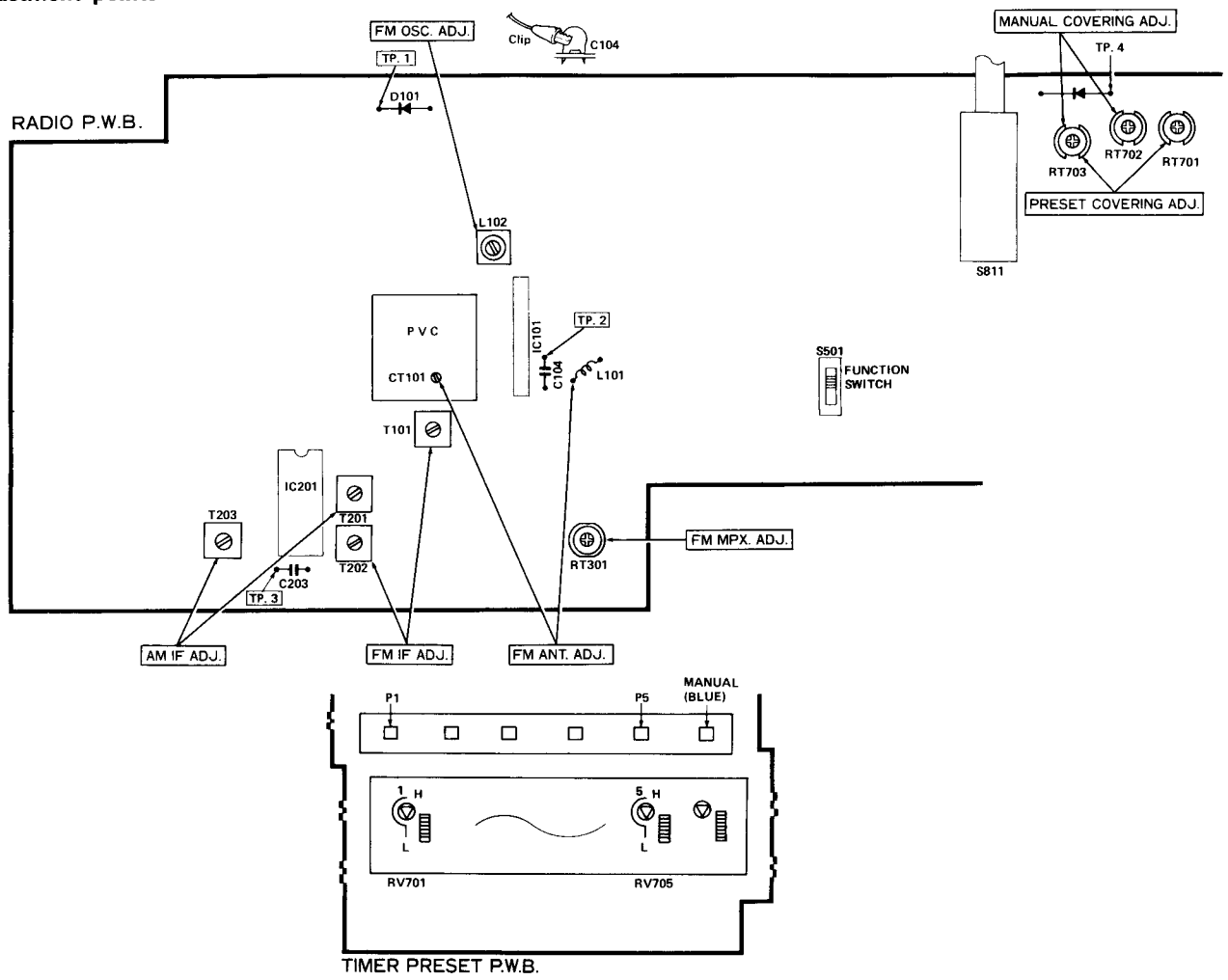


Fig. 11

TRK-P65

(2)-2 FM Section

Step		Adjustment Item	Measuring Instrument and Connection			Genescope or Signal Generator Frequency	Dial Pointer Position	Adjust	Reading
			Measuring Instrument	Input Terminal	Output Terminal				
1	(1)	FM IF	Turn T202 fully counterclockwise			10.7 MHz	Highest	T101	(Note 4)
	(2)	S-Curve	• Genescope (10.7 MHz)	TP2	TP3			T202	(Note 5)
2	(1)	FM ANT. (Tracking)	• FM signal generator (400 Hz, 30% dev.) • Oscilloscope • VTVM	TP1 (through FM dummy antenna) (Note 6)	TP3	90 MHz	90 MHz	L101	Max.
	(2)					106 MHz	106 MHz	CT101	
	(3)					Repeat steps (1) and (2)			
3	(1)	FM MPX (Multiplex)	• Frequency counter	Connect a 10 μF/25V electrolytic capacitor between the NO. 1 pin of IC301 and GND	No. 6 pin of IC301	—	—	RT301	38 kHz ± 50 Hz (Note 7)

FM Covering

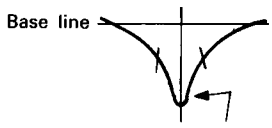
Step			Signal Generator Frequency	Preset CH. and Dial Pointer Position	Voltage of TP4	Adjust	Reading	Note
4-1		Preset Covering	—	—	3.0V±0.1	RT703	DC Volt meter	*1 Connect the DC volt meter to TP4
4-2			*2 See to (1) (2)	P1 ON	—	RV701	TP3 MAX	Fix the RV701 after searching lowest frequency.
4-3			*2 See to (3) (4)	P5 ON	—	RV705		Fix the RV705 after searching highest frequency.
4-4			87.4 $^{+0.1}_{-0.2}$ MHz	P1 ON	—	L102		
4-5	(1)		108.35 $^{+0.15}_{-0.35}$ MHz	P5 ON	—	RT701		
	(2)		—		3.0V±0.1	RT703		
	(3)		Repeat steps (1) and (2)					
4-6	(1)	Manual Covering	87.4 $^{+0.1}_{-0.2}$ MHz	MANUAL ON Dial Pointer Lowest	—	RT702	TP3 MAX	
	(2)		—		3.0V±0.1	RT703		
	(3)		Repeat steps (1) and (2)					

*1: Please use high internal impedance DC volt meter for measuring the voltage of TP4.

*2: How to adjust the RV701 (Lowest) and RV705 (Highest).
(1) Set the RV701 about lowest and receive the signal from Signal Generator.
(2) Adjust and search the lowest frequency so as to change the RV701 and the Signal Generator frequency.
(3) Set the RV705 about highest and receive the signal from Signal Generator.
(4) Adjust and search the highest frequency so as to change the RV705 and the Signal Generator frequency.

Note:

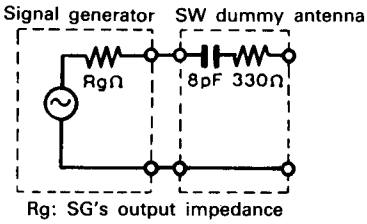
1. Feed in a weak signal from the genescope. Adjust T201, T203 for maximum gain and the waveform of Fig. 12.



Adjust the genescope output so that there is a little noise riding on the leading edge.

Fig. 12

2. SW dummy antenna shows Fig. 13.



Rg: SG's output impedance

Fig. 13

3. Connect AM signal generator to loop antenna, bring near to ferrite antenna.

4. Feed in a weak signal to TP2 from the genescope. Adjust T101 for maximum gain and the waveform indicated in Fig. 14. If the center of the waveform cannot be lined up on the marker, adjust the right/left balance.

Adjust the genescope output so that there is a little noise riding on the leading edge.

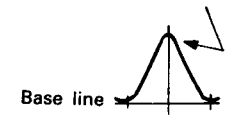


Fig. 14

5. Use the T202 core to form the S-curve shown in Fig. 15. Adjust the symmetry of A and B about point C for linearity.

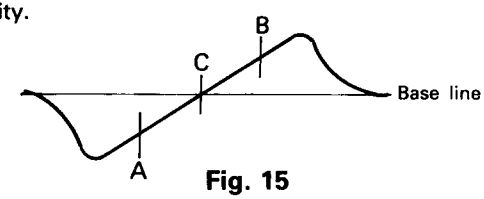


Fig. 15

6. FM dummy antenna shows Fig. 16.

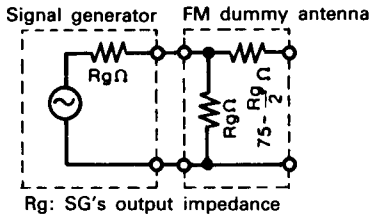


Fig. 16

7. Connect the frequency counter to the No. 6 pin of IC301 and connect a 220kΩ resister parallel with the frequency counter.

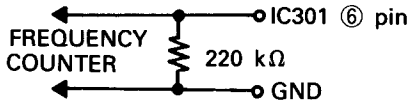


Fig. 17

2. TAPE RECORDER SECTION

Perform the following adjustments in the sequence stated after cleaning the head, pressure roller, and capstan with a head cleaning stick moistened in alcohol. (Note 1)

Step	Adjustment Item	Measuring Instrument and Connection			Check Tape	Mode	Adjust	Reading
		Measuring Instrument	Input Terminal	Output Terminal				
1	Tape speed	• Frequency counter	—	SP Terminal	Tape speed adjustment tape (3kHz)	Playback	Semivariable resistor in the motor (Fig. 18)	3kHz±20Hz (Note 2)
2	Head azimuth	• VTVM	—	SP Terminal	Head azimuth adjustment tape (10kHz)	Playback	Azimuth adjusting screw. (Fig. 18)	Output max. (Note 3)

Note:

1. Adjust within 30 sec. after heart-running for more than 20 minutes.
2. When the maximum values of both channels are different, adjust to the maximum value of the L channel. In this case, the difference between the maximum values of both channels should be within 2 dB.
3. When the maximum values of both channels are different, adjust to the maximum value of the L channel. In this case, the difference between the maximum values of both channels should be within 2 dB.

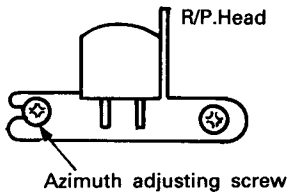


Fig. 18

3. Cassette Chassis Checking and Adjustment

No.	Inspection item	Reference Value	Remarks
1	Pressure roller compression strength	TAPE 300-500 g	(Note 1) Tension gauge
2	Playback torque	TAPE 40-70 g	Cassette pack system Torque meter
3	FF/REW torque	65-140 g	Cassette pack system Torque meter
4	Take up back-tension	TAPE 2.0-6.0 g · min	Cassette pack system Torque meter
5	Tape drive force	TAPE 120 g · min	
6	Axial play of flywheel	0.05-0.5 mm	

Note 1 Pressure roller compression strength

LUBRICATION

Apply one or two drops of pan motor oil or sonic slider oil to rotating parts. Coat sliding parts with Molycoat (EL-10M). Lubricate once a year or every 1,000 hours of operation. Do not let oil contact belts or idlers.

Rotating parts	Metal to metal	Pan motor oil (10W-40)
	Plastics to metal	Sonic slider oil (#1600)
Sliding parts	(Note) Plastics to plastics Plastics to metal	Molycoat (EL-10M)
Spring vibration prevention		Floyl (GB-TS-1)

NOTE:
When front frame and slide knob are replaced, coat both contacting parts lightly with white grease.

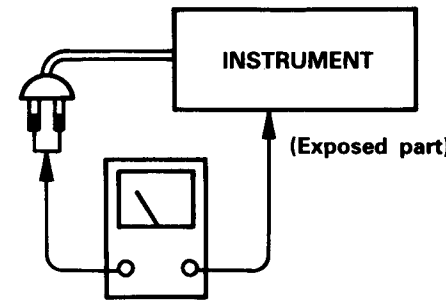
MAINTENANCE

■ **Clean cabinet and panels when dirty**

Clean off dirt on the surfaces with a dry cloth. Never use thinners, benzene or alcohol since these will damage the surface finish.

Check that exposed parts are acceptably insulated from the supply circuit before returning the instrument repaired to the customer.

- **Checking method**
  Operate switch is set to ON.
  Next, measure the resistance value between the both poles of attachment cup (Power supply plug) and the exposed parts (Parts such as Knob, Cover, etc. where the customer is easy to touch.) and check that the resistance value is 500 kohms or more.



Insulation tester (DC 500V)

RÉGLAGE

1. SECTION RADIO

- **Points de réglage**

[pour E, E(BS)] Plaquette principale de circuits imprimés

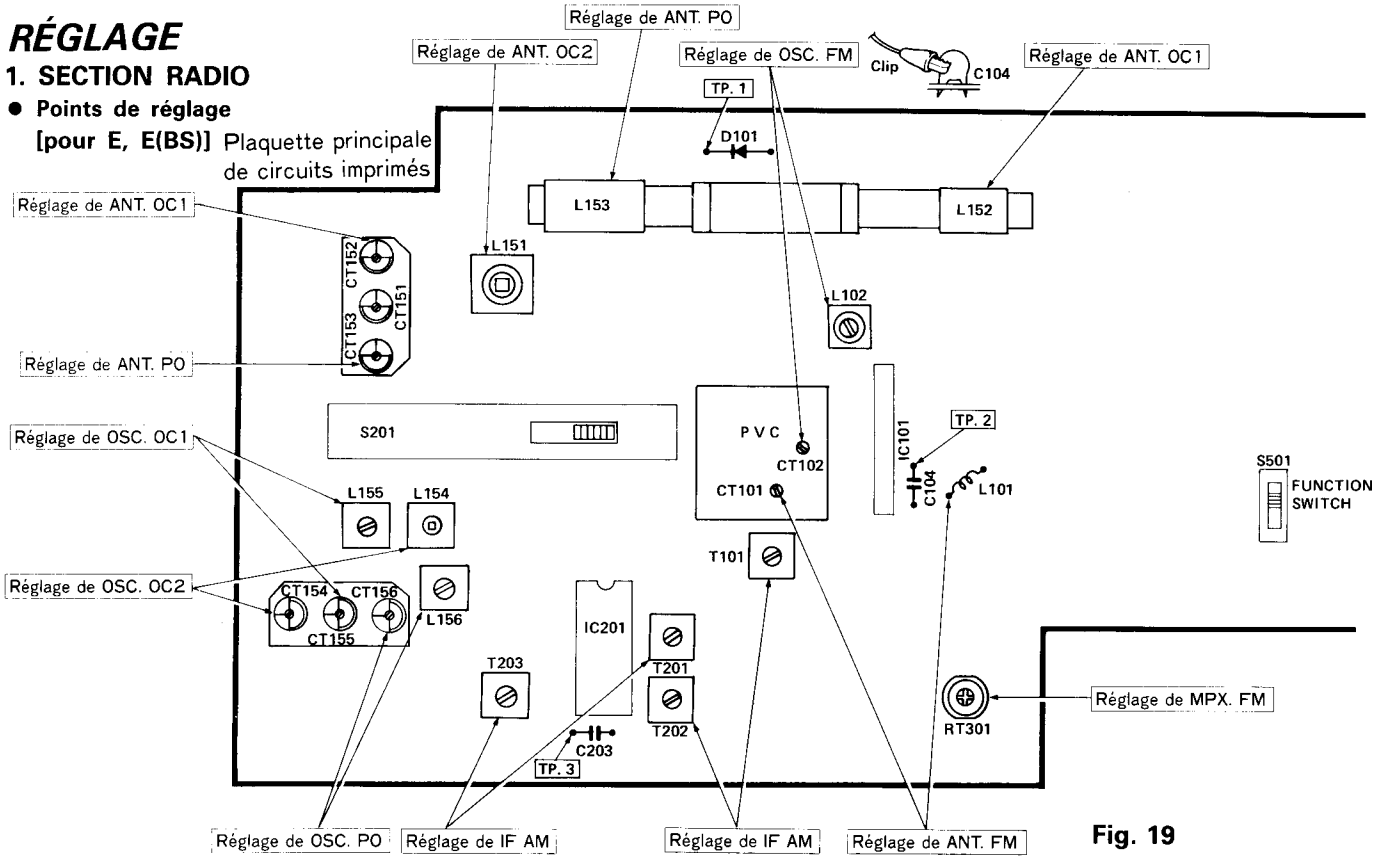


Fig. 19

(1)-1 Section AM pour E, E(BS) (FM/OC/PO/GO 4 gammes)

Etape		Objet du réglage	Instrument de mesure et branchements			Généscope ou fréquence du générateur de signal	Position de l'aiguille du cadran	Réglage	Lecture
			Instrument de mesure	Borne d'entrée	Borne de sortie				
1	(1)	IF AM	• Généscope (465 kHz)	Antenne noyau en ferrite (Remarque 3)	TP3	465 kHz	La plus haute	T201 T203	(Remarque 1)
	(2)					Répéter étape (1)			
2	(1)	OSC. OC (coverture)	• Générateur de signal AM (400 Hz, mod. 30%) • VTVM • Oscilloscope	TP1 (par le biais d'une antenne OC fictive) (Remarque 2)	TP3	5,8 MHz	La plus basse	L154	Max.
	(2)					18,5 MHz	La plus haute	CT154	
	(3)					Répéter les étapes (1) et (2)			
3	(1)	ANT. OC (poursuite)				6,5 MHz	6,5 MHz	L151	Max.
	(2)					16 MHz	16 MHz	CT151	
	(3)					Répéter les étapes (1) et (2)			
4	(1)	OSC. PO (coverture)	• Générateur de signal AM (400 Hz, mod. 30%) • VTVM • Oscilloscope	Antenne noyau en ferrite (Remarque 3)	TP3	515 kHz	La plus basse	L155	Max.
	(2)					1650 kHz	La plus haute	CT155	
	(3)					Répéter les étapes (1) et (2)			
5	(1)	ANT. PO (poursuite)				600 kHz	600 kHz	L152	Max.
	(2)					1400 kHz	1400 kHz	CT152	
	(3)					Répéter les étapes (1) et (2)			
6	(1)	OSC. GO (coverture)	• Générateur de signal AM (400 Hz, mod. 30%) • VTVM • Oscilloscope	Antenne noyau en ferrite (Remarque 3)	TP3	145 kHz	La plus basse	L156	
	(2)					290 kHz	La plus haute	CT156	
	(3)					Répéter les étapes (1) et (2)			
7	(1)	ANT. GO (poursuite)				160 kHz	160 kHz	L153	
	(2)					270 kHz	270 kHz	CT153	
	(3)					Répéter les étapes (1) et (2)			

● **Points de réglage**
[pour W, AU (TRK-640)]

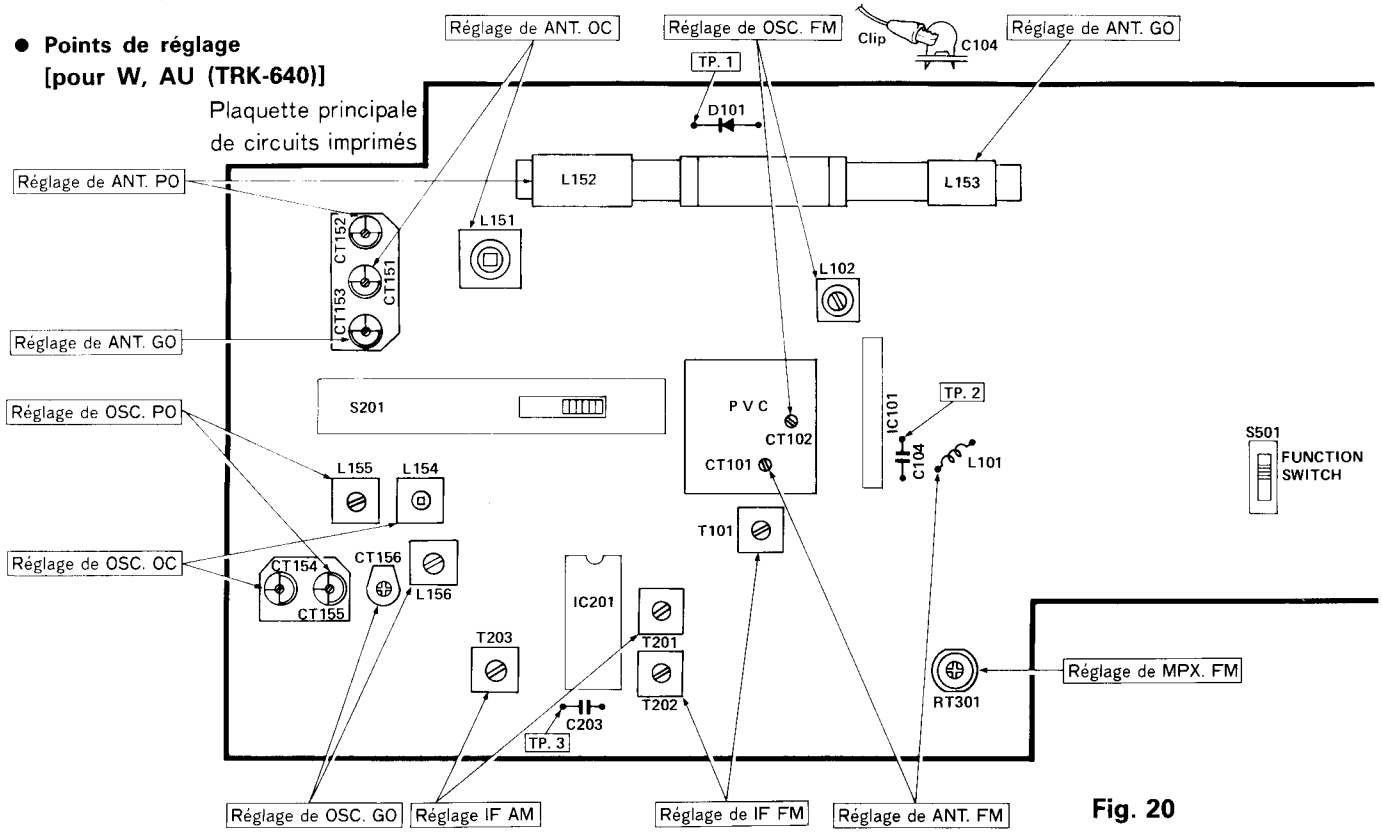


Fig. 20

(1)-2 Section AM pour W, AU (FM/OC2/OC1/PO 4 gammes)

Etape		Objet du réglage	Instrument de mesure et branchements			Générateur ou fréquence du générateur de signal	Position de l'aiguille du cadran	Réglage	Lecture
			Instrument de mesure	Borne d'entrée	Borne de sortie				
1	(1)	IF AM	• Générateur (455 kHz)	Antenne noyau en ferrite (Remarque 3)	TP3	455 kHz	La plus haute	T201 T203	(Remarque 1)
	(2)					Répéter étape (1)			
2	(1)	OSC. OC2 (coverture)	• Générateur de signal AM (400 Hz, mod. 30%) • VTVM • Oscilloscope	TP1 (par le biais d'une antenne OC fictive) (Remarque 2)	TP3	6,7 MHz	La plus basse	L154	Max.
	(2)					23 MHz	La plus haute	CT154	
	(3)					Répéter les étapes (1) et (2)			
3	(1)	ANT. OC2 (poursuite)				8 MHz	8 MHz	L151	Max.
						20 MHz	20 MHz	CT151	
4	(1)	OSC. OC1 (coverture)	• Générateur de signal AM (400 Hz, mod. 30%) • VTVM • Oscilloscope	Antenne noyau en ferrite (Remarque 3)	TP3	2,2 kHz	La plus basse	L155	Max.
	(2)					7,3 kHz	La plus haute	CT155	
	(3)					Répéter les étapes (1) et (2)			
5	(1)	ANT. OC1 (poursuite)				2,7 kHz	2,7 kHz	L152	Max.
	(2)					6,3 kHz	6,3 kHz	CT152	
	(3)					Répéter les étapes (1) et (2)			
6	(1)	OSC. PO (coverture)	• Générateur de signal AM (400 Hz, mod. 30%) • VTVM • Oscilloscope	Antenne noyau en ferrite (Remarque 3)	TP3	515 kHz	La plus basse	L156	Max.
	(2)					1650 kHz	La plus haute	CT156	
	(3)					Répéter les étapes (1) et (2)			
7	(1)	ANT. PO (poursuite)				600 kHz	600 kHz	L153	Max.
	(2)					1400 kHz	1400 kHz	CT153	
	(3)					Répéter les étapes (1) et (2)			

● **Points de réglage [for H, HC (TRK-640)]**

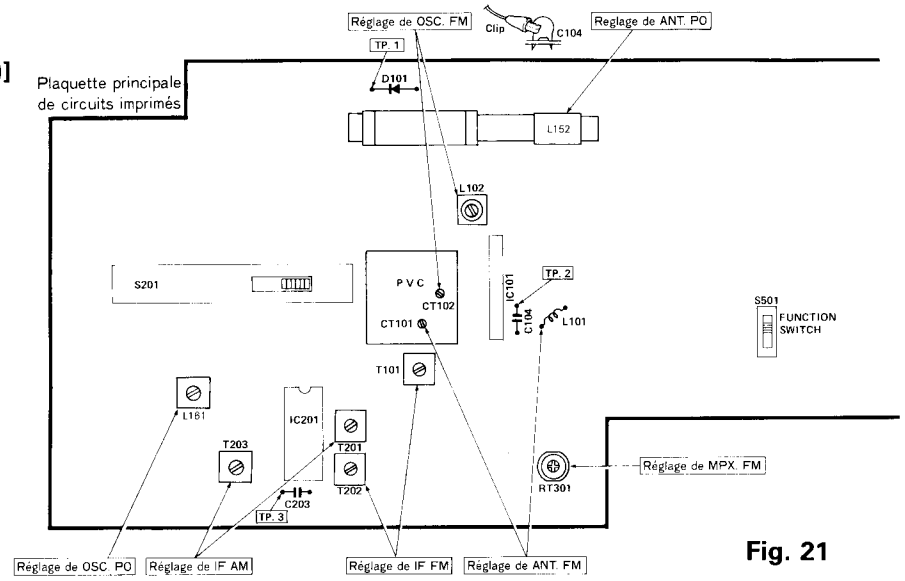


Fig. 21

(1)-3 Section AM pour H, HC (FM/PO 2 gammes)

Etape		Objet du réglage	Instrument de mesure et branchements			Générateur ou fréquence du générateur de signal	Position de l'aiguille du cadran	Réglage	Lecture
			Instrument de mesure	Borne d'entrée	Borne de sortie				
1	(1)	IF AM	• Générateur (455 kHz)	Antenne noyau en ferrite (Remarque 3)	TP3	455 kHz	La plus haute	T201 T203	(Remarque 1)
	(2)					Répéter étape (1)			
2	(1)	OSC. PO (coverture)	• Générateur de signal AM (400 Hz, mod. 30%) • VTVM • Oscilloscope	Antenne noyau en ferrite (Remarque 3)	TP3	515 kHz	La plus basse	L156	Max.
	(2)					1650 kHz	La plus haute	CT156	
	(3)					Répéter les étapes (1) et (2)			
3	(1)	ANT. PO (poursuite)				600 kHz	600 kHz	L153	Max.
	(2)					1400 kHz	1400 kHz	CT153	
	(3)					Répéter les étapes (1) et (2)			

TRK-640/650

(2)-1 Section FM

*** : Pour E**

Etape		Objet du réglage	Instrument de mesure et branchements			Générateur ou fréquence du générateur de signal	Position de l'aiguille du cadran	Réglage	Lecture
			Instrument de mesure	Borne d'entrée	Borne de sortie				
1	(1)	IF FM	Tourner T202 à fond dans le sens des aiguilles d'une montre.			10,7 MHz	La plus haute	T101	(Remarque 5)
	(2)	Courbe-S	• Générateur (10,7 MHz)	TP2	TP3			T202	(Remarque 6)
2	(1)	OSC. FM (coverture)	• Générateur de signal FM (400 Hz, dév 30%) • Oscilloscope • VTVM	TP1 (par le biais d'une antenne FM fictive) (Remarque 7)	TP3	*87.4 MHz 87 MHz	La plus basse	L102	Max.
	(2)					*108.35 MHz 109 MHz	La plus haute	CT102	
	(3)					Répéter les étapes (1) et (2)			
3	(1)	ANT. FM (poursuite)				90 MHz	90 MHz	L101	Max.
	(2)					106 MHz	106 MHz	CT101	
	(3)					Répéter les étapes (1) et (2)			
4	(1)	MPX FM (Multiplex)	• Fréquencemétre	Brancher un condensateur électrolytique de 10 μF/25V entre la broche n° 1 du IC301 et la masse (GND).	Broche n° 6 du IC301	—	—	RT301	38 kHz ±50 Hz (Remarque 8)

TRK-P65

● Emplacements de réglage

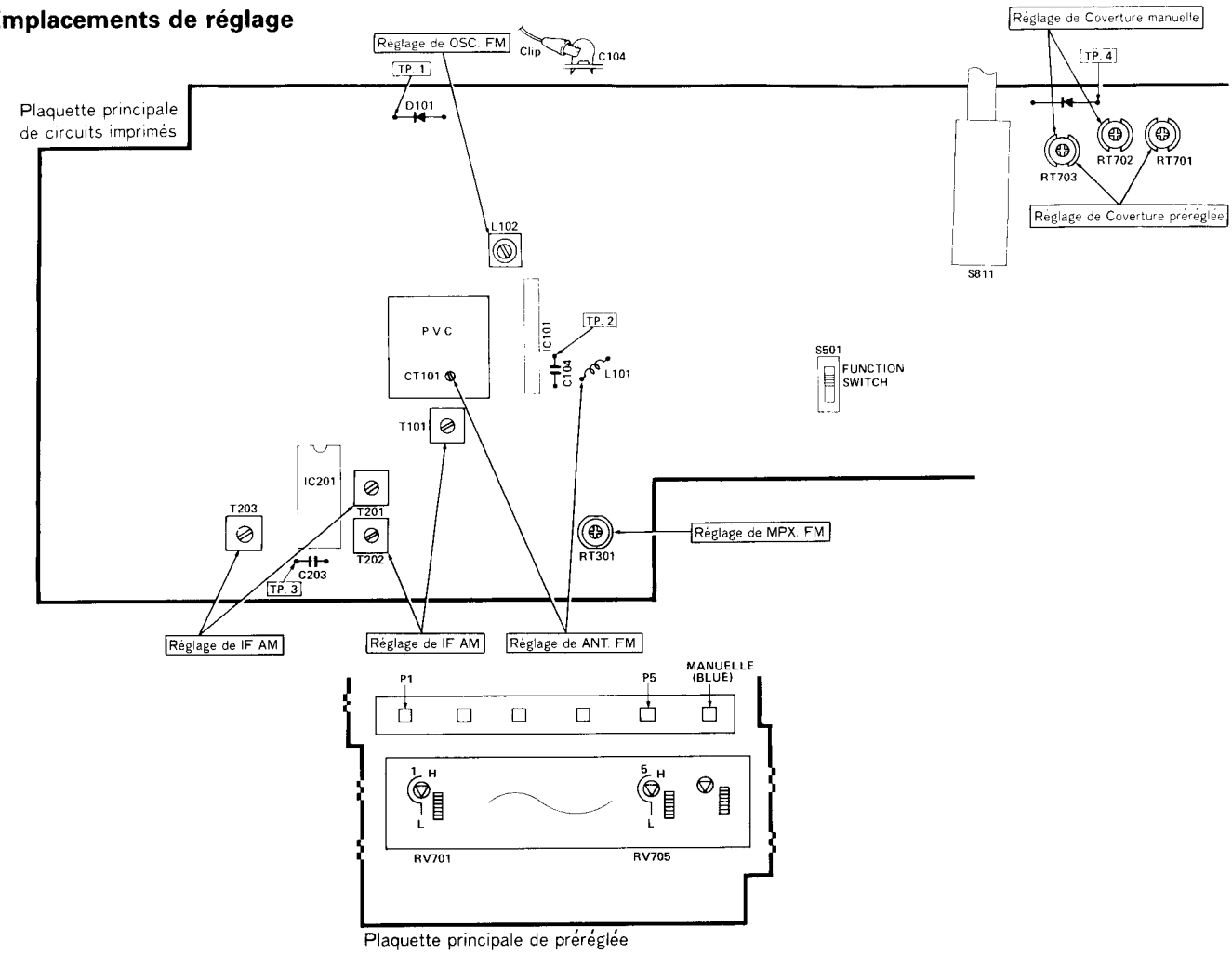


Fig. 22

TRK-P65

(2)-2 Section FM

Etape		Objet du réglage	Instrument de mesure et branchements			Générateur ou fréquence du générateur de signal	Position de l'aiguille du cadran	Réglage	Lecture
			Instrument de mesure	Borne d'entrée	Borne de sortie				
1	(1)	IF FM	Tourner T202 à fond dans le sens des aiguilles d'une montre.			10,7 MHz	La plus haute	T101	(Remarque 4)
	(2)	Courbe-S	• Générateur (10,7 MHz)	TP2	TP3			T202	(Remarque 5)
2	(1)	ANT. FM (poursuite)	• Générateur de signal FM (400 Hz, dév. 30%) • Oscilloscope • VTVM	TP1 (par le biais d'une antenne FM fictive) (Remarque 6)	TP3	90 MHz	90 MHz	L101	Max.
	(2)					106 MHz	106 MHz	CT101	
	(3)					Répéter les étapes (1) et (2)			
3	(1)	MPX FM (Multiplex)	• Fréquencemétre	Brancher un condensateur électrolytique de 10 μF/25V entre la broche n° 1 du IC301 et la masse (GND).	Broche n° 6 du of IC301	—	—	RT301	38 kHz ±50 Hz (Remarque 7)

Coverture FM

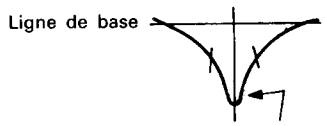
Etape			Fréquence du générateur de signal	Préréglage canaux et position de l'aiguille du cadran	Tension de TP4	Réglage	Lecture	Remarque
4-1		Coverture préréglée	—	—	3,0V±0,1	RT703	Voltmètre CC	*1 Brancher le voltmètre CC sur TP4
4-2			*2 Voir (1), (2)	P1 enclenché (ON)	—	RV701	TP3 Max.	Fixer le RV701 après avoir recherché la fréquence la plus basse.
4-3			*2 Voir (3), (4)	P5 enclenché (ON)	—	RV705		Fixer le RV705 après avoir recherché la fréquence la plus haute.
4-4			87,4 $^{+0,1}_{-0,2}$ MHz	P1 enclenché (ON)	—	L102		
4-5	(1)		108,35 $^{+0,15}_{-0,35}$ MHz	P5 enclenché (ON)	—	RT701		
	(2)		—		3,0V±0,1	RT703		
	(3)		Répéter les étapes (1) et (2)					
4-6	(1)	Coverture manuelle	87,4 $^{+0,1}_{-0,2}$ MHz	MANUAL enclenché (ON) Aiguille sur la position la plus basse.	—	RT702	TP3 Max.	
	(2)		—		3,0V±0,1	RT703		
	(3)		Répéter les étapes (1) et (2)					

*1. Veuillez utiliser un voltmètre CC à impédance interne élevée pour les mesures de la tension de TP4.

*2. Comment régler le RV701 (le plus bas) et RV705 (le plus haut)
(1) Régler le RV701 au niveau le plus bas et recevoir le signal provenant du générateur de signal.
(2) Régler et rechercher la fréquence la plus basse de façon à changer le RV701 et la fréquence du générateur de signal.
(3) Régler le RV705 au niveau le plus haut et recevoir le signal provenant du générateur de signal.
(4) Régler et rechercher la fréquence la plus haute de façon à changer le RV705 et la fréquence du générateur de signal.

Remarque:

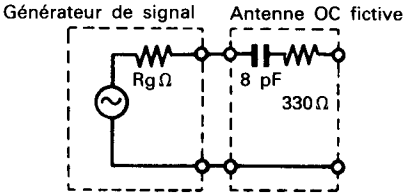
1. Appliquer un signal faible du généscope. Régler T201 et T203 afin d'obtenir un gain maximum et la forme d'onde de la Fig. 23.



Régler la sortie du généscope de façon à ce qu'il y ait un peu de bruit au niveau du front d'onde.

Fig. 23

2. Antenne OC fictive



Rg : impédance de sortie du générateur de signal

Fig. 24

3. Relier le générateur de signal AM à l'antenne-cadre. La rapprocher de l'antenne noyau en ferrite.

4. Appliquer un signal faible du généscope sur TP2. Régler T101 afin d'obtenir un gain maximum et la forme d'onde de la Fig. 25. Si le centre de la forme d'onde ne peut pas être aligné sur le marqueur, régler la balance droite/gauche.

Régler la sortie du généscope de façon à ce qu'il y ait un peu de bruit au niveau du front d'onde.

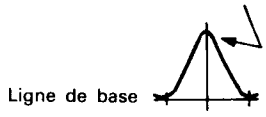


Fig. 25

5. Utiliser le noyau de T202 pour former la courbe-S indiquée sur la Fig. 26. Régler la symétrie de A et B au niveau du point C pour la linéarité.

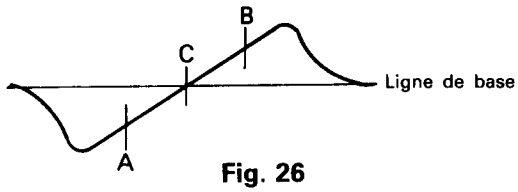
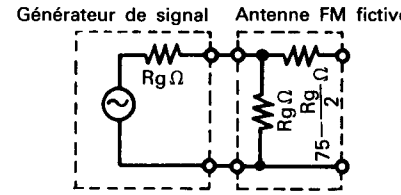


Fig. 26

6. Antenne FM fictive



Rg : impédance de sortie du générateur de signal

Fig. 27

7. Relier le fréquencemètre sur la broche n°6 du IC301 et brancher une résistance de 220 kΩ en parallèle avec le fréquencemètre.

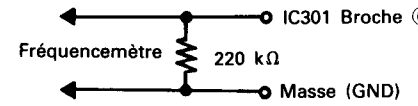


Fig. 28

2. SECTION LECTEUR-ENREGISTREUR DE CASSETTE

Effectuer les réglages suivants dans l'ordre indiqué après avoir nettoyé la tête, le galet-presseur et le cabestan avec un coton-tige imbibé d'alcool. (Remarque 1)

Etape	Objet de réglage	Instrument de mesure et branchements			Band de vérification	Mode	Réglage	Lecture
		Instrument de mesure	Borne d'entrée	Borne de sortie				
1	Vitesse de défilement	• Fréquence-mètre	—	Borne haut-parleurs	Bande de réglage de vitesse de défilement (3 kHz)	Resisteur semivariable dans le moteur	Resistor semivariable dans le moteur (Fig. 29)	3 kHz ± 20 Hz (Remarque 2)
2	Azimuth de tête	• VTVM	—	Borne haut-parleurs	Bande de réglage d'azimuth de tête (10 kHz)	Reproduction	Vis de réglage d'azimuth (Fig. 29)	Sortie max. (Remarque 3)

Remarque :

1. Régler dans une plage de 30 sec. après une mise sous tension de 20 minutes au moins.

2. Quand les valeurs maximale des deux canaux sont différentes, réglez alors sur la valeur maximale du canal gauche. Dans ce cas, la différence entre les valeurs maximales des deux canaux doivent être au dedans de 2 dB.

3. Si les valeurs maximales des deux canaux diffèrent, régler sur la valeur maximale du canal de gauche (L). Dans ce cas, la différence entre les valeurs maximales des deux canaux doit être comprise dans une plage de 2 dB.

Tête de reproduction/lecture

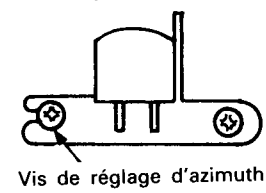


Fig. 29

3. Réglage du châssis de cassette

No.	Point d'inspection	Valeur de référence	Observation
1	Valeur de compression de galet presseur	Bande: 300-500 g	(Remarque 1) Dynamomètre de Tension
2	Coupe en lecture	Bande: 40-70 g	Cassette de coupe d'entrafnement
3	Coupe avance rapid/rebobinage	65-140 g	Cassette de coupe d'entrafnement
4	Tension bobine débitriee	Bande: 2.0-6.0 g · cm	Cassette de coupe d'entrafnement
5	Force de défilement de bande	Bande: 120 g · min	Cassette de coupe d'entrafnement
6	Jeu axial sur volant	0.05-0.5 mm	Cassette de coupe d'entrafnement

LUBRIFICATION

Appliquer une ou deux gouttes d'huile moteur ou d'huile Sonic pour curseur, sur les membres rotatifs. De la graisse Molycoat (EL-10M) est appliquée sur les membres coulissants.
Lubrifier une fois par an ou toutes les 1 000 heures de fonctionnement.
Veiller à ne pas appliquer d'huile sur les courroies ou les galets.

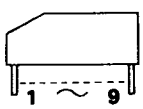
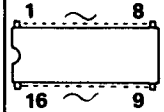
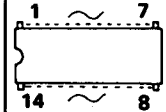
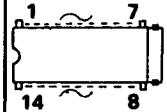
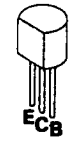
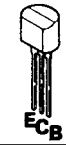
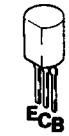
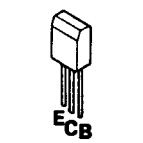
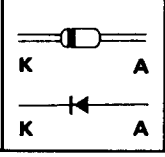
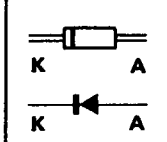
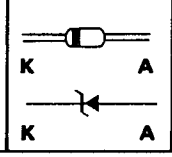
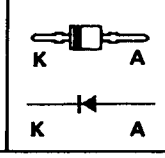
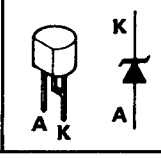
Membres rotatifs	Entre les parties métalliques	Huile moteur (10W-40)
	Entre le moulage et les parties métalliques	Huile Sonic pour curseur (#1600)
Membres coulissants	(Remarque) Entre moulures Entre moulures et piéces métalliques	Molycoat (EL-10M)
Prévention de vibration de ressort		Floyl (GB-TS-1)

Remarque:
Lorsque le châssis avant et le bouton curseur doivent être remplacés, appliquer une couche légère de graisse blanche sur les parties de contact.

ENTRETIEN

■ **Nettoyage du coffret et des panneaux lorsqu'ils sont sales**

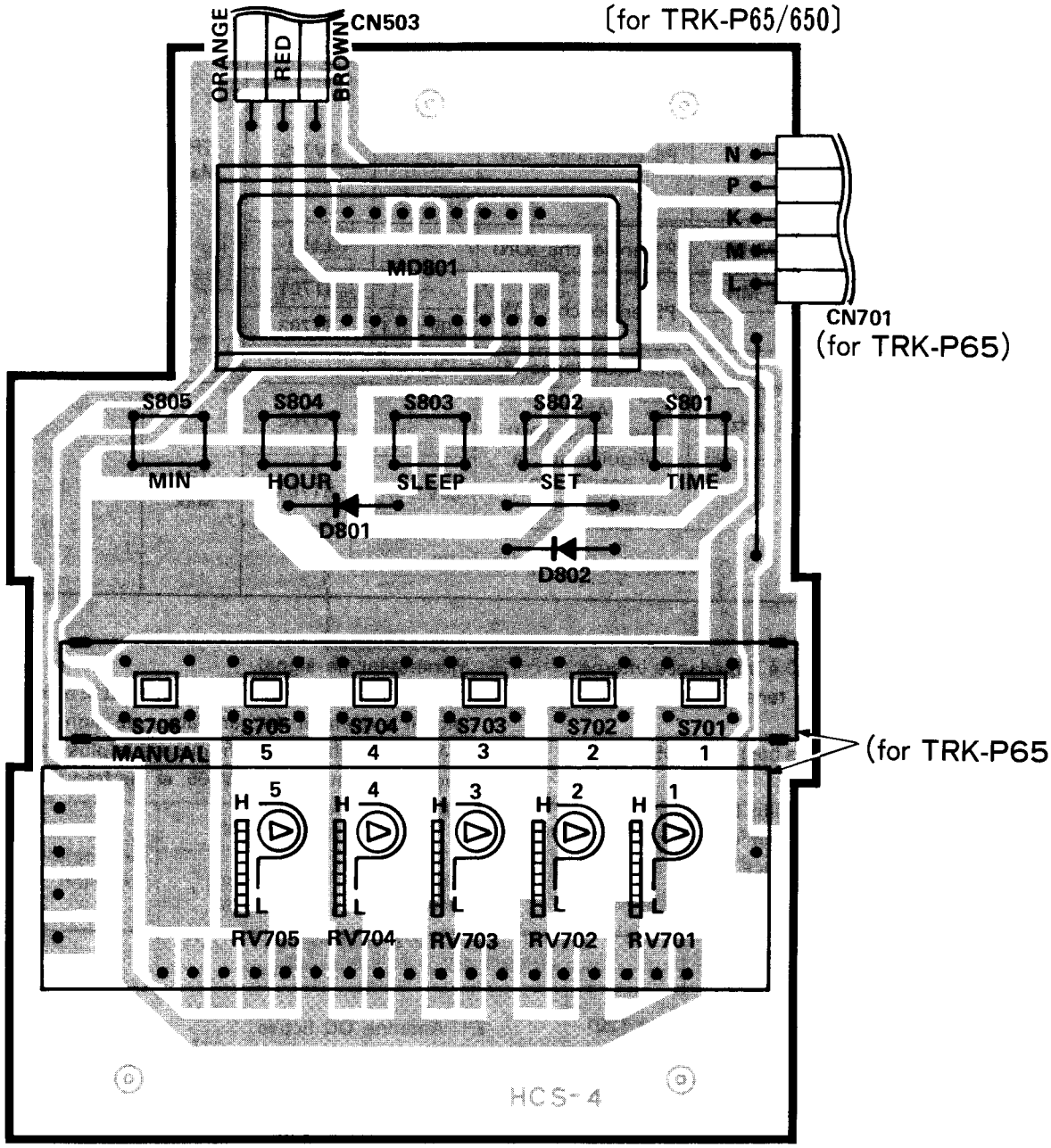
Enlever la poussière des surfaces de l'appareil avec un chiffon sec. Ne jamais utiliser de solvants, de benzine ou d'alcool car ils abîmeraient le fini des surfaces.

TA7358P TA7343AP	TA6740AP	AN7312	μPC1316C	2SA844E 2SC1684R 2SC1815GR 2SD592AR	HIT8050C	HIT5609C HIT9011GH
						
2SB605LA	1N4148 1S2790 1SS81	1N4001	MTZ6.2A	1SV50	μPC574J	
						

PRINTED WIRING BOARD · PLAN DE BASE

TRK-650/TRK-P65

PRESET/TIMER P.W.B.



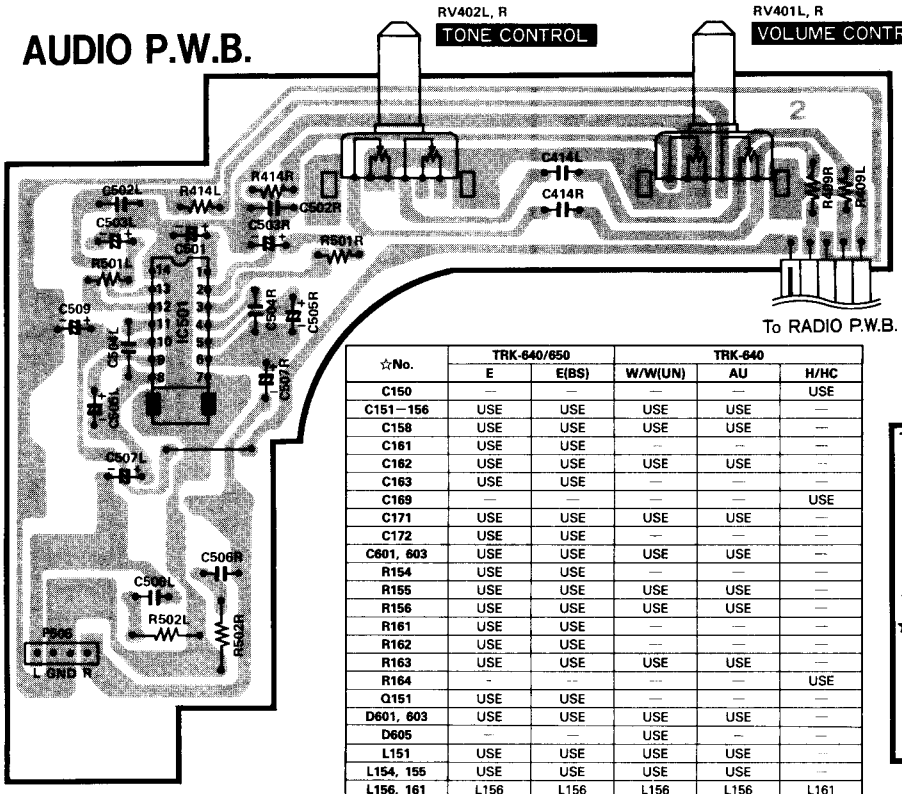
S701–706
PRESET SWITCH

RV701–705
PRESET VOLUME CONTROL

ITED WIRING BOARD · PLAN DE BASE

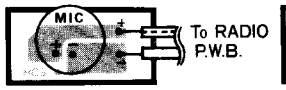
TRK-640/TRK-650

AUDIO P.W.B.

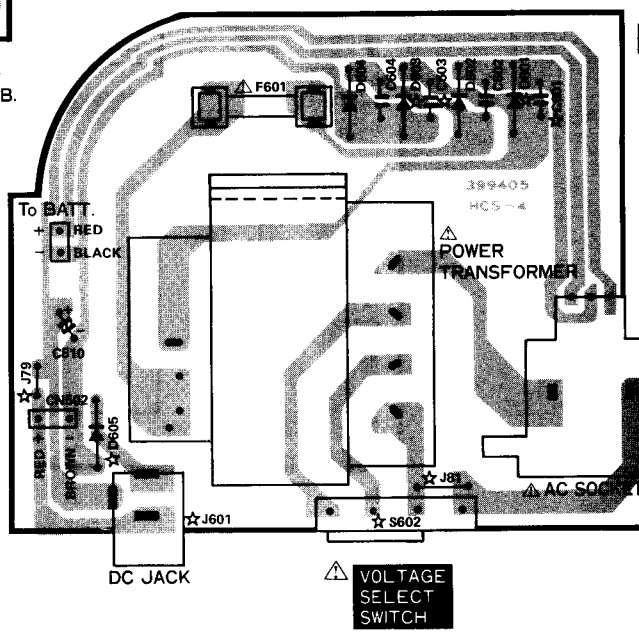


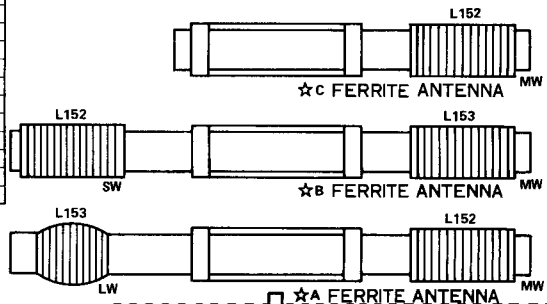
☆No.	TRK-640/650		TRK-640		
	E	E(BS)	W/W(UN)	AU	H/HC
C150	—	—	—	—	USE
C151—156	USE	USE	USE	USE	—
C158	USE	USE	USE	USE	—
C161	USE	USE	—	—	—
C162	USE	USE	USE	USE	—
C163	USE	USE	—	—	—
C169	—	—	—	—	USE
C171	USE	USE	USE	USE	—
C172	USE	USE	—	—	—
C601, 603	USE	USE	USE	USE	—
R154	USE	USE	—	—	—
R155	USE	USE	USE	USE	—
R156	USE	USE	USE	USE	—
R161	USE	USE	—	—	—
R162	USE	USE	—	—	—
R163	USE	USE	USE	USE	—
R164	—	—	—	—	USE
Q151	USE	USE	—	—	—
D601, 603	USE	USE	USE	USE	—
D605	—	—	USE	—	—
L151	USE	USE	USE	USE	—
L154, 155	USE	USE	USE	USE	—
L156, 161	L156	L156	L156	L156	L161
L171	USE	USE	USE	USE	—
CT151—156	USE	USE	USE	USE	—
S602	—	—	USE	—	—
FERRITE ANTENNA	A	A	B	B	C
Jumper 1, 7	USE	USE	USE	USE	—
Jumper 3—5	USE	USE	USE	USE	—
Jumper 10, 11	USE	USE	USE	USE	—
Jumper 15, 16	USE	USE	USE	USE	—
Jumper 17, 18	USE	USE	USE	USE	—
Jumper 19	—	—	USE	USE	—
Jumper 20	USE	USE	USE	USE	—
Jumper 79	USE	USE	—	USE	USE
Jumper 81	USE	USE	—	USE	USE
Jumper 104, 105	—	—	—	—	USE
Jumper 601	—	—	USE	—	—

MIC P.W.B.

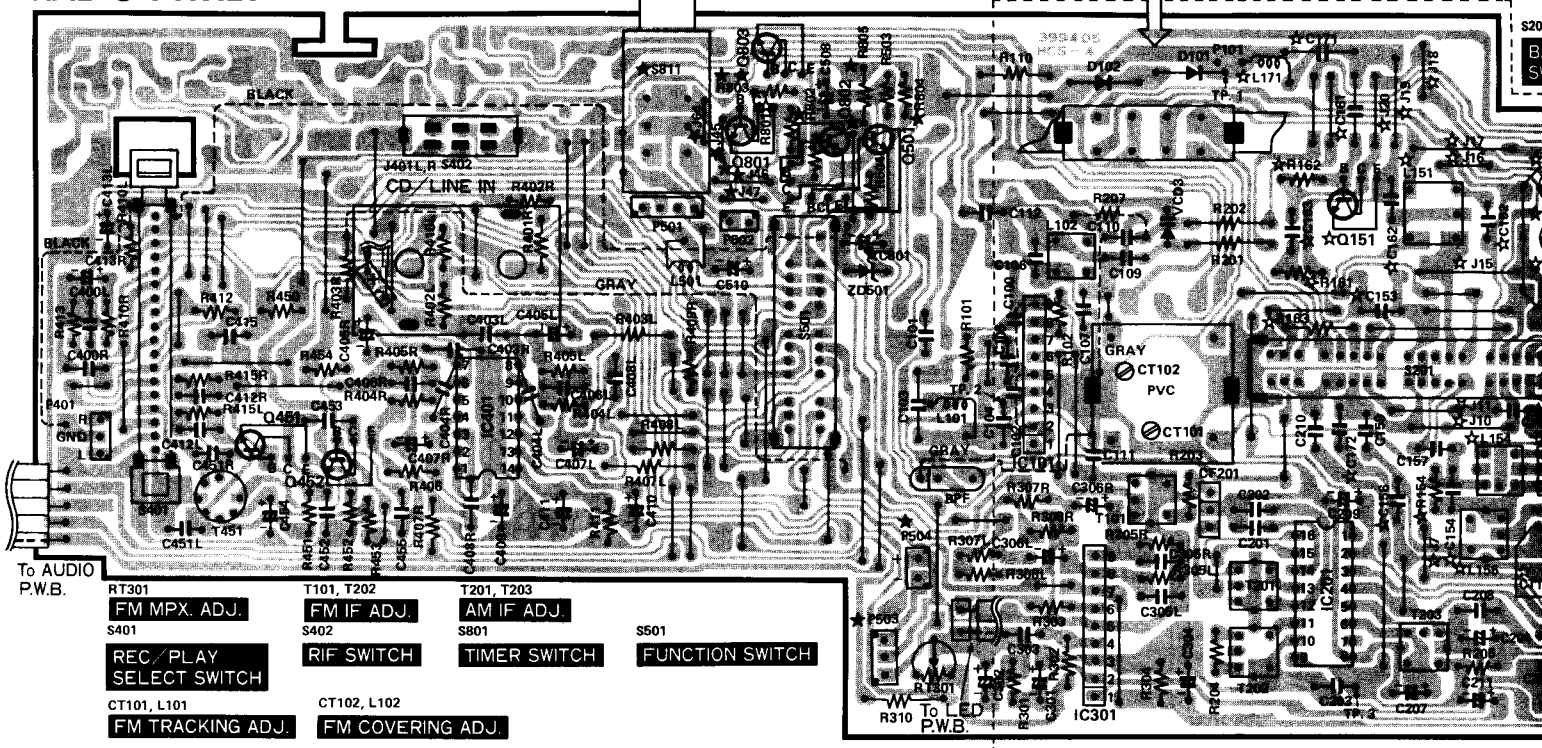


LED P.W.B.





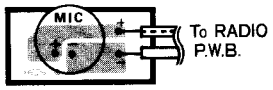
RADIO P.W.B.



RT301 FM MPX. ADJ.
T101, T202 FM IF ADJ.
T201, T203 AM IF ADJ.
S401 REC/PLAY SELECT SWITCH
S402 RIF SWITCH
S801 TIMER SWITCH
S501 FUNCTION SWITCH
CT101, L101 FM TRACKING ADJ.
CT102, L102 FM COVERING ADJ.

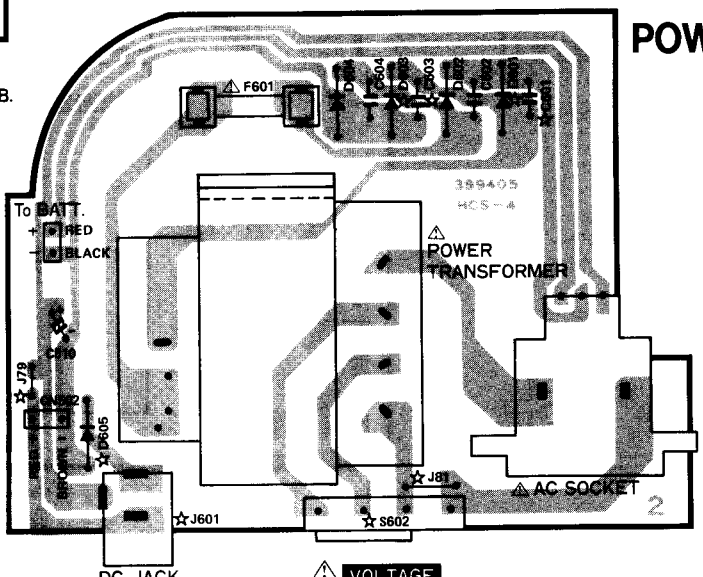
NTROL

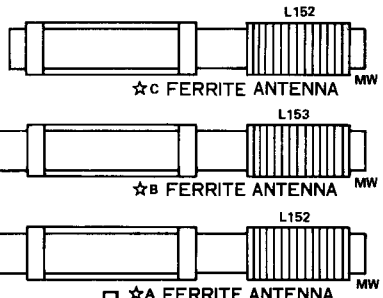
MIC P.W.B.



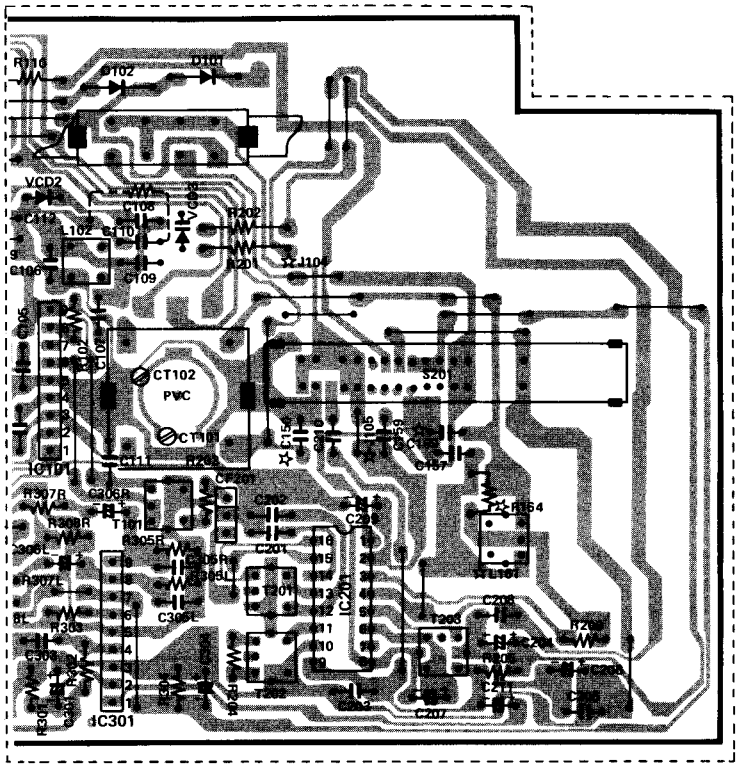
LED P.W.B.

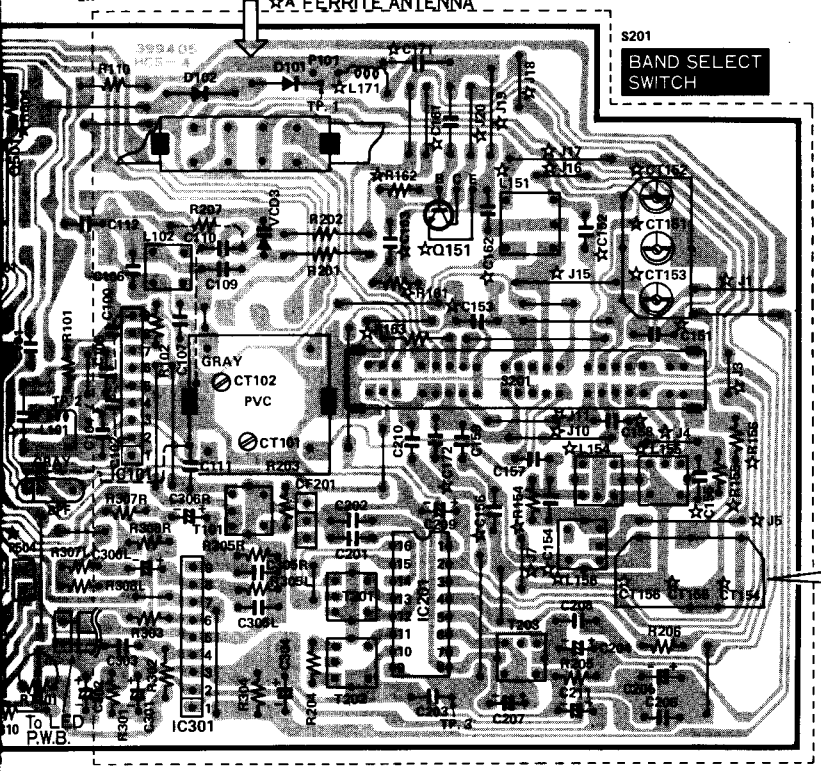
POWER P.W.B.





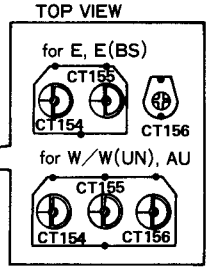
for H HC only





CT151, L151(for E, E(BS))	CT151, L151(for W/W(UN), AU)
SW ANT. ADJ.	SW2 ANT. ADJ.
CT152, L152(for E, E(BS))	CT152, L153(for W/W(UN), AU)
MW ANT. ADJ.	SW1 ANT. ADJ.
CT153, L153(for E, E(BS))	CT153, L152(for W/W(UN), AU)
LW ANT. ADJ.	MW ANT. ADJ.
CT153, L155(for E, E(BS))	CT156, L156(for W/W(UN), AU)
MW OSC. ADJ.	MW OSC. ADJ.
CT154, L154(for E, E(BS))	CT155, L155(for W/W(UN), AU)
SW OSC. ADJ.	SW1 OSC. ADJ.
CT154, L156(for E, E(BS))	CT154, L154(for W/W(UN), AU)
LW OSC. ADJ.	SW1 OSC. ADJ.

TOP VIEW

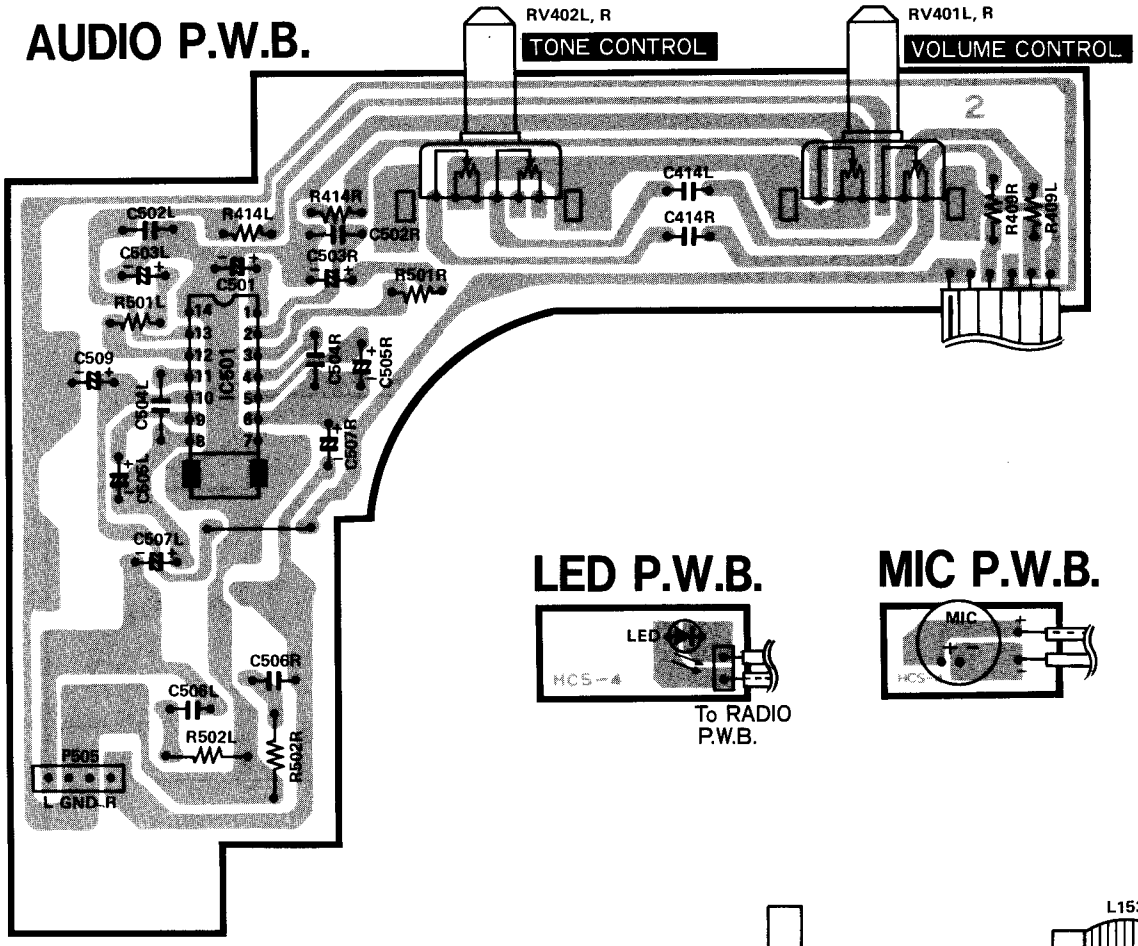


★No.	TRK-640	TRK-650
C801	—	USE
R801	—	USE
R802	—	USE
R803	—	USE
R804	—	USE
R805	—	USE
Q801	—	USE
Q802	—	USE
Q803	—	USE
S811	—	USE
P503	—	USE
P504	—	USE
Jumper 45	—	USE
Jumper 46	—	USE
Jumper 47	—	USE
Jumper 64	USE	—
Jumper 106	—	USE

PRINTED WIRING BOARD · PLAN DE BASE

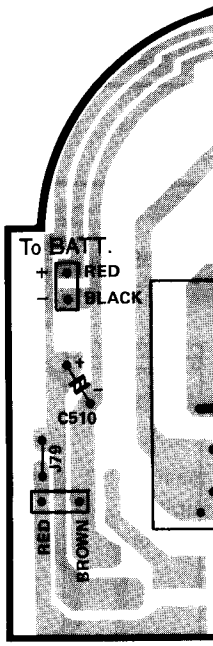
TRK-P65

AUDIO P.W.B.

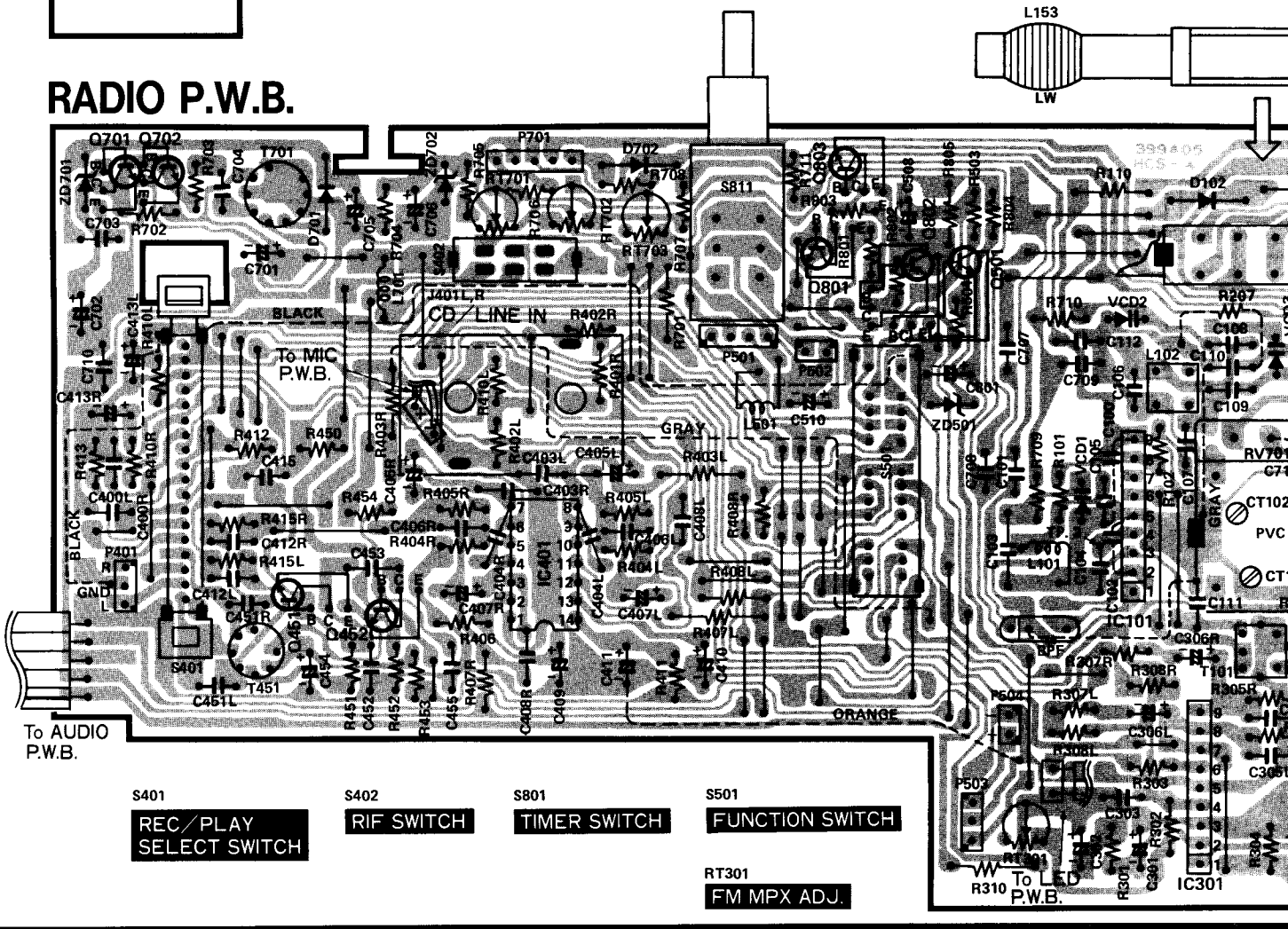


LED P.W.B.

MIC P.W.B.



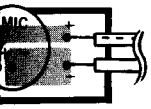
RADIO P.W.B.



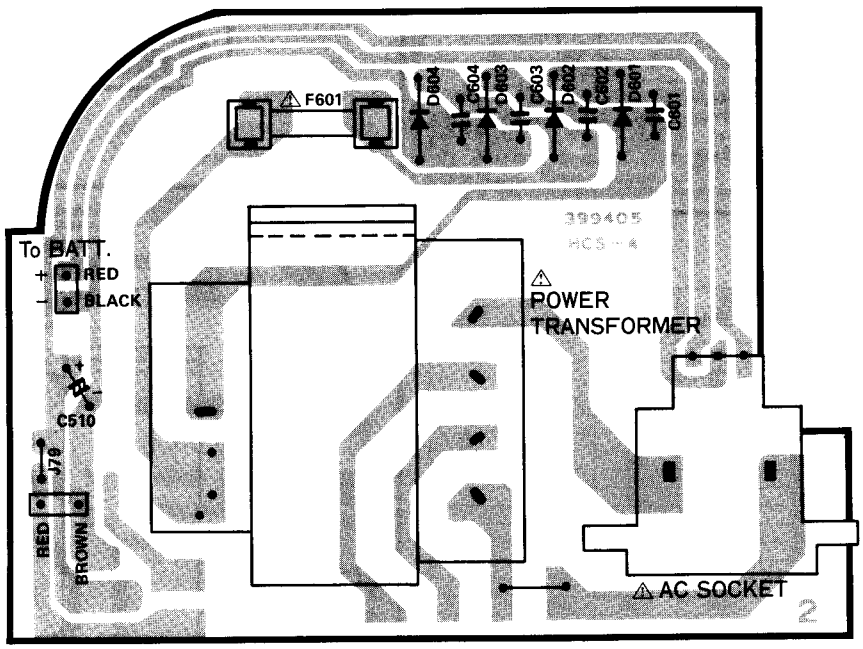
01L, R

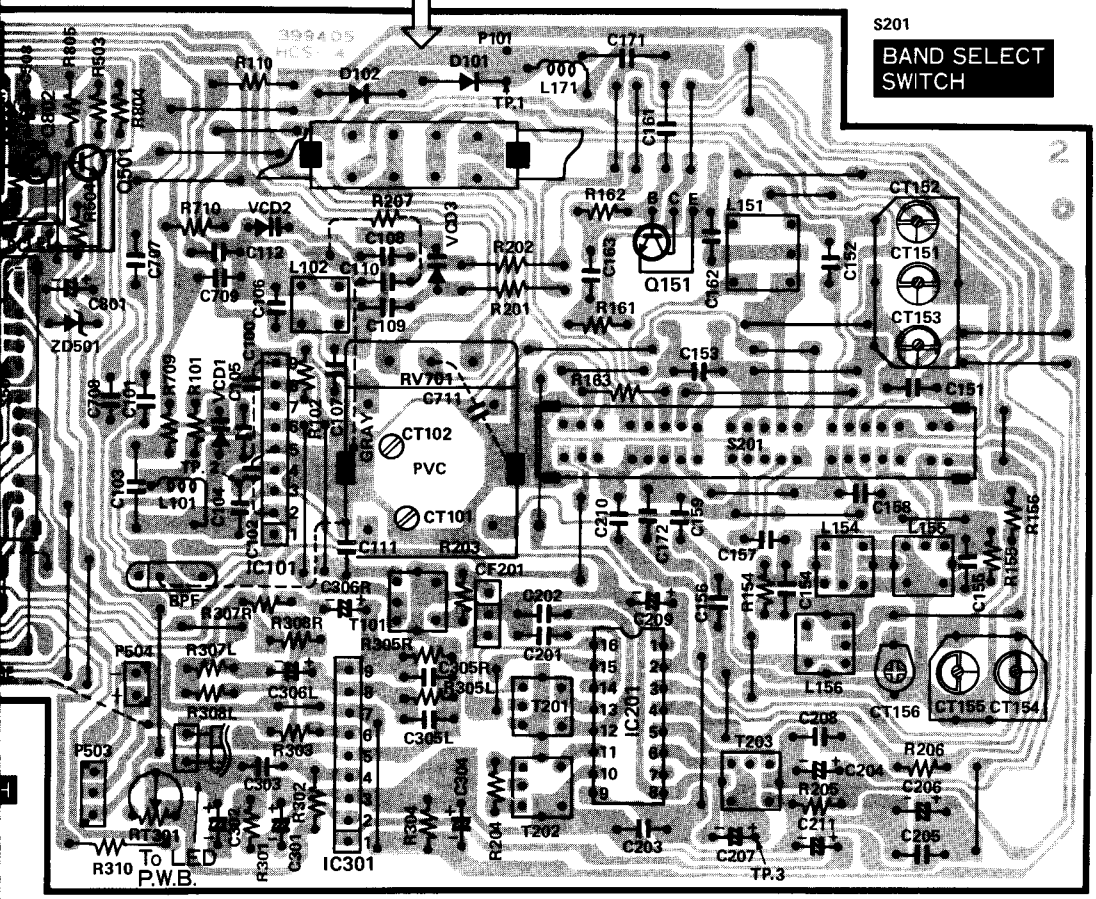
LUME CONTROL

C P.W.B.



POWER P.W.B.





T201, T203 AM IF ADJ.

T101, T202 FM IF ADJ.

L151,CT151 SW ANT. ADJ.

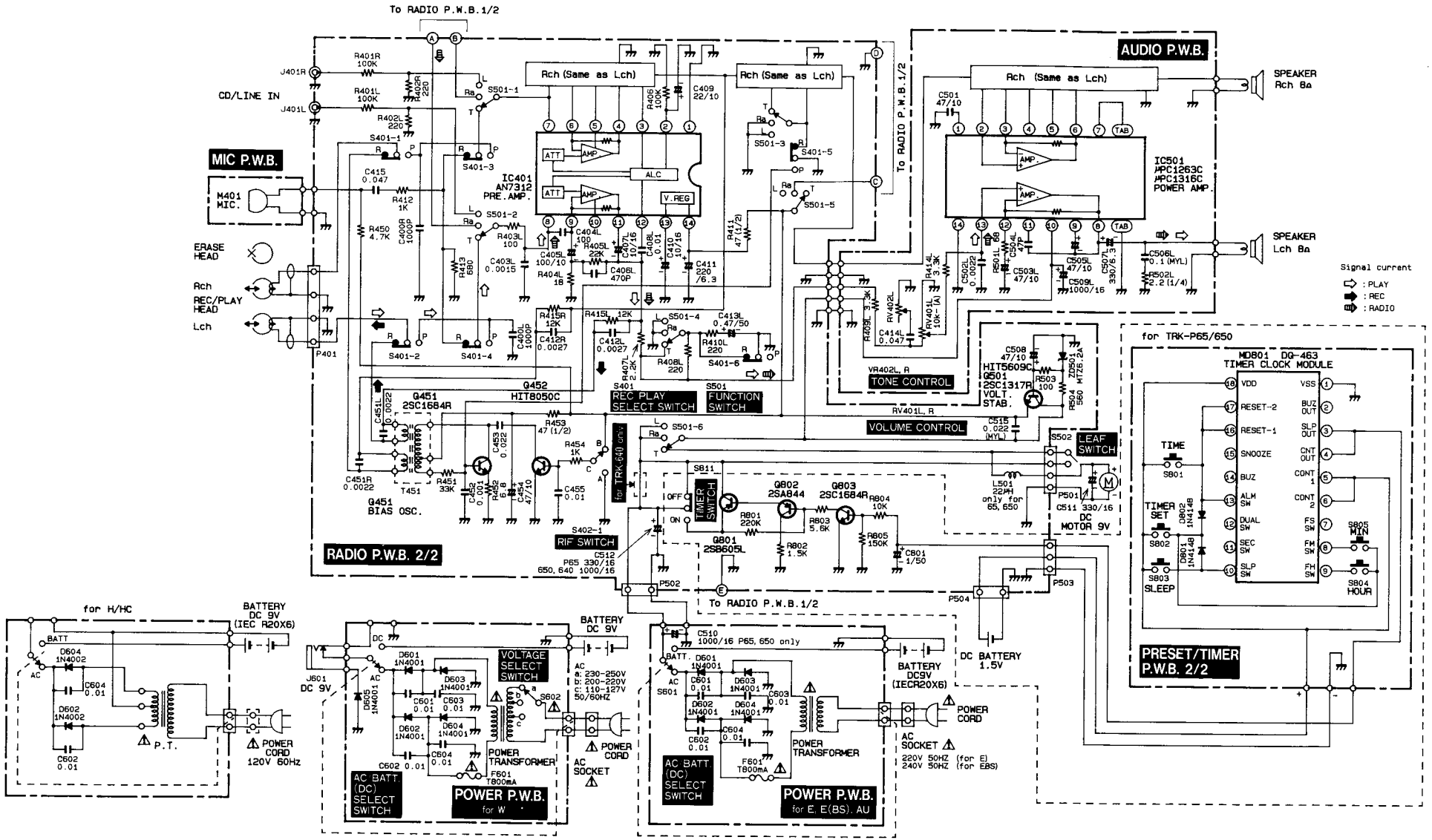
L152,CT152 MW ANT. ADJ.

L153,CT153 LW ANT. ADJ.

L154,CT154 SW OSC. ADJ.

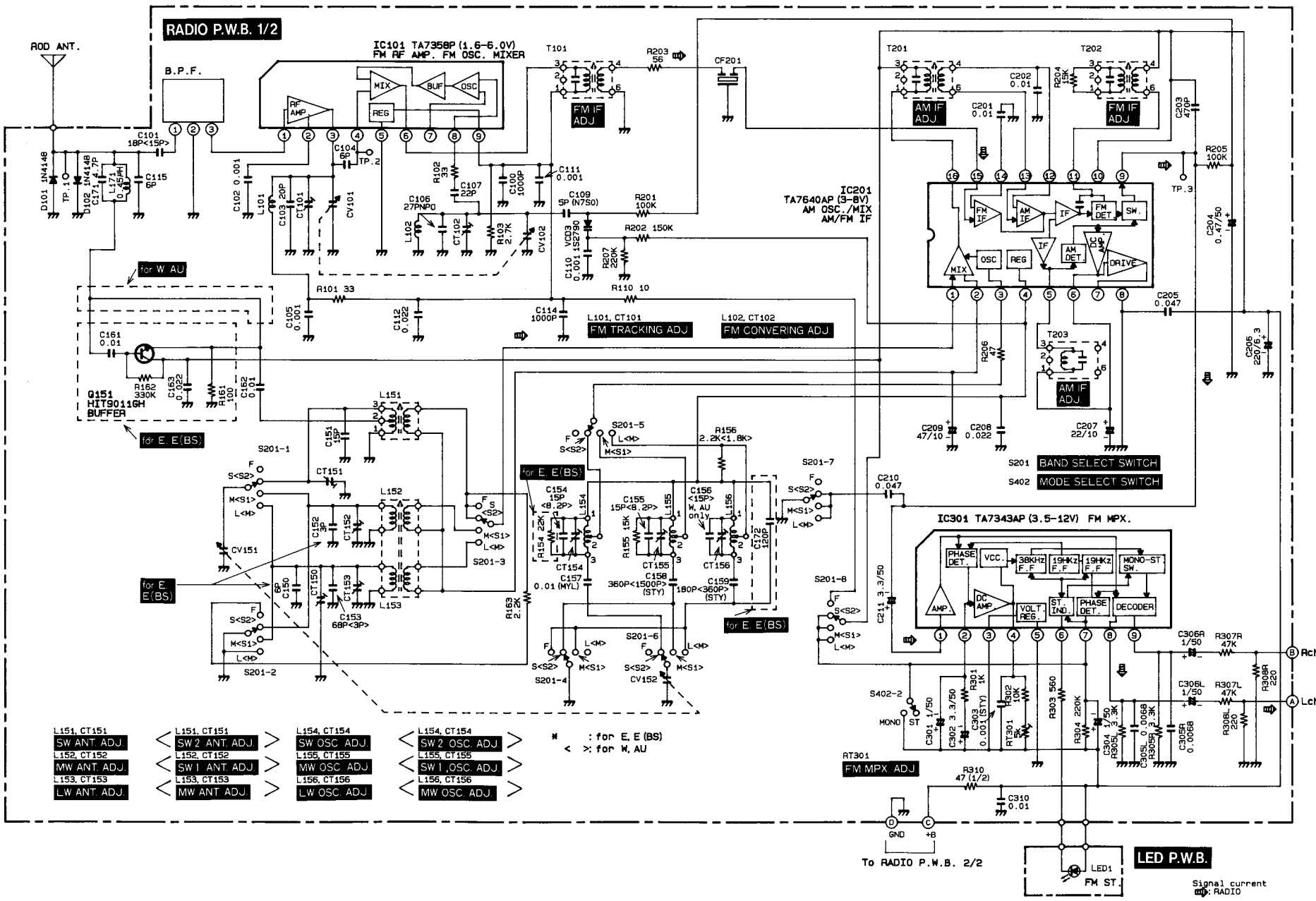
L101,CT101 FM TRACKING ADJ.

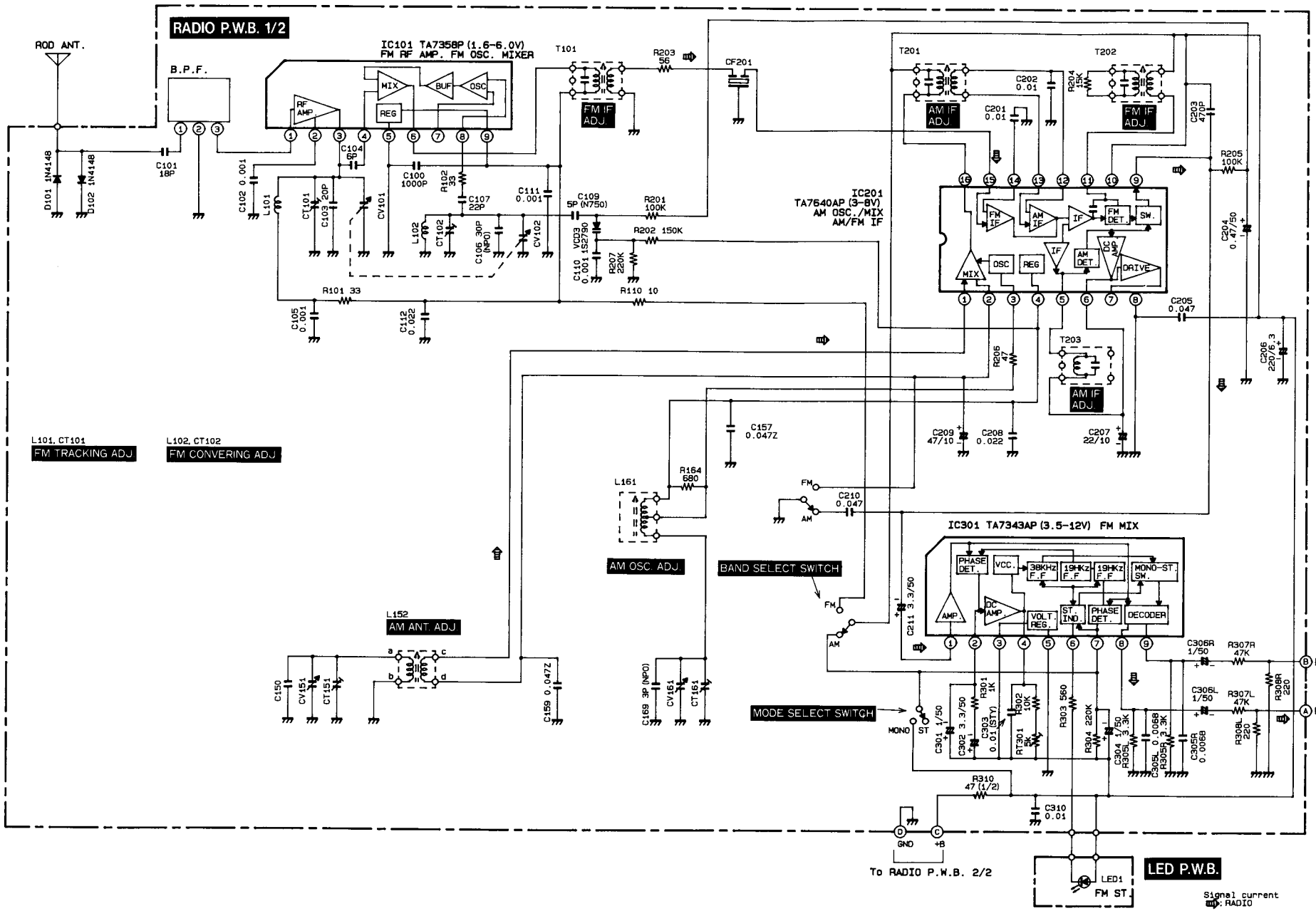
L102,CT102 FM COVERING ADJ.


To RADIO P.W.B.1/2
MIC P.W.B.
M401 MIC.
ERASE HEAD
Rch REC/PLAY HEAD
Lch
P401
CD/LINE IN
J401R
J401L
IC401 AN7312 PRE. AMP.
Rch (Same as Lch)
ALC
V.REG
ATT
AMP
AUDIO P.W.B.
IC501 μPC1263C μPC1316C POWER AMP.
SPEAKER Rch 8Ω
SPEAKER Lch 8Ω
Signal current
: PLAY
: REC
: RADIO
VR402L, R TONE CONTROL
RV401L, R VOLUME CONTROL
HIT5609C Q501 2SC1317R VOLT. STAB.
REC PLAY SELECT SWITCH
FUNCTION SWITCH
LEAF SWITCH
TIMER SWITCH
RIF SWITCH
DC MOTOR 9V
Q451 2SC1684R
Q452 HIT8050C
Q802 2SA844
Q803 2SC1684R
Q801 2SB605L
G451 BIAS OSC.
for TRK-640 only
for TRK-P65/650
MD801 DG-463 TIMER CLOCK MODULE
TIME
TIMER SET
SLEEP
HOUR
MIN
PRESET/TIMER P.W.B. 2/2
RADIO P.W.B. 2/2
for H/HC
BATTERY DC 9V (IEC R20X6)
P.T.
POWER CORD 120V 60Hz
J601 DC 9V
VOLTAGE SELECT SWITCH
POWER TRANSFORMER
AC SOCKET
POWER P.W.B. for W
AC BATT. (DC) SELECT SWITCH
BATTERY DC9V (IECR20X6)
DC BATTERY 1.5V
POWER CORD
AC SOCKET
220V 50HZ (for E)
240V 50HZ (for EBS)
POWER P.W.B. for E, E(BS), AU

CIRCUIT DIAGRAM · PLAN DE CIRCUIT

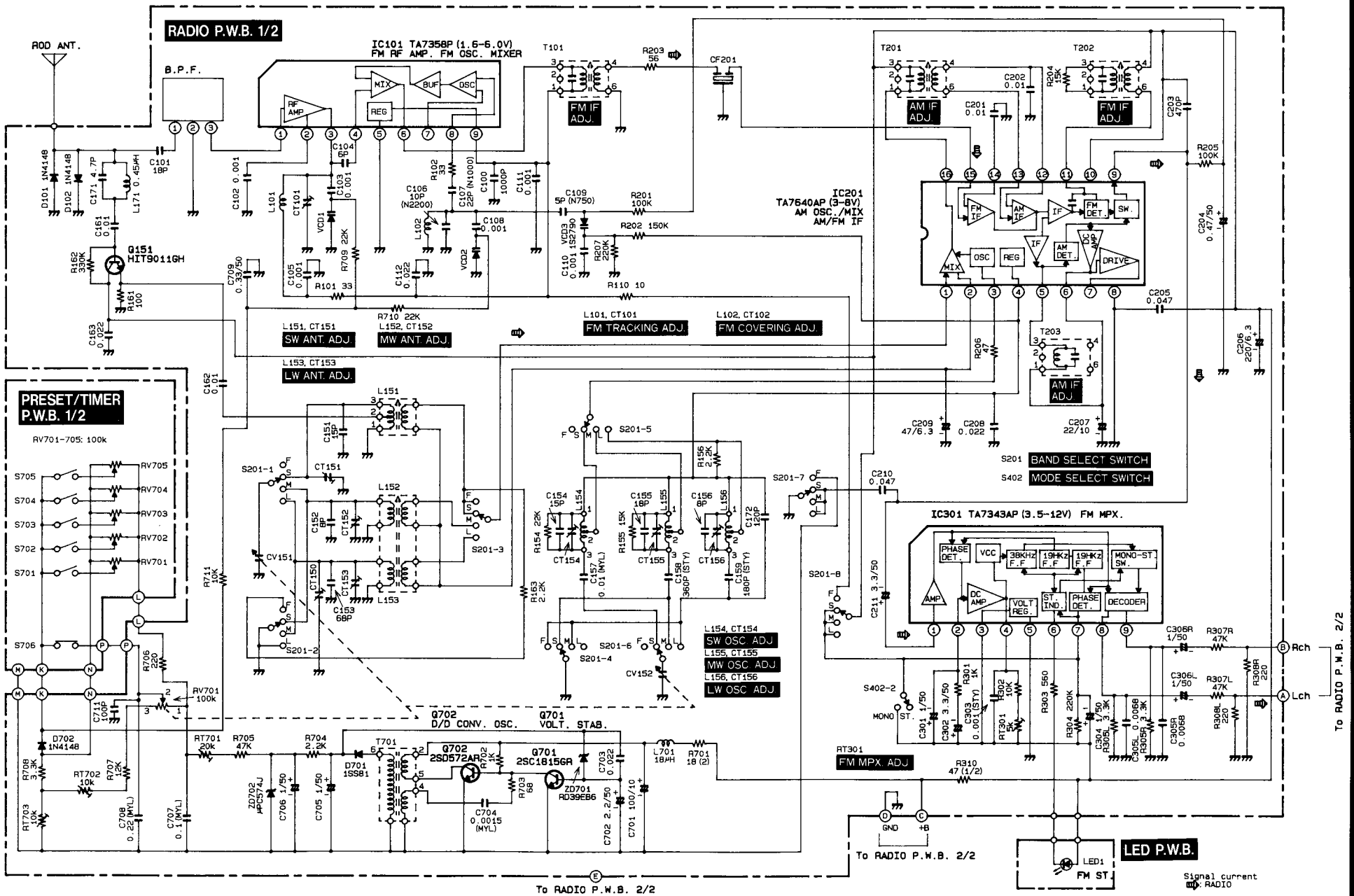
TRK-640/TRK-650
(for E, E(BS), W, AU)



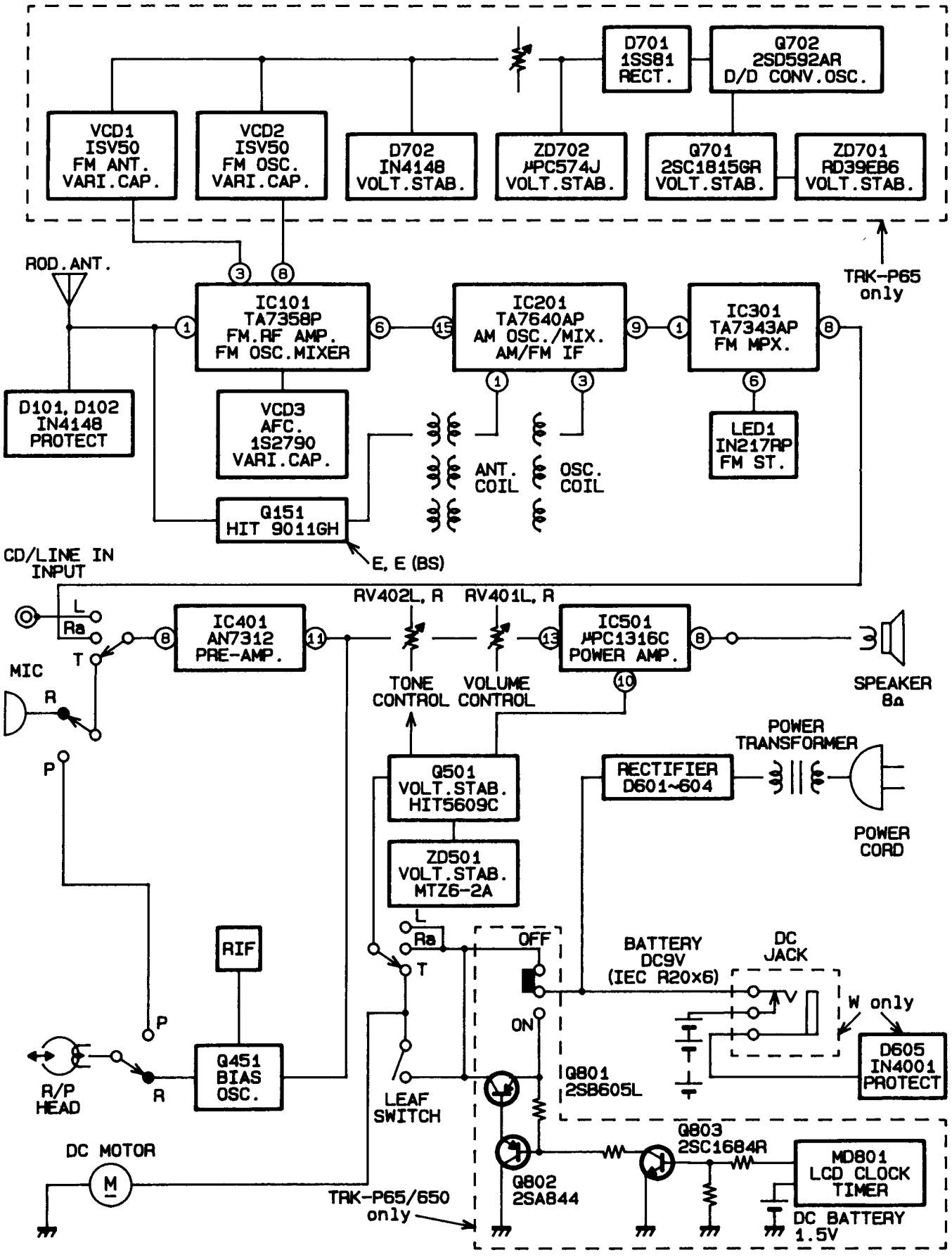

RADIO P.W.B. 1/2
ROD ANT.
B.P.F.
IC101 TA7358P (1.6-6.0V)
FM RF AMP. FM OSC. MIXER
RF AMP.
MIX
BUF
OSC
REG
T101
FM IF ADJ.
R203 56
CF201
T201
T202
AM IF ADJ.
FM IF ADJ.
C202 0.01
C201 0.01
R204 15K
C203 470P
R205 100K
IC201
TA7640AP (3-8V)
AM OSC./MIX
AM/FM IF
FM IF
AM IF
IF
FM DET.
SW.
AM DET.
DC AMP.
DRIVE
OSC
REG
C204 0.47/50
C205 0.047
C206 220/6.3
T203
AM IF ADJ.
R206 47
C209 47/10
C208 0.022
C207 22/10
C157 0.047Z
L161
R164 680
AM OSC. ADJ.
FM
AM
C210 0.047
BAND SELECT SWITCH
IC301 TA7343AP (3.5-12V) FM MIX
PHASE DET.
VCC.
38KHz F.F
19KHz F.F
19KHz F.F
MONO-ST. SW.
AMP.
DC AMP.
VOLT REG.
ST. IND.
PHASE DET.
DECODER
C211 3.3/50
L152
AM ANT. ADJ.
MODE SELECT SWITCH
MONO
ST
C306R 1/50
R307R 47K
C306L 1/50
R307L 47K
R308R 220
R308L 220
Rch
Lch
To RADIO P.W.B. 2/2
R310 47 (1/2)
C310 0.01
GND
+B
To RADIO P.W.B. 2/2
LED P.W.B.
LED1
FM ST
Signal current
: RADIO
L101, CT101
FM TRACKING ADJ.
L102, CT102
FM CONVERING ADJ.

CIRCUIT DIAGRAM · PLAN DE CIRCUIT

TRK-P65

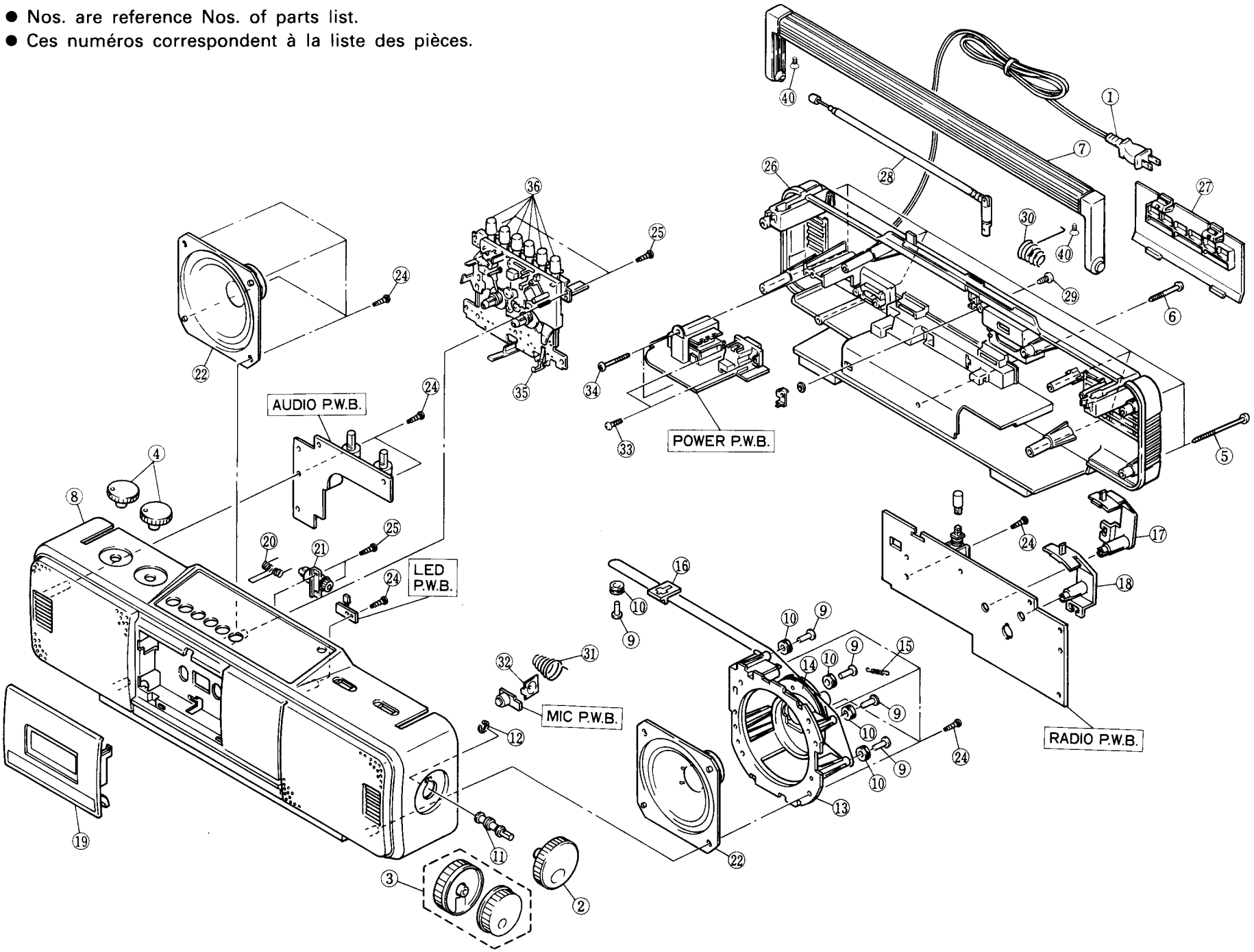


BLOCK DIAGRAM · SCHÉMA

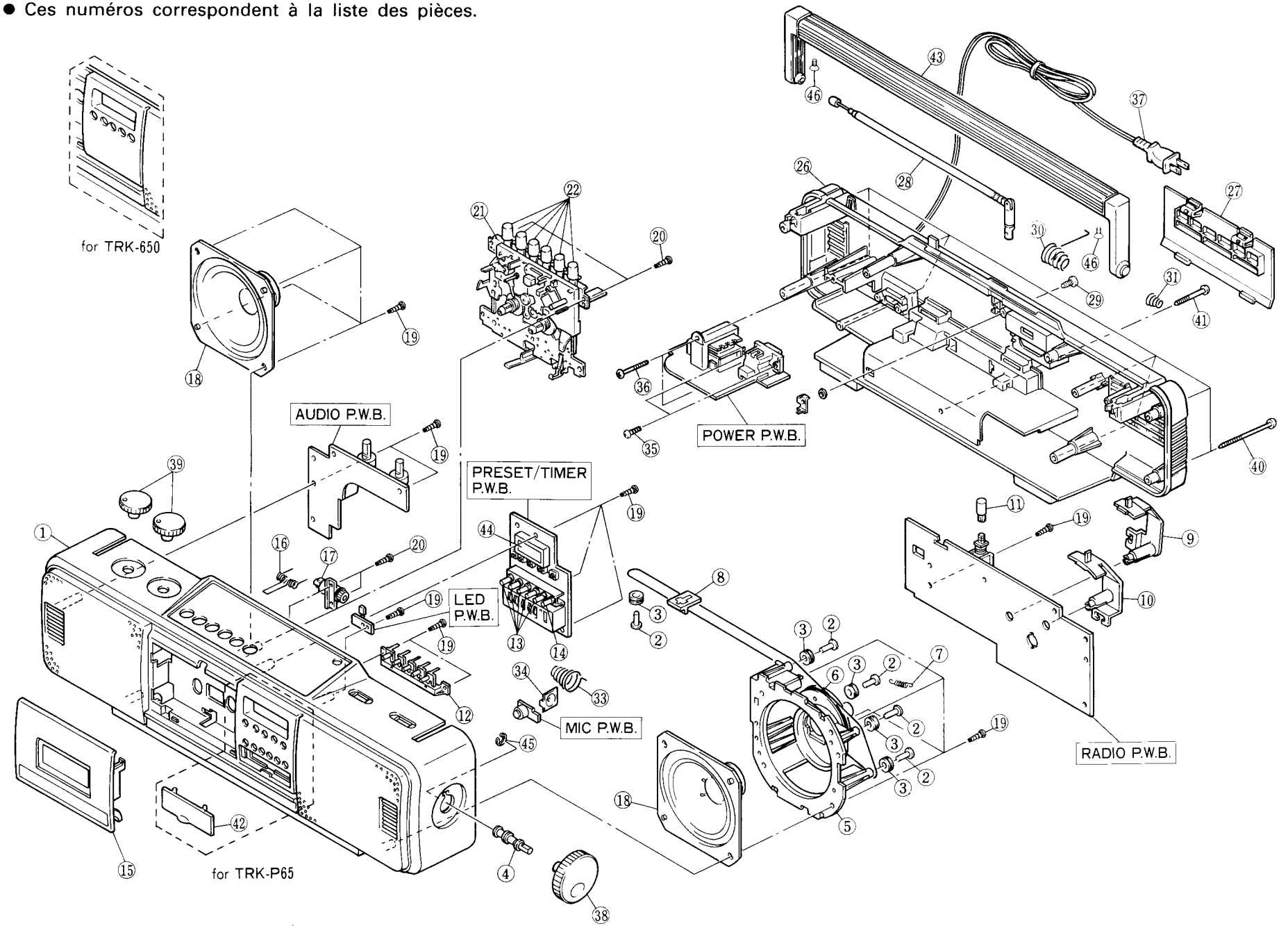


EXPLODED VIEW · VUE EXPLOSEE
(Cabinet)
(Coffret)

- Nos. are reference Nos. of parts list.
- Ces numéros correspondent à la liste des pièces.



- Nos. are reference Nos. of parts list.
- Ces numéros correspondent à la liste des pièces.



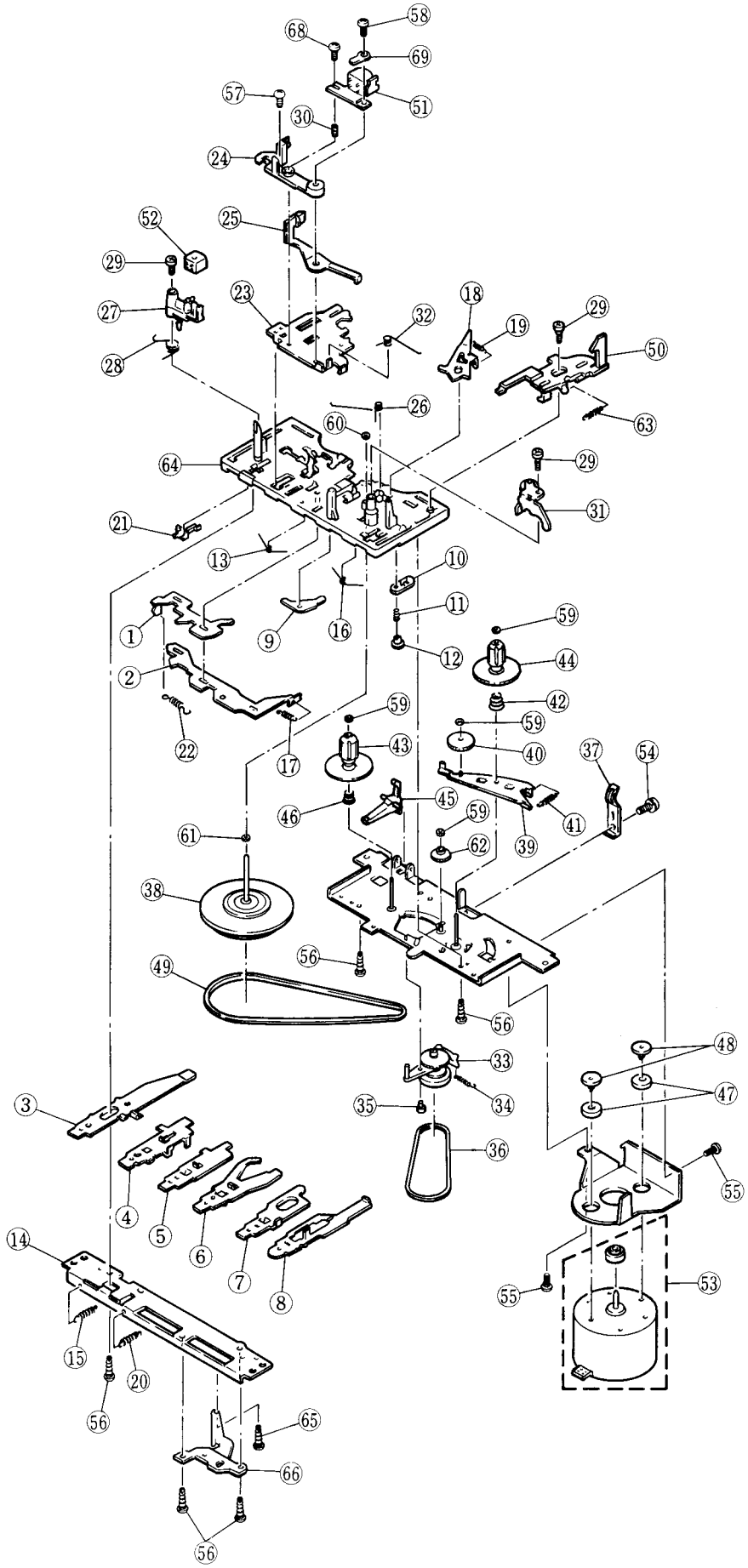
EXPLODED VIEW · VUE EXPLOSEE
(Cabinet) (Coffret)

TRK-650/TRK-P65

TRK-640
TRK-650
TRK-P65

EXPLODED VIEW· VUE EXPLOSEE
(Cassette Chasis) (Châssis de Cassette)

- Nos. are reference Nos. of parts list.
- Ces numéros correspondent à la liste des pièces.



REPLACEMENT PARTS LIST
· TABLEAU DES PIÈCES

TRK-640

CC: Cylindrical ceramic EL: Electrolytic ST: Styrol
CD: Ceramic discal MO: Metal oxide
CF: Carbon film MF: Mylar film

SYMBOL No.	PART No.	DESCRIPTION
		CAPACITORS
C100	0240045	CC 1000PF ±30% 50V
C101	0230616	CD 15PF ±5% 50V [for W, W(UN), AU]
C101	0230618	CD 18PF ±20% 50V [for E, E(BS), H, HC]
C102	0240045	CC 1000PF ±30% 50V
C103	0230619	CC 20PF ±2% 50V [except H, HC]
C103	0230620	CD 22PF ±20% 50V [for H, HC]
C104	0208646	CD 6PF ±0.5PF 50V
C105	0240045	CC 1000PF ±30% 50V
C107	1241884	CD 22PF ±5% 50V
C109	0248465	CD 5PF ±0.5PF 50V
C110	0240045	CC 1000PF ±30% 50V
C111	0240045	CC 1000PF ±30% 50V
C112	0240066	CC 0.022 μF +80 −20% 25V
C150	0208646	CC 6PF ±0.5% 50V
C151	0208664	CD 15PF ±5% 50V [except H, HC]
C152	0208633	CD 6PF ±0.5% 50V [for E, E(BS)]
C153	0208633	CD 3PF ±0.5PF 50V [for W, W(UN), AU]
C153	0208680	CD 68PF ±5% 50V [for E, E(BS)]
C154	0230616	CD 8.2PF ±5% 50V [for W, W(UN), AU]
C154	0230616	CD 15PF ±5% 50V [for E, E(BS)]
C155	0230611	CD 8.2PF ±5% 50V [for W, W(UN), AU]
C155	0230616	CD 15PF ±5% 50V [for E, E(BS)]
C156	0208668	CD 15PF ±5% 50V [for W, W(UN), AU]
C157	0275013	MF 0.047 μF [for H, HC]
C157	0275011	MF 0.01 μF ±10% 50V [except H, HC]
C158	1221393	ST 360PF ±5% 50V [for E, E(BS)]
C158	1221396	ST 1500PF ±5% 50V [for W, W(UN), AU]
C159	0275013	MF 0.047 μF [for H, HC]
C159	1221391	ST 180PF ±5% 50V [for E, E(BS)]
C159	1221393	ST 360PF ±5% 50V [for W, W(UN), AU]
C161	0240061	CC 0.01 μF ±10% 16V [for E, E(BS)]
C162	0240061	CC 0.01 μF ±10% 16V [except H, HC]
C163	0240066	CC 0.022 μF +80 −20% 25V [for E, E(BS)]
C169	0208633	CD 3P [for H, HC]
C171	0230608	CD 4.7PF ±10% 50V [except H, HC]
C172	0208686	CD 120PF ±5% 50V [for E, E(BS)]
C201	0240061	CC 0.01 μF ±10% 16V
C202	0240061	CC 0.01 μF ±10% 16V
C203	0240041	CC 470PF ±10% 50V
C204	02528052	EL 0.47 μF 50V
C205	0209765	CD 0.047 μF ±20% 25V
C206	02522322	EL 220 μF 6.3V
C207	0252322	EL 22 μF 10V
C208	0240066	CC 0.022 μF +80 −20% 25V
C209	0252225	EL 47 μF 6.3V
C210	0209765	CD 0.047 μF ±20% 25V
C211	0252813	EL 3.3 μF 50V
C301	02528112	EL 1 μF 50V
C302	0252813	EL 3.3 μF 50V
C303	1221395	ST 0.001 μF ±5% 50V
C304	02528112	EL 1 μF 50V
C305LR	0240059	CC 6800PF ±30% 16V
C306LR	02528112	EL 1 μF 50V
C400LR	0240045	CC 1000PF ±5% 50V
C403LR	0240055	CC 1500PF ±20% 16V
C404LR	0208684	CD 100PF ±5% 50V
C405LR	0252331	EL 100 μF 10V
C406LR	0240041	CC 470PF ±10% 50V
C407LR	0252521	EL 10 μF 16V
C408LR	0240061	CC 0.01 μF +80 −20% 25V
C409	0252322	EL 22 μF 10V
C410	0252521	EL 10 μF 16V
C411	02522322	EL 220 μF 6.3V
C412LR	0240054	CC 2700PF ±20% 16V
C413LR	02528052	EL 0.47 μF 50V
C414LR	0209765	CD 0.047 μF ±20% 25V
C415	0209765	CD 0.047 μF ±20% 25V
C451LR	0209733	CD 2200PF ±10% 50V
C452	0240045	CC 1000PF ±30% 50V
C453	0240066	CC 0.022 μF +80 −20% 25V
C454	0252325	EL 47 μF 10V
C455	0240061	CC 0.01 μF ±10% 16V
C501	0252325	EL 47 μF 10V
C502LR	0240045	CC 1000PF ±30% 50V
C503LR	0252325	EL 47 μF 10V
C504LR	0230628	CD 47PF ±20% 50V
C505LR	0252325	EL 47 μF 10V
C506LR	0276011	MF 0.1 μF ±10% 25V
C507LR	0252233	EL 330 μF 6.3V
C508	0252325	EL 47 μF 10V
C509	0252541	EL 1000 μF 16V
C511	0252533	EL 330 μF 16V
C512	0252533	EL 330 μF 16V
C515	0275013	MF 0.022 μF ±10% 50V
C601	0244171	CD 0.01 μF +80 −20% 50V [except H, HC]
C602	0244171	CD 0.01 μF +80 −20% 50V
C603	0244171	CD 0.01 μF +80 −20% 50V [except H, HC]
C604	0244171	CD 0.01 μF +80 −20% 50V

SYMBOL No.	PART No.	DESCRIPTION
		RESISTORS
R101	0113579	CF 33Ω ±5% SRD1/6P
R102	0113579	CF 33Ω ±5% SRD1/6P
R110	0113567	CF 10Ω ±5% SRD1/6P
R154	0113647	CF 22KΩ ±5% SRD1/6P [for E, E(BS)]
R155	0113643	CF 15KΩ ±5% SRD1/6P [for E, E(BS)]
R156	0113621	CF 1.8KΩ ±5% SRD1/6P [for W, W(UN), AU]
R156	0113623	CF 2.2KΩ ±5% SRD1/6P [for E, E(BS)]
R161	0113591	CF 100Ω ±5% SRD1/6P [for E, E(BS)]
R162	0113675	CF 330KΩ ±5% SRD1/6P [for E, E(BS)]
R163	0113623	CF 2.2KΩ ±5% SRD1/6P [except H, HC]
R164	0113611	CF 680Ω ±5% SRD1/6P [for H, HC]
R201	0113663	CF 100KΩ ±5% SRD1/6P
R202	0113667	CF 150KΩ ±5% SRD1/6P
R203	0113585	CF 56Ω ±5% SRD1/6P [except H, HC]
R203	0113597	CF 180KΩ ±5% SRD1/6P [for H, HC]
R204	0113643	CF 15KΩ ±5% SRD1/6P
R205	0113663	CF 100KΩ ±5% SRD1/6P
R206	0113583	CF 47Ω ±5% SRD1/6P
R207	0113671	CF 220KΩ ±5% SRD1/6P
R301	0113615	CF 1KΩ ±5% SRD1/6P
R302	0113639	CF 10KΩ ±5% SRD1/6P
R303	0113609	CF 560Ω ±5% SRD1/6P
R304	0113671	CF 220KΩ ±5% SRD1/6P
R305LR	0113627	CF 3.3KΩ ±5% SRD1/6P
R307LR	0113655	CF 47KΩ ±5% SRD1/6P [except H, HC]
R307LR	0113657	CF 56KΩ ±5% SRD1/6P [for H, HC]
R308LR	0113599	CF 220Ω ±5% SRD1/6P [except H, HC]
R308LR	0113613	CF 820Ω ±5% SRD1/6P [for H, HC]
R310	01132252	CF 47Ω ±5% SRD1/2P
R401LR	0113663	CF 100KΩ ±5% SRD1/6P
R402LR	0113599	CF 220Ω ±5% SRD1/6P
R403LR	0113591	CF 100Ω ±5% SRD1/6P
R404LR	0113573	CF 18Ω ±5% SRD1/6P
R405LR	0113647	CF 22KΩ ±5% SRD1/6P
R406	0113663	CF 100KΩ ±5% SRD1/6P
R407LR	0113623	CF 2.2KΩ ±5% SRD1/6P
R408LR	0113599	CF 220Ω ±5% SRD1/6P
R409LR	0113627	CF 3.3KΩ ±5% SRD1/6P
R410LR	0113599	CF 220Ω ±5% SRD1/6P
R411	0113583	CF 47Ω ±5% SRD1/2P
R412	0113627	CF 3.3KΩ ±5% SRD1/6P
R413	0113611	CF 680Ω ±5% SRD1/6P
R414LR	0113627	CF 3.3KΩ ±5% SRD1/6P
R415LR	0113641	CF 12KΩ ±5% SRD1/6P
R450	0113631	CF 4.7KΩ ±5% SRD1/6P
R451	0113651	CF 33KΩ ±5% SRD1/6P

SYMBOL No.	PART No.	DESCRIPTION
R452	0113563	CF 6.8Ω ±5% SRD1/6P
R453	01132252	CF 47Ω ±5% SRD1/2P
R454	0113615	CF 1KΩ ±5% SRD1/6P
R501LR	0113587	CF 68Ω ±5% SRD1/6P
R502LR	0129509	CF 2.2Ω ±5% SRD1/4P
R503	0113591	CF 100Ω ±5% SRD1/6P
R504	0113609	CF 560Ω ±5% SRD1/6P
		ICs & TRANSISTORS
IC101	2398201	TA7358P
IC201	2389511	TA7640AP
IC301	23010412	TA7343AP
IC401	23008812	AN7312
IC501	23020712	μPC1316C
Q451	2319101	2SC1684R
Q452	2319052	HIT8050C
Q501	2319062	HIT5609C
		DIODES
D101	2398082	1N4148
D102	2398082	1N4148
D601	2398063	1N4001 [except H, HC]
D602	2398063	1N4001
D603	2398063	1N4001 [except H, HC]
D604	2398063	1N4001
D605	2396063	1N4001 [for W, W(UN)]
VCD3	23380312	1S2790
ZD501	2397261	MTZ6.2A
LED1	2397611	LN242RPH-LF
		VARIABLE RESISTORS
RT301	0189331	5kΩ-(B) (FM MPX ADJ.)
RV401LR	0189532	10kΩ-(A) (VOLUME CONTROL)
RV402LR	0189532	10kΩ-(A) (TONE CONTROL)
		COILS & TRANSFORMERS
L101	2137680	FM RF coil
L102	2135248	FM OSC coil
L151	2137662	SW ANT coil [for E, E(BS)]
L151	2137821	SW ANT coil [for W, W(UN), AU]
L152	2758321	Ferrite antenna [for H, HC]
L152, 153	2757994	Ferrite antenna [for E, E(BS)]
L152, 153	2757982	Ferrite antenna [for W, W(UN), AU]
L154	2137671	SW OSC coil [for E, E(BS)]
L154	2137672	SW OSC coil [for W, W(UN), AU]
L155	2137631	MW OSC coil [for E, E(BS)]
L155	2137633	SW OSC coil [for W, W(UN), AU]
L156	2137642	LW OSC coil [for E, E(BS)]

SYMBOL No.	PART No.	DESCRIPTION
L156	2137631	MW OSC coil [for W, W(UN), AU]
L161	2137634	MW OSC coil [for H, HC]
L171	2137684	Choke coil [except H, HC]
L501	2227392	Choke coil
T101	2135651	FM IF transformer
T201	2154952	AM IF transformer
T202	2154964	FM IF transformer
T203	2154951	AM IF transformer
T451	2136891	REC OSC transformer
⚠	5213432	Power transformer [for E]
⚠	5213433	Power transformer [for E(BS), AU]
⚠	5213431	Power transformer [for H, HC]
⚠	5213441	Power transformer [for W, W(UN)]
		MISCELLANEOUS
CT156	0282148	Capacitor semi variable
	0282182	Capacitor variable [except H, HC]
	0282282	Capacitor variable [for H, HC]
CT156	0283557	Trimmer [for E, E(BS)]
⚠F601	2728071	Fuse 800mA [except H, HC]
J401LR	2678781	2P pin jack
J601	2678881	DC jack [for W, W(UN)]
	26592712	2P socket [for E, E(BS)]
	2659272	2P socket [except E, E(BS)]
M401	2737102	Microphone
S201	2629282	Slide switch (BAND SELECT) [except H, HC]
S201	5621151	Slide switch (BAND SELECT) [for H, HC]
S401	2628361	Slide switch (REC/PLAY SELECT)
S402	2629331	Slide switch (RIF)
S501	2628581	Slide switch (FUNCTION)
S602	2618472	Switch (VOLTAGE SELECT) [for W, W(UN)]
CF201	2135321	Ceramic filter
BPF1	2137191	FM Band pass filter
	0283130	Capacitor semi variable
	2727832	Fuse holder
		CABINET
⚠1	2705942	Power supply cord [for E]
⚠	2717901	Power supply cord [for E(BS)]
⚠	2706591	Power supply cord [for H, HC]

SYMBOL No.	PART No.	DESCRIPTION
⚠	2717464	Power supply cord [for W, W(UN)]
⚠	2704542	Power supply cord [for AU]
2	3303341	Tuning Knob [for E, E(BS), H, HC]
3	3303841	Tuning knob sub assy [for W, W(UN), AU]
4	3808561	Knob 30
5	4577818	BT screw (3φ x 50)
6	4577816	BT screw (3φ x 20)
7	4005381	Handle assy
8	4005651	Front case assy [for E, E(BS)]
	4005652	Front case assy [for H, HC]
	4005653	Front case assy [for W, W(UN)]
	4005654	Front case assy [for AU]
9	4577661	Roller pin
10	3934271	8φ roller
11	4598151	TUN shaft
12	4418014	E ring
13	3808611	Pulley holder
14	3808601	Pulley 80
15	3340321	Spring
16	3808591	Pointer
17	3808571	Function lever
18	3808581	Band lever
19	3808521	Cassette lid
20	3368682	Door spring
21	3970221	Gear damper
22	2403392	10 cm speaker
24	4578973	BT flange screw (3φ x 8)
25	8699410	BT bind head screw (3φ x 10)
26	4005691	Rear case assy [for E]
	4005692	Rear case assy [for E(BS)]
	4005693	Rear case assy [for H]
	4005694	Rear case assy [for HC]
	4005695	Rear case assy [for W]
	4005696	Rear case assy [for W(UN)]
	4005697	Rear case assy [for AU]
27	4005631	Battery lid sub assy
28	2757901	ROD. antenna
29	8744412	Bind head screw (3φ x 12)
30	3369941	Spring
31	3392441	Spring (for Timer)
32	3392431	Terminal (for Timer)
33	8691410	BT screw (3φ x 10)
34	4577817	BT screw (3φ x 30)
35	2588614	TN-21VC-1454 deck mecha
36	3808551	Cassette button
37	4479701	REC plate

TRK-650/TRK-P65

SYMBOL No.	PART No.	DESCRIPTION
38	8741104	Bind head screw (2 ϕ x 4)
39	8815111	Lock washer
40	4578973	3 ϕ x 10 Colintersunk head screw
for ACCESSORIES		
⚠	3909585	Siemense plug [for W, W(UN)]

SYMBOL No.	PART No.	DESCRIPTION
CAPACITORS		
C100	0240045	CC 1000PF ±30% 50V
C101	0230618	CD 18PF ±5% 50V
C102	0240045	CC 1000PF ±10% 50V
C103	0240045	CC 1000PF ±10% 50V [for TRK-P65]
C103	0230620	CD 20PF ±5% 50V [for TRK-650]
C104	0208646	CD 6PF ±0.5PF 50V
C105	0240045	CC 1000PF ±10% 50V
C106	0248470	CD 10PF ±0.25PF 50V [for TRK-P65]
C107	1241884	CD 22PF ±5% 50V
C108	0240045	CC 1000PF ±10% 50V [for TRK-P65]
C109	0248465	CD 5PF ±0.5PF 50V
C110	0240045	CC 1000PF ±10% 50V
C111	0240045	CC 1000PF ±10% 50V
C112	0240033	CC 0.022 μF ±10% 50V
C150	0208646	CC 6PF ±0.5% 50V [for TRK-650]
C151	0208664	CD 15PF ±5% 50V
C152	0208648	CD 8PF ±0.5% 50V [for TRK-P65]
C152	0208633	CC 3PF ±5% 50V [for TRK-650]
C153	0208680	CD 68PF ±5% 50V
C154	0230620	CD 22PF ±5% 50V [for TRK-P65]
C154	0230616	CC 15PF ±10% 50V [for TRK-650]
C155	0230620	CD 22PF ±5% 50V [for TRK-P65]
C155	0230616	CC 15PF ±10% 50V [for TRK-650]
C156	0208648	CD 8PF ±0.5% 50V [for TRK-P65]
C157	0275011	MF 0.01 μF ±10% 50V
C158	1221393	ST 360PF ±5% 50V
C159	1221391	ST 180PF ±5% 50V
C161	0240061	CC 0.01 μF ±30% 16V
C162	0240061	CC 0.01 μF ±30% 16V
C163	0240066	CC 0.022 μF +80% −20% 16V
C171	0230608	CD 4.7PF ±10% 50V
C172	0240034	CC 120PF ±10% 50V
C201	0240061	CC 0.01 μF ±30% 16V
C202	0240061	CC 0.01 μF ±30% 16V
C203	0240041	CC 470PF ±10% 50V
C204	02528052	EL 0.47 μF 50V
C205	0209765	CD 0.047 μF ±20% 25V
C206	02522322	EL 220 μF 6.3V
C207	0252322	EL 22 μF 10V
C208	0240066	CC 0.022 μF +80% −20% 16V
C209	0252325	EL 47 μF 10V
C210	0209765	CD 0.047 μF ±20% 25V
C211	0252813	EL 3.3 μF 50V
C301	02528112	EL 1 μF 50V
C302	0252813	EL 3.3 μF ±20% 50V
C303	1221395	ST 0.001 μF ±5% 50V
C304	02528112	EL 1 μF 50V
C305LR	0240059	CC 6800PF ±30% 16V

SYMBOL No.	PART No.	DESCRIPTION
C306LR	02528112	EL 1 μF 50V
C400LR	0240045	CC 1000PF ±10% 50V
C403LR	0240051	CC 1500PF ±20% 16V
C404LR	0240033	CC 100PF ±10% 50V
C405LR	0252331	EL 100 μF 10V
C406LR	0240041	CC 470PF ±10% 50V
C407LR	0252521	EL 10 μF 16V
C408LR	0240061	CC 0.01 μF +80% −20% 16V
C409	0252322	EL 22 μF 10V
C410	0252521	EL 10 μF 16V
C411	02522322	EL 220 μF 6.3V
C412LR	0240054	CC 2700PF ±20% 16V
C413LR	02528052	EL 0.47 μF 50V
C414LR	0209765	CD 0.047 μF ±20% 25V
C415	0209765	CD 0.047 μF ±20% 25V
C451LR	0209733	CD 2200PF ±10% 50V
C452	0240045	CC 1000PF ±10% 50V
C453	0240066	CC 0.022 μF +80% −20% 16V
C454	0252325	EL 47 μF 10V
C455	0240061	CC 0.01 μF ±30% 16V
C501	0252325	EL 47 μF 10V
C502LR	0240053	CC 0.0022 μF ±10% 50V
C503LR	0252325	EL 47 μF 10V
C504LR	0230628	CD 47PF ±5% 50V
C505LR	0252325	EL 47 μF 10V
C506LR	0276011	MF 0.1 μF ±10% 50V
C507LR	0252233	EL 330 μF 6.3V
C508	0252325	EL 47 μF 10V
C509	0252541	EL 1000 μF 16V
C510	0252541	EL 1000 μF 16V [for TRK-P65 only]
C511	0252533	EL 330 μF 16V
C512	0252533	EL 330 μF 16V [for TRK-P65]
		EL 1000 μF 16V [for TRK-650]
C515	0275013	MF 0.022 μF ±10% 50V
C601	0244171	CD 0.01 μF +80% −20% 50V
C602	0244171	CD 0.01 μF +80% −20% 50V
C603	0244171	CD 0.01 μF +80% −20% 50V
C604	0244171	CD 0.01 μF +80% −20% 50V
C701	0252331	EL 100 μF 10V [for TRK-P65 only]
C702	02528122	EL 2.2 μF 50V [for TRK-P65 only]
C703	0240066	CC 0.022 μF +80% −20% 16V [for TRK-P65 only]
C704	0274012	MF 0.0015 μF ±10% 50V [for TRK-P65 only]
C705	02528112	EL 1 μF 50V [for TRK-P65 only]
C706	02528112	EL 1 μF 50V [for TRK-P65 only]
C707	0276011	MF 0.1 μF ±10% 50V [for TRK-P65 only]
C708	0276013	MF 0.22 μF ±10% 50V [for TRK-P65 only]
C709	0252803K	EL 0.33 μF 50V [for TRK-P65 only]
C711	0248689	CC 100PF [for TRK-P65 only]
C801	02528112	EL 1 μF 50V

SYMBOL No.	PART No.	DESCRIPTION
		RESISTORS
R101	0113579	CF 33Ω ±5% SRD1/6P
R102	0113579	CF 33Ω ±5% SRD1/6P
R110	0113567	CF 10Ω ±5% SRD1/6P
R154	0113647	CF 22KΩ ±5% SRD1/6P
R155	0113643	CF 15KΩ ±5% SRD1/6P
R156	0113623	CF 2.2KΩ ±5% SRD1/6P
R161	0113591	CF 100Ω ±5% SRD1/6P
R162	0113675	CF 330KΩ ±5% SRD1/6P
R163	0113623	CF 2.2KΩ ±5% SRD1/6P
R201	0113663	CF 100KΩ ±5% SRD1/6P
R202	0113667	CF 150KΩ ±5% SRD1/6P
R203	0113585	CF 56Ω ±5% SRD1/6P
R204	0113643	CF 15KΩ ±5% SRD1/6P
R205	0113663	CF 100KΩ ±5% SRD1/6P
R206	0113583	CF 47Ω ±5% SRD1/6P
R207	0113671	CF 220KΩ ±5% SRD1/6P
R301	0113615	CF 1KΩ ±5% SRD1/6P
R302	0113639	CF 10KΩ ±5% SRD1/6P
R303	0113609	CF 560Ω ±5% SRD1/6P
R304	0113671	CF 220KΩ ±5% SRD1/6P
R305LR	0113627	CF 3.3KΩ ±5% SRD1/6P
R307LR	0113657	CF 56KΩ ±5% SRD1/6P [for TRK-P65]
R307LR	0113655	CF 47KΩ ±5% SRD1/6P [for TRK-650]
R308LR	0113613	CF 820Ω ±5% SRD1/6P [for TRK-P65]
R308LR	0113599	CF 220Ω ±5% SRD1/6P [for TRK-650]
R310	01132252	CF 47Ω ±5% SRD1/2P
R401LR	0113663	CF 100KΩ ±5% SRD1/6P
R402LR	0113599	CF 220Ω ±5% SRD1/6P
R403LR	0113591	CF 100Ω ±5% SRD1/6P
R404LR	0113573	CF 18Ω ±5% SRD1/6P
R405LR	0113647	CF 22KΩ ±5% SRD1/6P
R406	0113663	CF 100KΩ ±5% SRD1/6P
R407LR	0113623	CF 2.2KΩ ±5% SRD1/6P
R408LR	0113599	CF 220Ω ±5% SRD1/6P
R409LR	0113627	CF 3.3KΩ ±5% SRD1/6P
R410LR	0113599	CF 220Ω ±5% SRD1/6P
R411	0113225	CF 47Ω ±5% SRD1/2P
R412	0113615	CF 1KΩ ±5% SRD1/6P
R413	0113611	CF 680Ω ±5% SRD1/6P
R414LR	0113627	CF 3.3KΩ ±5% SRD1/6P
R415LR	0113641	CF 12KΩ ±5% SRD1/6P
R450	0113631	CF 4.7KΩ ±5% SRD1/6P
R451	0113651	CF 33KΩ ±5% SRD1/6P
R452	0113563	CF 6.8Ω ±5% SRD1/6P
R453	01132252	CF 47Ω ±5% SRD1/2P
R454	0113615	CF 1KΩ ±5% SRD1/6P
R501LR	0113587	CF 68Ω ±5% SRD1/6P
R502LR	0129509	CF 2.2Ω ±5% SRD1/4P
R503	0113591	CF 100Ω ±5% SRD1/6P
R504	0113609	CF 560Ω ±5% SRD1/6P
R701	01195042	MO 18Ω ±10% RS2.5B [for TRK-P65]
R702	0113615	CF 1KΩ ±5% SRD1/6P [for TRK-P65]
R703	0113587	CF 68Ω ±5% SRD1/6P [for TRK-P65]
R704	0113623	CF 2.2KΩ ±5% SRD1/6P [for TRK-P65]
R705	0113655	CF 47KΩ ±5% SRD1/6P [for TRK-P65]
R706	0113599	CF 220Ω ±5% SRD1/6P [for TRK-P65]
R707	0113641	CF 12KΩ ±5% SRD1/6P [for TRK-P65]
R708	0113627	CF 3.3KΩ ±5% SRD1/6P [for TRK-P65]
R709	0113647	CF 22KΩ ±5% SRD1/6P [for TRK-P65]
R710	0113647	CF 22KΩ ±5% SRD1/6P [for TRK-P65]
R711	0113639	CF 10KΩ ±5% SRD1/6P [for TRK-P65]
R801	0113671	CF 220KΩ ±5% SRD1/6P
R802	0113619	CF 1.5KΩ ±5% SRD1/6P
R803	0113633	CF 5.6KΩ ±5% SRD1/6P
R804	0113639	CF 10KΩ ±5% SRD1/6P
R805	0113667	CF 150KΩ ±5% SRD1/6P
		ICs & TRANSISTORS
IC101	2398201	TA7358P
IC201	2389511	TA7640AP
IC301	23010412	TA7343AP
IC401	23008812	AN7312
IC501	23020712	μPC1316C
Q151	2319083	HIT9011GH
Q451	2319101	2SC1684R
Q452	2319052	HIT8050C
Q501	2319062	HIT5609C
Q701	2318191	2SC1815GR [for TRK-P65]
Q702	2318201	2SD592AR [for TRK-P65]
Q801	2328273	2SB605L
Q802	23280832	2SA844E
Q803	2319101	2SC1684R
		DIODES
D101	2398082	1N4148
D102	2398082	1N4148
D601	2398063	1N4001
D602	2398063	1N4001
D603	2398063	1N4001
D604	2398063	1N4001
D701	23376412	1SS81 [for TRK-P65]
D702	2398082	1N4148 [for TRK-P65]
D801	2398081	1N4148
D802	2398081	1N4148
VCD1	2398371	1SV50 [for TRK-P65]
VCD2	2398371	1SV50 [for TRK-P65]
VCD3	23380312	1S2790 [for TRK-P65]
ZD501	2397261	MTZ6.2A
ZD701	23386722	RD39EB6 [for TRK-P65]
ZD702	23380912	μPC574J [for TRK-P65]
LED1	2397611	LN242RPH-LF
		VARIABLE RESISTORS
RT301	0189331	5kΩ-(B) (FM MPX ADJ.)
RT701	0189334	20kΩ-(B) (FM OSC. ADJ.) [for TRK-P65]
RT702	0189332	10kΩ-(B) (FM OSC. ADJ.) [for TRK-P65]
RT703	0189332	10kΩ-(B) (FM OSC. ADJ.) [for TRK-P65]
RV401LR	0189532	10kΩ (VOLUME CONTROL)
RV401LR	0189532	10kΩ (TONE CONTROL)
RV701	0189352	100kΩ (FM PRESET CONTROL) [for TRK-P65]
RV702	0189352	100kΩ (FM PRESET CONTROL) [for TRK-P65]
RV703	0189352	100kΩ (FM PRESET CONTROL) [for TRK-P65]
RV704	0189352	100kΩ (FM PRESET CONTROL) [for TRK-P65]
RV705	0189352	100kΩ (FM PRESET CONTROL) [for TRK-P65]
		COILS & TRANSFORMERS
L101	2137680	FM RF coil
L102	2135240	FM OSC coil
L151	2137662	SW ANT coil
L152,153	2657994	Ferrite antenna
L154	2137671	SW OSC coil
L155	2137631	MW OSC coil
L156	2137642	LW OSC coil
L171	2137684	Choke coil
L501	2227392	Choke coil
L701	2227748	Choke coil [for TRK-P65]
⚠	5213432	Power Transformer [for E]
⚠	5213433	Power Transformer [for E(BS)]
T101	2135651	FM-IF Transformer
T201	2154952	AM IF Transformer
T202	2154964	FM IF Transformer
T203	2154951	AM IF Transformer
T451	2136891	REC OSC transformer
T701	2267021	DC-DC CONV. transformer [for TRK-P65]
CF201	2135321	Ceramic filter
	0283130	Capacitor semi variable
	26592712	2P socket
	0283557	Trimmer
BPF1	2137191	FM Band pass filter
		MISCELLANEOUS
CT156	0282148	Capacitor semi variable
PVC	0282381	Capacitor semi variable [for TRK-P65]
⚠F601	27280712	Fuse 800mA

SYMBOL No.	PART No.	DESCRIPTION
J401LR	2678781	2P pin jack
M401	2737102	Microphone
MD801	2301621	Clock module DQ463
S201	2629282	Slide switch (BAND SELECT)
S401	2628361	Slide switch (REC/PLAY SELECT)
S402	2629331	Slide switch (RIF)
S501	2628581	Slide switch (FUNCTION)
S701— 706	2639628	6 key push switch (FM PRESET) [for TRK-P65]
S801	2639682	Tact switch (TIME)
S802	2639682	Tact switch (SET)
S803	2639682	Tact switch (SLEEP)
S804	2639682	Tact switch (HOUR)
S805	2639682	Tact switch (MIN)
S811	2600531	Switch (TIMER)
CABINET CHASSIS		
1	4005331	Front case assy [for TRK-P65]
	4005621	Front case assy [for TRK-650]
2	4577661	Roller Pin
3	3934271	8 Roller
4	4598151	Tuning shaft
5	3808611	Pulley holder
6	3808601	Pulley 80
7	3340321	Spring M
8	3808591	Pointer
9	3808571	Function Lever
10	3808581	Band Lever
11	3808541	Timer button
12	3808621	Timer set button
13	3801521	PR Knob [for TRK-P65]
14	3801522	PR Knob [for TKR-P65]
15	3808521	Cassette Lid
16	3368682	Door spring
17	3970221	Gear damper
18	2403392	10 cm speaker
19	4578973	BT flange screw (3 ϕ x 8)
20	8699410	BT bind head screw (3 ϕ x 10)
21	2588614	TN-21VC-1454 deck mecha
22	3808551	Cassette button
23	4479701	Rec plate
24	8741104	Bind head screw (2 ϕ x 4)
25	8815111	Lock washer
26	4005351	Rear case assy [for TRK-P65 E]
	4005352	Rear case assy [for TRK-P65 E(BS)]
	4005671	Rear case assy [for TRK-650 E]
	4005672	Rear case assy [for TRK-650 E(BS)]
27	4005361	Battery lid sub assy
28	2757901	Rod. antenna
29	8744412	Bind head screw (3 ϕ x 12)
30	3369941	Spring
31	3392441	Spring

SYMBOL No.	PART No.	DESCRIPTION
32	3392431	Terminal
33	3367142	Spring A
34	4436666	Terminal
35	8691410	Screw (3 ϕ x 10)
36	4577817	Screw (3 ϕ x 30)
⚠37	2705942	Power Cord [for E]
⚠	2717901	Power Cord [for E(BS)]
38	3303341	Tuning Knob
39	3808561	Knob 30
40	4577818	Screw (3 ϕ x 50)
41	4577816	BT screw (3 ϕ x 20)
42	3808531	Preset lid [for TRK-P65]
43	4005381	Handle assy
44	3909571	Timer filter
45	4418014	E Ring
46	4578973	3 ϕ x 10 Colintersunk head screw
CASSETTE CHASSIS		
1	48189922	Switch Plate
2	4832411	Push button actuator assy
3	48202122	REC button lever
4	48202132	PLAY button lever
5	48189962	RWD button lever
6	48189972	FF button lever
7	48189982	Stop button lever
8	48189992	PAUSE button lever assy
9	48189902	RWD lever
10	48191312	PAUSE lever
11	48191322	PAUSE lever spring
12	48191332	PAUSE stopper
13	48202142	Button lever spring
14	48202152	Sub chassis
15	48190072	Button lever spring
16	48191002	Button lever spring
17	48190082	Actuator spring
18	48190092	Auto lever
19	48190002	Auto lever spring
20	48202172	PLAY button lever spring
21	2789801	Leaf switch
22	48202182	Switch actuator spring
23	48202192	Head panel
24	48190142	Head base
25	48190152	Sensing plate assy
26	48202212	Head panel spring
27	48190182	M.G. arm
28	48202162	MG arm spring
29	48190452	Screw
30	48190172	Spring
31	4839372	Pinch roller arm assy
32	4848082	Pinch roller spring
33	8504291	RF pulley arm assy
34	48202252	RF pulley arm spring
35	48202262	RF arm collar screw
36	4831619	RF belt
37	48190362	Pack spring
38	4850092	Flywheel
39	4839377	Take up gear plate assy
40	4839378	Take up roller gear

SYMBOL No.	PART No.	DESCRIPTION
41	48190202	T.G. plate spring
42	4839382	Back tension spring
43	4842431	Supply reel assy
44	4839381	Take-up reel assy
45	4832421	Record safety lever
46	4839370	Back tension spring
47	48190392	Motor rubber
48	48195332	Motor collar screw
49	8504292	Main belt
50	48190432	Eject slide lever
51	2555671	Record playback head
52	2557321	Erase head
53	2523875	Motor assy
54	48190632	Tapping screw (2 ϕ x 3)
55	48190682	Tapping screw (2 ϕ x 4)
56	48196072	Bind tapping screw (2 ϕ x 5)
57	48190692	Screw (2 ϕ x 6)
58	48190602	Screw (2 ϕ x 7)
59	48190772	Washer (1.2)
60	48190782	Washer (1.55)
61	4832432	Washer (2.05)
62	4832417	FF gear
63	4819044	Eject slide lever spring
64	48189912	Main base assy
65	4832522	Screw
66	4831610	Metal guide
67	48202512	Motor bracket
68	48196002	Azimuth screw
69	48190622	Lug

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