



# HITACHI

## SERVICE MANUAL

TY

No. 568EF

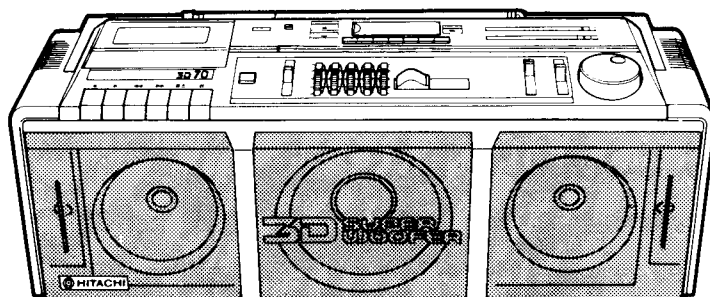
**TRK-3D70/3D75**

**E, E(BS), W, W(UN), AU, H, HC**

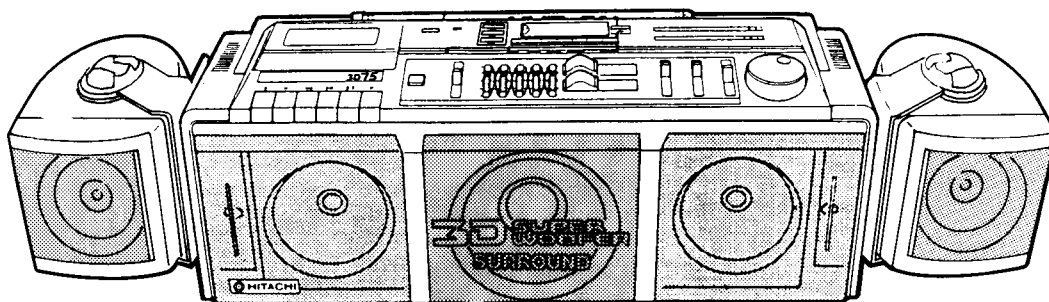
TN-21H-982 [For E, E(BS)]

TN-222F-140 [Except E, E(BS)]

**AP32**



TRK-3D70



TRK-3D75

### CONTENTS

KEY TO ILLUSTRATIONS .....	2
SPECIFICATIONS .....	3
DISASSEMBLY .....	5
ADJUSTMENT .....	7
INSPECTION OF MECHANISM .....	13
LUBRICATION .....	15
DIAL CORD STRINGING .....	15
BLOCK DIAGRAM .....	16
CIRCUIT DIAGRAM .....	17
PRINTED WIRING BOARD .....	20
EXPLODED VIEW .....	22
REPLACEMENT PARTS LIST .....	25

### TABLE DES MATIERES

SIGNATION DES COMMANDES .....	2
CARACTERISTIQUES TECHNIQUES .....	4
DEMONTAGE .....	6
REGLAGE .....	9
CONTROLE DE MECANISME .....	14
GRAISSAGE .....	15
CADRAN .....	15
SCHEMA .....	16
PLAN DE CIRCUIT .....	17
PLAN DE BASE .....	20
VUE ECLATEE .....	22
TABEAU DES PIECES .....	25

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

**FM/SW/MW/LW RADIO CASSETTE TAPE RECORDER**

July 1987

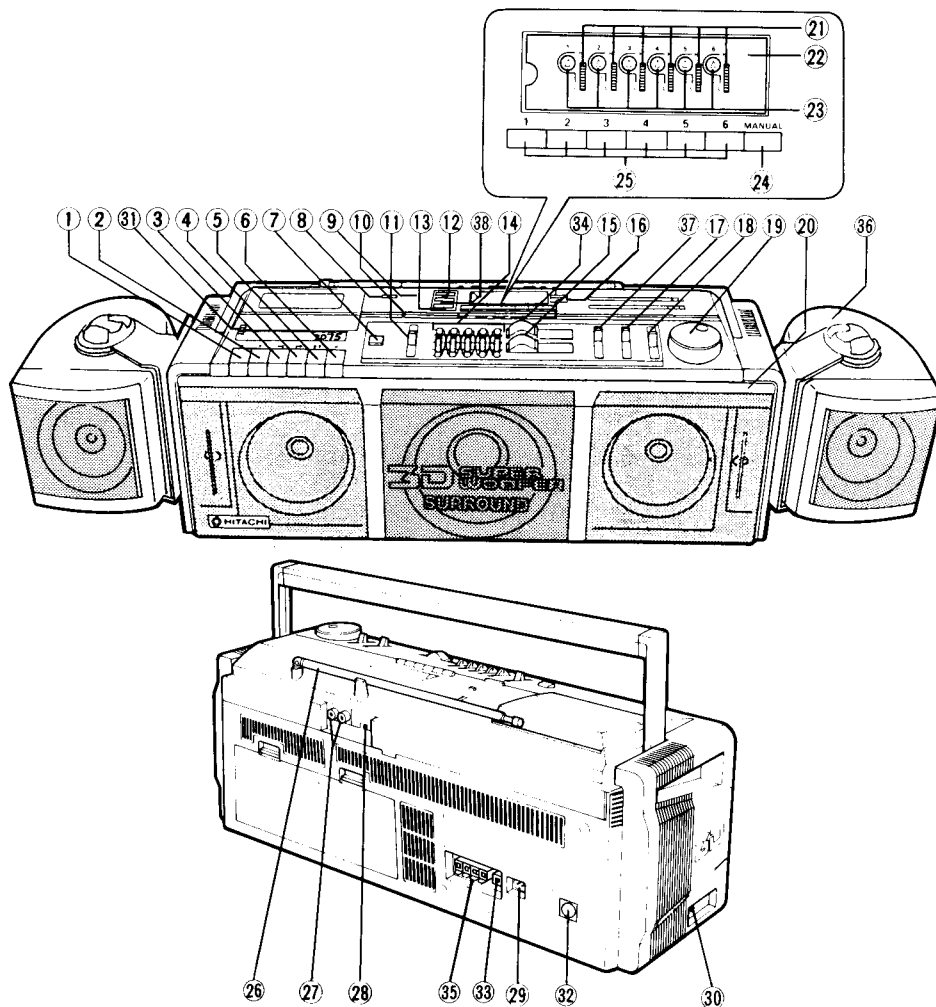
TOYOKAWA WORKS

## KEY TO ILLUSTRATIONS

- |                              |                                     |                               |
|------------------------------|-------------------------------------|-------------------------------|
| ① RECORD BUTTON              | ①⑥ FM STEREO INDICATOR              | ②⑧ FM MODE/RIF/AFC SELECTOR   |
| ② PLAYBACK BUTTON            | ①⑦ FUNCTION SELECTOR                | ②⑨ AC SOCKET                  |
| ③ REWIND BUTTON              | ①⑧ BAND SELECTOR                    | ③⑩ HEADPHONES SOCKET          |
| ④ FAST FORWARD BUTTON        | ①⑨ TUNING CONTROL                   | ③⑪ DIRECTION BUTTION          |
| ⑤ EJECT/STOP BUTTON          | ②⑩ INNER MICROPHONE (MONAURAL)      | [For W, AU, H, HC]            |
| ⑥ PAUSE BUTTON               | ②⑪ FM PRESET TUNING KNOBS           | ③⑫ VOLTAGE SELECTOR [For W]   |
| ⑦ OPERATE SWITCH             | [for E, E(BS)]                      | ③⑬ DC JACK [For W]            |
| ⑧ TAPE COUNTER               | ②⑫ FM PRESET TUNING KNOBS COVER     | — For TRK-3D75 only —         |
| ⑨ RESET BUTTON               | [For E, E(BS)]                      | ③⑭ VOLUME CONTROL (SURROUND)  |
| ⑩ 3D SYSTEM SWITCH           | ②⑬ FM PRESET TUNING INDICATOR       | ③⑮ SURROUND SPEAKER CONNECTOR |
| ⑪ TAPE SELECTOR              | [For E, E(BS)]                      | ③⑯ SURROUND SPEAKER           |
| ⑫ OPERATION INDICATOR        | ②⑭ FM MANUAL BUTTON [For E, E(BS)]  | ③⑰ SURROUND SELECTOR          |
| ⑬ 3D SYSTEM INDICATOR        | ②⑮ FM PRESET BUTTONS [For E, E(BS)] | ③⑱ SURROUND INDICATOR         |
| ⑭ GRAPHIC EQUALIZER CONTROLS | ②⑯ ROD ANTENNA                      |                               |
| ⑮ VOLUME CONTROL (MAIN)      | ②⑰ CD/LINE IN SOCKET                |                               |


## SIGNATION DES COMMANDES

- |                                  |  |   |
|----------------------------------|--|---|
| ① Touche d'enregistrement        | ①⑥ Témoin FM stéréo                            | ②⑧ Selecteur mode FM/RIF/AFC                |
| ② Touche de lecture              | ①⑦ Sélecteur de source                         | ②⑨ Prise d'alimentation secteur             |
| ③ Touche de retour rapide        | ①⑧ Sélecteur de bande                          | ③⑩ Prise de casque d'écoute                 |
| ④ Touche d'avance rapide         | ①⑨ Commande d'accord de stations               | ③⑪ Touche d'inversion du sens de défilement |
| ⑤ Touche d'éjection/arrêt        | ②⑩ Microphone incorporé                        | [pour W, AU, H, HC]                         |
| ⑥ Touche de pause                | ②⑪ Boutons d'accord de stations                | ③⑫ Sélecteur de tension [pour W]            |
| ⑦ Interrupteur général           | FM pré-réglées [pour E, E(BS)]                 | ③⑬ Prise CC [pour W]                        |
| ⑧ Compteur de contrôle           | ②⑫ Protection des boutons d'accord             | — Pour TRK- 3D75 uniquement —               |
| ⑨ Touche de remise à zéro        | de stations FM pré-réglées [pour E, E(BS)]     | ③⑭ Commande de volume (ambiance)            |
| ⑩ Interrupteur de système 3D     | ②⑬ Témoin d'accord de stations FM              | ③⑮ Connecteur pour haut-parleur d'ambiance  |
| ⑪ Sélecteur de bande             | pré-réglées [pour E, E(BS)]                    | ③⑯ Haut-parleur d'ambiance                  |
| ⑫ Témoin de fonctionnement       | ②⑭ Touche de réglage manuel FM [pour E, E(BS)] | ③⑰ Sélecteur d'ambiance                     |
| ⑬ Témoin de mode de système 3D   | ②⑮ Touches de préaccord FM [pour E, E(BS)]     | ③⑱ Témoin d'ambiance                        |
| ⑭ Réglage d'égaliseur graphique  | ②⑯ Antenne-tige                                |   |
| ⑮ Commande de volume (principal) | ②⑰ Prise d'entrée CD/Ligne                     |   |



## SAFETY PRECAUTION

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

### General Section

<b>Power supply</b>	AC 120V, 60Hz [H, HC] AC 220V, 50Hz [E] AC 110–127V/200–220V/ 230–250V, 50/60Hz [W] 240V, 50Hz [E (BS), AU]
<b>Batteries</b>	DC 15V (IEC R20 x 10 or equivalent) [TRK-3D70]
<b>Power (mains)</b>	60W [TRK-3D75]
<b>Consumption</b>	80W
<b>Power output</b>	100W P.M.P. (AC operation) [E, E(BS)] 200W P.M.P. (AC operation) [W, AU, H, HC] 31W (8W x 2 + 15W) (AC 10%THD)
<b>Dimensions (WxHxD)</b>	[TRK-3D70] 562 x 201 x 180 mm [E, E(BS)] 562 x 208 x 180 mm [W, AU, H, HC] [TRK-3D75] 842 x 201 x 180 mm [E, E(BS)] 842 x 208 x 180 mm [W, AU, H, HC]
<b>Weight</b>	[TRK-3D70] 6.8 kg [E, E(BS)] 7.0 kg [W, AU, H, HC] (including battery) [TRK-3D75] 8.5kg [E, E(BS)] 8.7kg [W, AU, H, HC] (including battery)
<b>Semiconductors</b>	[TRK-3D70] ICs: 6 Transistors: 17 [E, E(BS)], 14 [W, AU, H, HC] Diodes: 36 [E, E(BS), AU] 16 [W], 14 [H, HC, AU] LEDs: 3 [E, E(BS)] 4 [W, AU, H, HC]  [TRK-3D75] ICs: 8 Transistors: 18 [E, E(BS)] 16 [W, AU, H, HC] Diodes: 37 [E, E(BS)] 17 [W] 16 [AU, H, HC] LEDs: 4 [E, E(BS)] 5 [W, AU, H, HC]

### Radio Section

<b>Circuit System</b>	FM/SW/MW/LW 4-band superheterodyne [E, E(BS)] FM/SW <sub>1</sub> /SW <sub>2</sub> /MW 4-band superheterodyne [W, AU, H, HC]
<b>Tuning Range</b>	[E, E(BS)] FM: 87.5 to 108 MHz SW: 6.0 to 18.0 MHz

	MW: 530 to 1,605 kHz LW: 150 to 285 kHz [W, AU, H, HC] FM: 88 to 108 MHz SW <sub>2</sub> : 7.0 to 22.0 MHz SW <sub>1</sub> : 2.3 to 7.0 MHz MW: 530 to 1,605 kHz
<b>Sensitivity</b>	FM: 13 dB (pra.), 5 dB (max) SW: 30 dB (pra.), 15 dB (max) MW: 50 dB (pra.), 35 dB (max) LW: 55 dB (pra.), 40 dB (max) FM: 13 dB (pra.), 5 dB (max) SW <sub>2</sub> : 30 dB (pra.), 20 dB (max) SW <sub>1</sub> : 48 dB (pra.), 35 dB (max) MW: 50 dB (pra.), 35 dB (max)
	[E, E(BS)]
	[W, AU, H, HC]
<b>Intermediate Frequency</b>	FM: 10.7 MHz AM: 465 kHz [E, E(BS)] AM: 455 kHz [W, AU, H, HC]
<b>Antennas (Aerials)</b>	FM/SW/SW <sub>2</sub> : Rod antenna SW <sub>1</sub> /MW/LW: Built-in Ferrite-core antenna

### Tape Recorder Section

<b>Tape</b>	Compact Cassette (C30, C60, C90)
<b>Tracks system</b>	4-track (2-channel stereo)
<b>Tape Speed</b>	4.75 cm/sec
<b>Recording System</b>	AC bias 57 kHz
<b>Erasing System</b>	Magnet
<b>Playback Frequency Response</b>	Metal tape: 60 to 12,000 Hz [E, E(BS)] 50 to 14,000 Hz [W, AU, H, HC] (HiTACHI ME 90) High bias tape (Chromium tape): 60 to 11,000 Hz [E, E(BS)] 50 to 13,000 Hz [W, AU, H, HC] (HiTACHI SX90, HiTACHI EX90) Normal tape: 60 to 10,000 Hz [E, E(BS)] 50 to 12,000 Hz [W, AU, H, HC]
<b>Signal to Noise Ratio</b>	45 dB
<b>Wow and Flutter</b>	0.25% (WRMS)
<b>Crosstalk Between Tracks</b>	60 dB [E, E(BS)] 55 dB [W, AU, H, HC]
<b>Between Channels</b>	30 dB
<b>Erasing Ratio</b>	60 dB
<b>Distortion</b>	3%
<b>Head</b>	Permalloy
<b>Motor</b>	Electrical DC micro motor
<b>Input Sensitivity and Impedance</b>	CD/Line in: 600 mV, 25 k $\Omega$ ms
<b>Output Level and Load Impedance</b>	Headphones: 8 ohms to 300 $\Omega$ ms Ext. speakers (Surround): 1 $\Omega$ ohms

## PRECAUTIONS DE SECURITE

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 accompagnées du symbole  $\triangle$  dans le schéma de montage et sur le schéma de plaque de câblage.
2. Avant de retourner l'appareil réparé au client le technicien doit procéder à un essai complet pour s'assurer qu'il ne présente aucun danger de chocs électriques.

## CARACTERISTIQUES TECHNIQUES

## Section General

<b>Secteur</b>	CA 120V, 60Hz [H, HC] CA 220V, 50Hz [E] CA 110-127V/200V-220V/ 230-250V, 50/60Hz [W] 240V, 50Hz [E (BS), AU]
<b>Piles</b>	CC15V (IEC R20 x 10 piles ou équivalent)
<b>Consommation (secteur)</b>	[TRK-3D70] 60W [TRK-3D75] 80W
<b>Sortie de puissance</b>	100W P.M.P. (Alimentation CA) [E, E(BS)] 200W P.M.P. (Alimentation CA) [W, AU, H, HC] 31W (8W x 2 + 15W) (CA 10% de D.H.T.)
<b>Dimensions (LxHxP)</b>	[TRK-3D70] 562 x 201 x 180 mm [E, E(BS)] 562 x 208 x 180 mm [W, AU, H, HC] [TRK-3D75] 842 x 201 x 180 mm [E, E(BS)] 842 x 208 x 180 mm [W, AU, H, HC]
<b>Poids</b>	[TRK-3D70] 6,8 kg [E, E(BS)] 7,0 kg [W, AU, H, HC] (avec piles) [TRK-3D75] 8,5 kg [E, E(BS)] 8,7 kg [W, AU, H, HC] (avec piles)
<b>Semi-conducteurs</b>	[TRK-3D70] IC: 6 Transistors: 17 [E, E(BS)] 14 [W, AU, H, HC] Diodes: 36 [E, E(BS), AU] 16 [W], 14 [H, HC, AU] LED: 3 [E, E(BS)] 4 [W, AU, H, HC] [TRK-3D75] IC: 8 Transistor: 18 [E, E(BS)] 16 [W, AU, H, HC] Diodes: 37 [E, E(BS)] 17 [W] 16 [AU, H, HC] LED: 4 [E, E(BS)] 5 [W, AU, H, HC]

## Section Radio

<b>Système d'écoute</b>	FM/OC/PO/GO 4 gammes Superhétérodyne [E, E(BS)] FM/OC <sub>2</sub> /OC <sub>1</sub> /PO 4 gammes Superhétérodyne [W, AU, H, HC]
-------------------------	--

<b>Gammes d'accord</b>	[E, E(BS)] FM: De 87,5 à 108 MHz OC: De 6,0 à 18,0 MHz PO: De 530 à 1.605 kHz GO: De 150 à 285 kHz [W, AU, H, HC] FM: De 88 à 108 MHz OC <sub>2</sub> : De 7,0 à 22,0 MHz OC <sub>1</sub> : De 2,3 à 7,0 MHz PO: De 530 à 1.605 kHz
<b>Sensibilité</b>	FM: 13 dB (pra.), 5 dB (max) OC: 30 dB (pra.), 15 dB (max) PO: 50 dB (pra.), 35 dB (max) GO: 55 dB (pra.), 40 dB (max) FM: 13 dB (pra.), 5 dB (max) OC <sub>2</sub> : 30 dB (pra.), 20 dB (max) OC <sub>1</sub> : 48 dB (pra.), 35 dB (max) PO: 50 dB (pra.), 35 dB (max) } [E, E(BS)] FM: 10,7 MHz AM: 465 kHz [E, E(BS)] AM: 455 kHz [W, AU, H, HC]
<b>Fréquence Intermédiaire</b>	FM/OC/OC <sub>2</sub> : Antenne-tige OC <sub>1</sub> /PO/GO: Antenne incorporée à noyau de ferrite
<b>Antenne (Aérien)</b>	

## Section d'Enregistreur

<b>Bande</b>	Minicassette (30, C60, C90)
<b>Système de piste</b>	4 pistes (2 canaux stéréo)
<b>Vitesse de défilement</b>	4,75 cm/sec
<b>Système d'enregistrement</b>	Polarisation à courant alternatif 57 kHz
<b>Système d'effacement</b>	Aimant
<b>Réponse de fréquence de lecture</b>	Bande métallique: De 60 à 12.000 Hz [E, E(BS)] De 50 à 14.000 Hz [W, AU, H, HC] (HITACHI ME90) Bande haut bias (bande au chrome): De 60 à 11.000 Hz [E, E(BS)] De 50 à 13.000 Hz [W, AU, H, HC] (HITACHI SX90, HITACHI EX90) Bande normale: De 60 à 10.000 Hz [E, E(BS)] De 50 à 12.000 Hz [W, AU, H, HC]
<b>Rapport signal/bruit</b>	45 dB
<b>Pleurage et scintillement</b>	0,25% (WRMS)
<b>Diaphonie</b>	
<b>Entre traces</b>	60 dB [E, E(BS)] 55 dB [W, AU, H, HC] 30 dB
<b>Entre canaux</b>	
<b>Puissance d'enregistrement</b>	60 dB
<b>Distorsion</b>	3%
<b>Tête</b>	Permalloy
<b>Moteur</b>	Electrique de courant continu
<b>Sensibilité d'entrée et impédance</b>	CD/Entrée de ligne: 600mV, 25 kohms
<b>Niveau de sortie et impédance</b>	Casque d'écoute: De 8 ohms à 300 ohms Haut-parleurs externes (ambiance): 16 ohms

## DISASSEMBLY

### 1. Cassette Lid (For Only Cassette Lid Assembly) (Fig. 1)

Push the cassette lid arm in the direction of the arrow using a flat-tip screwdriver and pull the cassette lid towards the front to remove it.

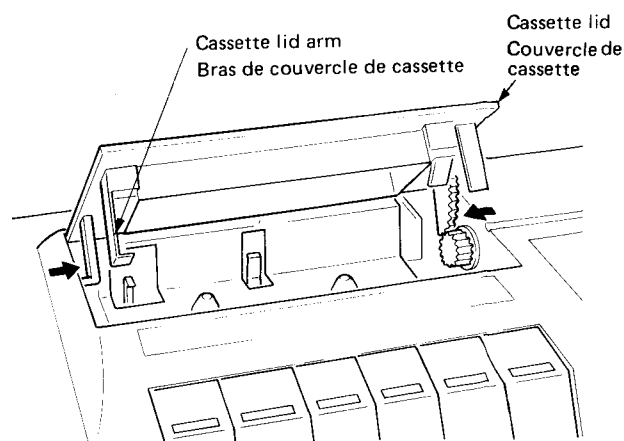


Fig. 1

### 2. Installing the Cassette Lid (For Only Cassette Lid Assembly) (Fig. 2)

- (1) Securely hook the boss of the cassette lid at the spring as shown in Fig. 2.

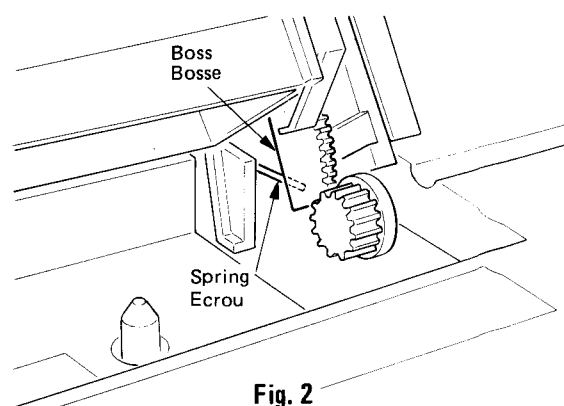


Fig. 2

### 3. Top Panel (Fig. 3, 4, 5)

- (1) Remove the (A) fixing screws (6) shown in Fig. 3, 4, 5.
- (2) Press the EJECT button to open the cassette lid and lift the top panel holding the rod antenna side to remove it.

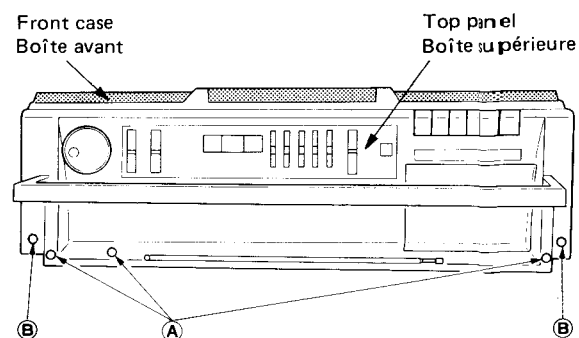


Fig. 3

### 5. Cassette Chassis (Fig. 6)

After removing the top panel, remove the (C) fixing screws (4) and connectors and (B) and (C).

- For W, AU, H, HC only —
- Remove the connector (F).

### 6. MAP.W.B. (Fig. 6)

After removing the top panel, remove the (D) fixing screws (5) and the connectors (B) and (D).

- For W, AU, H, HC only —
- Remove the connector (F).

### 7. PAP.W.B. (Fig. 7)

After removing the front case, remove the (E) (4), (F) (1) and (G) (2) fixing screws, and connectors (A), (C) and (E).

— For TRK-3D75 only —

### 8. Surround Speakers (Fig. 8)

Press on the speaker stopper, lift the speaker in the direction of the arrow, then move the speaker to the outer side and detach it.

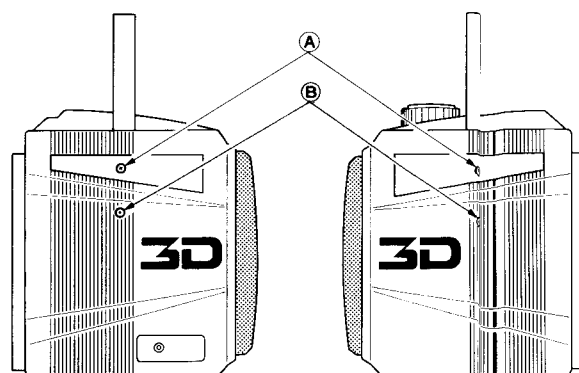


Fig. 4

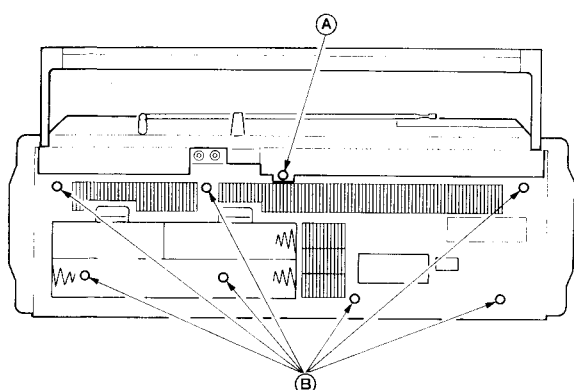


Fig. 5

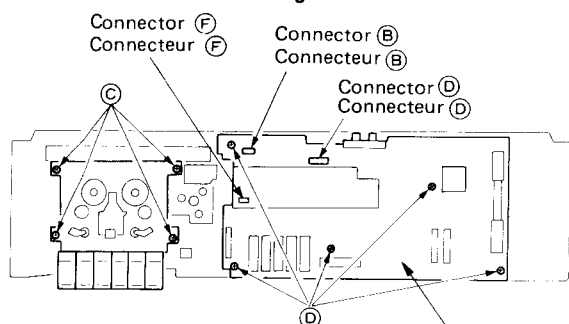


Fig. 6

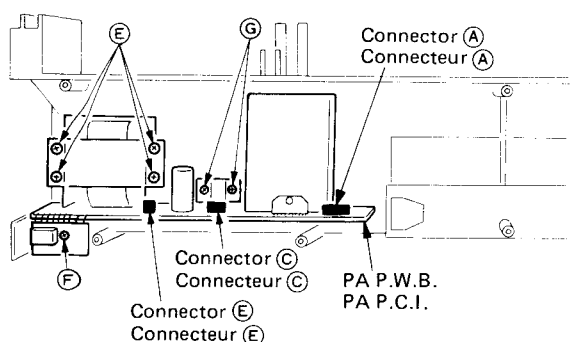


Fig. 7

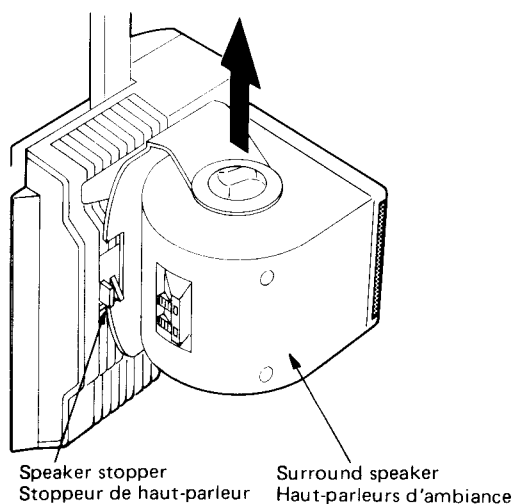


Fig. 8

## DEMONTAGE

### 1. Couvercle de cassette (Seulement pour l'ensemble de couvercle de cassette) (Fig. 1)

Poussez le bras du couvercle de cassette dans la direction de la flèche en utilisant un tournevis à bout plat et tire le couvercle de cassette vers la forme pour l'enlever.

### 2. Installation du couvercle de cassette (Seulement pour l'ensemble de couvercle de cassette) (Fig. 2)

(1) Crochez soigneusement la bosse du couvercle de cassette à l'écrou comme montré sur Fig. 2.

### 3. Boîte supérieure (Fig. 3, 4, 5)

(1) Enlevez 6 vis d'assemblage (A) montrées sur Fig. 3, 4, 5.

(2) Pressez la touche d'éjection (EJECT) pour ouvrir le couvercle de cassette et soulevez le panneau supérieur tout en maintenant le côté rouge d'antenne pour l'enlever.

### 4. Boîte avant (Fig. 3, 4, 5, 7)

Enlevez les (B) vis d'assemblage (11), tirez la cassette avant légèrement vers vous et enlevez le (A) connecteur attachement le haut-parleur à la P.C.I. PA (POWER).

### 5. Châssis de cassette

Après avoir enlevé la boîte supérieure, enlevez les (C) vis d'assemblage (4) et les connecteurs (B) et (C).

— Pour W, AU, H, HC uniquement —  
Enlevez le connecteur (F).

### 6. MA P.C.I.

Après avoir enlevé la boîte supérieure, enlevez les (D) vis d'assemblage (5) et les connecteurs (B) et (D).

— Pour W, AU, H, HC uniquement —  
Enlevez le connecteur (F).

### 7. PA P.C.I.

Après avoir enlevé la boîte avant, enlevez les (E) (4), (F) (1) et (G) (2) vis d'assemblage, et les connecteurs (A), (C) et (E).

— Pour TRK-3D75 uniquement —

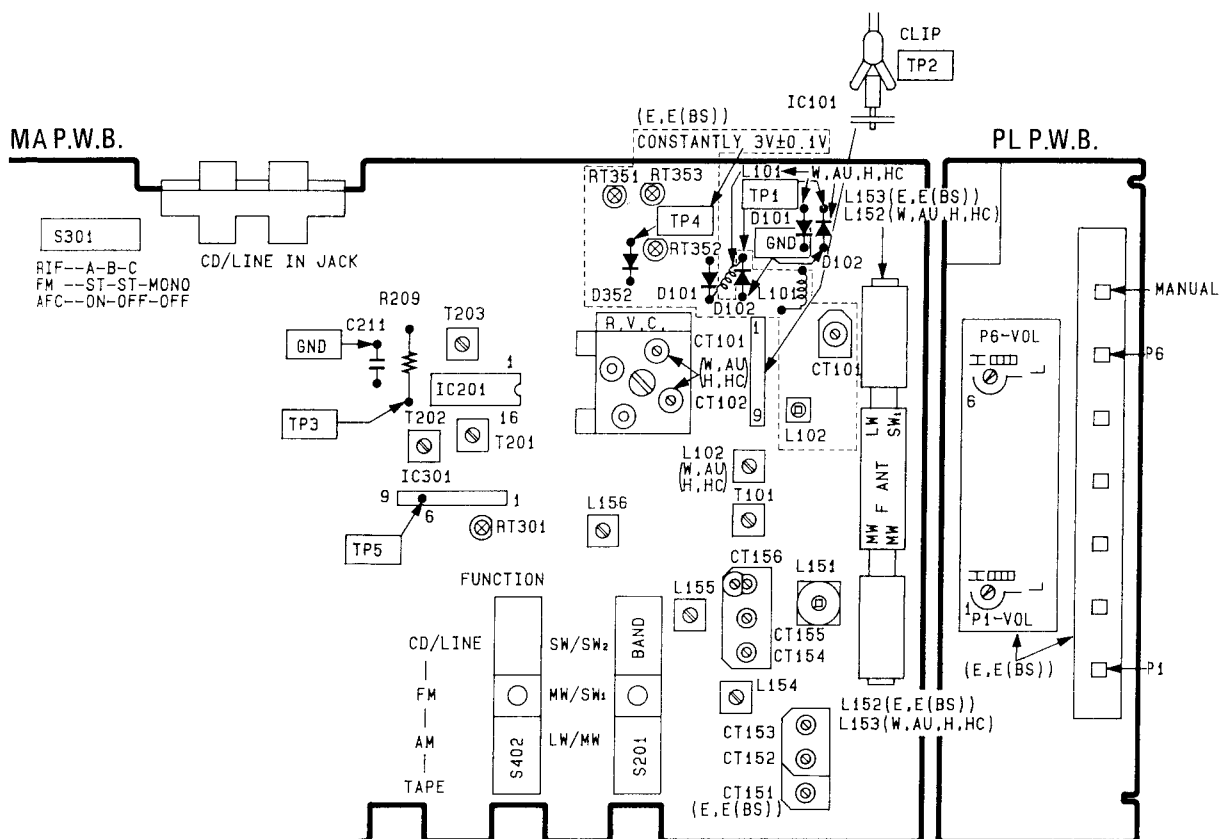
### 8. Haut-parleurs d'ambiance

Appuyez sur le stoppeur pour le relâcher et glissez le haut-parleur comme indiqué pour le retirer.

\*P.C.I. = plaquette de circuit imprimée

# ADJUSTMENT

## ADJUSTMENT PARTS LOCATION REGLAGE DE LOCATION DES PIECES



### 1. Radio Section

#### 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.						
	(2) S-Curve	● Genescope (10.7 MHz)	TP2	TP3	10.7 MHz	Highest	T101 T202	Note 1 Note 2
2	FM OSC (Covering)	● FM signal generator (400 Hz, 30% dev) ● Oscilloscope ● VTVM	TP1 (thru FM dummy antenna) (Note 3)	TP 3	See 1-2 FM covering (page 9)			
					87 MHz	Lowest	L102	Max
					109 MHz	Highest	CT102	
3	FM ANT. (Tracking)				Repeat steps (1) and (2)			
					90 MHz	90 MHz	L101	Max
					106 MHz	106 MHz	CT101	
4	FM MPX (Multiplex) free run	● Frequency counter	Connect a 10 $\mu$ F 25V electrolytic capacitor between the No. 1 pin of IC301 and the ground	TP5	—	—	RT301	38 kHz $\pm$ 50 Hz (Note 4)

## AM Section

Step			Adjustment Item	Measuring Instrument and Connection			Genescope or Signal Generator Frequency	Dial Pointer Position	Adjust	Reading	
				Measuring Instrument	Input Terminal	Output Terminal					
For E/E (BS)	1	(1)	AM IF	● Genescope (465 kHz)	Ferrite-core antenna (Note 5)	TP3	465 kHz	Highest	T201 T203	Note 6	
		(2)					Repeat step (1)				
	2	(1)	LW OSC. (Covering)	● AM signal generator (400 Hz, 30 % mod.)	Ferrite-core antenna (Note 5)	TP3	145 kHz	Lowest	L156	Max.	
		(2)					290 kHz	Highest	CT156		
		(3)					Repeat steps (1) and (2)				
	3	(1)	LW ANT. (Tracking)	● VTVM	● Oscilloscope	TP3	160 kHz	160 kHz	L153	Max.	
		(2)					270 kHz	270 kHz	CT153		
		(3)					Repeat steps (1) and (2)				
	4	(1)	MW OSC. (Covering)	● AM signal generator (400 Hz, 30 % mod.)	Ferrite-core antenna (Note 5)	TP3	515 kHz	Lowest	L155	Max.	
		(2)					1,650 kHz	Highest	CT155		
		(3)					Repeat steps (1) and (2)				
	5	(1)	MW ANT. (Tracking)	● VTVM	● Oscilloscope	TP3	600 kHz	600 kHz	L152	Max.	
		(2)					1,400 kHz	1400 kHz	CT152		
		(3)					Repeat steps (1) and (2)				
	6	(1)	SW OSC. (Covering)	● AM signal generator (400 Hz, 30 % mod.)	TP1 (thru SW dummy antenna) (Note 7)	TP3	5.8 MHz	Lowest	L154	Max.	
		(2)					18.5 MHz	Highest	CT154		
		(3)					Repeat steps (1) and (2)				
	7	(1)	SW ANT. (Tracking)	● VTVM	● Oscilloscope	TP3	6.5 MHz	6.5 MHz	L151	Max.	
		(2)					16 MHz	16 MHz	CT151		
		(3)					Repeat steps (1) and (2)				
For W/AU/H/HC	8	(1)	AM IF	● Genescope (455 kHz)	Ferrite-core antenna (Note 5)	TP3	455 kHz	Highest	T201 T203	Note 6	
		(2)					Repeat step (1)				
	9	(1)	MW OSC. (Covering)	● AM signal generator (400 Hz, 30 % mod.)	Ferrite-core antenna (Note 5)	TP3	515 kHz	Lowest	L156	Max.	
		(2)					1,650 kHz	Highest	CT156		
		(3)					Repeat steps (1) and (2)				
	10	(1)	MW ANT. (Tracking)	● VTVM	● Oscilloscope	TP3	600 kHz	600 kHz	L153	Max.	
		(2)					1,400 kHz	1400 kHz	CT153		
		(3)					Repeat steps (1) and (2)				
	11	(1)	SW1 OSC. (Covering)	● AM signal generator (400 Hz, 30 % mod.)	Ferrite-core antenna (Note 5)	TP3	2.2 MHz	Lowest	L155	Max.	
		(2)					7.3 MHz	Highest	CT155		
		(3)					Repeat steps (1) and (2)				
	12	(1)	SW1 ANT. (Tracking)	● VTVM	● Oscilloscope	TP3	2.7 MHz	2.7 MHz	L152	Max.	
		(2)					6.3 MHz	6.3 MHz	CT152		
		(3)					Repeat steps (1) and (2)				
	13	(1)	SW2 OSC. (Covering)	● AM signal generator (400 Hz, 30 % mod.)	TP1 (thru SW dummy antenna) (Note 7)	TP3	6.7 MHz	Lowest	L154	Max.	
		(2)					23 MHz	Highest	CT154		
		(3)					Repeat steps (1) and (2)				
	14	(1)	SW2 ANT. (Tracking)	● VTVM	● Oscilloscope	TP1 (thru SW dummy antenna) (Note 7)	TP3	8 MHz	8 MHz	L151	Max.



## 1-2. FM Covering

\*( ) For W. Germany &amp; Italy

Step			Signal Generator Frequency	Preset CH. and Dial Pointer Position	Voltage of TP4	Adjust	Reading	Note
1	(1)	Preset Covering	—	—	3.0V ± 0.1	RT353	DC volt. meter (★1)	Connect the DC volt. meter to TP.4
	(2)		87 MHz * (87.5 MHz)	PI ON Dial Pointer Lowest	—	L102	TP3 MAX	Fix the Vol.-P1 Frequency Lowest
	(3)		109 MHz * (108 MHz)	P6 ON Dial Pointer Highest	3.0V ± 0.1	RT351 RT353	TP3 MAX	Fix the Vol.-P6 Frequency Highest
	(4)		Repeat steps (1) and (2)					
2	(1)	Manual Covering	87 MHz * (87.5 MHz)	Manual ON Dial Pointer Lowest	3.0V ± 0.1	RT352 RT353	TP3 MAX	
	(2)		109 MHz * (108 MHz)	—	—	—		Only check

(★1) Please use high internal impedance DC volt. meter.

## REGLAGE

## 1. Section radio

## Section FM

Section FM

Pas		Article d'ajustage	Instrument de mesure et connexion			Genescope ou signal de générateur des fréquences	Position d'indicateur de numérotation	Ajustez	Lecture	
			Instrument de mesure	Borne d'entrée	Borne de sortie					
1	(1)	FM IF	● Genescope (10,7 MHz)	TP2	TP3	10,7 MHz	Supérieur	T101	Remarque 1	
	(2)	Courbe S						T202	Remarque 2	
Pour E/E (BS)	2	FM OSC (recouvrement)	● Signal générateur FM (400 Hz, 30% dev.) ● Oscilloscope ● VTVM	TP1 (par antenne artificielle FM) (Remarque 3)	TP3	Voir 1-2 FM recouvrement (page 9)				
						87 MHz	Inférieur	L102		Max.
109 MHz	Supérieur					CT102				
Pour W/AL H/HC	3	FM ANT. (Alignement)				(1)	Répétez pas (1) et (2)			Max.
						(2)	90 MHz	90 MHz	L101	
(3)						106 MHz	106 MHz	CT101		
4	(1)	FM MPX. (free run multiplex)	● Compteur des fréquences	Connectez un condensateur électrolytique de 10 µF 25 V entre l'épingle No. 1 de IC301 et la terre.	TP5	—	—	RT301	38 kHz ±50 Hz (Remarque 4)	

## Section AM

Pas	Article d'ajustage	Instrument de mesure et connexion			Genescope ou signal de générateur des fréquences	Position d'indicateur de numérotation	Ajustez	Lecture		
		Instrument de mesure	Borne d'entrée	Borne de sortie						
Pour E/E (BS)	1	(1)	AM IF	● Genescope (465 kHz)	Antenne tore de ferrite (Remarque 5)	TP3	465 kHz	Supérieur	T201 T203	Remarque 6
		(2)					Répétez pas (1)			
	2	(1)	OSC. GO (recouvrement)	● Signal générateur AM (400 Hz, 30% mod.) ● VTVM ● Oscilloscope	Antenne tore de ferrite (Remarque 5)	TP3	145 kHz	Inférieur	L156	Max.
		(2)					290 kHz	Supérieur	CT156	
		(3)					Répétez pas (1) et (2)			
	3	(1)	ANT. GO (Alignement)				160 kHz	160 kHz	L153	Max.
		(2)					270 kHz	270 kHz	CT153	
		(3)					Répétez pas (1) et (2)			
	4	(1)	OSC. PO (recouvrement)	● Signal générateur AM (400 Hz, 30% mod.) ● VTVM ● Oscilloscope	Antenne tore de ferrite (Remarque 5)	TP3	515 kHz	Inférieur	L155	Max.
		(2)					1650 kHz	Supérieur	CT155	
		(3)					Répétez pas (1) et (2)			
	5	(1)	ANT. PO (Alignement)				600 kHz	600 kHz	L152	Max.
		(2)					1400 kHz	1400 kHz	CT152	
		(3)					Répétez pas (1) et (2)			
	6	(1)	OSC. OC (recouvrement)	● Signal générateur AM (400 Hz, 30% mod.) ● VTVM ● Oscilloscope	TP1 (par antenne artificielle OC) (Remarque 7)	TP3	5,8 MHz	Inférieur	L154	Max.
		(2)					18,5 MHz	Supérieur	CT154	
		(3)					Répétez pas (1) et (2)			
	7	(1)	ANT. OC (Alignement)				6,5 MHz	6,5 MHz	L151	Max.
		(2)					16 MHz	16 MHz	CT151	
		(3)					Répétez pas (1) et (2)			
Pour W/AU/H/HC	8	(1)	AM IF	● Genescope (455 kHz)	Antenne tore de ferrite (Remarque 5)	TP3	455 kHz	Supérieur	T201 T203	Remarque 6
		(2)					Répétez pas (1)			
	9	(1)	OSC. PO (recouvrement)	● Signal générateur AM (400 Hz, 30% mod.) ● VTVM ● Oscilloscope	Antenne tore de ferrite (Remarque 5)	TP3	515 kHz	Inférieur	L156	Max.
		(2)					1650 KHz	Supérieur	CT156	
		(3)					Répétez pas (1) et (2)			
	10	(1)	ANT. PO (Alignement)				600 kHz	600 kHz	L153	Max.
		(2)					1400 kHz	1400 kHz	CT153	
		(3)					Répétez pas (1) et (2)			
	11	(1)	OSC. OC1 (recouvrement)	● Signal générateur AM (400 Hz, 30% mod.) ● VTVM ● Oscilloscope	Antenne tore de ferrite (Remarque 5)	TP3	2,2 MHz	Inférieur	L155	Max.
		(2)					7,3 MHz	Supérieur	CT155	
		(3)					Répétez pas (1) et (2)			
	12	(1)	ANT. OC1 (Alignement)				2,7MHz	2,7 MHz	L152	Max.
		(2)					6,3 MHz	6,3 MHz	CT152	
		(3)					Répétez pas (1) et (2)			
	13	(1)	OSC. OC2 (recouvrement)	● Signal générateur AM (400 Hz, 30% mod.) ● VTVM ● Oscilloscope	TP1 (par antenne artificielle OC) (Remarque 7)	TP3	6,7 MHz	Inférieur	L154	Max.
		(2)					23 MHz	Supérieur	CT154	
		(3)					Répétez pas (1) et (2)			
	14	(1)	ANT. OC2 (Alignement)	● VTVM ● Oscilloscope			8 MHz	8 MHz	L151	Max.

\* ( ) Pour l'Allemagne de l'Ouest et l'Italie

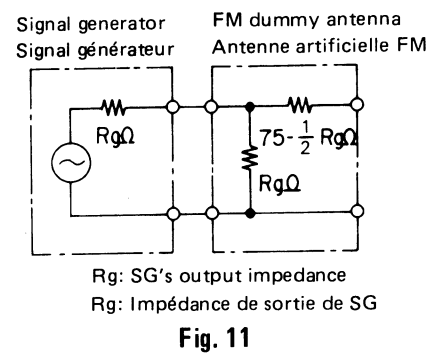
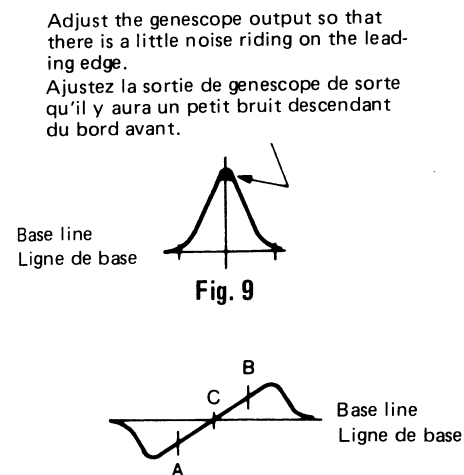
## 1-2 Recouvrement FM

Pas		Signal de générateur des fréquences	Préréglage CAN. et position de composition de numéro	Tension de TP 4	Ajustage	Lecture	Remarque
1	(1)	—	—	3,0V ± 0,1	RT353	Voltmètre CC (★1)	Connectez le voltmètre CC au TP4.
	(2)	87 MHz *(87,5 MHz)	P1 ON-Position de composition de numéro inférieure	—	L102	TP3 MAX	Régler la fréquence de Vol.-P1 au plus faible.
	(3)	109 MHz *(108 MHz)	P6 ON-Position de composition de numéro supérieure	3,0V ± 0,1	RT351 RT353	TP3 MAX	Régler la fréquence de Vol.-P6 au plus fort.
	(4)	Répétez pas (1) et (2)					
2	(1)	87 MHz *(87,5 MHz)	Manuel ON-Position de composition de numéro inférieure	3,0V ± 0,1	RT352 RT353	TP3 MAX	
	(2)	109 MHz *(108 MHz)	—	—	—		Contrôle seulement

(★1) Ayez soin d'utiliser le voltmètre CC de forte impédance intérieure.

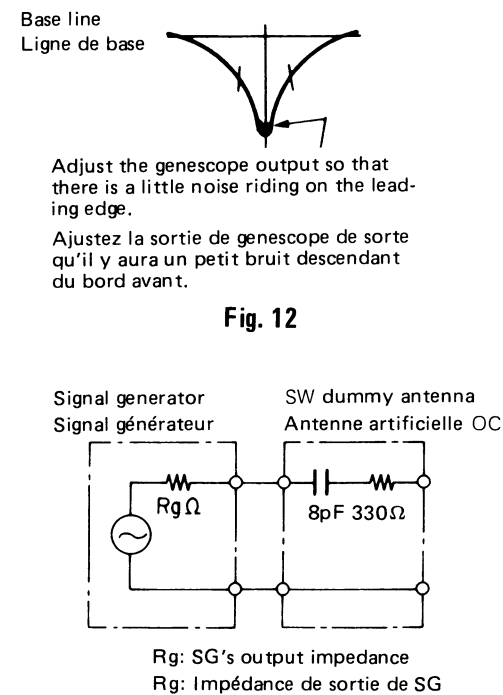
**Note:**

1. Feed in a weak signal to TP2 from the genescopes. Adjust T101 for maximum gain and the waveform indicated in Fig. 9. If the center of the waveform cannot be lined up on the marker, adjust the right/left balance.
2. Use the T202 core to form the S-curve shown in Fig. 10. Adjust the symmetry of A and B about point C for linearity.
3. FM dummy antenna is shown in Fig. 11.
4. Connect the frequency counter to TP5 and connect a 330 kohms resistor TP5 to GND.
5. Connect the output of AM signal generator to the loop antenna, and put it near to the ferrite-core antenna.
6. Feed in a weak signal from the genescopes. Adjust T201, T203 for maximum gain and the waveform of Fig. 12.
7. SW. dummy antenna is shown in Fig. 13.



**Remarque:**

1. Alimenter un signal faible au TP2 du genescopes. Ajustez T101 pour un profit maximal et la forme d'onde indiquée dans Fig. 9. Si le centre de la forme d'onde ne peut pas être alignée sur le marquer, ajustez la balance droite/gauche.
2. Utilisez le tore T202 pour former la courbe-S montrée dans Fig. 10. Ajustez la symétrie de A et B avec point C pour la linéarité.
3. Antenne artificielle FM est montrée dans Fig. 11.
4. Connectez le compteur des fréquences au TP5 et connectez le résisteur TP5 à 330 k ohms au GND.
5. Connectez la sortie du signal générateur AM à l'antenne loop et placez l'antenne près de l'antenne tore de ferrite.
6. Alimenter un signal faible du genescopes. Ajustez T210, T203 pour un profit maximal et la forme d'onde de Fig. 12.
7. Antenne artificielle OC est montrée dans Fig. 13.



**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.

Step	Adjustment Item	Measuring Instrument and Connection			Check Tape	Mode	Adjusted Position	Adjusted Value	Remarks
		Measuring Instrument	Input Terminal	Output Terminal					
1	Tape speed	● Frequency counter	—	Speaker terminal (4Ω load)	Tape speed adjustment tape (3 kHz)	Playback	Semivariable resistor in the motor (Fig. 14)	3 kHz ± 20 Hz	Note 1, 3
2	Head azimuth	● VTVM	—	Speaker terminal (4Ω load)	Head azimuth adjustment tape (10 kHz)	Playback	Azimuth adjusting screw	Output max.	Note 2, 4

**Note:**

1. Adjust within 30 sec. after heat-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.
- For W, AU, H, HC only —
3. Playback the tape in the reverse direction and check if the reading is 3 kHz ± 20 Hz. If the reading is outside the range of adjustment value, make readjustment so that the

4. reading would be 2,980 Hz to 3,025 Hz both in the forward and reverse directions.
4. Check that the adjustment value is also satisfied in the reverse direction.

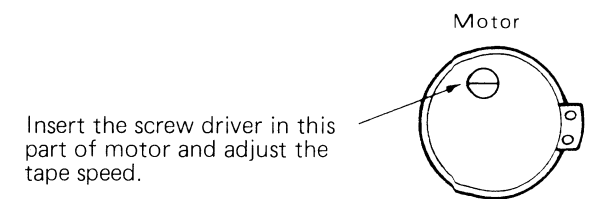


Fig. 14

**2. Section de l'appareil d'enregistrement**

Effectuez les ajustages suivants le chapitre après le nettoyage des têtes après nettoyer la tête, du galetresseur et cabestan avec un bâton de nettoyage imbibé d'alcool.

Pas	Article d'ajustage	Instrument de mesure et connexion			Contrôle de bande	Mode	Position ajustée	Valeur ajustée	Remarques
		Instrument de mesure	Borne d'entrée	Borne de sortie					
1	Vitesse de bande	● compteur des fréquences	—		Bande d'ajustage de la vitesse (3kHz)	Lecture	Résisteur semi-variable dans le moteur (Fig. 14)	3 kHz±20 Hz	Remarque 1, 3
2	Tête azimuth	● VTVM	—	Borne de haut-parleur (charge de 4Ω)	Tête azimuth bande d'ajustage (10 kHz)	Lecture	Vis d'ajustage azimuth	Sortie max.	Remarque 2, 4

**Remarques:**

1. Ajustez avant que 30 secondes soient écoulées après échauffement pour plus de 20 minutes.
2. Quand les valeurs maximales 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 2dB.
- Pour W, AU, H, HC uniquement —
3. Reproduisez la bande en direction inverse et vérifiez que la lecture est de 3 kHz ±20 Hz. Si la lecture déborde de la gamme des valeurs de réglage, effectuez un nouveau réglage qui

4. donne une lecture de 2.980 Hz à 3.025 Hz aussi bien dans le sens d'avance de la lecture que dans le sens inverse.
4. Contrôlez aussi que la valeur du réglage est satisfaisante dans le sens inverse.

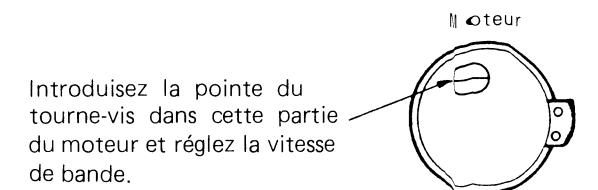


Fig. 14

INSPECTION OF MECHANISM

For E, E(BS)

Item	Checking item		Reference value	Remarks
1	Pressure of pressure roller		300 – 500g	Note
2	Take-up torque		30 – 60 g·cm	
3	Fast forward/Rewind torque		50g·cm or more	
4	Auto-Stop sensor operation force		40 – 75 g	
5	Brake torque		15 g·cm or more	Measured in stop mode
6	Back tension torque	Take-up	1 – 6 g·cm	
		Supply	1 – 4 g·cm	
7	Flywheel thrust gap		0.05 – 0.5 mm	
8	Button operation force	Play button	1.1 kg or less	
		FF button	0.8 kg or less	
		Rewind button	1.1 kg or less	
		Eject button	0.6 kg or less	
		Record button	1.0 kg or less	
		Pause button	1.0 kg or less	

Except E, E(BS)

Item	Checking	Reference Value	Remarks
1.	Pressure roller compression strength	270 – 420g	Note
2.	Playback torque	35 – 70g	
3.	FF/REW torque	80g	
4.	Take up back-tension	1.5 – 6.0g·cm	
5.	Tape drive force	100 g·min	
6.	Axial play of flywheel	0.05 – 0.5 mm	

**Note:**  
Set this unit in the playback mode and press the pressure roller in the direction of the arrow using a fan type tension gauge, and measure the pressure when the pressure roller is released from the capstan.

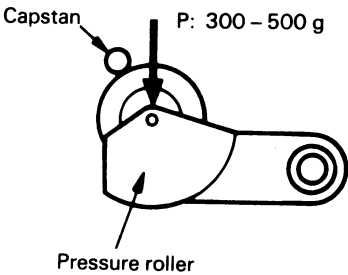


Fig. 15

CONTROLE DE MECANISME

Pour E, E(BS)

Article	Article de contrôle		Valeur de référence	Remarques
1	Pressure du galet-presseur		300 – 500g	Remarque
2	Force de torsion cueilleure		30 – 60 g·cm	
3	Force de torsion d'avance rapide/de rebobinage		50g·cm ou plus	
4	Senseur de force d'opération pour arrêt automatique		40 – 75 g	
5	Force de torsion arrière		15 g·cm ou plus	Mesuré en mode d'arrêt
6	Force de torsion de tension arrière	Cueilleur	1 – 6 g·cm	
		Amenée	1 – 4 g·cm	
7	Trou de poussée de roue volante		0,05 – 0,5 mm	
8	Force d'opération de touche	Touche de lecture	1,1 kg ou moins	
		Touche d'avance rapide	0,8 kg ou moins	
		Touche de rebobinage	1,1 kg ou moins	
		Touche d'éjection	0,6 kg ou moins	
		Touche d'enregistrement	1,0 kg ou moins	
		Touche de pause	1,0 kg ou moins	

Sauf E, E(BS)

Article	Article de contrôle	Valeur de référence	Remarques
1	Galet-presseur rigueur de compression	270 – 420 g	Remarque
2.	Force de torsion de lecture	35 – 70 g	
3.	Forcé de torsion d'avance rapide/de rebobinage	80 g	
4.	Tension arrière cueilleure	1,5 – 6,0 g·cm	
5.	Force d'avance de la bande	100 g·min	
6.	Lecture axiale de route volante	0,05 – 0,5 mm	

**Remarque:**  
Réglez cet appareil en mode de lecture et poussez le galet-presseur dans la direction de la flèche en utilisant un éventail de type tension jauge, et mesure la pression quand le galet-presseur est relâché du cabestan.

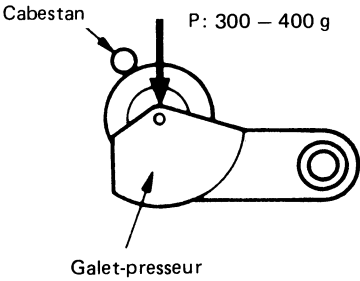


Fig. 15

## LUBRICATION

Lubricate one or two drops of oil to rotating point or lubricate grease to sliding point.  
Lubricate the respective parts listed once every 1000 hours or once a year under normal conditions of use.  
Avoid oiling them excessively, or rotation may become irregular because of oil splashes.

	Lubrication point	Oil or Grease
Rotary section	Metal and metal	Pan motor oil (10W-40)
	Mold and metal	Sonic slider oil (# 1600)
Sliding section	Metal and metal	Hitasol (MO-138)
	Mold and mold	White grease (FL-LUBE-A)
	Mold and metal	White grease (FL-LUBE-A)
	Spring resonance prevention	Floil (GB-TS-1)

## GRAISSAGE

Graissez une ou deux gouttes d'huile au point rotatif ou graissez le point de glissement.  
Graissez les parties respectives listées une fois toutes les 1000 heures sous conditions normales d'emploi.  
Évitez de les graisser trop excessivement ou la rotation pourrait devenir irrégulière à cause de taches d'huile.

	Point de graissage	Huile ou graisse
Section rotative	Métal et métal	Bac d'huile à moteurs (10W-40)
	Moule et métal	Huile de glissière sonique (# 1600)
Métal et métal	Métal et métal	Mitasol (MO-138)
	Moule et moule	Graisse blanche (FL-LUBE-A)
	Moule et métal	Graisse blanche (FL-LUBE-A)
	Prévention de résonance par saut	Fioil (GB-TS-1)

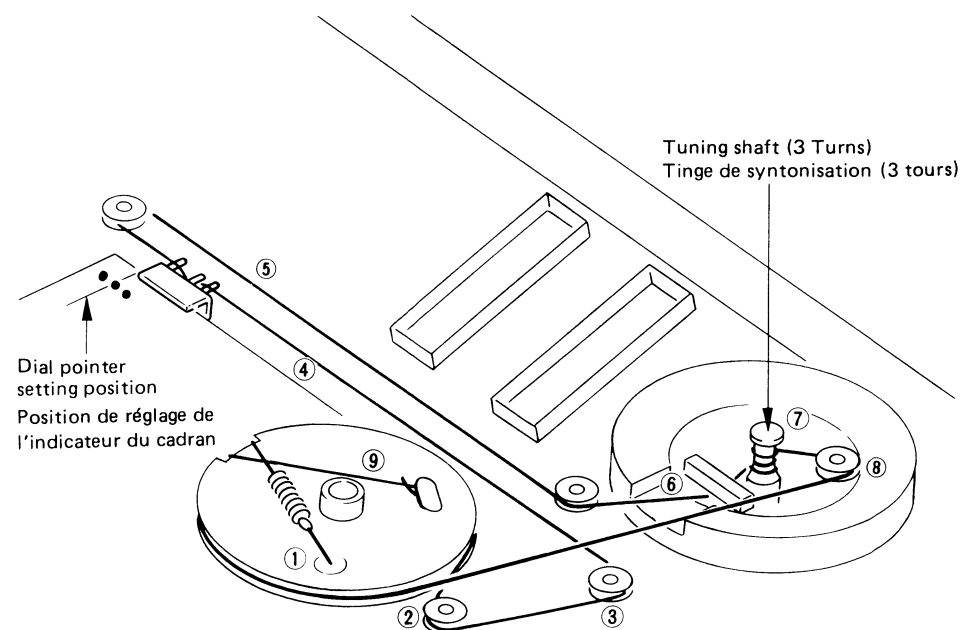
## DIAL CORD STRINGING · ENFILAGE DU CABLE DE CADRAN

### Stringing method

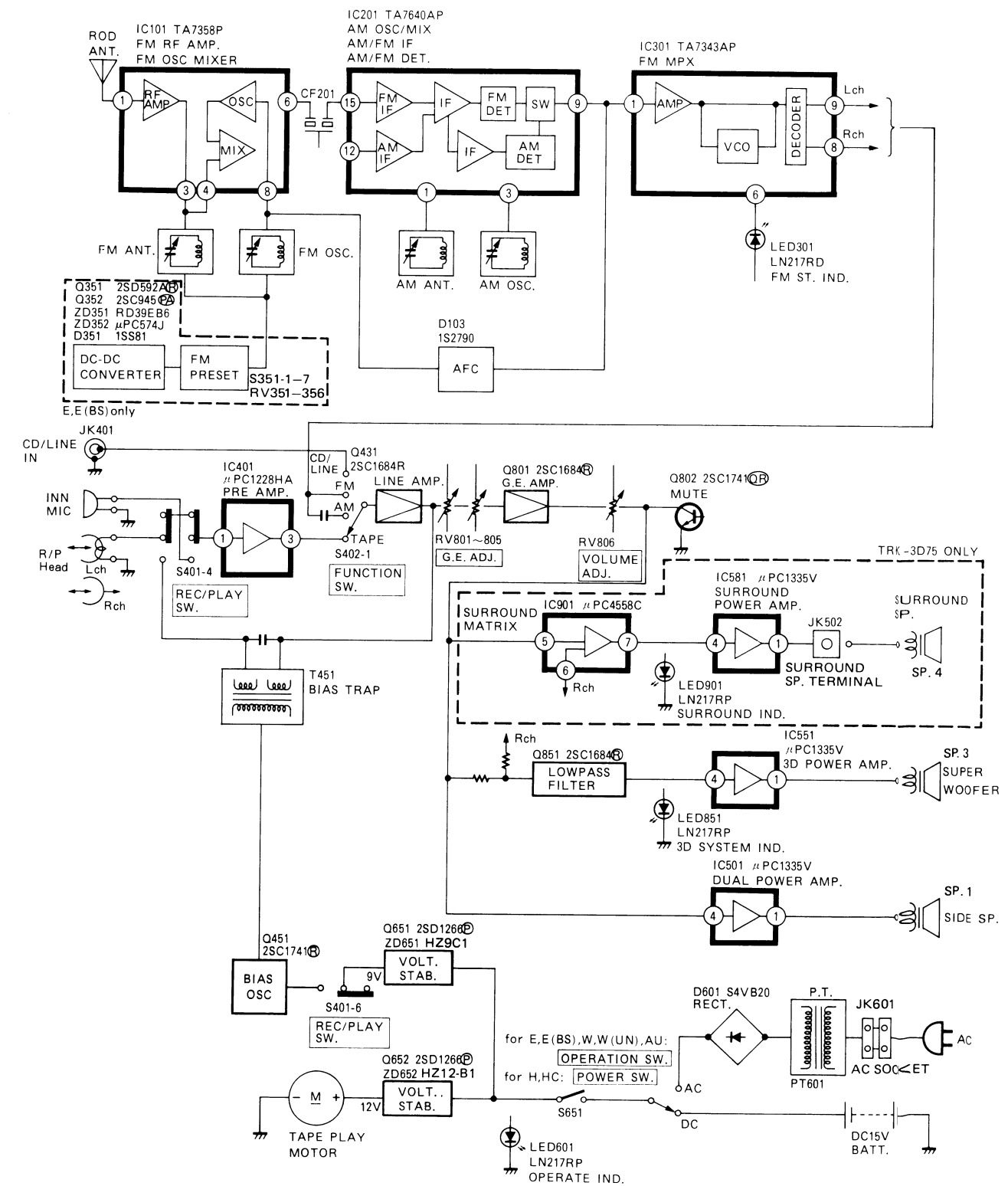
1. Turn the pulley fully clockwise.
2. String the dial cord in the direction of the arrow (Nos. 1-9).
3. Set the dial pointer to setting position.

### Méthode d'enfilage

1. Tournez à fond la poulie dans le sens des aiguilles d'une montre.
2. Enroulez le câble de cadran dans le sens de la flèche (no. 1, 9).
3. Placez l'indicateur du cadran en position de réglage.



## BROCK DIAGRAM·SCHEMA

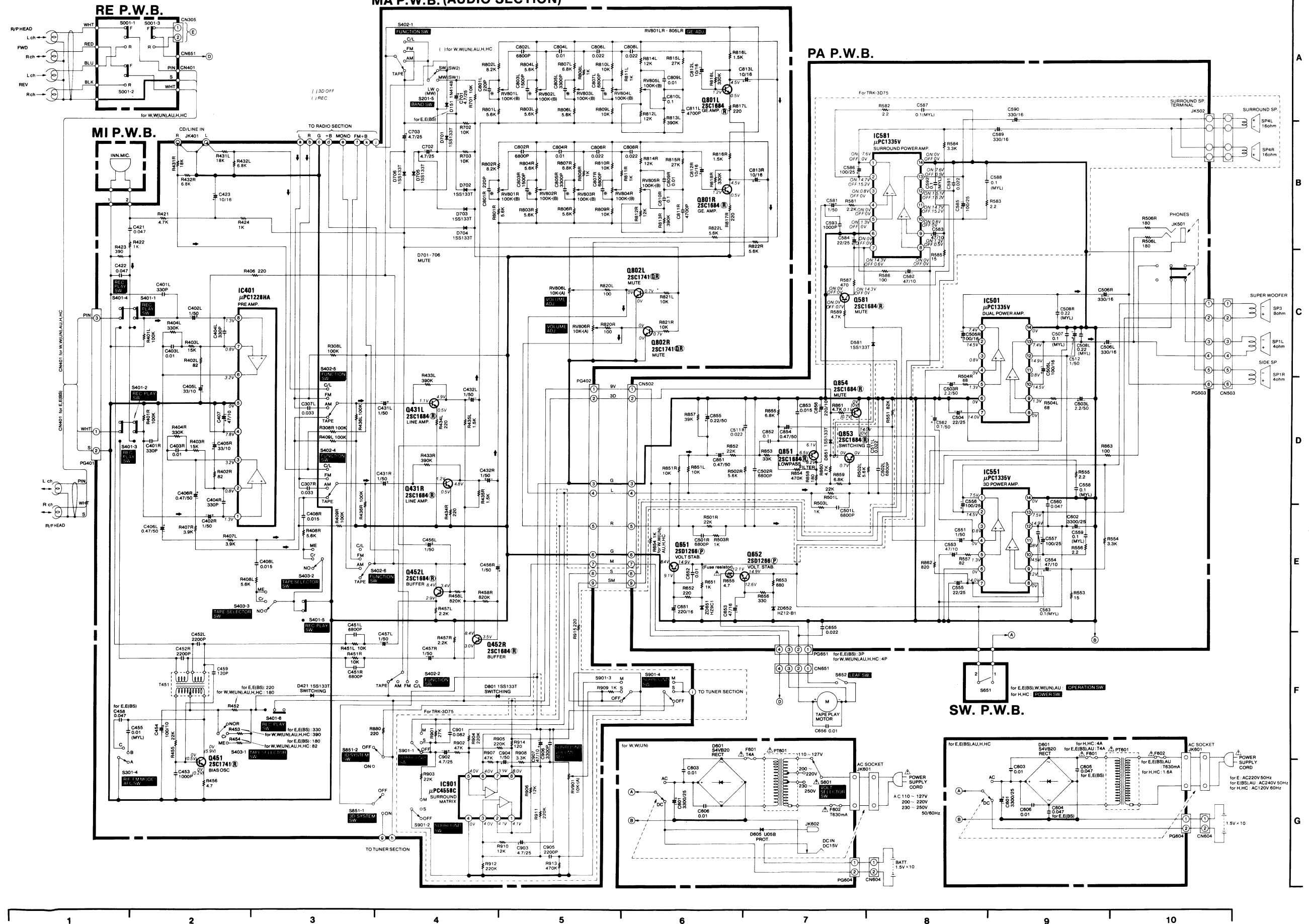


## CIRCUIT DIAGRAM·DIAGRAMME DES CIRCUITS

**MA P.W.B. (AUDIO SECTION)**

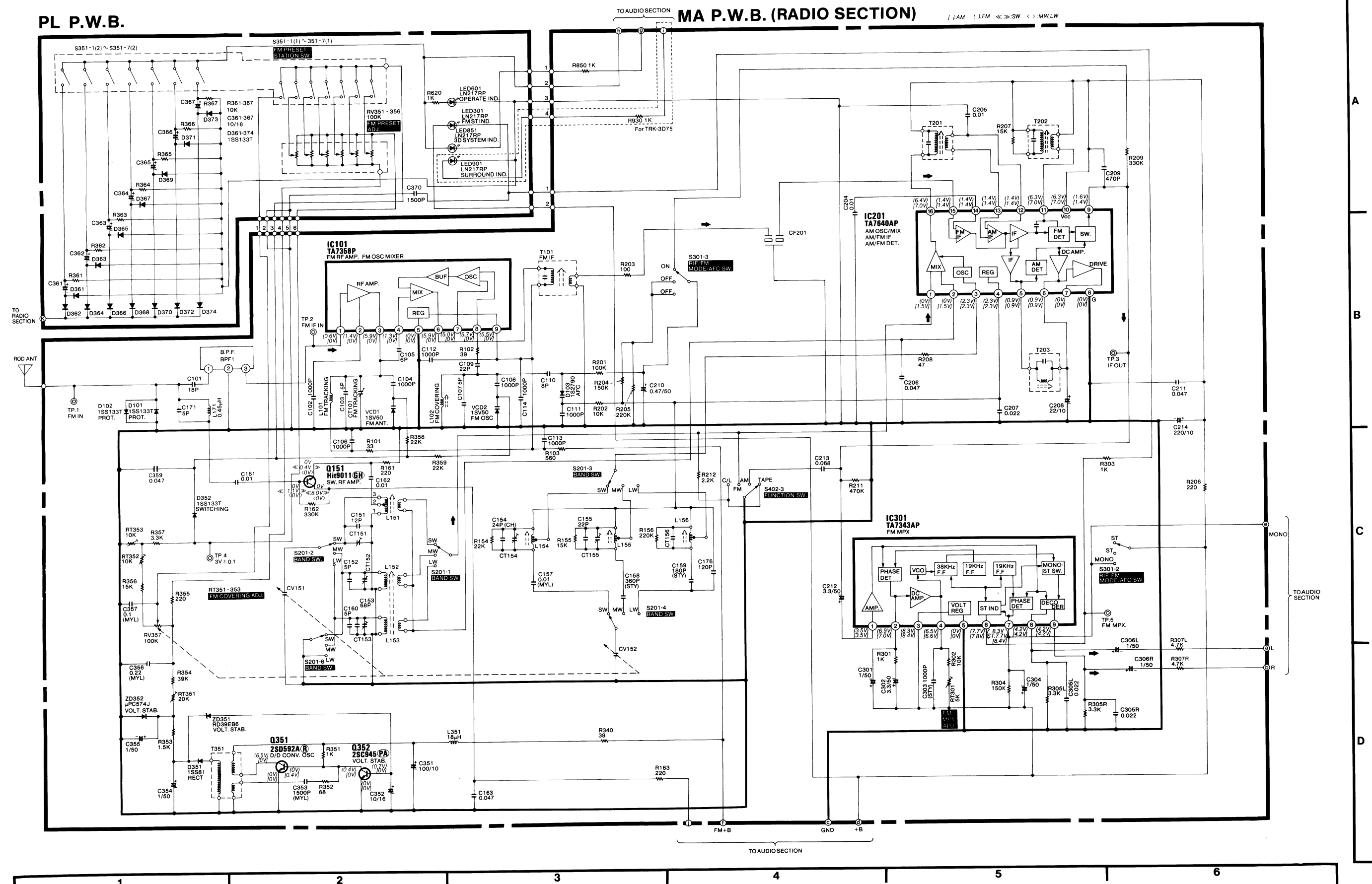
※: Axial lead cylindrical ceramic capacitor

※: Condensateur céramique cylindrique à conducteur axial



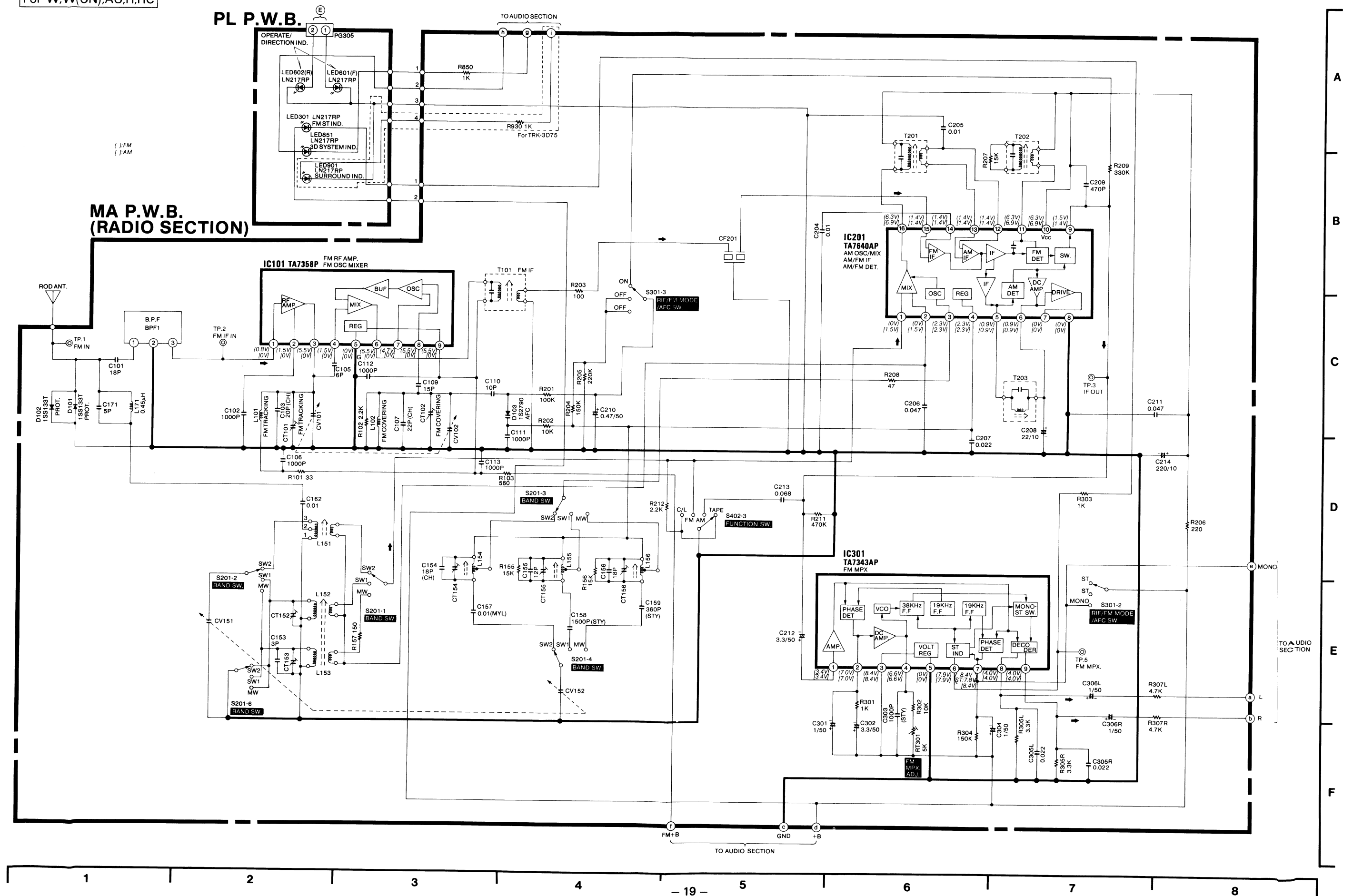
## PRINTED WIRING BOARD·PLAN DE BASE

For E,E(BS)



## CIRCUIT DIAGRAM·DIAGRAMME DES CIRCUITS

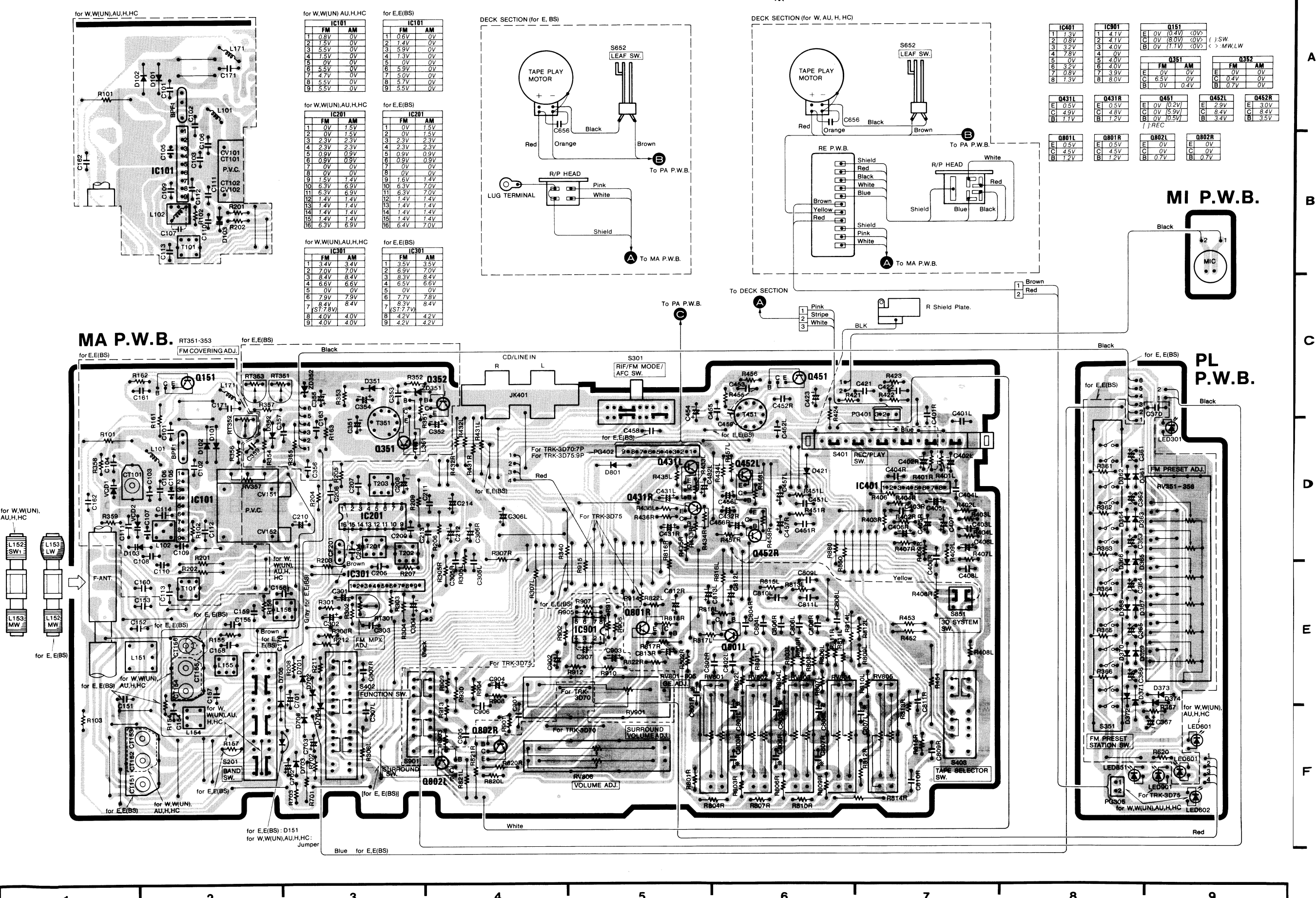
For  $W, W(UN), AU, H, HC$



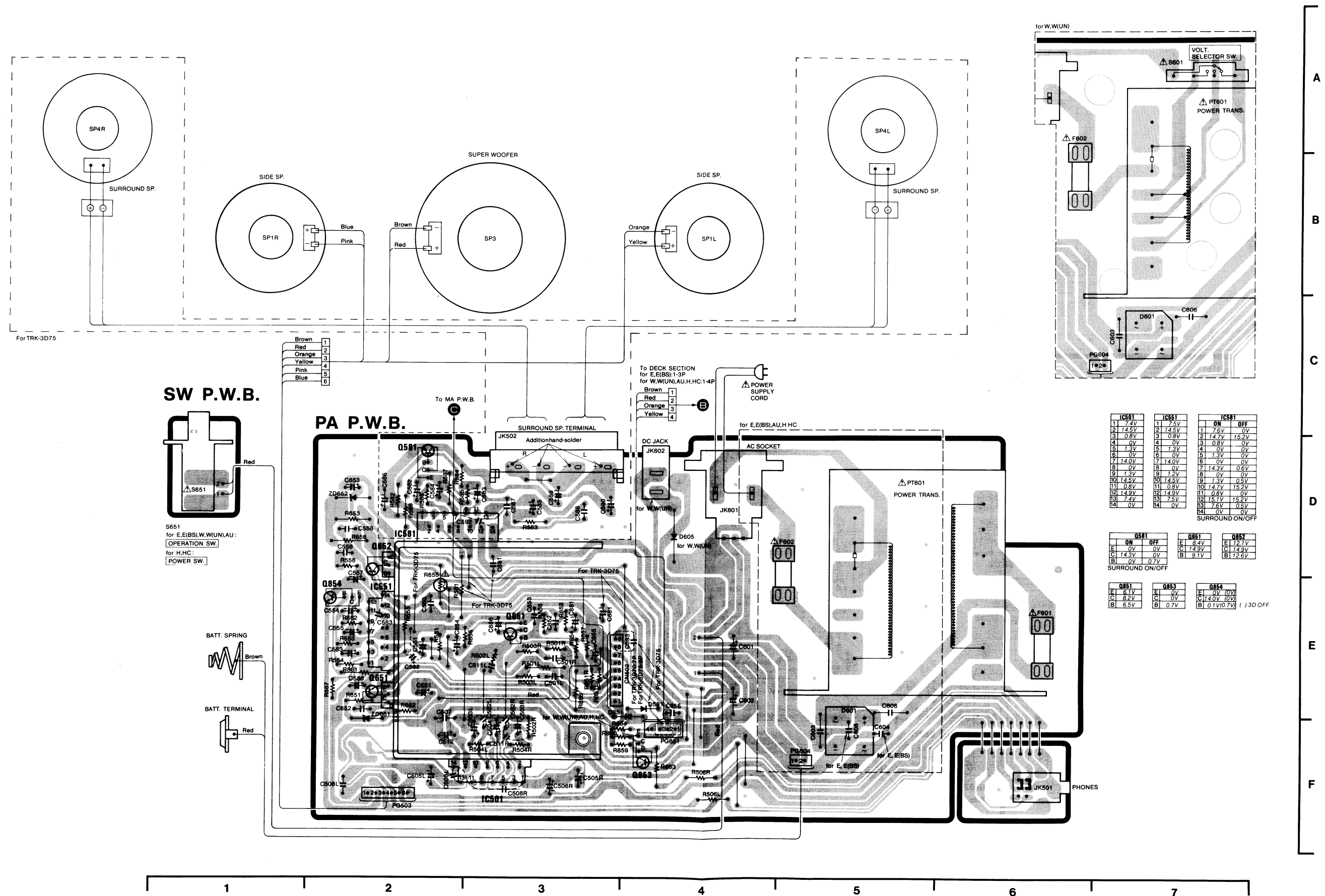


# PRINTED WIRING BOARD PLAN DE BASE

※: Axial lead cylindrical ceramic capacitor  
 ※: Condensateur céramique cylindrique à conducteur axial

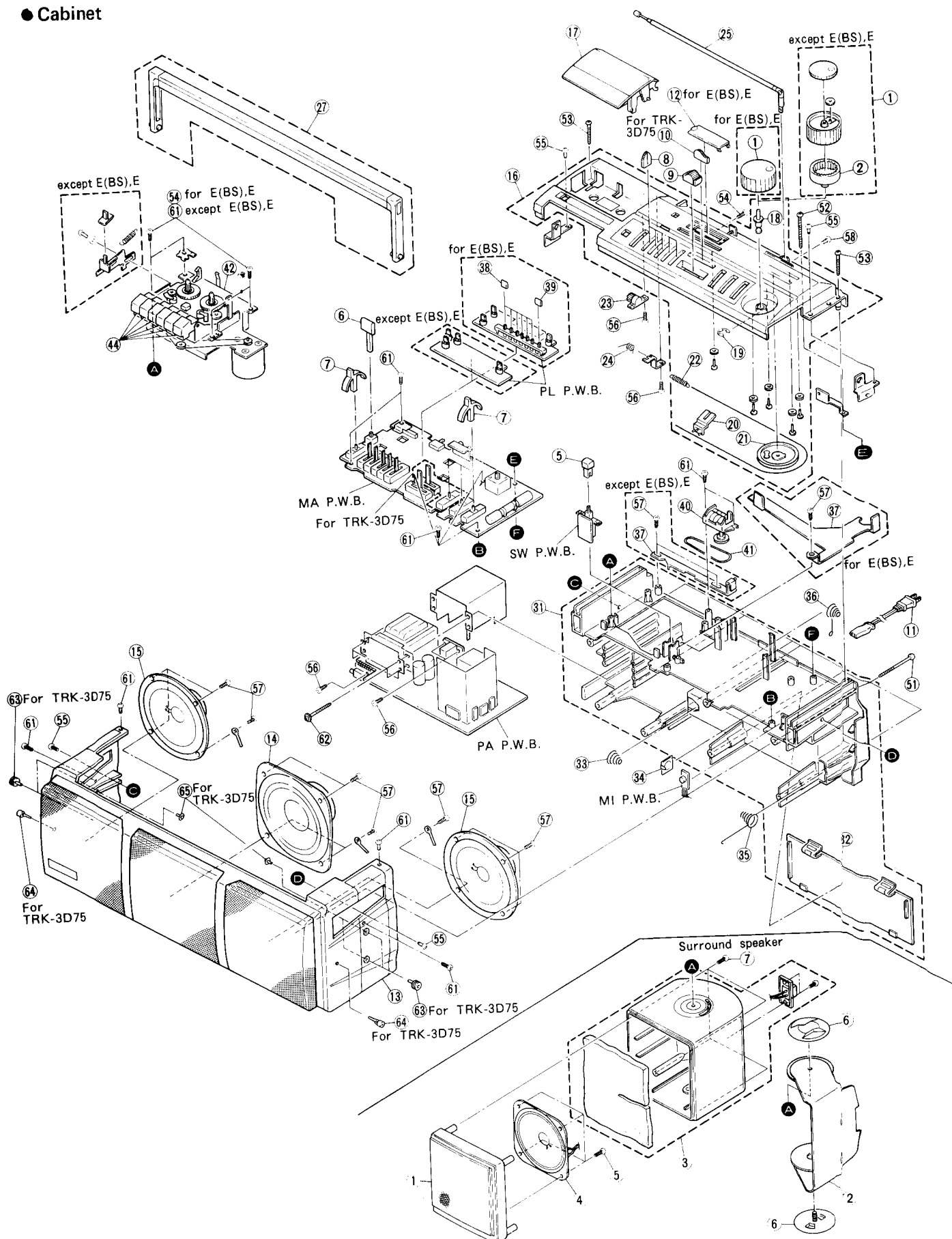


## PRINTED WIRING BOARD-PLAN DE BASE



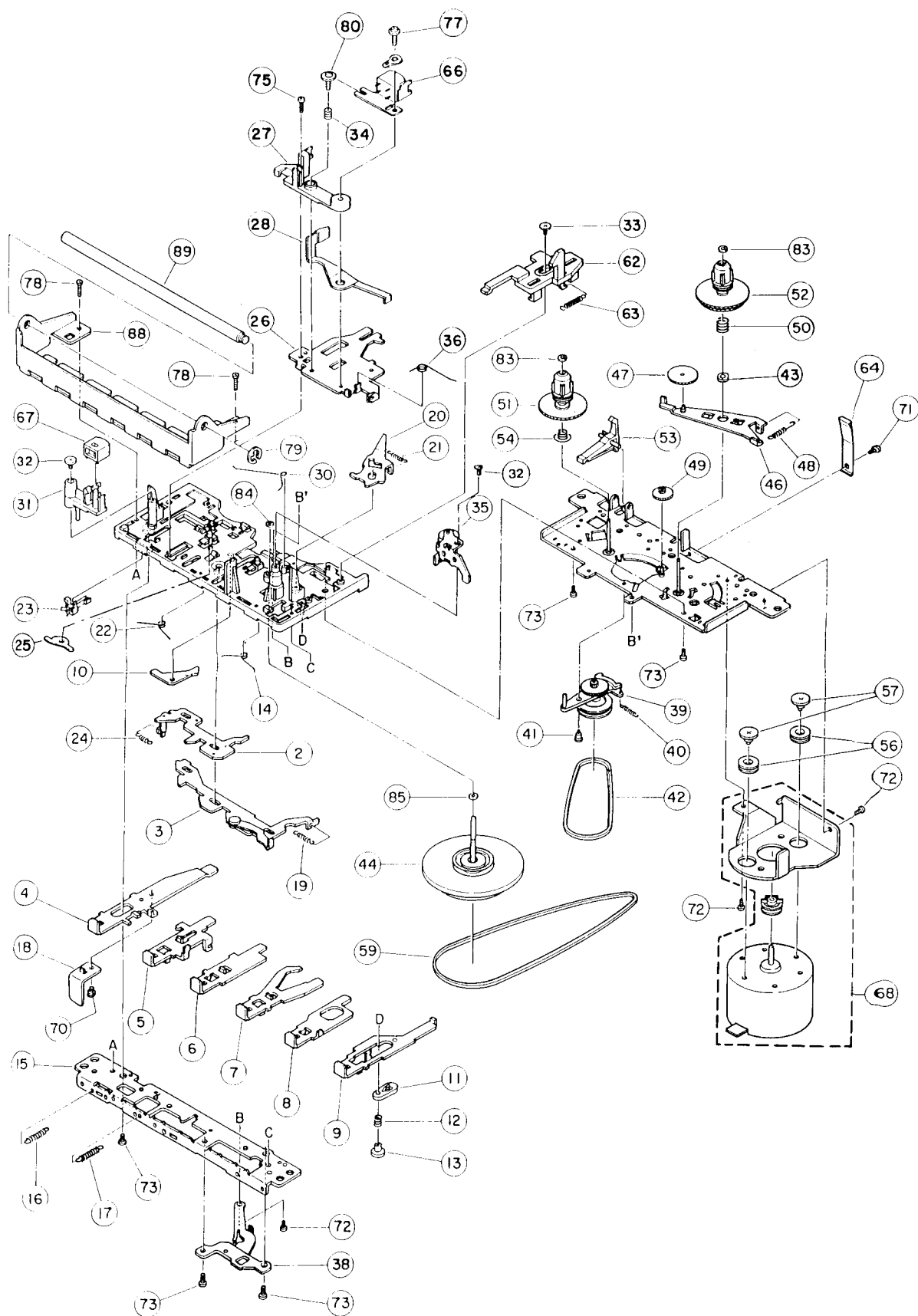
**EXPLODED VIEW** (Nos. are reference Nos. of parts list)

● **Cabinet**



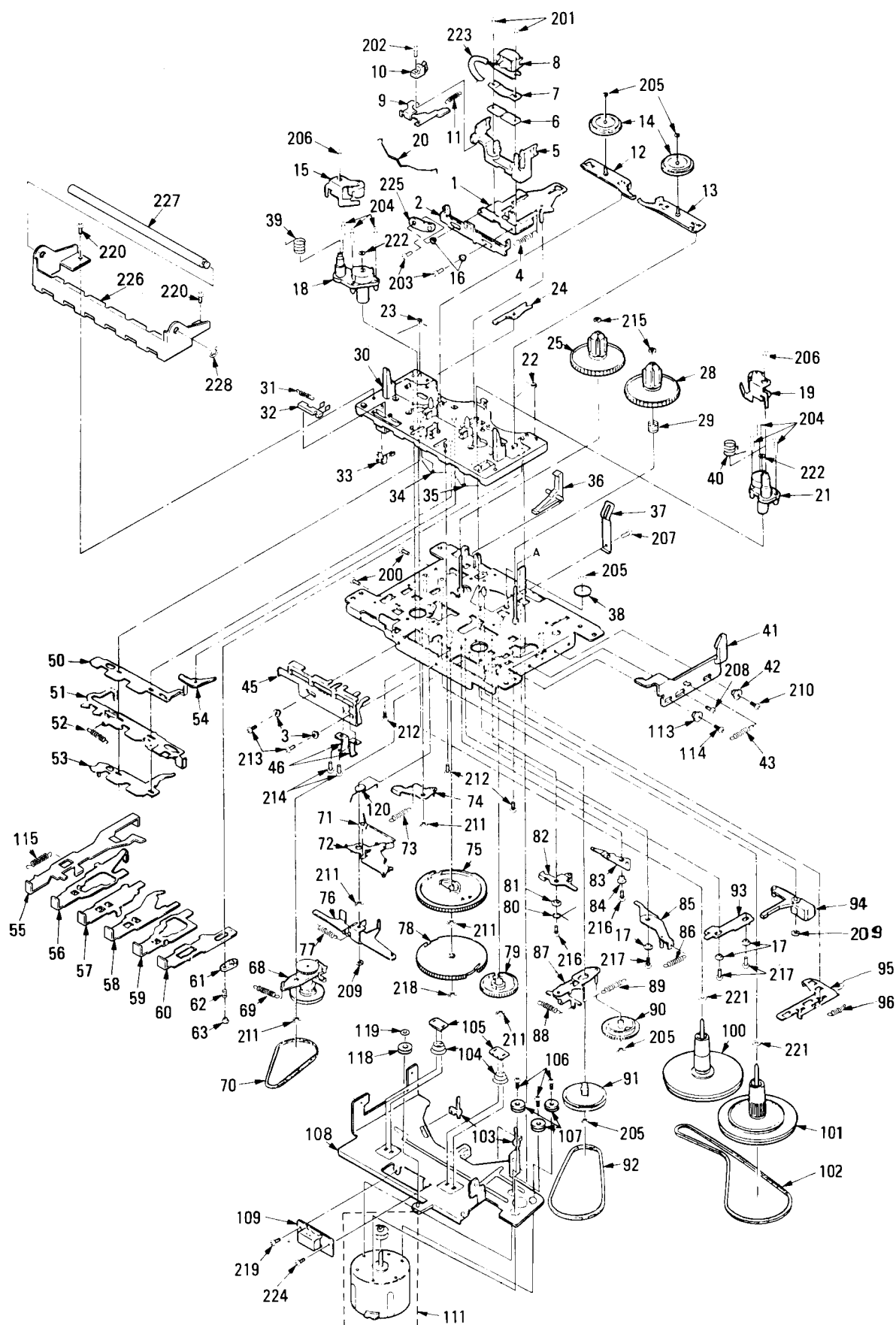
For E, E(BS)

● Cassette chassis (TN-21H-982)



For W, W(UN), AU, H, HC,

● Cassette chassis (TN-222F-140)



## REPLACEMENT PARTS LIST·LISTE DES PIÉCES DES RECHANGE

CD..... Ceramic discal    EL..... Electrolytic    ST..... Styrol    ME..... Metal    CO..... Composition    ○ ... TRK-3D70 only  
 CC..... Cylindrical ceramic    MF..... Mylar, film    CF..... Carbon film    MO..... Metal, oxide    FR..... Fuse resistor    ★ ... TRK-3D75 only

SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
<b>CAPACITORS</b>								
C101	0208666	CD 18pF ±5% 50V	C159	1221391	ST 180pF ±5% 50V [for E(BS), E]	C367	0252521	EL 10μF 16V [for B(BS), E]
C102	0209731	CD 1000pF ±10% 50V	C159	1221393	ST 360pF ±5% 50V [except E(BS), E]	C370	0244103	CD 1500pF ±10% 50V [for E(BS), E]
C103	0248475	CD 5pF ±0.5pF 50V [for E(BS), E]	C160	0208635	CD 5pF ±0.25pF 50V [for E(BS), E]	C401L,R	0209721	CD 330pF ±10% 50V
C103	0246447	CD 20pF ±5% 50V [except E(BS), E]	C161	0244171	CD 0.01μF $\pm\frac{80}{20}\%$ 50V [for E(BS), E]	C402L,R	0252811	EL 1μF 50V
C104	0209731	CD 1000pF ±10% 50V [for E(BS), E]	C162	0244171	CD 0.01μF $\pm\frac{80}{20}\%$ 50V	C403L,R	0240212	CD 0.01μF ±10% 25V
C105	0208646	CD 6pF ±0.5pF 50V	C163	0240220	CD 0.047μF ±10% 25V [for E(BS), E]	C404L,R	0209721	CD 330pF ±10% 50V
C106	0209731	CD 1000pF ±10% 50V [for E(BS), E]	C171	0208635	CD 5pF ±0.25pF 50V	C405L,R	0252323	EL 33μF 10V
C106	0244101	CD 1000pF ±10% 50V [except E(BS), E]	C176	0208686	CD 120pF ±5% 50V [for E(BS), E]	C406L,R	0252805	EL 0.47μF 50V
C107	0248475	CD 5pF ±0.5pF 50V [for E(BS), E]	C204	0244171	CD 0.01μF $\pm\frac{80}{20}\%$ 50V	C407	0252325	EL 47μF 10V
C107	0246448	CD 22pF ±5% 50V [except E(BS), E]	C205	0244171	CD 0.01μF $\pm\frac{80}{20}\%$ 50V	C408L,R	0240214	CD 0.015μF ±10% 25V
C108	0209731	CD 1000pF ±10% 50V [for E(BS), E]	C206	0209175	CD 0.047μF $\pm\frac{80}{20}\%$ 50V	C421	0240220	CD 0.047μF ±10% 25V
C109	0248498	CD 22pF ±5% 50V [for E(BS), E]	C207	0244173	CD 0.022μF $\pm\frac{80}{20}\%$ 50V	C422	0240220	CD 0.047μF ±10% 25V
C109	0248034	CD 15pF ±5% 50V [except E(BS), E]	C208	0252322	EL 22μF 10V	C423	0252521	EL 10μF 16V
C110	0248478	CD 8pF ±0.5pF 50V [for E(BS), E]	C209	0209723	CD 470pF ±10% 50V	C431L,R	0252811	EL 1μF 50V
C110	0248020	CD 10pF ±0.5pF 50V [except E(BS), E]	C210	0252805	EL 0.47μF 50V	C432L,R	0252811	EL 1μF 50V
C111	0209731	CD 1000pF ±10% 50V	C211	0209175	CD 0.047μF 50V	C451L,R	0240210	CD 6800pF ±10% 25V
C112	0209731	CD 1000pF ±10% 50V [for E(BS), E]	C212	0252813	EL 3.3μF 50V	C452L,R	0240204	CD 2200pF ±10% 25V
C112	0244101	CD 1000pF ±10% 50V [except E(BS), E]	C213	0249766	CD 0.068μF ±10% 25V	C453	0240200	CD 1000pF ±10% 25V
C113	0209731	CD 1000pF ±10% 50V	C214	0252332	EL 220μF 10V	C454	0252331	EL 100μF 10V
C114	0209731	CD 1000pF ±10% 50V [for E(BS), E]	C301	0252811	EL 1μF 50V	C455	0275011	MF 0.01μF ±10% 50V
C151	0208662	CD 12pF ±0.5pF 50V [for E(BS), E]	C302	0252813	EL 3.3μF 50V	C456L,R	0252811	EL 1μF 50V
C152	0208635	CD 5pF ±0.25pF 50V [for E(BS), E]	C303	1221395	ST 1000pF ±5% 50V	C457L,R	0252811	EL 1μF 50V
C153	0208680	CD 68pF ±5% 50V [for E(BS), E]	C304	0252811	EL 1μF 50V	C458	0275015	MF 0.047μF ±10% 50V [for E(BS), E]
C153	0208633	CD 3pF ±0.5pF 50V [except E(BS), E]	C305L,R	0240216	CD 0.022μF ±10% 25V	C459	0248686	CD 120pF ±5% 50V
C154	0246449	CD 24pF ±5% 50V [for E(BS), E]	C306L,R	0252811	EL 1μF 50V	C501L,R	0209736	CD 6800pF ±10% 50V
C154	0208666	CD 18pF ±5% 50V [except E(BS), E]	C307L,R	0240218	CD 0.033μF ±10% 25V	C502L,R	0244111	CD 6800pF ±10% 50V
C155	0208668	CD 22pF ±5% 50V [for E(BS), E]	C351	0252331	EL 100μF 10V [for E(BS), E]	C503L,R	0252812	EL 2.2μF 50V
C155	0208662	CD 12pF ±0.5pF 50V [except E(BS), E]	C352	0252521	EL 10μF 16V [for E(BS), E]	C504	0252622	EL 22μF 25V
C156	0208666	CD 18pF ±5% 50V [except E(BS), E]	C353	0274012	MF 1500pF ±10% 50V [for E(BS), E]	C505L,R	0252531	EL 100μF 16V
C157	0275011	MF 0.01μF ±10% 50V	C354	0252811	EL 1μF 50V [for E(BS), E]	C506L,R	0252533	EL 330μF 16V
C158	1221393	ST 360pF ±5% 50V [for E(BS), E]	C355	0252811	EL 1μF 50V [for E(BS), E]	C507	0276011	MF 0.1μF ±10% 50V
C158	1221396	ST 1500pF ±5% 50V [except E(BS), E]	C356	0276013	MF 0.22μF ±10% 50V [for E(BS), E]	C508L,R	0276013	MF 0.22μF ±10% 50V
			C357	0276011	MF 0.1μF ±10% 50V [for E(BS), E]	C511L,R	0240216	CD 0.022μF ±10% 25V
			C359	0244175	CD 0.047μF $\pm\frac{80}{20}\%$ 50V [for E(BS), E]	C512	0252811	EL 1μF 50V
			C361	0252521	EL 10μF 16V [for E(BS), E]	C551	0252811	EL 1μF 50V
			C362	0252521	EL 10μF 16V [for E(BS), E]	C553	0252325	EL 47μF 10V
			C363	0252521	EL 10μF 16V [for E(BS), E]	C554	0252325	EL 47μF 10V
			C364	0252521	EL 10μF 16V [for E(BS), E]	C555	0252622	EL 22μF 25V
			C365	0252521	EL 10μF 16V [for E(BS), E]	C556	0252631	EL 100μF 25V
			C366	0252521	EL 10μF 16V [for B(BS), E]	C557	0252631	EL 100μF 25V
						C558	0276011	MF 0.1μF ±10% 50V
						C559	0276011	MF 0.1μF ±10% 50V
						C560	0244175	CD 0.047μF $\pm\frac{80}{20}\%$ 25V
						C562	0252801	EL 0.1μF 50V
						C563	0276011	MF 0.1μF ±10% 50V
						*C581	0252811	EL 1μF 50V
						*C582	0252325	EL 47μF 10V
						*C583	0252325	EL 47μF 10V
						*C584	0252622	EL 22μF 25V
						*C585	0252631	EL 100μF 25V
						*C586	0252631	EL 100μF 25V
						*C587	0276011	MF 0.1μF ±10% 50V
						*C588	0276011	MF 0.1μF ±10% 50V
						*C589	0252533	EL 330μF 16V
						*C590	0252533	EL 330μF 16V
						*C591	0240216	CD 0.022μF ±10% 25V



SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
*C592	0276011	MF 0.1μF ±10% 50V	R201	0113663	CF 100kΩ ±5% SRD1/6P	R434L,R	0113599	CF 220Ω ±5% SRD1/6P
*C593	0244101	CD 1000pF ±10% 50V	R202	0113639	CF 10kΩ ±5% SRD1/6P	R435L,R	0113619	CF 1.5kΩ ±5% SRD1/6P
C601	1256281	EL 3300μF 25V	R203	0113591	CF 100Ω ±5% SRD1/6P	R436L,R	0113663	CF 100kΩ ±5% SRD1/6P
C602	1256281	EL 3300μF 25V	R204	0113667	CF 150kΩ ±5% SRD1/6P	R451L,R	0113639	CF 10kΩ ±5% SRD1/6P
C603	0245408	CD 0.01μF ±20% 500V	R205	0113671	CF 220kΩ ±5% SRD1/6P	R452	0129567	CF 180Ω ±5% SRD1/4P
C604	0209175	CD 0.047μF ±20% 50V [for E(BS), E]	R206	0113599	CF 220Ω ±5% SRD1/6P			[except E(BS), E]
C605	0209175	CD 0.047μF ±20% 50V [for E(BS), E]	R207	0113643	CF 15kΩ ±5% SRD1/6P	R452	0113599	CF 220Ω ±5% SRD1/6P
C606	0245408	CD 0.01μF ±20% 500V	R208	0113583	CF 47Ω ±5% SRD1/6P			[for E(BS), E]
C651	0252532	EL 220μF 16V	R209	0113675	CF 330kΩ ±5% SRD1/6P	R453	0113603	CF 330Ω ±5% SRD1/6P
C652	0249761	CD 0.01μF ±10% 25V	R211	0113679	CF 470kΩ ±5% SRD1/6P			[for E(BS), E]
C653	0252525	EL 47μF 16V	R212	0113623	CF 2.2kΩ ±5% SRD1/6P	R453	0113605	CF 390Ω ±5% SRD1/6P
C655	0244173	CD 0.022μF ±20% 50V	R301	0113615	CF 1kΩ ±5% SRD1/6P			[except E(BS), E]
C701	0252615	EL 4.7μF 25V	R302	0113639	CF 10kΩ ±5% SRD1/6P	R454	0129567	CF 180Ω ±5% SRD1/4P
C702	0252615	EL 4.7μF 25V	R303	0113615	CF 1kΩ ±5% SRD1/6P			[for E(BS), E]
C703	0252615	EL 4.7μF 25V	R304	0113667	CF 150kΩ ±5% SRD1/6P	R454	1119410	MO 82Ω ±10% RS1B
C801L,R	0240037	CC 220pF ±10% 50V	R305L,R	0113627	CF 3.3kΩ ±5% SRD1/6P			[except E(BS), E]
C802L,R	0240210	CD 6800pF ±10% 25V	R307L,R	0113631	CF 4.7kΩ ±5% SRD1/6P	R455	0113647	CF 22kΩ ±5% SRD1/6P
C803L,R	0240051	CC 1500pF ±20% 16V	R308L,R	0113663	CF 100kΩ ±5% SRD1/6P	R456	0113559	CF 4.7Ω ±5% SRD1/6P
C804L,R	0240212	CD 0.01μF ±10% 25V	R340	1119508	MO 39Ω ±10% RS2B	R457L,R	0113623	CF 2.2kΩ ±5% SRD1/6P
C805L,R	0240055	CC 3300pF ±20% 16V			[for E(BS), E]	R458L,R	0113685	CF 820kΩ ±5% SRD1/6P
C806L,R	0240216	CD 0.022μF ±10% 25V	R351	0113615	CF 1kΩ ±5% SRD1/6P	R501L,R	0113647	CF 22kΩ ±5% SRD1/6P
C807L,R	0240059	CC 6800pF ±30% 16V			[for E(BS), E]	R502L,R	0113633	CF 5.6kΩ ±5% SRD1/6P
C808L,R	0240216	CD 0.022μF ±10% 25V	R352	0113587	CF 68Ω ±5% SRD1/6P	R503L,R	0113615	CF 1kΩ ±5% SRD1/6P
C809L,R	0240212	CD 0.01μF ±10% 25V			[for E(BS), E]	R504L,R	0113587	CF 68Ω ±5% SRD1/6P
C810L,R	0240224	CD 0.1μF ±10% 25V	R353	0113619	CF 1.5kΩ ±5% SRD1/6P	R506L,R	0113290	CF 180Ω ±5% SRD1/2P
C811L,R	0240208	CD 4700pF ±10% 25V			[for E(BS), E]	R551	0113661	CF 82kΩ ±5% SRD1/6P
C812L,R	0252521	EL 10μF 16V	R354	0113653	CF 39kΩ ±5% SRD1/6P	R553	0113571	CF 15Ω ±5% SRD1/6P
C813L,R	0252521	EL 10μF 16V			[for E(BS), E]	R554	0113627	CF 3.3kΩ ±5% SRD1/6P
C851	0252805	EL 0.47μF 50V	R355	0113599	CF 220Ω ±5% SRD1/6P	R555	0113551	CF 2.2Ω ±5% SRD1/6P
C852	0240224	CD 0.1μF ±10% 25V			[for E(BS), E]	R556	0113551	CF 2.2Ω ±5% SRD1/6P
C853	0240214	CD 0.015μF ±10% 25V	R356	0113643	CF 15kΩ ±5% SRD1/6P	R557	0113589	CF 82Ω ±5% SRD1/6P
C854	0252805	EL 0.47μF 50V			[for E(BS), E]	*R581	0113623	CF 2.2kΩ ±5% SRD1/6P
C855	0252802	EL 0.22μF 50V	R357	0113627	CF 3.3kΩ ±5% SRD1/6P	*R582	0113551	CF 2.2Ω ±5% SRD1/6P
C856	0252332	EL 220μF 10V			[for E(BS), E]	*R583	0113551	CF 2.2Ω ±5% SRD1/6P
*C901	0240223	CD 0.082μF ±10% 25V	R358	0113647	CF 22kΩ ±5% SRD1/6P	*R584	0113627	CF 3.3kΩ ±5% SRD1/6P
*C902	0252615	EL 4.7μF 25V			[for E(BS), E]	*R585	0113571	CF 15Ω ±5% SRD1/6P
*C903	0252615	EL 4.7μF 25V	R359	0113647	CF 22kΩ ±5% SRD1/6P	*R586	0113591	CF 100Ω ±5% SRD1/6P
*C904	0252811	EL 1μF 50V			[for E(BS), E]	*R587	0113607	CF 470Ω ±5% SRD1/6P
*C905	0240204	CD 2200pF ±10% 25V	R361	0113639	CF 10kΩ ±5% SRD1/6P	*R589	0113631	CF 4.7kΩ ±5% SRD1/6P
*C906	0240206	CD 3300pF ±10% 25V			[for E(BS), E]	R620	0113615	CF 1kΩ ±5% SRD1/6P
*C907	0252325	EL 47μF 10V	R362	0113639	CF 10kΩ ±5% SRD1/6P			[for E(BS), E]
			R363	0113639	CF 10kΩ ±5% SRD1/6P	R651	0129601	CF 1kΩ ±5% SRD1/4P
					[for E(BS), E]	R652	0113599	CF 220Ω ±5% SRD1/6P
			R364	0113639	CF 10kΩ ±5% SRD1/6P	R653	0113297	CF 680Ω ±5% SRD1/2P
					[for E(BS), E]	R654	0113615	CF 1kΩ ±5% SRD1/6P
			R365	0113639	CF 10kΩ ±5% SRD1/6P			[except E(BS), E]
					[for E(BS), E]	† R655	0118445	FR 4.7Ω ±5% RN1/4B
			R366	0113639	CF 10kΩ ±5% SRD1/6P	R656	0113603	CF 330Ω ±5% SRD1/6P
					[for E(BS), E]	R701	0113639	CF 10kΩ ±5% SRD1/6P
			R367	0113639	CF 10kΩ ±5% SRD1/6P	R702	0113639	CF 10kΩ ±5% SRD1/6P
					[for E(BS), E]	R703	0113639	CF 10kΩ ±5% SRD1/6P
			R401L,R	0113663	CF 100kΩ ±5% SRD1/6P	R801L,R	0113633	CF 5.6kΩ ±5% SRD1/6P
			R402L,R	0113589	CF 82Ω ±5% SRD1/6P	R802L,R	0113637	CF 8.2kΩ ±5% SRD1/6P
			R403L,R	0113643	CF 15kΩ ±5% SRD1/6P	R803L,R	0113633	CF 5.6kΩ ±5% SRD1/6P
			R404L,R	0113675	CF 330kΩ ±5% SRD1/6P	R804L,R	0113633	CF 5.6kΩ ±5% SRD1/6P
			R406	0113599	CF 220Ω ±5% SRD1/6P	R806L,R	0113633	CF 5.6kΩ ±5% SRD1/6P
			R407L,R	0113629	CF 3.9kΩ ±5% SRD1/6P	R807L,R	0113635	CF 6.8kΩ ±5% SRD1/6P
			R408L,R	0113633	CF 5.6kΩ ±5% SRD1/6P	R808L,R	0113615	CF 1kΩ ±5% SRD1/6P
			R409L,R	0113663	CF 100kΩ ±5% SRD1/6P	R809L,R	0113639	CF 10kΩ ±5% SRD1/6P
			R421	0113631	CF 4.7kΩ ±5% SRD1/6P	R810L,R	0113639	CF 10kΩ ±5% SRD1/6P
			R422	0113615	CF 1kΩ ±5% SRD1/6P	R811L,R	0113615	CF 1kΩ ±5% SRD1/6P
			R423	0113605	CF 390Ω ±5% SRD1/6P	R812L,R	0113641	CF 12kΩ ±5% SRD1/6P
			R424	0113615	CF 1kΩ ±5% SRD1/6P	R813L,R	0113677	CF 390kΩ ±5% SRD1/6P
			R431L,R	0113645	CF 18kΩ ±5% SRD1/6P	R814L,R	0113641	CF 12kΩ ±5% SRD1/6P
			R432L,R	0113635	CF 6.8kΩ ±5% SRD1/6P	R815L,R	0113649	CF 27kΩ ±5% SRD1/6P
			R433L,R	0113677	CF 390kΩ ±5% SRD1/6P	R816L,R	0113619	CF 1.5kΩ ±5% SRD1/6P
						R817L,R	0113599	CF 220Ω ±5% SRD1/6P
						R818L,R	0113675	CF 330kΩ ±5% SRD1/6P

## RESISTORS

SYMBOL NO.	PART NO.	DESCRIPTION
R820L,R	0113591	CF 100Ω ±5% SRD1/6P
R821L,R	0113639	CF 10kΩ ±5% SRD1/6P
R822L,R	0113633	CF 5.6kΩ ±5% SRD1/6P
R850	0113615	CF 1kΩ ±5% SRD1/6P
R851L,R	0113639	CF 10kΩ ±5% SRD1/6P
R852	0113647	CF 22kΩ ±5% SRD1/6P
R853	0113651	CF 33kΩ ±5% SRD1/6P
R854	0113679	CF 470kΩ ±5% SRD1/6P
R855	0113635	CF 6.8kΩ ±5% SRD1/6P
R857	0113653	CF 39kΩ ±5% SRD1/6P
R858	0129567	CF 180Ω ±5% SRD1/4P
R859	0113635	CF 6.8kΩ ±5% SRD1/6P
R860	0113631	CF 4.7kΩ ±5% SRD1/6P
R861	0113631	CF 4.7kΩ ±5% SRD1/6P
R862	0113613	CF 820Ω ±5% SRD1/6P
R863	0113591	CF 100Ω ±5% SRD1/6P
R880	0113599	CF 220Ω ±5% SRD1/6P
*R901	0113649	CF 27kΩ ±5% SRD1/6P
*R902	0113655	CF 47kΩ ±5% SRD1/6P
*R903	0113647	CF 22kΩ ±5% SRD1/6P
*R904	0113671	CF 220kΩ ±5% SRD1/6P
*R905	0113671	CF 220kΩ ±5% SRD1/6P
*R906	0113641	CF 12kΩ ±5% SRD1/6P
*R907	0113655	CF 47kΩ ±5% SRD1/6P
*R908	0113627	CF 3.3kΩ ±5% SRD1/6P
*R909	0113615	CF 1kΩ ±5% SRD1/6P
*R910	0113641	CF 12kΩ ±5% SRD1/6P
*R911	0113671	CF 220kΩ ±5% SRD1/6P
*R912	0113671	CF 220kΩ ±5% SRD1/6P
*R913	0113679	CF 470kΩ ±5% SRD1/6P
*R914	0113593	CF 120Ω ±5% SRD1/6P
*R915	0113599	CF 220Ω ±5% SRD1/6P
*R930	0113615	CF 1kΩ ±5% SRD1/6P

**ICs & TRANSISTORS**

IC101	2398201	TA7358P
IC201	2389511	TA7640AP
IC301	2301041	TA7343AP
IC401	2387022	μPC1228HA
IC501	2300872	μPC1335V
IC551	2300872	μPC1335V
*IC581	2300872	μPC1335V
*IC901	2300831	μPC4558C
Q151	2319083	HIT9011 (GH) [for E(BS), E]
Q351	2318201	2SD592 A (R) [for E(BS), E]
Q352	2329453	2SC945 (PA) [for E(BS), E]
Q431L,R	2319101	2SC1684 (R)
Q451	2329313	2SC1741 (R)
Q452L,R	2319101	2SC1684 (R)
*Q581	2319101	2SC1684 (R)
Q651	2317803	2SD1266 P
Q652	2317803	2SD1266 P
Q801L,R	2319101	2SC1684 (R)
Q802L,R	2329316	2SC1741 (QR)
Q851	2319101	2SC1684 (R)
Q853	2319101	2SC1684 (R)
Q854	2319101	2SC1684 (R)

**DIODES**

D101	2397421	1SS133T
D102	2397421	1SS133T
D103	2338031	1S2790
D151	2398081	IN4148 [for E(BS), E]
D351	2337641	1SS81 [for E(BS), E]

D352	2397421	1SS133T [for E(BS), E]
D361	2397421	1SS133T [for E(BS), E]
D362	2397421	1SS133T [for E(BS), E]
D363	2397421	1SS133T [for E(BS), E]
D364	2397421	1SS133T [for E(BS), E]
D365	2397421	1SS133T [for E(BS), E]
D366	2397421	1SS133T [for E(BS), E]
D367	2397421	1SS133T [for E(BS), E]
D368	2397421	1SS133T [for E(BS), E]
D369	2397421	1SS133T [for E(BS), E]
D370	2397421	1SS133T [for E(BS), E]
D371	2397421	1SS133T [for E(BS), E]
D372	2397421	1SS133T [for E(BS), E]
D373	2397421	1SS133T [for E(BS), E]
D374	2397421	1SS133T [for E(BS), E]
D421	2397421	1SS133T
*D581	2397421	1SS133T
D601	2337461	S4VB20
D605	2339141	U05B [for W(UN), W]
D701	2397421	1SS133T
D702	2397421	1SS133T
D703	2397421	1SS133T
D704	2397421	1SS133T
D705	2397421	1SS133T
D706	2397421	1SS133T
D801	2397421	1SS133T
D851	2397421	1SS133T
ZD351	2338672	RD39EB6 [for E(BS), E]
ZD352	2338091	μPC574J [for E(BS), E]
ZD651	2337527	HZ9C1
ZD652	2337564	HZ12-B1
LED301	2397753	LN217RP
LED601	2397753	LN217RP
LED602	2397753	LN217RP [except E(BS), E]
LED851	2397753	LN217RP
*LED901	2397753	LN217RP
VCD1	2398371	1SV50 [for E(BS), E]
VCD2	2398371	1SV50 [for E(BS), E]

**VARIABLE RESISTORS**

RT301	0189331	5kΩ FM MPX
RT351	0189334	20kΩ PRESET COVERING [for E(BS), E]
RT352	0189332	10kΩ MANUAL COVERING [for E(BS), E]
RT353	0189332	10kΩ PRESET COVERING

SYMBOL NO.	PART NO.	DESCRIPTION
		<b>MANUAL COVERING</b>
RV351	0189351	[for E(BS), E] 100kΩ—(B) FM PRESET [for E(BS), E]
RV352	0189351	100kΩ—(B) FM PRESET [for E(BS), E]
RV353	0189351	100kΩ—(B) FM PRESET [for E(BS), E]
RV354	0189351	100kΩ—(B) FM PRESET [for E(BS), E]
RV355	0189351	100kΩ—(B) FM PRESET [for E(BS), E]
RV356	0189351	100kΩ—(B) FM PRESET [for E(BS), E]
RV801	0189161	100kΩ—(B) GE.
RV802	0189161	100kΩ—(B) GE.
RV803	0189161	100kΩ—(B) GE.
RV804	0189161	100kΩ—(B) GE.
RV805	0189161	100kΩ—(B) GE.
RV806	0189322	10kΩ—(A) VOLUME
*RV901	0189321	10kΩ—(A) SURR. VOLUME

**COIL & TRANSFORMERS**

L101	2137683	FM RF coil
L102	2135253	FM OSC coil [for E(BS), E]
L102	2135274	FM OSC coil [except E(BS), E]
L151	2137662	SW ANT coil [for E(BS), E]
L151	2137821	SW antenna coil [except E(BS), E]
L152	2757994	Ferrite antenna [for E(BS), E]
L152	2757982	Ferrite antenna [except E(BS), E]
L153	2757994	Ferrite antenna [for E(BS), E]
L153	2757982	Ferrite antenna [except E(BS), E]
L154	2137671	SW OSC coil [for E(BS), E]
L154	2137672	SW OSC coil [except E(BS), E]
L155	2137631	MW OSC coil [for E(BS), E]
L155	2137633	SW OSC coil [except E(BS), E]
L156	2137642	LW OSC coil [for E(BS), E]
L156	2137631	MW OSC coil [except E(BS), E]
L171	2137684	Choke coil
L351	2227748	Choke coil [for E(BS), E]
T101	2154962	FM IF transformer
T201	2154952	AM IF transformer
T202	2154964	FM IF transformer
T203	2154951	AM IF transformer
T351	2267021	DC-DC conv. transformer [for E(BS), E]
T451	2137651	REC OSC transformer

**MISCELLANEOUS**

JK401	2678201	2P Pin jack
JK501	2678761	Stereo jack



SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
*JK502	2689551	Push terminal	△F601	2727725	Fuse (4A 250V) [except HC, H]	○	4845713	PL PWB assy [for E(BS), E]
JK601	2659271	2P socket [for E(BS), E]	△F601	2727894	UL fuse 4A [for HC, H]	○	4845714	PL PWB assy [except E(BS), E]
JK601	2659272	2P socket [except E(BS), E]	△F602	2728072	Fuse 630mA [except H, HC]	*	4845733	PL PWB assy [for E(BS), E]
JK602	2677931	DC jack [for W(UN), W]	△F602	2727891	Lever switch BAND	*	4845734	PL PWB assy [except E(BS), E]
BPF1	2137191	FM band pass filter	S201	2629366	Slide switch /FM MODE/ AFC/RIF	○	4845715	MA PWB assy [for E(BS), E]
CV151	0282421	Capacitor variable [for E(BS), E]	S301	2628691	Slide switch /FM MODE/ AFC/RIF	○	4845716	MA PWB assy [for W(UN), W, AU]
CV152			S351	2639626	Push switch FM PRESET STATION [for E(BS), E]	○	4845717	MA PWB assy [for H, HC]
RV357			S401	2628522	Slide switch REC/PLAY	*	4845735	MA PWB assy [for E(BS), E]
CV101	0282441	Capacitor variable [except E(BS), E]	S402	2628531	Lever switch FUNCTION	*	4845736	MA PWB assy [for W(UN), W, AU]
CV102			S403	2629365	Lever switch TAPE SELECTOR	*	4845737	MA PWB assy [for H, HC]
CV151			△S601	2618472	Switch VOLT SELECTOR [for W(UN), W]	○	4845721	SW PWB assy
CV152			△S651	2639869	Push switch OPERATION	*	4845741	SW PWB assy
CT101	0283113	Capacitor variable [for E(BS), E]	S851	2600321	Push switch 3D SYSTEM	○	4845722	PA PWB assy [for E]
CT151	0283130	Capacitor semi variable [for E(BS), E]	*S901	2629365	Lever switch SURROUND	○	4845723	PA PWB assy [for E(BS)]
CT152	0283557	Capacitor semi variable [for E(BS), E]	△PT601	2249811	Power transformer (1.12G 42.9VA) [for E]	○	4845724	PA PWB assy [for W(UN), W]
CT152	0283130	Capacitor semi variable [except E(BS), E]	△PT601	2249812	Power transformer [for E(BS), AU] (1.12G 42.9VA)	○	4845725	PA PWB assy [for AU]
CT153	0283130	Capacitor semi variable [for E(BS), E]	△PT601	2249813	Power transformer (1.12G 42.9VA) [for W(UN), W]	○	4845726	PA PWB assy [for H, HC]
CT153	0283557	Capacitor semi variable [except E(BS), E]	△PT601	2249814	Power transformer [for H, HC] (1.12G 42.9VA)	*	4845742	PA PWB assy [for E]
CT154	0283557	Capacitor semi variable [for E(BS), E]		8691408	BT bind head screw (3x8)	*	4845743	PA PWB assy [for E(BS)]
CT154	0283130	Capacitor semi variable [except E(BS), E]		2737441	MIC	*	4845744	PA PWB assy [for W(UN), W]
CT155	0283557	Capacitor semi variable [for E(BS), E]	○	4845711	MI PWB assy [for E(BS), E]	*	4845745	PA PWB assy [for AU]
CT155	0283130	Capacitor Semi variable [except E(BS), E]	○	4845712	MI PWB assy [except E(BS), E]	*	4845746	PA PWB assy [for H, HC]
CT156	0282148	Capacitor semi variable [for E(BS), E]	*	4845731	MI PWB assy [for E(BS), E]			
CT156	0283130	Capacitor semi variable [except E(BS), E]	*	4845732	MI PWB assy [except E(BS), E]			
CF201	2135321	Ceramic filter						

## Cabinet

SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
1	3806151	Tuning knob [for E(BS), E]	12	3806051	Preset lid [for E(BS), E]	*	4044304	Cassette lid assy [except E(BS), E]
	4044311	Tuning knob assy [except E(BS), E]	○13	4851871	Front case assy	18	4597131	Tuning shaft [except E, E(BS)]
2	3806231	Gear [except E(BS), E]	*	4044821	Front case assy		4597071	Tuning shaft [for E, E(BS)]
5	3805771	Power button	14	2403992	16 Speaker (SUPER WOOFER)	19	4418013	E ring
6	3805791	3D button	15	2403981	12 Speaker (SIDE SP.)	20	3806201	Pointer
7	3805781	Switch knob	○16	4044281	Top panel assy [for E(BS), E]	21	3348702	Pulley
8	3805601	Slide knob	○	4044282	Top panel assy [for W, W(UN), AU]	22	3340321	Spring
9	3805851	Volume knob	○	4044283	Top panel assy [for H, HC]	23	3950382	Damper
*10	3805861	Volume knob B	*	4044831	Top panel assy [for E(BS), E]	24	3391961	Lid spring
11	2705942	Power supply cord [for E]	*	4044832	Top panel assy [for W, W(UN), AU]	25	2758141	Rod antenna
	2717901	Power supply cord [for E(BS)]	*	4044832	Top panel assy [for H, HC]	27	4042532	Handle assy
	2717464	Power supply cord [for W, W(UN)]	○17	4044301	Cassette lid assy [for E(BS), E]	31	4044261	Rear case assy [for E]
	2704542	Power supply cord [for AU]	○	4044302	Cassette lid assy [except E(BS), E]		4044262	Rear case assy [for E(BS)]
	2706591	Power supply cord [for H]	*	4044303	Cassette lid assy [for E(BS), E]		4044263	Rear case assy [for W]
	2711251	Power supply cord [for HC]					4044264	Rear case assy [for W(UN)]
							4044265	Rear case assy [for AU]

SYMBOL NO.	PART NO.	DESCRIPTION
	4044266	Rear case assy [for H]
	4044267	Rear case assy [for HC]
32	3805801	Battery lid
33	3369849	Spring A
34	4436666	Terminal
35	3369941	Spring
36	3367062	Spring
37	4476621	REC lever [for E(BS), E]
	4476871	REC lever [except E(BS), E]
38	3806161	Preset button [for E(BS), E]
39	3806162	Preset button [for E(BS), E]
40	2780311	Counter
41	4691911	Counter belt
42	3326981	Mechanism assy [for E(BS), E]
	3326961	Mechanism assy [except E(BS), E]

SYMBOL NO.	PART NO.	DESCRIPTION
44	3805581	Cassette button [for E(BS), E]
	3807411	Cassette button [except E(BS), E]
51	4577818	BT screw (3x50)
52	4577817	BT screw (3x30)
53	4577816	BT screw (3x20)
54	8699414	BT bind head screw (3x14)
55	8744408	Bind screw (3x8)
56	8691410	BT bind head screw (3x10)
57	4578973	BT flange screw (3x8)
58	8744410	Bind head screw (3x10)
61	8699410	BT bind head screw (3x10)
62	4578976	BT flange screw (3x20)
*63	4583947	Joint shaft
*64	3807491	SP bush
*65	8660405	Screw (3x5)

## For TRK-3D75 only

## Surround speaker

SYMBOL NO.	PART NO.	DESCRIPTION
1	4044681	Front panel assy
2	4044692	Foot assy (L)
	4044691	Foot assy (R)
3	4044701	Cabinet assy
4	2404051	10 cm speaker (SURROUND SP.)
5	4585176	Tapping screw (4x6)
6	3800281	Foot knob
7	4585175	Tapping screw (4x12)

## For E, E(BS)

## Cassette chassis(TN-21H-982)

SYMBOL NO.	PART NO.	DESCRIPTION
2	4818992	Switch plate
3	4839371	Push button actuator assy
4	4823651	REC button lever
5	4823661	PLAY button lever
6	4823671	RWD button lever
7	4823681	FF button lever
8	4823691	STOP button lever
9	4823701	PAUSE button lever
10	4818990	RWD lever
11	4819131	PAUSE lever
12	4819132	PAUSE lever spring
13	4819133	PAUSE stopper
14	4819100	Button lever spring
15	4820215	Sub chassis
16	4819007	Button lever spring
17	4820217	Play button lever spring
18	4833452	RECORD plate
19	4819008	Actuator spring
20	4819009	AUTO lever
21	4819000	AUTO lever spring
22	4831613	Button lever spring
23	4848951	Leaf switch
24	4820218	Switch actuator spring
25	4819006	PR stopper
26	4820219	Head panel
27	4819014	Head base
28	4832412	Sensing plate assy
30	4820221	Head panel spring
31	4819018	MG arm

SYMBOL NO.	PART NO.	DESCRIPTION
32	4832522	Screw
33	4819045	Screw
34	4819017	Spring
35	4839372	Pinch roller arm assy
36	4848082	Pinch roller spring
38	4831610	Metal guide
39	4850091	RF pulley arm assy (REWIND/FORWARD)
40	4820225	RF pulley arm spring
41	4820226	RF arm collar screw
42	4820227	Belt
43	4848081	Collar
44	4850092	Flywheel
46	4850093	T gear plate assy
47	4839378	Take-up roller Gear
48	4819020	TG plate spring
49	4832417	FF gear
50	4839382	Back tension spring
51	4842431	Supply reel assy
52	4839381	Take up reel assy
53	4832421	Record safety lever
54	4839379	Back tension spring
56	4819039	Motor rubber
57	4819533	Motor collar screw
59	4820252	Main belt
62	4819043	Eject slide lever
63	4819044	Eject slide lever spring
64	4820242	Pack spring
66	4848041	Record playback head
67	4848051	Erase head

SYMBOL NO.	PART NO.	DESCRIPTION
68	4832405	Motor assy
70	4819186	Screw (2 x 3)
71	4819607	Bind tapping screw (2 x 5)
72	4819068	Tapping screw (2 x 4)
73	4819063	Tapping screw (2 x 3)
75	4819611	Screw (2 x 6)
77	4819060	Screw (2 x 7)
78	4819072	Screw (2 x 7)
79	4833471	E typing ring (3.2)
80	4819600	Azimuth screw
83	4848953	Washer (1.2)
84	4819078	Washer (1.55)
85	4832432	Washer (2.05)
88	4833459	Frame
89	4833450	Button lever shaft

For W, W(UN), AU, H, HC

## Cassette chassis (TN-222F-140)

ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION
1	4819081	Head panel	68	4819138	RF clutch assy	216	4819201	Camera screw (2x3.5)
2	4819082	CHP lever	69	4819139	RF clutch arm spring	217	4819202	Camera screw (2x4.5)
3	4819083	Slide lever collar	70	4819130	RF belt	218	4819203	E ring
4	4819084	Head panel spring	71	4819141	Lift spring	219	4819192	C tapping screw (2x3)
5	4819085	Head base	72	4819142	Lift arm assy	220	4819234	Camera screw (2x8)
6	4819086	Head plate	73	4819143	M trigger arm spring	221	4819205	Polyslider washer (2.2)
7	4819087	Head SP plate	74	4819144	M trigger arm assy	222	4819206	Nylon washer (2.1)
8	4848021	Record playback head	75	4819145	M gear	223	4819207	Wire
9	4850651	M.G. arm	76	4819146	CH lever assy	224	4819208	Screw (2x3)
10	4848031	Erase head	77	4819147	CH lever spring	225	4819209	Damper spring
11	4850652	M.G. arm spring	78	4819148	CH gear assy	226	4477431	Button holder
12	4819089	Take-up roller plate (R) assy	79	4819149	P gear	227	4596071	Button lever shaft
13	4819080	Take-up roller plate assy (F)	80	4819140	P trigger arm spring	228	4584376	E ring
14	4850653	T roller assy	81	4819151	P trigger collar			
15	4850654	Pressure roller arm assy (R)	82	4819152	P trigger arm			
16	4819093	C.H.P. lever collar A	83	4819153	RF trigger arm			
17	4819094	Collar	84	4819154	RF collar			
18	4819095	FL metal (R)	85	4819155	P actuator arm assy			
19	4850655	Pressure roller arm assy (F)	86	4819156	P actuator arm spring			
20	4819097	Pinch roller spring	87	4819157	Cam gear plate assy			
21	4819098	FL metal (F)	88	4819158	Sensor plate spring			
22	4819099	Take-up roller spring (F)	89	4819159	Cam gear plate spring			
23	4819090	Take-up roller spring (R)	90	4819150	Cam gear			
24	4819101	Control lever	91	4819161	Pulley			
25	4850656	Reel assy (R)	92	4819162	Full auto belt			
28	4850657	Reel assy (F)	93	4819163	RF lever			
29	4850658	Back tension spring	94	4819164	Sensing plate			
30	4819107	Main base assy	95	4819165	Control lever			
31	4850659	REC stopper spring	96	4819166	Control lever spring			
32	4850650	REC stopper	100	4850668	FL pulley capstan assy			
33	4819108	Leaf switch	101	4850669	FL gear capstan assy			
34	4819109	Button lever spring	102	4819169	Mail belt			
35	4819100	Button lever spring	104	4819171	Damper spring			
36	4850661	REC safety lever	105	4819172	FL patch plate			
37	4850677	Spring	106	4819173	M collar screw			
38	4850662	FF gear	107	4819174	Motor rubber			
39	4850663	P arm spring (R)	108	4850660	FL plate assy			
40	4850664	P arm spring (F)	109	4819716	SW base assy			
41	4819115	E slide lever	111	4832406	Motor assy			
42	4819116	Collar	113	4819179	Collar			
43	4819222	Eject slide lever spring	114	4819170	Screw (1.6x5)			
45	4819119	Slide lever	115	4819007	Button lever spring			
46	4819110	SW SP plate	118	4850672	Pulley			
50	4850666	PC stopper	119	4850673	Polyslider washer (0.85)			
51	4819122	Push button actuator assy	120	4819185	Spring			
52	4819123	Push button actuator spring	200	4819186	Screw (2x3)			
53	4819124	Switch actuator	201	4819187	Fine screw (2x10)			
54	4819125	RWD lever	202	4850674	Camera screw (1.7x4)			
55	4850667	REC button lever	203	4819188	Camera screw (2x2.5)			
56	4819223	PLAY button lever	204	4819189	Camera screw (2x8.5)			
57	4819224	REWIND button lever	205	4819180	Polyslider washer (1.2)			
58	4819225	FF button lever	206	4850675	Power lock screw (2x6)			
59	4819226	STOP button lever	207	4819192	C tapping screw (2x3)			
60	4819227	PAUSE button lever	208	4819193	Screw (2x8)			
61	4819131	PAUSE lever	209	4819194	Polyslider washer (2.1)			
62	4819132	Pause lever spring	210	4819195	Tapping screw (2x5)			
63	4819133	PAUSE stopper	211	4819196	E ring			
			212	4819197	P tapping screw (2x6)			
			213	4819198	Camera screw (2x3)			
			214	4819199	Camera screw (2x1.5)			
			215	4819190	E ring			

**HITACHI SALES EUROPA GmbH**

Postfach 801060 Rungedamm 2, 2050 Hamburg 80,  
West Germany  
Tel. 040-734 11-0

**HITACHI SALES (U.K.) Ltd.**

Hitachi House, Station Road, Hayes, Middlesex UB3  
4DR, England  
Tel. 01-848-8787

**HITACHI SALES SCANDINAVIA AB**

Rissneleden 8, Box 7138, 172-07 Sundbyberg, Sweden  
Tel. 08-98 52 80

**HITACHI SALES NORWAY A/S**

Oerebekk 1620, Gressvik, P.O. Box 46, N-1601,  
Fredrikstad, Norway  
Tel. 032-28255

**SUOMEN HITACHI OY**

Takojankatsu 5, 15800 Lahti 80, Finland  
Tel. Lahti 44 241

**HITACHI SALES A/S**

Kuldysen 13, DK-2630, Taastrup, Denmark  
Tel. 02-999200

**HITACHI SALES A.G.**

Bahnhofstrasse, 19, 5600 Lenzburg, Switzerland  
Tel. 064-513621

**HITACHI SALES WARENHANDELS GMBH**

A-1180/Wien, Kreuzgasse 27, Austria  
Tel. 0222-439367

**HITACHI SALES ITALIANA, S.P.A.**

Via Cristoforo Colombo 49, Trezzano sul naviglio  
(Milano), Italy  
Tel. 02-44 59 031

**HITACHI SALES BELGIUM S.A.**

56 Chaussee de Namur B-1400 Nivelles, Belgium  
Tel. (003267) 227181

**HITACHI SALES IBERICA, S.A.**

Gran Via Carlos Tercero, 101, 1-1, Barcelona-28,  
Spain  
Tel. 330-8652

**HITACHI MAROC (RADIO TV ELECTRO-MANAGER), S.A.**

Rue du Havre, Casablanca, Morocco  
Tel. 30-73-68, 30-73-57

**HITACHI CANARIAS S.A.**

Calle San-Francisco No. 19, Santa Cruz de Tenerife  
Canary Islands  
Tel. 24-64-98

**HITACHI SALES (HELLAS) LTD.**

110 Syngrou St., Athens, Greece  
Tel. 9219082, 9233469

**HITACHI SALES (MALAYSIA) SDN. BHD.**

17, Jalan 20/16, Petaling Jaya, Selangor, Malaysia  
Tel. 762523, 769918, 769836, 762594

**HITACHI (SINGAPORE) PTE., LTD.**

Room B, C & D, 15th Floor, Yen San Building  
268 Orchard Road, Singapore 9, Singapore  
Tel. 7378244, 7379826

**HITACHI SALES (THAILAND) LTD.**

2242-48, New Petchburi Road, Bangkok, Hueykuang  
Bangkok, Thailand  
Tel. 314-2741

**HITACHI ELECTRIC SERVICE CO., (HONG KONG) LTD.**

4th Floor Leun Tai Industrial Bldg., 72-76 Kwai Cheong  
Road Kwai Chung N.T., Hong Kong  
Tel. 240126

**HITACHI SALES AUSTRALIA PTY LTD.**

153 Keys Road, Moorabbin, Victoria 3189 Australia  
Tel. 555-8722

**HITACHI SALES CORPORATION OF AMERICA**

Eastern Regional Office  
1290 Wall Street West, Lyndhurst, New Jersey 07071, U.S.A.  
Tel. 201-935-8980

**Mid-Western Regional Office**

1400 Morse Ave., Elk Grove Village, Ill. 60007, U.S.A.  
Tel. 312-593-1550

**Southern Regional Office**

510 Plaza Drive, College Park, Georgia 30349, U.S.A.  
Tel. 404-763-0360

**Western Regional Office**

401 West Artesia Boulevard, Compton, California 90220 U.S.A.  
Tel. 213-537-8383

**HITACHI SALES CORPORATION OF HAWAII, INC.**

3219 Koapaka Street, Honolulu, Hawaii 96819, U.S.A.  
Tel. 808-836-3621

**HITACHI (HSC) CANADA INC.**

3300 Trans-Canada Highway, Pointe Claire, Quebec,  
H9R 1B1, Canada  
Tel. 514-697-9150

**Hitachi Sales Centroamericans, S.A.**

San Rafael de Excazu, (Apartado 10272), San Jose,  
Costa Rica  
Tel. 28-20-11, 28-00-37

**Hitachi Sales Corporation de Panama, S.A.**

Nuevo Repato E1 Camen, Calle Ramon Arias y Cille B  
Edificio Brasil 100, (Apartado 7657) Panama 5  
Panama City, Rep of Panama  
Tel. 61-3100, 61-4305

**Hitachi Sales de Chile Cia., Ltda.**

Av. Mexico, 0183, Casilla 9793, Correo Central  
Santiago, Chile  
Tel. 774165

**HITACHI-FRANCE S.A.**

95-101 Rue Charles Michels,  
93200 SAINT-DENIS,  
France  
Tel. 821 6015

**HITACHI LTD. TOKYO JAPAN**

Head Office:

THE HITACHI ATAGO BLDG.  
No. 15-12, 2-Chome Nishi-Shinbashi  
Minato-Ku, Tokyo 105, Japan  
Tel. Tokyo (03) 502-2111