

# HITACHI

## SERVICE MANUAL

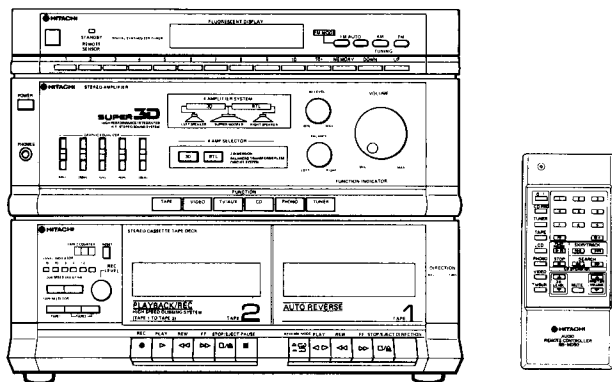
TY

No. 593 EGF

# HRD-MD50

[CS, BS, KS, ES, VS, ZS, SA, EW]

TN-521ZSW-153 chassis



### CONTENTS

SPECIFICATIONS .....	1
DISASSEMBLY .....	4
ADJUSTMENTS .....	9
LUBRICATION .....	13
MAINTENANCE .....	13
CIRCUIT DIAGRAM .....	23-27, 42
DESCRIPTION OF NEW PARTS .....	28
EXPLODED VIEW	
(Cabinet) .....	30
(Cassette chassis) .....	31
REPLACEMENT PARTS LIST .....	32
PRINTED WIRING BOARD .....	41
BLOCK DIAGRAM .....	43

### INHALTSVERZEICHNIS

TECHNISCHE DATEN .....	2
DEMONTAGE .....	4
EINSTELLUNGEN .....	13
SCHMIERUNG .....	17
PFLEGE DES GERÄTS .....	17
SCHALTPLAN .....	23-27, 42
BESCHREIBUNG DER NEUEN BAUTEILE .....	28
EXPLOSIONANSICHT	
(Chassis) .....	30
(Cassetterdeck-Chassis) .....	31
ERSATZTEILLISTE .....	32
PRINTPLATTEN .....	41
BLOCKSCHAMA .....	43

### TABLE DES MATIÈRES

CARACTÉRISTIQUES TECHNIQUES .....	3
DÉMONTAGE .....	5
RÉGLAGE .....	18
LUBRIFICATION .....	22
ENTRETIEN .....	22
PLAN DE CIRCUIT .....	23-27, 42
DESCRIPTION DES NOUVELLES PIÈCES .....	28
VUE EXPLOSEE	
(Coffret) .....	30
(Châssis de Cassette) .....	31
TABLEAU DES PIÈCES .....	32
PLAN DE BASE .....	41
SCHÉMA .....	43

### 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 replacement parts. Especially critical parts in the power circuit block should not be replaced with other makers. Critical parts are marked with  $\triangle$  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 SPECIFICATIONS

Power Supply:	AC 120V, 60 Hz [for CS] AC 220V, 50 Hz [for ES, ZS, VS] AC 240V, 50 Hz [for BS, SA] AC 110-120V, 200-220V, 230-240V, 50/60 [for EW]
Power Consumption:	200W 250VA [for CS] 320W [except CS]
Dimensions:	370 (W) x 296 (H) x 300 (D) mm
Weight:	9 kg

#### ● AMPLIFIER SECTION

Audio Output:	50W + 50W (8 ohms, 1 kHz, T.H.D 0.7%) BTL
Tone Control:	63 Hz $\pm$ 10 dB, 250 Hz $\pm$ 10 dB, 1 kHz $\pm$ 10 dB, 4 kHz $\pm$ 10 dB, 16 kHz $\pm$ 10 dB
Input Sensitivity and Impedance:	PHONO: 3 mV/50 kohms CD: 200 mV/50 kohms
Load Impedance:	Speaker: 8 to 16 ohms Headphones: 100 ohms

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

# STEREO TUNER-AMPLIFIER DOUBLE CASSETTE RECORDER

July 1988

YOKOHAMA WORKS

● TUNER SECTION

**Circuit System:** FM/AM 2-band superheterodyne  
[except BS, ES, VS]  
FM/MW/LW 3-band superheterodyne  
[for BS, ES, VS]

**Tuning Range:** FM: 87.5 to 108 MHz (50 kHz step)  
[except CS]  
87.9 to 107.9 MHz (100 kHz step)  
[for CS]  
AM (MW): 522 to 1,611 kHz  
(9 kHz step) [except CS, EW]  
530 to 1,620 kHz  
(10 kHz step) [for CS]  
522-1,611/530-1620 kHz  
(9/10 kHz step) [for EW]

LW: 153 to 281 kHz (1 kHz step)  
[for BS, ES, VS]

**IEC Sensitivity:** FM: 1.5  $\mu$ V  
AM: 450  $\mu$ V

**FM Stereo separation:** 35 dB

**FM Signal to noise Ratio:** 60 dB

**Antennas input:** FM: 75 ohms unbalanced  
AM(MW, LW): Loop antenna and External terminals

● TAPE DECK SECTION

**Cassette tape deck**

**Tape:** Cassette tape

**Tape Speed:** 4.75 cm/s

**Recording System and Bias Frequency:** AC bias, 85 kHz

**Track System:** 4 track 2 channel

**Erasing System:** AC erase

**Frequency Response:** Normal: 70 Hz to 14 kHz  
Metal: 70 Hz to 14 kHz

**Signal-to-Noise Ratio:** Dolby NR ON: 58 dB  
Dolby NR OFF: 50 dB

**Crosstalk:** 65 dB

**Erase Ratio:** 70 dB

**Motor:** DC Motor

**Wow and Flutter:** 0.1% (WRMS)

● REMOTE CONTROLLER (RB-MD50)

**Dimensions:** 63 (W) x 148 (H) x 18 (D) mm

**Weight:** 110 g

Specifications and design may be changed without notice for improvement.

**NOTE:** Multi voltage unit can be operated on 110V to 120, 200V to 220V or ~ 230V to 240V (When the voltage selector is changed.)

When switching the voltage selector from 110-120V to 200-220V or 230-240V, from 200-220V or 230-240V to 110-120V, replace the primary fuse as well.

**SICHERHEITSMASSNAHMEN**

Bei Wartungsarbeiten sind die folgenden Sicherheitsmaßnahmen zu beachten:

- Da verschiedene Teile dieses Gerätes Sicherheitsfunktionen aufweisen, nur Original-Hitachi-Ersatzteile verwenden.  
Kritische Teile im Netzteil sollten nicht durch ähnliche Teile anderer Hersteller ersetzt werden. Alle kritischen Teile sind im Schaltplan und im Printplatten mit dem Symbol  $\triangle$  gekennzeichnet.
- Vor der Auslieferung eines reparierten Gerätes an den Kunden muß der Wartungstechniker das Gerät einer gründlichen Prüfung unterziehen, um sicherzustellen, daß sicherer Betrieb ohne die Gefahr von elektrischen Schlägen gewährleistet ist.

**TECHNISCHE DATEN**

● ALLGEMEINE DATEN

**Stromversorgung:** AC 120V, 60 Hz [für CS] 87.9 to 107.9 MHz (100 kHz-Kanallabstand)  
AC 220V, 50 Hz [für ES, ZS, VS] [für CS, SA]  
AC 240V, 50 Hz [für BS, SA]  
110-120V, 200-220V, 230-240V, 50/60 Hz [für EW]

**Leistungsaufnahme:** 200W (250VA) 530 bis 1,620 kHz  
320W [außer CS] (10 kHz-Raster)

**Abmessungen:** 370 (B) x 296 (H) x 300 (T) mm 522 to 1,611 kHz/530-1,620 kHz  
(9/10 kHz-Kanallabstand)

**Gewicht:** 9 kg [für EW]

LW: 153 bis 281 kHz (1 kHz-Raster)  
[für BS, ES, VS]

● VERSTÄRKER-TEIL

**Tonausgangsleistung:** 50W + 50 W (8 Ohm, 1 kHz, Gesamtklirrfaktor 0.7%) **EC-Empfindlichkeit:** UKW: 1.5  $\mu$ V  
MW: 450  $\mu$ V

**Klangregelung:** 63 Hz  $\pm$  10 dB, 250 Hz  $\pm$  10 dB, 1 kHz  $\pm$  10 dB, 4 kHz  $\pm$  10 dB, 16 kHz  $\pm$  10 dB **UKW-Stereo**

**Eingangsempfindlichkeit und impedanz:** PHONO: 3 mV/50 kOhm **Kanaltrennung:** 35 dB

**Belastungsimpedanz:** CD: 200 mV/50 kOhm **UKW-Rauschabstand:** 60 dB

Lautsprecher: 8 bis 16 Ohm **Antenneneingang:** UKW: 75 Ohm asymmetrisch  
MW, LW: Rahmenantenne und Außenantennenklemmen

● KASSETTENDECK-TEIL

**Kassettendeck**

**Band:** Kassettenband

**Bandgeschwindigkeit:** 4,75 cm/s

**Aufnahmesystem und Vormagnetisierungs frequenz:** Wechselstrom-Vormagnetisierung, 85 kHz

**Spursystem:** 4 Spuren, 2 Kanäle

**Löschesystem:** Wechselstrom-Löschung

● TUNER-TEIL

**Schaltungssystem:** UKW-MW 2-Band Superhet [außer BS, ES, VS]  
UKW-MW/LW 3-Band Superhet [für BS, ES, VS]

**Abstimmbereiche:** UKW: 87.5 bis 108 MHz (50 kHz-Raster) [außer CS, SA]

<b>Frequenzgang:</b>	Normalband: 70 Hz bis 14 kHz Reineisenbandband: 70 Hz bis 14 kHz
<b>Rauschabstand:</b>	Dolby-Rauschunterdrückung EIN: 58 dB Dolby-Rauschunterdrückung AUS: 50 dB
<b>Kopiereffekt:</b>	65 dB
<b>Löschverhältnis:</b>	70 dB
<b>Motor:</b>	Gleichstrommotor
<b>Gleichlaufschwankungen:</b>	0.1% (WRMS)

Anderungen der technischen Daten und äußeren Aufmachung im Sinne von Verbesserungen jederzeit vorbehalten.

**HINWEIS:** Das Mehrspannungsgerät kann (bei entsprechendem Umschalten des Spannungswählers) mit 110V-120V, 200V-220V oder 230V bis 240V Netzstrom betrieben werden.

Beim Umschalten des Spannungswählers von 110-120V auf 200-220V bzw. 230-240V oder von 200-220V bzw. 230-240V auf 110-120V die Primärkreissicherung ebenfalls austauschen.

### ● FERNBEDIENGERÄT (RB-MD50)

<b>Abmessungen:</b>	63 (B) x 148 (H) x 18 (T) mm
<b>Gewicht:</b>	110 g

## PRÉCAUTIONS DE SÉCURITÉ

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

1. Étant 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  $\triangle$  dans le plan de circuit et sur le plan de base.
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.

## CARACTÉRISTIQUES TECHNIQUES

### ● CARACTÉRISTIQUES GÉNÉRALES

<b>Alimentation:</b>	CA 120V 60 Hz [pour CS] CA 220V 50 Hz [pour ES, ZS, VS] CA 240V 50 Hz [pour BS, SA] CA 110-120V, 200-220V, 230-240V, 50/60 Hz [pour EW]
<b>Consommation:</b>	200W 250VA [pour CS] 320 W [sauf CS]
<b>Dimensions:</b>	370 (L) x 296 (H) x 300 (P) mm
<b>Poids:</b>	9 kg

### ● SECTION AMPLIFICATEUR

<b>Sortie audio:</b>	50 W + 50 W (8 ohms, 1 kHz, D.H.T. 0,7%)
<b>Commande de tonalité:</b>	63 Hz $\pm$ 10 dB, 250 Hz $\pm$ 10 dB, 1 kHz $\pm$ 10 dB, 4 kHz $\pm$ 10 dB, 16 kHz $\pm$ 10 dB
<b>Sensibilité et impédance d'entrée:</b>	PHONO: 3 mV/50 kohms CD: 200 mV/50 kohms
<b>Impédance de charge:</b>	Enceintes: 8 à 16 ohms Casque: 100 ohms

### ● SECTION RADIO

<b>Système:</b>	FM/AM 2 gammes Superhétérodyne [sauf BS, ES, VS] FM/PO/GO 3 gammes Supenhétérodyne [pour BS, ES, VS]
<b>Gamme d'accord:</b>	FM: 87,5 à 108 MHz (paliers de 50 kHz) [sauf CS, SA] 87,9-107,9 MHz (100 Hz step) [for CS, SA] AM (PO): 522 à 1611 kHz (paliers de 9 kHz) [sauf CS, EW] 530 à 1620 kHz (paliers de 10 kHz) [pour CS] 522-1611/530-1620 kHz [Régie sur 4/10 kHz] GO: 153 à 281 kHz (paliers de 1 kHz) [pour BS, ES, VS]

<b>Sensibilité IEC:</b>	FM: 1,5 $\mu$ V AM: 450 $\mu$ V
<b>Séparation FM stéréo:</b>	35 dB
<b>Rapport signal/bruit FM:</b>	60 dB
<b>Entrée d'antennes:</b>	FM: 75 ohms non asymétriques AM (PO, GO): Bornes d'antenne-cadre et d'antenne extérieure

### ● SECTION PLATINES CASSETTES

<b>Platines cassettes</b>	
<b>Bande:</b>	Bande cassette
<b>Vitesse de bande:</b>	4,75 cm/s
<b>Système d'enregistrement et fréquence de polarisation de:</b>	Polarisation CA, 85 kHz
<b>Système de piste:</b>	4 pistes sur 2 canaux
<b>Système d'effacement:</b>	Effacement CA
<b>Réponse de fréquence:</b>	Normale: 70 Hz à 14 kHz Métal: 70 Hz à 14 kHz
<b>Rapport signal/bruit:</b>	Avec le Dolby NR: 58 dB Sans le Dolby NR: 50 dB
<b>Diaphonie:</b>	65 dB
<b>Taux d'effacement:</b>	70 dB
<b>Moteur:</b>	Moteur CC
<b>Pleurage et scintillement:</b>	0,1% (WRMS)

### ● TÉLÉCOMMANDE (RB-MD50)

<b>Dimensions:</b>	63 (L) x 148 (H) x 18 (P) mm
<b>Poids:</b>	110 g

La conception et les spécifications sont sujettes à modification sans préavis pour des raisons d'amélioration.

**REMARQUE:** L'appareil multi-tension pourra fonctionner sur 110V à 120V, 200V à 220V ou 230V à 240V (en modifiant le sélecteur de tension).

Lors de la commutation du sélecteur de tension de 110-120V sur 200-220V ou 230-240V, ou de 200-220V ou 230-240V sur 110-120V, remplacer également le fusible primaire.

## DISASSEMBLY

1. **Top cover (Fig. 1)**  
Remove six screws ① and two screws ②. Remove the Top cover in the direction of arrow ③.  
Note: Attempting to remove the top cover by lifting it by the rear may break the front panel. Lift the top cover straight up and then pull it off toward the rear.
2. **Rear plate (Fig. 2)**  
Remove four screws ③, seven screws ④, two screws ⑤ and one screw ⑥.
3. **Tuner P.W.B. (Fig. 3)**  
After removing one screw ⑦ and the soldered section ⑧, pull the Tuner P.W.B. up in the direction of arrow ⑨.
4. **Main P.W.B. (Fig. 4)**  
Grasp the power button, lift it in the direction of arrow ⑩, and remove it from the power switch. Next, remove six buttons ⑪ and fifteen connectors ⑫.
5. **Front panel (Fig. 5)**  
Remove five screws ⑬.
6. **Headphones P.W.B. (Fig. 6)**  
Remove one screw ⑭.
7. **Switch P.W.B. (Fig. 7)**  
After removing the REC level knob, remove five tabs.
8. **Sub P.W.B. (Fig. 8)**  
Remove three screws ⑮ and take off the shield plate. Next, remove two screws ⑯ and four connectors ⑰.
9. **Switch P.W.B. 1 (Fig. 8)**  
After removing two screws ⑱ and one connector ⑲, pull the Switch P.W.B. out in the direction of arrow ⑳.
10. **Front P.W.B. (Fig. 9)**  
Remove three screws ㉑ and fifteen tabs.
11. **Graphic equalizer P.W.B. (Fig. 10)**  
Remove the five equalizer knobs and remove two screws ㉒. After the shield plate has been removed, remove five tabs.
12. **LED P.W.B. 1 (Fig. 11)**  
Remove four tabs.
13. **Volume P.W.B. 2 (Fig. 12)**  
After removing the 3D level knob and one nut, pull the Volume P.W.B. out towards the rear.
14. **Volume P.W.B. (Fig. 13)**  
Remove the volume knob and the balance knob. Remove one connector ㉓ and two nuts.
15. **Deck P.W.B. (Fig. 14)**  
Remove four screws ㉔ and ten connectors ㉕.
16. **LED P.W.B. 2 (Fig. 15)**  
Remove one screw ㉖.
17. **Cassette door (Fig. 16)**  
Press the cassette door (open) button to open the cassette door. Remove the eject spring from the arm. Then spread the arm in the direction of arrow ㉗ and pull the cassette door off.  
(Follow the same procedure for Tape 1 and Tape 2.)
18. **Cassette chassis (Fig. 17)**  
Remove six screws ㉘ and remove the counter belt.
19. **Amp P.W.B. (Fig. 18)**  
Remove five screws ㉙ and three connectors ㉚.  
(The amp P.W.B. can be removed together with the heat sink.)

## DEMONTAGE

1. **Oberabdeckung (Abb. 1)**  
Die sechs Schrauben ① und zwei Schrauben ② entfernen. Die Oberabdeckung in Pfeilrichtung ③ abziehen. Hinweis: Wenn versucht wird, die Oberabdeckung durch Anheben des Rückteils zu entfernen, kann die Frontplatte brechen. Die Oberabdeckung gerade nach oben abheben und dann nach hinten entfernen.
2. **Rückplatte (Abb. 2)**  
Die vier Schrauben ③, sieben Schrauben ④, zwei Schrauben ⑤ und eine Schraube ⑥ entfernen.
3. **Tuner-Platine (Abb. 3)**  
Nach dem Entfernen einer Schraube ⑦ und des gelöteten Teils ⑧ die Tuner-Platine in Pfeilrichtung nach oben ziehen ⑨.
4. **Haupt-Platine (Abb. 4)**  
Den Netzschalterknopf in Pfeilrichtung ziehen ⑩ und vom Netzschalter entfernen. Anschließend die sechs Knöpfe ⑪ und die fünfzehn Stecker ⑫ entfernen.
5. **Frontplatte (Abb. 5)**  
Die fünf Schrauben ⑬ entfernen.
6. **Kopfhörer-Platine (Abb. 6)**  
Die eine Schraube ⑭ entfernen.
7. **Schalter-Platine (Abb. 7)**  
Nach dem Entfernen des Aufnahmepegelknopfes die fünf Zapfen entfernen.

**8. Sub-Platine (Abb. 8)**

Die drei Schrauben ① entfernen und das Abschirmblech abnehmen. Anschließend die 2 Schrauben ⑫ und die vier Stecker ③ entfernen.

**9. Schalter-Platine (Abb. 8)**

Nach dem Entfernen der zwei Schrauben ⑬ und des Steckers ④ die Schalter-Platine in Pfeilrichtung ⑤ abziehen.

**10. Front-Platine (Abb. 9)**

Die drei Schrauben ⑭ und fünfzehn Zapfen entfernen.

**11. Graphic-Equalizer-Platine (Abb. 10)**

Die fünf Schieberknöpfe des Equalizers entfernen und die zwei Schrauben ⑮ entfernen. Wenn das Abschirmblech abgenommen ist, die fünf Zapfen entfernen.

**12. LED-Platine (Abb. 11)**

Die vier Zapfen entfernen.

**13. Potentiometer-Platine 2 (Abb. 12)**

Nach dem Entfernen des 3D Pegelreglerknopfes und eine Mutter die Potentiometer-Platine nach hinten abziehen.

**14. Potentiometer-Platine (Abb. 13)**

Den Lautstärkeknopf und den Balanceknopf entfernen, 1 Stecker ① und zwei Muttern entfernen.

**15. Deck-Platine (Abb. 14)**

Die vier Schrauben ⑯ und 10 Stecker ⑥ entfernen.

**16. LED-Platine 2 (Abb. 15)**

Eine Schraube ⑰ entfernen.

**17. Cassettenklappe (Abb. 16)**

Die Cassettenklappentaste (Öffnungstaste) drücken, um die Klappe zu öffnen. Die Auswurffeder vom Arm entfernen. Dann den Arm in Pfeilrichtung ⑧ bewegen und die Cassettenklappe abziehen. (Das gleiche Verfahren für Laufwerk 1 und Laufwerk 2 durchführen.)

**18. Cassettenchassis (Abb. 17)**

Die sechs Schrauben ⑱ entfernen und den Zählwerkriemen abnehmen.

**19. Verstärker-Platine (Abb. 18)**

Die fünf Schrauben ⑲ und 3 Stecker ⑦ entfernen. (Die Verstärker-Platine kann zusammen mit dem Wärmeableitblech entfernt werden.)

**DÉMONTAGE****1. Couvercle supérieur (Fig. 1)**

Enlever six vis ① et deux vis ②. Dégager le couvercle supérieur dans la direction de la flèche ④.

Note: Le fait d'essayer de dégager le couvercle supérieur en le soulevant par l'arrière peut endommager le panneau avant. Lever tout d'abord le couvercle supérieur tout droit, puis le dégager vers l'arrière.

**2. Plaque arrière (Fig. 2)**

Enlever quatre vis ③, sept vis ④, deux vis ⑤ et une vis ⑥.

**3. Plaque de circuits imprimés Tuner (Fig. 3)**

Après avoir enlevé une vis ⑦ et la section soudée ⑧, dégager la plaque de circuits imprimés Tuner dans la direction de la flèche ⑨.

**4. Plaque principale de circuits imprimés (Fig. 4)**

Saisir le bouton de mise sous tension, le lever dans la direction de la flèche ⑩ et le séparer de l'interrupteur d'alimentation. Puis, enlever six boutons ⑪ et quinze connecteurs ⑫.

**5. Panneau avant (Fig. 5)**

Enlever cinq vis ⑬.

**6. Plaque de circuits imprimés casque (Fig. 6)**

Enlever une vis ⑭.

**7. Plaque de circuits imprimés de commutateurs (Fig. 7)**

Après avoir enlevé le bouton de niveau d'enregistrement (REC), enlever cinq agrafes.

**8. Sous-plaquette de circuits imprimés (Fig. 8)**

Enlever trois vis ⑮ et enlever la plaquette de blindage. Puis, enlever deux vis ⑯ et quatre connecteurs ⑰.

**9. Plaquette de circuits imprimés 1 (Fig. 8)**

Après avoir enlevé deux vis ⑱ et une connecteur ⑲, dégager la plaquette de circuits imprimés de commutateurs dans la direction de la flèche ⑳.

**10. Plaquette de circuits imprimés avant (Fig. 9)**

Enlever trois vis ㉑ et quinze agrafes.

**11. Plaquette de circuits imprimés d'égaliseur graphique (Fig. 10)**

Enlever les cinq boutons de l'égaliseur et enlever deux vis ㉒. Après avoir enlevé la plaquette de blindage, enlever cinq agrafes.

**12. Plaquette de circuits imprimés LED 1 (Fig. 11)**

Enlever quatre agrafes.

**13. Plaquette de circuits imprimés de volume 2 (Fig. 12)**

Après avoir enlevé le bouton de volume 3D et une écrou, dégager la plaquette de circuits imprimés de volume vers l'arrière.

**14. Plaquette de circuits imprimés de volume (Fig. 13)**

Enlever le bouton de volume et le bouton de balance. Enlever une connecteur **D** et deux écrous.

**15. Plaquette de circuits imprimés de platine (Fig. 14)**

Enlever quatre vis **16** et 10 connecteurs **E**.

**16. Plaquette de circuits imprimés LED 2 (Fig. 15)**

Enlever une vis **17**.

**17. Porte de compartiment cassette (Fig. 16)**

Appuyer sur le bouton d'ouverture de la porte du compartiment cassette afin d'ouvrir la porte. Enlever le ressort d'éjection du bras. Puis, dégager le bras dans la direction de la flèche **E** et dégager la porte du compartiment cassette.

(Suivre la même procédure pour la cassette 1 et la cassette 2.)

**18. Châssis de platine cassette (Fig. 17)**

Enlever six vis **18** et enlever la courroie du compteur.

**19. Plaquette de circuits imprimés ampli (Fig. 18)**

Enlever cinq vis **19** et trois connecteurs **F**.

(La plaquette de circuits imprimés ampli peut être enlevée avec le dissipateur de chaleur.)

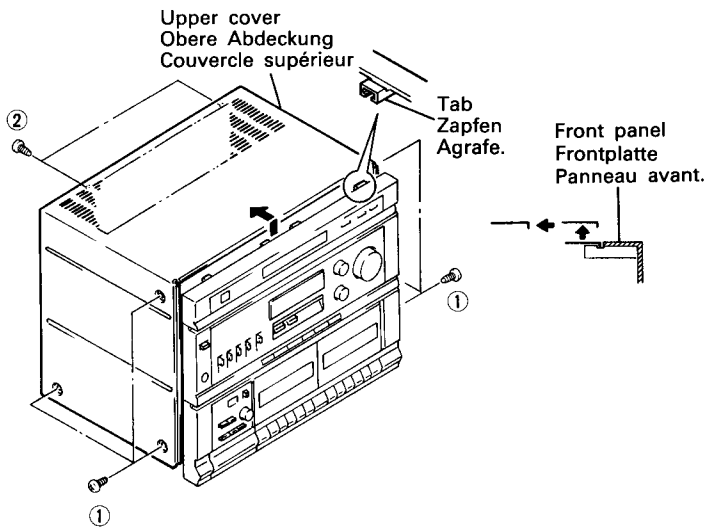


Fig. 1 Abb. 1

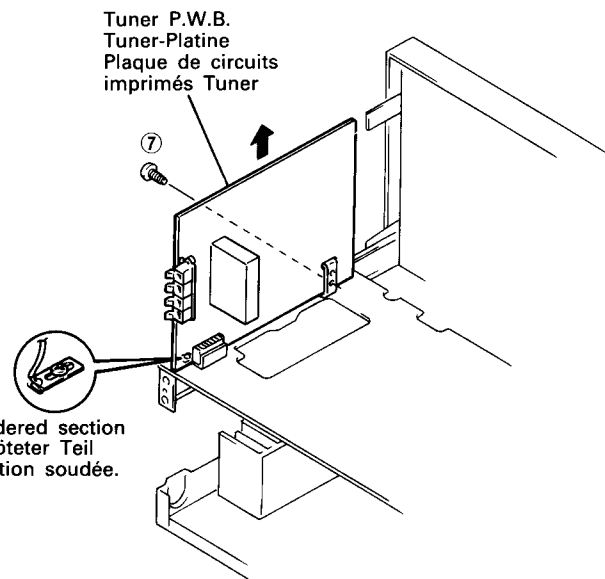


Fig. 3 Abb. 3

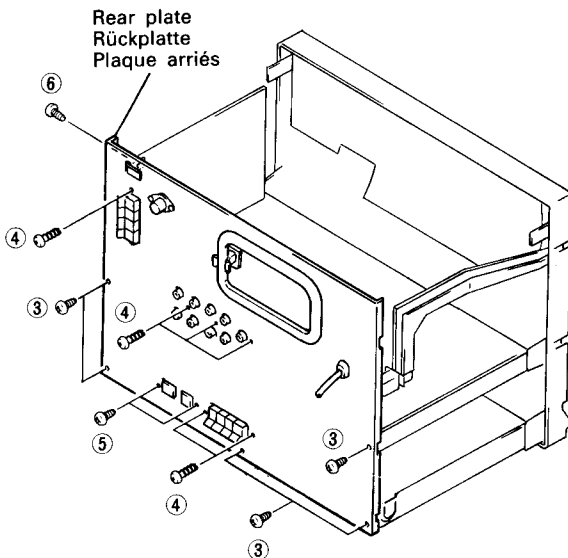


Fig. 2 Abb. 2

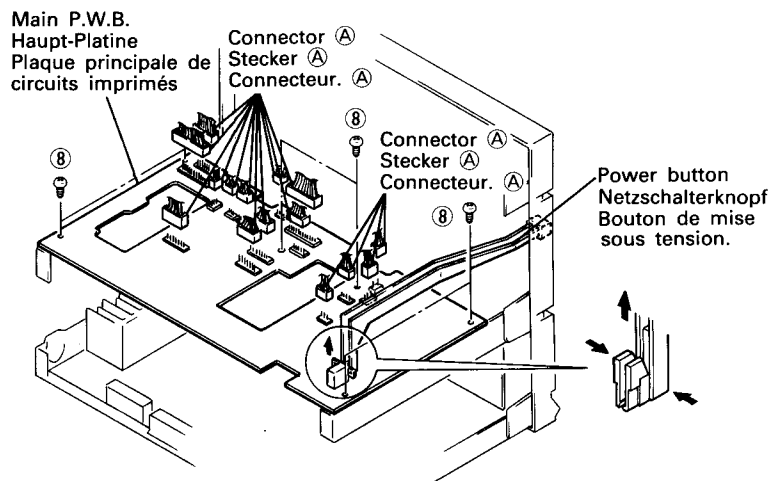


Fig. 4 Abb. 4

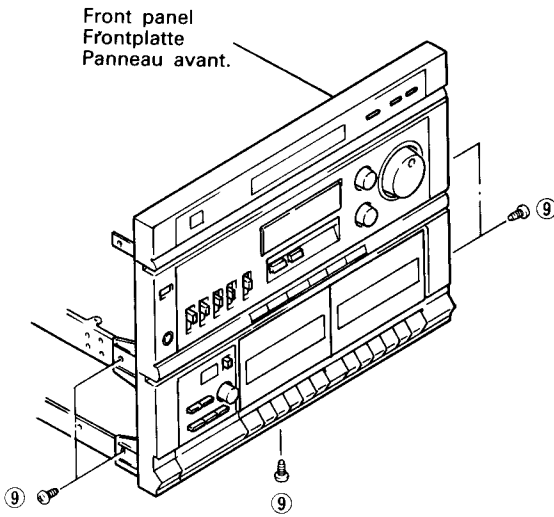


Fig. 5 Abb. 5

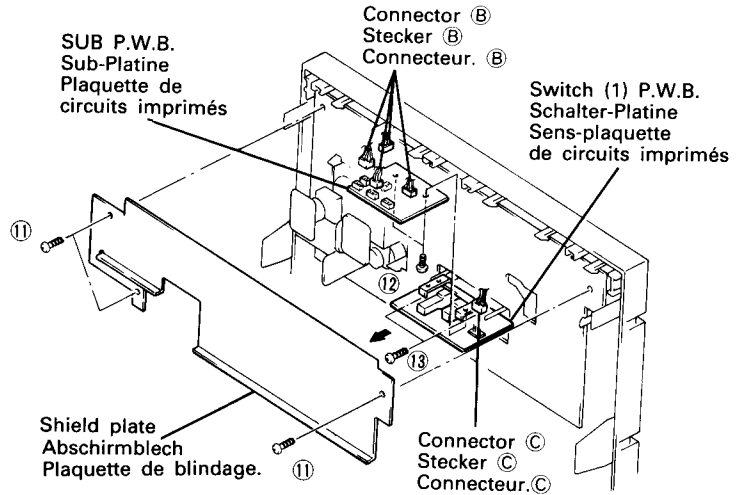


Fig. 8 Abb. 8

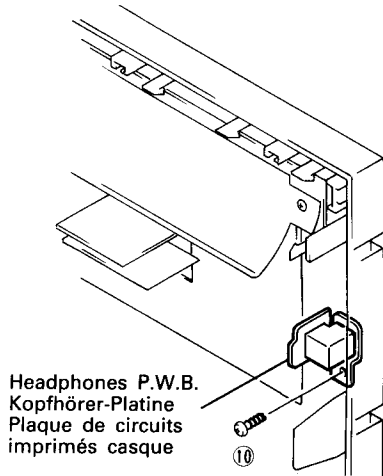


Fig. 6 Abb. 6

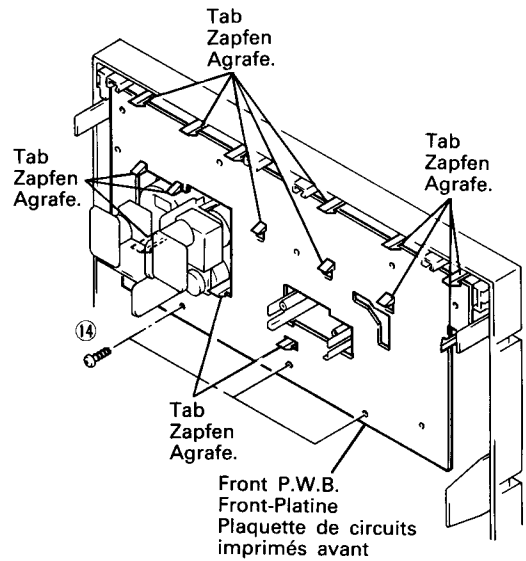


Fig. 9 Abb. 9

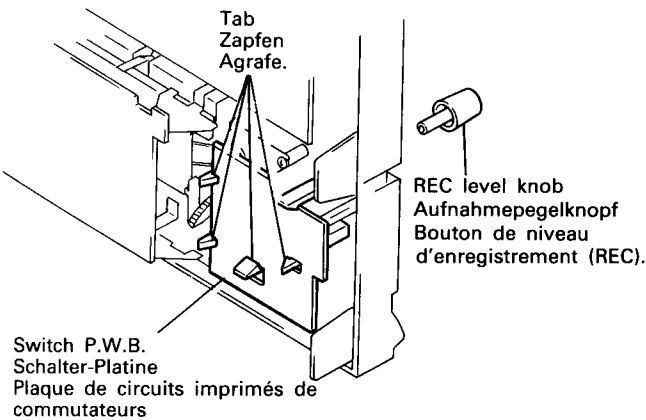


Fig. 7 Abb. 7

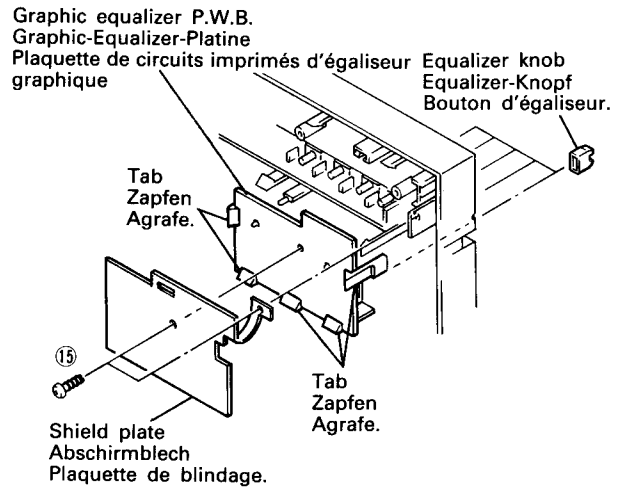


Fig. 10 Abb. 10

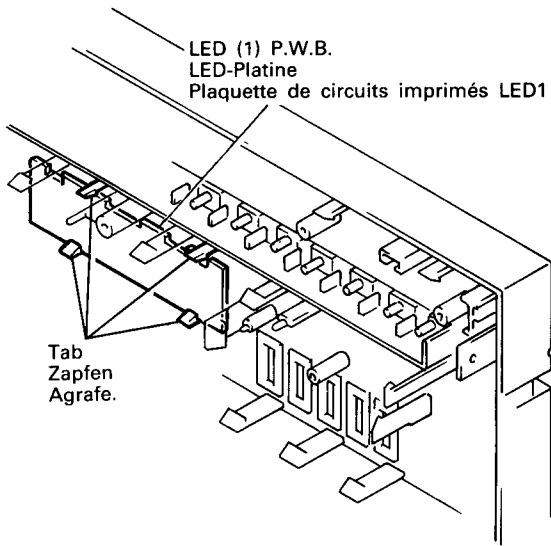


Fig. 11 Abb. 11

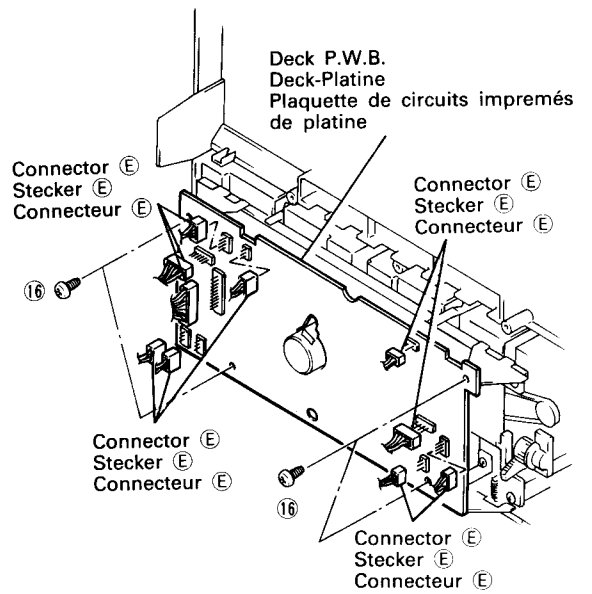


Fig. 14 Abb. 14

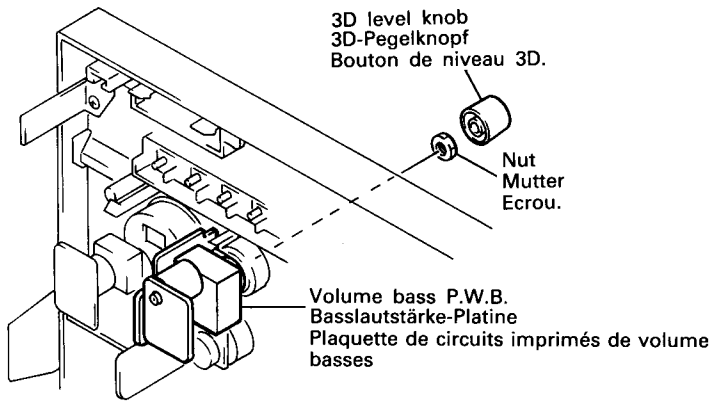


Fig. 12 Abb. 12

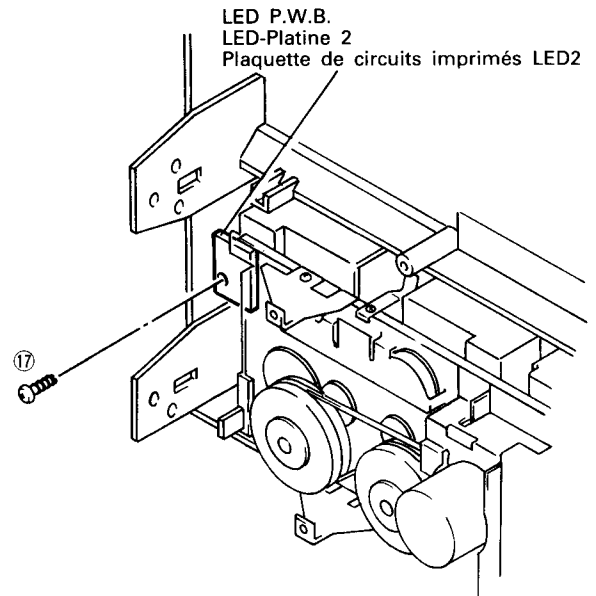


Fig. 15 Abb. 15

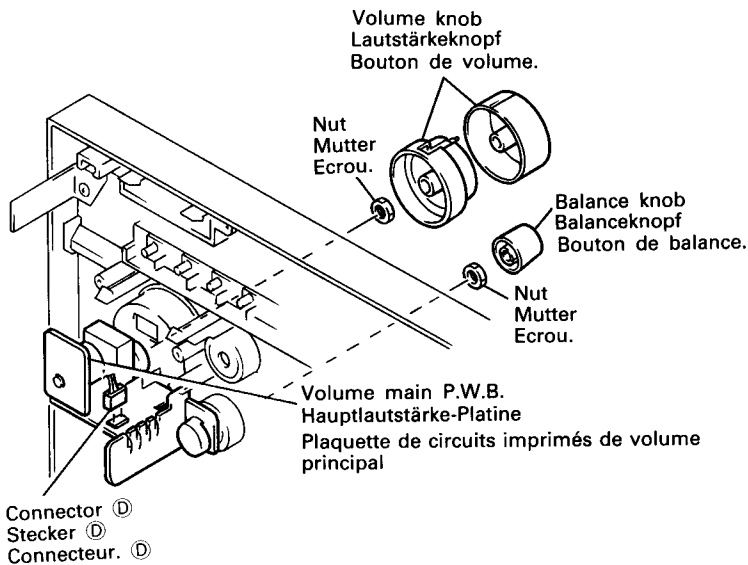


Fig. 13 Abb. 13

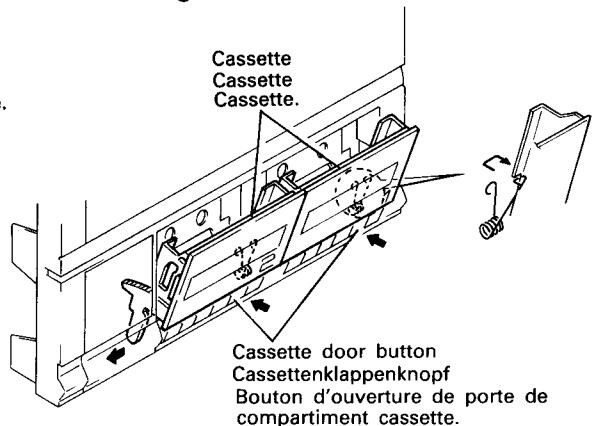


Fig. 16 Abb. 16



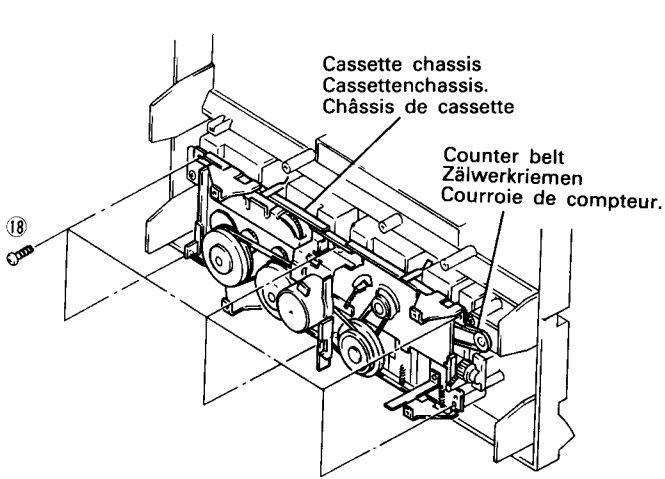


Fig. 17 Abb. 17

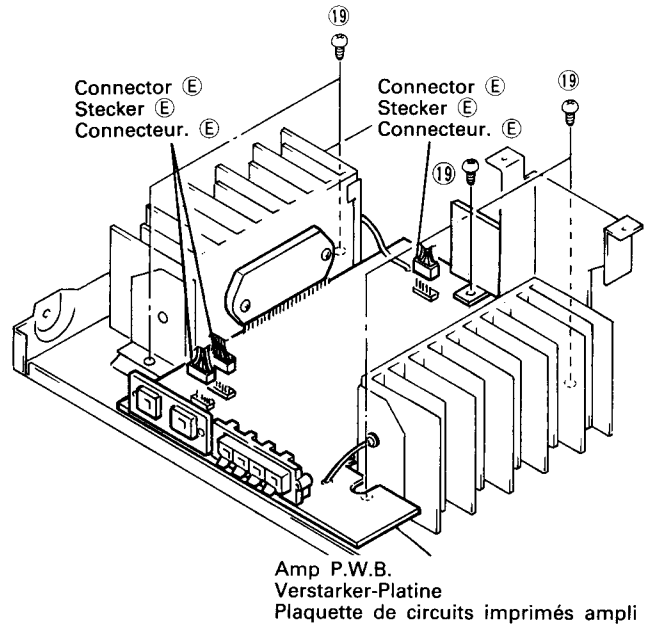


Fig. 18 Abb. 18

## ADJUSTMENTS

### 1. FM, AM TUNER SECTION

- Adjustment point

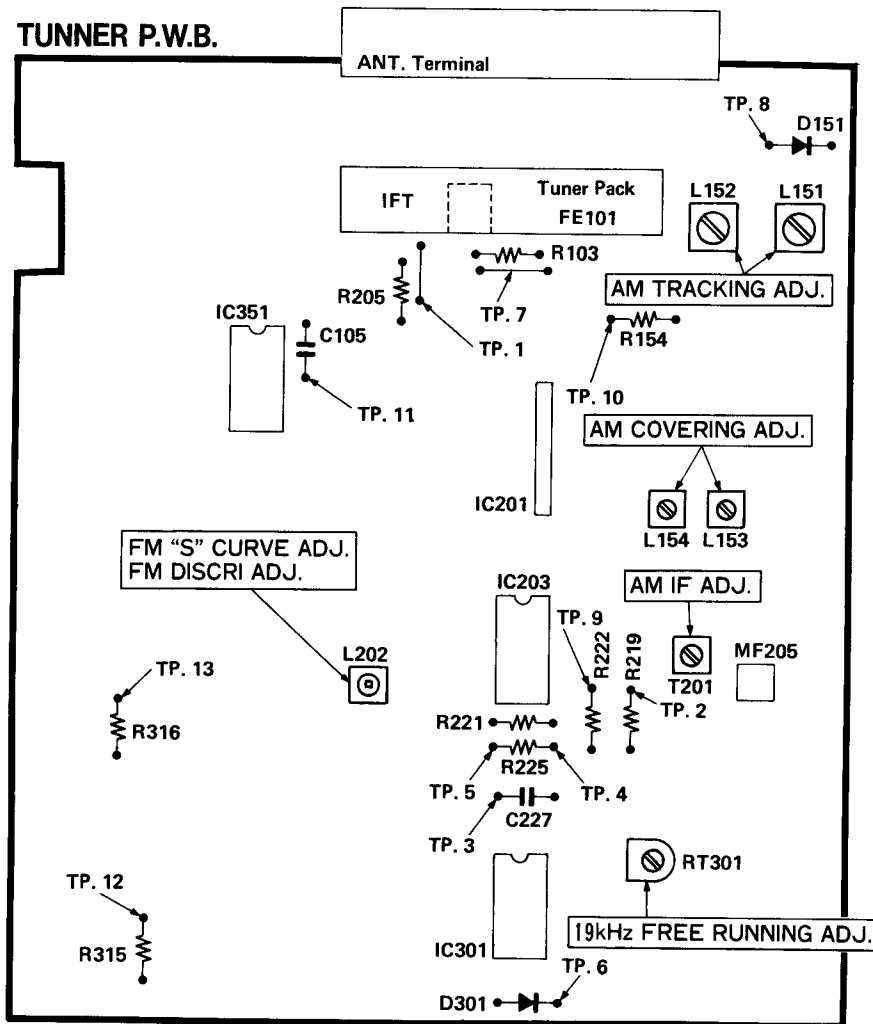


Fig. 19

**FM Section**

FUNCTION: Tuner (FM)

VOLUME: MIN

FM MODE: MONO



Sweep Generator



Signal Generator



Oscilloscope



DC Null Meter



VTVM



Frequency Counter



Dist.  
Distortion Meter

(Note 1)

Sequence	Connection		Setting		Adjust for		
	Input	Output	Tuning	Signal	Adjust	Indication	
1	IF Amp.	TP. 2 IN  100K 0.1 μ	—	10.7MHz	FM IFT (Tuner Pack)	(Note 2)	
2	"S" curve	TP. 1 Out  100K 0.1 μ	—	10.7MHz	L202	Straight line  (Note 3)	
3	Discriminator	ANT. Terminal (75 ohms)  400 Hz, 60 dB, 22.5 kHz (dev.)	TP. 4  TP. 5	98.00MHz	98.00MHz	L202	(Note 4)
4	Covering Portée	—					(Note 5)
5	Tracking Alignement	—					(Note 5)
6	19kHz Free Running	ANT. Terminal 75 ohms 60dB μ Non modulated	100K  TP. 6	98.00MHz	98.00MHz	RT301	19kHz ± 50Hz

Note 1: Perform adjustment at least 3 minutes after the power has been switched on.

Note 2: Using a sweep generator, apply low-input signals (with a small amount of noise superimposed as in fig. A), and adjust the FM IFT so that the waveforms are brought to their maximum in center marker frequency (10.7 MHz).

Note 3: Adjust the L202 and obtain the S-curve.

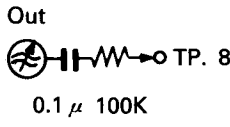
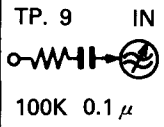


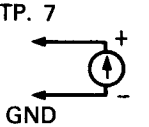
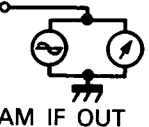
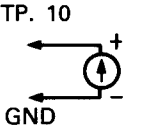
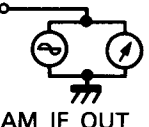
Note 4: Connect a DC null meter and adjust L202 for a reading of 0V ± 30mV.

Note 5: FM Tuner pack is aligned before shipping, so it is not necessary to adjust covering and tracking.

AM Section

Condition: Function: TUNER (AM)  
Modulation: 400Hz 30%

Conditions: Function: TUNER  
Modulation: 400Hz 30%

Sequence	Connection		Setting		Adjust for		
	Input	Output	Tuning	Signal	Adjust	Indication	
1	IF Amp.	Out  TP. 8 0.1 μ 100K	TP. 9 IN  TP. 9 100K 0.1 μ	—	450kHz	T201	 MAX Caution 1
2	MW Covering	Loop antenna 	TP. 7  TP. 7 + - GND	530kHz (for US, CS) or 522kHz (except US, CS)	—	L153	530kHz: 1.25VDC 522kHz: 1.2VDC Caution 2
3	MW Tracking		 AM IF OUT	600kHz or 603kHz	600kHz or 603kHz	L151	Output max. Caution 3
4	LW Covering		TP. 10  TP. 10 + - GND	153kHz	—	L154	1.2V Caution 2
5	LW Tracking		 AM IF OUT	164kHz	164kHz	L152	Output max. Caution 3

- Caution**
1. Adjust T201 so that the waveform is as shown in Fig. B. After adjusting as above, increase the output level of the sweep generator and adjust T201 again so that the top of the waveform A (indicated in Fig. C) will be flat and wide.
  2. Carry out this adjustment for final adjustment of the coil only when you have moved the core by mistake.
  3. Set the input level to 74 dB/m in coarse adjustment. Reduce the input level to minimum (60 dB/m) as adjustment proceeds.

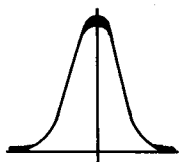


Fig. A

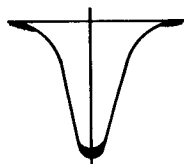


Fig. B

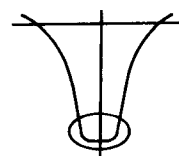


Fig. C

**2. TAPE DECK SECTION**

● **Adjustment point**

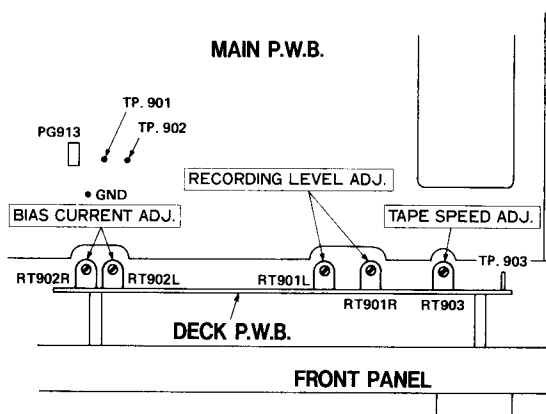


Fig. 20

● **Instruments to be used**

1. Audio oscillator
2. Electronic voltmeter
3. Attenuator
4. Frequency counter

● **Jigs, Test and Check Tapes**

1. Head mounting jig
2. 400 Hz, Dolby alignment tape
3. 10 kHz, azimuth alignment tape
4. 3,000 Hz, tape speed alignment tape
5. Mirror tape (for tape running check)
6. NORMAL tape (MAXELL UD I 90)  
CHROME tape (MAXELL UD II 90)  
METAL tape (MAXELL MX46)

● **Positions of Knobs**

Match the positions of switches and knobs to those shown in the table following unless otherwise specified.

REC level control (RV901LR)	MAX
Tape select switch (S902)	(Note 1)
RIF switch (S801)	A
Dolby NR switch (S903)	OFF

Note 1: Set tape select switch as shown below according to the tape being used.

Tape used	Tape select switches
No tape used	NORMAL
Test tape	NORMAL
NORMAL tape	NORMAL
CHROME tape	CrO <sub>2</sub>
METAL tape	METAL

Open the cassette lid and then clean the heads, pressure rollers and capstans using alcohol, then perform adjustment according to the following procedure.

**1. Tape speed adjustment**

- (1) Connect a frequency counter to TP. 901 or TP. 902. With TAPE 1 play back (forward) about the middle of test tape MTT-111 and adjust RT903 so as to obtain 3,000 Hz  $\pm$  20 Hz.  
Then make sure of 3,000 Hz  $\pm$  90 Hz with TAPE 1 play back (reverse) and TAPE 2 play back.
- (2) Make sure of 6,000 Hz  $\pm$  600 Hz when the TP903 is shorted to GND.

**2. Head azimuth adjustment**

- (1) Connect AC voltmeter to TP. 901 or TP. 902 play back the test tape MTT-114 (10 kHz) and adjust the head angle adjusting screw so the output is a maximum.  
If L and R channel peaks are different, retain L channel peak as main (at this time, the difference in peak between both channels must be 2 dB max.)  
Perform this adjustment for both TAPE 1 and 2. After adjustment, apply screw lock.

**3. Recording level adjustment**

- (1) Connect AC voltmeter to TP. 901 or TP. 902, Connect a generator to CD INPUT and apply a sine wave of 1 kHz. Set the deck to a recording status and adjust the generator output so the output at TP. 901 or TP. 902 is 245 mV - 25 dB.
- (2) Perform recording and playback and adjust RT901LR so the output at TP. 901 or TP. 902 is 245 mV - 25 dB  $\pm$  3 dB.

**4. Bias current adjustment**

- (1) Set RT902LR at about the middle (coarse adjustment).
- (2) By Lo-D UDR tape, record and play back a signal of 400 Hz and a signal of 10 kHz at a level of 245 mV - 25 dB. Adjust RT902LR so the output of 10 kHz is  $\pm$  1.5 dB with respect to the output of 400 Hz.
- (3) Record the signal of 400 Hz at a level of 245 mV - 10 dB. Make sure a played back output is 245 mV - 10 dB  $\pm$  2 dB.
- (4) Next, use the Item B-6 tape at - 25 dB level and measure record playback frequency characteristics to confirm that these values are within specified limits.

**5. Dolby check**

- (1) At a recording status, apply a sine wave of 5 kHz to CD INPUT and adjust to 245 mV - 25 dB the voltage between test points TP. 901 or TP. 902 and GND.
- (2) Make sure the voltage between TP. 901 or TP. 902 and GND is - 19.6 dB  $\pm$  2 dB when DOLBY switch is turned on.

**6. Cassette Chassis Inspection and Adjustment**

No.	Inspection item	Reference value	
		PLAY BACK	RECORD
1	Playback torque	27 to 60 g·cm	27 to 60 g·cm
2	FF/REW torque	55 to 120 g·cm	55 to 120 g·cm
3	Tape drive force	Over 50g	Over 100g
4	Supply back-tension	1.8 to 5.0 g·cm	1.8 to 5.0 g·cm

## 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	Molycoat (EL-10M)
	Plastics to metal	
Spring vibration prevention		Floyl (GB-TS-1)

## 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.

### NOTE:

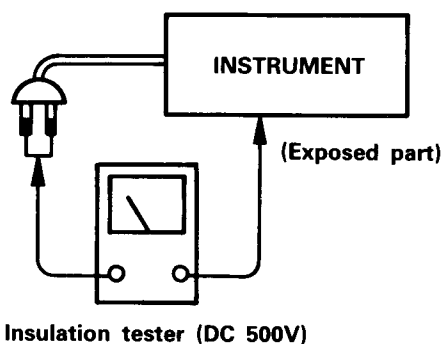
When front frame and slide knob are replaced, coat both contacting parts lightly with white grease.

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.



## EINSTELLUNGEN

### 1. UKW- und MW-TUNER

#### ● Einstellungspunkt

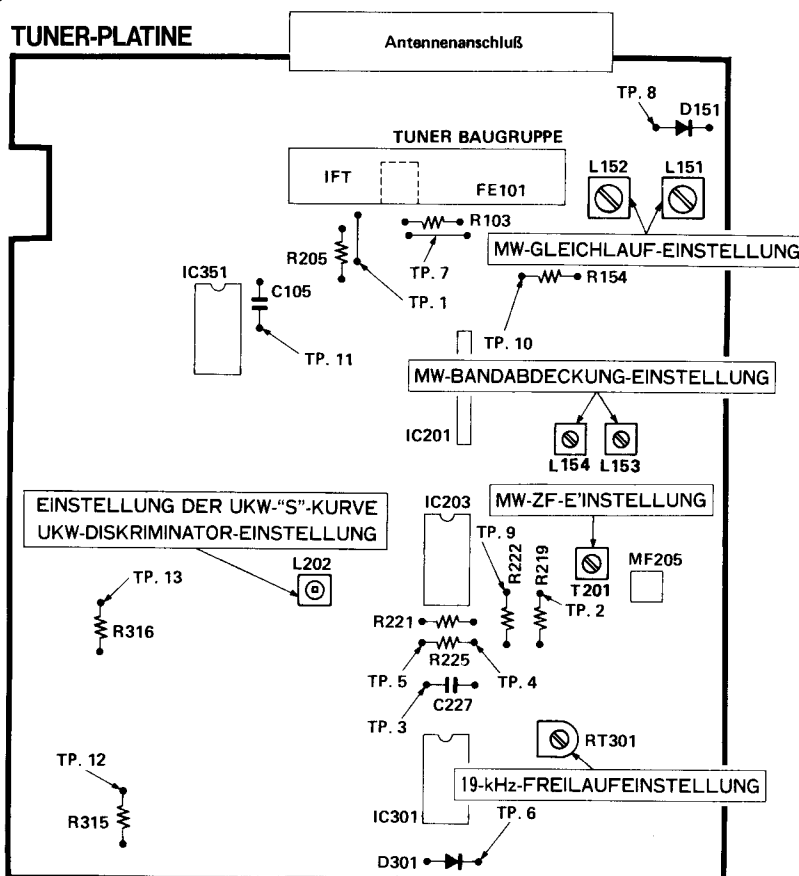









Abb. 19

UKW-Teil









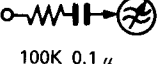
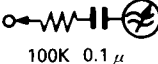
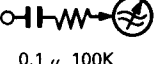
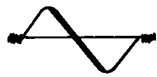
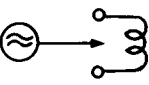
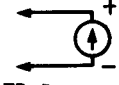
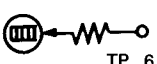
FUNCTION: Tuner (UKW)

LAUSTÄRKE: MIN

UKW-BETRIEB: MONO

 Durchstimmbarer Generator    
  Signalgenerator    
  Oszilloskop    
  Gleichstrom-Nullabgleichgerät  
 Röhrenvoltmeter    
  Frequenzzähler    
  Verzerrungsmesser

(Hinweis 1)

Reihenfolge	Anschlüsse		Einstellwert		Einstellung auf	
	Eingang  	Ausgang  	Abgleich	Signal 	Einstellteil 	Anzeige  
1	ZF-Verstärker		TP. 2 Eingang  100K 0.1 μ	—	10.7MHz	UKW-ZF-Transformator (Hinweis 2)
2	"S"-Kurve	TP. 1 Ausgang  100K 0.1 μ	TP. 3 Eingang  0.1 μ 100K	—	10.7MHz	L202  (Hinweis 3)
3	Diskriminator	Antennenanschluß (75 Ohm)  400Hz. 60dB μ 22.5kHz (dev.)	TP. 4  TP. 5	98.00MHz	98.00MHz	L202 (Hinweis 4)
4	Bandabdeckung	—				(Hinweis 5)
5	Gleichlauf	—				(Hinweis 5)
6	19kHz Freilauf	Antennenanschluß 75 Ohm 60dB μ Nichtmoduliert	 TP. 6	98.00MHz	98.00MHz	RT301 19kHz ± 50Hz

- Hinweis 1: Einstellung frühestens 3 Minuten nach Einschalten der Stromversorgung vornehmen.  
 Hinweis 2: Mit einem durchstimmbaren Generator niedrigpegelige Eingangssignale zuführen (mit geringem überlagertem Rauschanteil wie in Abb. A) und den ZF-Transformator so einstellen, daß die Signale bei der Mittenfrequenz (10.7 MHz) Maximalwert annehmen.  
 Hinweis 3: Die Spule L202 so einstellen, daß sich eine S-Kurve ergibt.  
 Hinweis 4: Ein Gleichstrom-Nullabgleichgerät anschließen und mit Spule L202 eine Spannung von 0V ± 30 mV einstellen.  
 Hinweis 5: Die UKW-Baugruppe ist werksseitig abgeglichen, so daß Gleichlauf und Bandabdeckung nicht eingestellt zu werden brauchen.

**MW-TEIL**

Bedingung: Funktion: TUNER (MW)  
 Modulation: 400 Hz, 30%

Reihenfolge	Anschlüsse		Einstellwert		Einstellung auf	
	Eingang 	Ausgang 	Ableich 	Signal 	Einstellteil 	Anzeige 
1	ZF-Verstärker Ausgang TP. 8  0.1 μ 100K	TP. 9 Eingang  100K 0.1 μ	—	450kHz	T201 	 Vorsichtshinweis 1
2	Schleifenantenne 	TP. 7  GND	530kHz (for US, CS) or 522kHz (except US, CS)	—	L153	530kHz: 1.25VDC 522kHz: 1.2VDC Vorsichtshinweis 2
3		MW-Gleichlauf  MW-ZF, Ausgang	600kHz or 603kHz	600kHz or 603kHz	L151	max. Ausgangssignal Vorsichtshinweis 3
4		LW-Bandabdeckung  TP. 10 GND	153kHz	—	L154	Vorsichtshinweis 2
5	LW-Gleichlauf  MW-ZF, Ausgang	164kHz	164kHz	L152	max. Ausgangssignal Vorsichtshinweis 3	

**Vorsichtshinweise**

1. Mit T201 den in Abb. B gezeigten Signalverlauf einstellen. Nach dieser Einstellung den Ausgangspegel des durchstimmbaren Generators anheben und T201 erneut so einstellen, daß der opere Teil von Signal A (siehe Abb. C) flach und breit verläuft.
2. Diese EndEinstellung der Spule nur dann vornehmen, wenn der der Spulenkern versehentlich verschoben worden ist.
3. Bei der Grobeinstellung den Eingangspegel auf 74 dB/m setzen. Im Verlauf des Einstellvorgangs den Eingangspegel auf Mindestwert (50 dB/m) bringen.

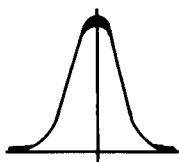


Abb. A

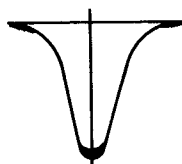


Abb. B

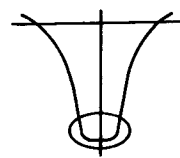


Abb. C

**2. CASSETTENDECK-TEIL**

● **Einstellungspunkt**

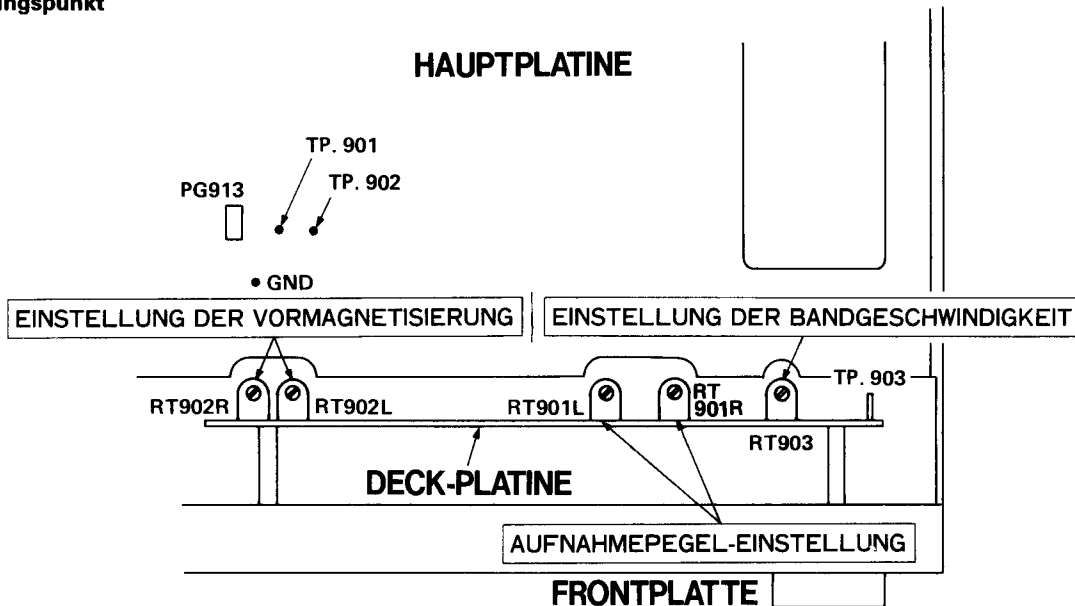


Abb. 20

● **Erforderliche Meßinstrumente**

1. Audio-Oszillator
2. Elektronisches Voltmeter
3. Dämpfungsglied
4. Frequenzzähler

● **Prüfvorrichtungen und Testbänder**

1. Kopfmontage-Vorrichtung
2. 400 Hz, Dolby-Einstellband
3. 10 kHz, Azimut-Einstellband
4. 3000 Hz, Einstellband für Bandgeschwindigkeit
5. Spiegelband (für Bandtransportprüfung)
6. Normalband (MAXELL UD I 90)  
Chromband (MAXELL UD II 90)  
Metal-Band (MAXELL MX46)

● **Stellung der Einstellelemente**

Wenn nicht anders angegeben, die Einstellelemente wie in der folgenden Tabelle einstellen.

Aufnahmepegel-Regler (RV901LR)	Maximalstellung (MAX)
Bandsortenwahlschalter (S902)	(Hinweis 1)
RIF-Schalter (S801)	A
Dolby NR-Schalter (S903)	Ausschaltstellung (OFF)

Hinweis 1: Den Bandsortenwahlschalter wie unten gezeigt gemäß der verwendeten Bandsorte einstellen.

Verwendetes Band	Bandsortenwahlschalter
Kein Band	NORMAL
Testband	NORMAL
Normalband	NORMAL
Chromband	CrO <sub>2</sub>
Reineisenband	METAL

Die Cassettenfachtür öffnen und die Tonköpfe, die Andruckrollen und Tonwellen mit Alkohol reinigen. Dann die im folgenden beschriebenen Einstellungen vornehmen.

**1. Einstellung der Bandgeschwindigkeit**

- (1) Den Frequenzzähler mit Meßpunkt TP901 oder TP902 verbinden. Das Testband MTT-111 mit Laufwerk TAPE 1 bis etwa zur Mitte abspielen (Vorwärtsrichtung) und mit RT903 eine Frequenz von  $3000 \pm 20$  Hz einstellen. Anschließend bei Bandwiedergabe mit Laufwerk TAPE 1 (Rückwärtsrichtung) und Laufwerk TAPE 2 eine Frequenz von  $3000 \pm 90$  Hz einstellen.
- (2) Sicherstellen, daß sich ein Wert von  $6000 \pm 600$  Hz ergibt, wenn TP903 mit Masse (GND) kurzgeschlossen ist.

**2. Einstellung des Kopfazimuts**

- (1) Das Wechselspannungsvoltmeter mit Meßpunkt TP901 oder TP902 verbinden und das Testband MTT-114 (10 kHz) abspielen. Dabei mit der Kopfazimuteinstellschraube maximalen Ausgangspegel einstellen. Falls die Spitzenpegel auf dem linken und rechten Kanal verschieden sind, den Spitzenpegel auf dem linken Kanal als Bezugswert festlegen (der Pegelunterschied zwischen beiden Kanälen muß jetzt max. 2 dB betragen). Diese Einstellung bei beiden Laufwerken TAPE 1 und 2 vornehmen. Nach abgeschlossener Einstellung die Einstellschraube mit Sicherungslack fixieren.

**3. Einstellung des Aufnahmepegels**

- (1) Das Wechselspannungsvoltmeter mit Meßpunkt TP901 oder TP902 verbinden. Den Signalgenerator mit Eingang CD INPUT verbinden und dem Cassettendeck ein Sinus-signal von 1 kHz zuführen. Das Deck auf Aufnahmebetrieb schalten und das Ausgangssignal des Generators so einstellen, daß an TP901 bzw. TP902 eine Spannung von  $245\text{mV} - 25$  dB anliegt.
- (2) Das Deck auf Aufnahme und dann auf Wiedergabe stellen. Dabei mit RT901LR das Ausgangssignal an TP901 bzw. TP902 auf  $245\text{mV} - 25\text{dB} \pm 3\text{dB}$  einstellen.



#### 4. Einstellung der Vormagnetisierung

- (1) RT902LR ungefähr in Mittelstellung bringen (Grobeinstellung).
- (2) Mit Lo-D UDR-Band ein 400-Hz- und 10-kHz-Signal mit einem Pegel von 245 mV – 25 dB aufzeichnen und wiedergeben. RT902LR so einstellen, daß das Ausgangssignal von 10 kHz einen Pegel von  $\pm 1.5$  dB gegenüber dem Ausgangspegel von 400 Hz hat.
- (3) Das 400-Hz-Signal mit einem Pegel von 245 mV – 10 dB aufzeichnen. Sicherstellen, daß das Wiedergabesignal einen Pegel von 245 mV – 10 dB  $\pm 2$  dB hat.
- (4) Anschließend das Band bei einem Pegel von – 25 dB verwenden und die Aufnahme/Wiedergabefrequenzkennwerte messen, um zu überprüfen, ob diese Werte innerhalb des vorgeschriebenen Toleranzbereichs liegen.

#### 5. Prüfung der Dolby-Funktion

- (1) Bei Aufnahmebetrieb dem Eingang CD INPUT ein 5-kHz-Sinussignal zuführen und die Spannung zwischen Meßpunkt TP901 bzw. TP902 und Masse auf 245 mV – 25 dB einstellen.

## SCHMIERUNG

An die drehenden Teilen ein oder zwei Tropfen Motoröl oder Schmieröl (Sonic Slider) geben, und die Gleitteile mit Molycoat (EL-10M) schmieren.

Einmal im Jahr oder alle 1.000 Betriebsstunden schmieren. Darauf achten, da das Öl nicht auf den Riemen oder die Zwischenscheiben gelangt.

## PFLEGE DES GERÄTS

### ■ Reinigung des Gehäuses und der Oberflächen

Die Geräteoberflächen mit einem trockenen Tuch reinigen. Keinesfalls Verdünner, Waschbenzin oder Alkohol verwenden, da durch diese scharfen Mittel die Oberflächenbeschichtung angegriffen wird.

- (2) Sicherstellen, daß die Spannung zwischen TP901 bzw. TP902 und Masse – 19.6 dB  $\pm 2$  dB beträgt, wenn der DOLBY-Schalter in Einschaltstellung ist.

#### 6. Prüfung und Einstellung des Cassettenchassis

Nr.	Prüfpunkt	Bezugswert	
		WIEDERGABE	AUFNAHME
1	Drehmoment bei Wiedergabe	27 bis 60 gcm	27 bis 60 gcm
2	Drehmoment bei Schnellvorlauf/Rücklauf	55 bis 120 gcm	55 bis 120 gcm
3	Bandantriebskraft	über 50 g	über 100 g
4	Bandabwickelspannung	1.8 bis 5.0 gcm	1.8 bis 5.0 gcm

Drehende Teile	Zwischen Metallteilen	Motoröl (10W-40)
	Zwischen Plastik und Metall	Schmieröl (Sonic Slider # 1600)
Gleitteile	(Hinweis) Zwischen Plastikteilen Zwischen Plastik und Metall	Molycoat (EL-10M)
Verhinderung von Federvibrationen		Floyl (GB-TS-1)

Hinweis:

Wenn der Fronrahmen und Schieberegler ersetzt werden, beide Kontaktflächen leicht mit weißem Schmierfett überziehen.

# RÉGLAGE

## 1. Section Tuner FM, AM

- Points de réglage

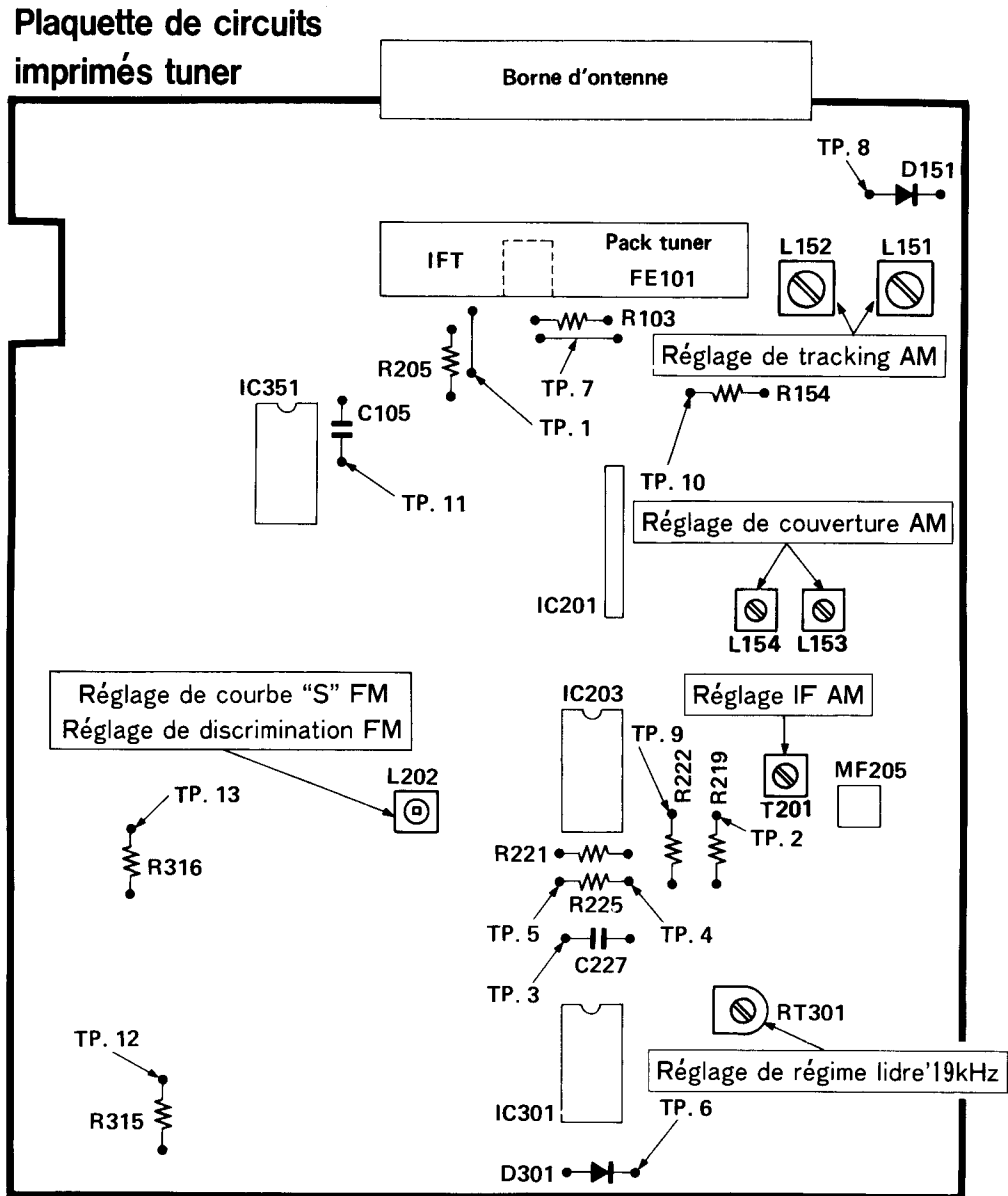









Fig. 19

### SECTION FM









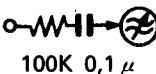
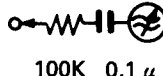
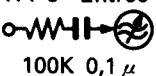

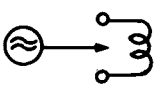

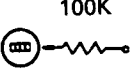
FONCTION: TUNER(FM)

VOLUME: min

Mode FM: Mono

- |   |   |   |  |
|---|---|---|--|
|  Générateur de balayage |  Générateur de signaux |  Oscilloscope          |  Indicateur zero C.C. |
|  Voltmètre électronique |  Fréquence-mètre       |  Dist. Distorsionmètre |  |

(Remarque 1)

Ordre	Connexion		Montage		Réglage pour		
	Entrée  	Sortie  	Indicateur d'accord	Signal 	Réglage 	Indication  	
1	<b>Amplificateur de fréquence intermédiaire</b>		TP. 2 Entrée  100K 0,1 $\mu$	—	10,7MHz	FM IFT (Ensemble Tuner)	(Remarque 2)
2	<b>Courbe "S"</b>	TP. 1 Sortie  100K 0,1 $\mu$	TP. 3 Entrée  100K 0,1 $\mu$	—	10,7MHz	L202	Ligne droite  (Remarque 3)
3	<b>Discriminateur</b>	Borne d'antenne (75 ohms)  400Hz, 60dB $\mu$ 22,5K (dev.)	TP. 4  TP. 5	98,00MHz	98,00MHz	L202	(Remarque 4)
4	<b>Portée</b>	—					(Remarque 5)
5	<b>Alignement</b>	—					(Remarque 5)
6	<b>Réglage de régime libre 19kHz</b>	Borne d'antenne (75 ohms) 60dB $\mu$ Sens modulation	 100K TP. 6	98,00MHz	98,00MHz	RT301	19kHz $\pm$ 50Hz

Remarque 1: Effectuer ce réglage au moins 3 minutes après la mise sous tension.

Remarque 2: Utiliser un générateur de balayage et appliquer des signaux d'entrée à faible niveau (avec un faible chevauchement de bruit comme représenté sur la Fig. A), et ajuster FM IFT pour amener les torses d'ondes à leur maximum de la fréquence nominale de repéage (10,7MHz).

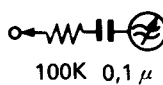
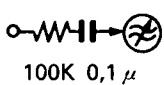


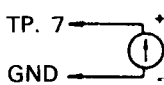
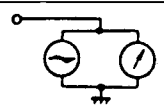
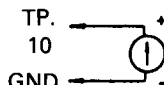
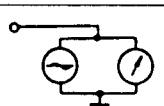
Remarque 3: Ajuster le L202 pour obtenir une courbe en forme de "S".

Remarque 4: Raccorder un indicateur de zéro à courant continu et ajuster le L202 pour obtenir une lecture de  $0V \pm 30mV$ .

Remarque 5: L'étage tuner FM est réglé avant son envoi, il est donc inutile d'effectuer le réglage de portée et d'alignement.

SECTION AM

Conditions: Fonction: TUNER  
 Modulation: 400Hz 30%

Ordre	Connexion		Montage		Réglage pour		
	Entrée	Sortie	Indicateur d'accord	Signal	Réglage	Indication	
1	<b>Amplificateur de fréquence intermédiaire</b>  100K 0,1 μ	TP. 9 Entrée  100K 0,1 μ	—	450kHz	T201	 MAX. Attention 1	
2	Antenne en cardon 		TP. 7  GND	530kHz (for US, CS) or 522kHz (except US, CS)	—	L153	530kHz: 1,25VDC 522kHz: 1,2VDC Attention 2
3			 AM IF OUT	600kHz or 603kHz	600kHz or 603kHz	L151	Sortie max. Attention 3
4			TP. 10  GND	153kHz	—	L154	1,2V Attention 2
5			 AM IF OUT	164kHz	164kHz	L152	Sortie max. Attention 3

**Attention**

- Régler T201 de façon à obtenir une forme d'onde comme indiquée sur la Fig. B. Après avoir réglé comme indiqué ci-dessus, augmenter le niveau d'entrée du générateur de balayage et régler T201 à nouveau de façon que la sommet de la forme d'onde A (voir Fig. C) soit aplati et large.
- N'effectuer le dernier réglage de la bobine par ce réglage que si vous avez bougé l'âme par erreur.
- Faire un réglage approximatif du niveau d'entrée à 74 dB/m.  
 Réduire le niveau d'entrée jusqu'à un minimum de 60 dB/m à mesure que l'en effectue réglage.



Fig. A

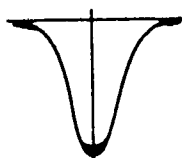


Fig. B

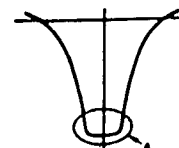


Fig. C

## 2. SECTION PLATINE-CASSETTE

### ● Points de réglage

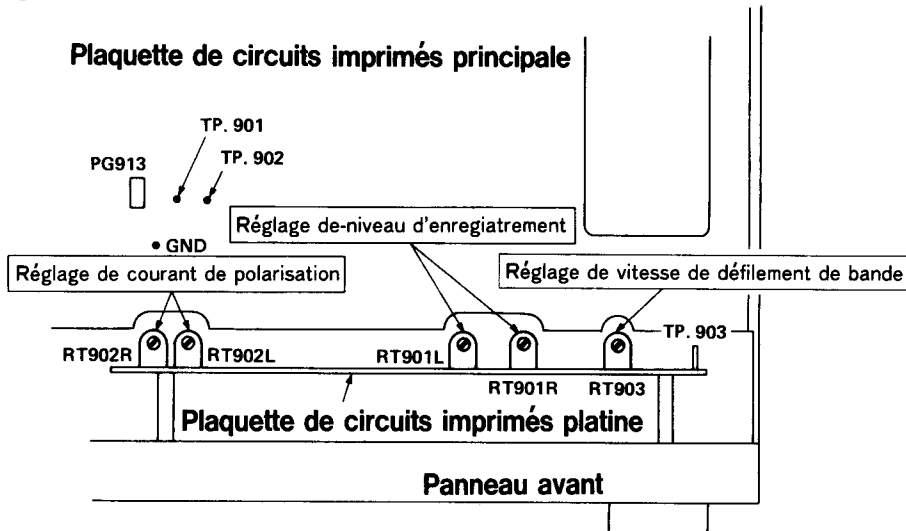


Fig. 20

### ● Instrument à utiliser

1. Oscillateur audio
2. Voltmètre électronique
3. Atténuateur
4. Fréquencemètre

### ● Calibres, et bandes d'essai et de vérification

1. Calibre de montage de tête
2. Bande d'étalonnage Dolby, 400 Hz
3. Bande d'étalonnage d'azimuth, 10 kHz
4. Bande d'étalonnage de la vitesse de la bande, 3000 Hz
5. Bande de la miroir (pour contrôle de défilement de la bande)
6. Bande Normal (MAXELL UD I 90)  
Bande Chrome (MAXELL UD II 90)  
Bande Metal (MAXELL MX46)

### ● Positions des boutons

A moins d'indication contraire, régler les commutateurs et boutons sur les positions indiquées ci-après.

Commande de niveau d'enregistrement (RV901LR)	MAX
Sélecteur de bande (S902)	(Remarque 1)
Commutateur RIF (S801)	A
Commutateur Dolby NR (S903)	OFF

Remarque 1: Régler le sélecteur de la bande comme indiqué ci-après, selon le type de la bande utilisé.

Bande	Sélecteur de bande
Bande non utilisée	NORMAL
Bande d'essai	NORMAL
Bande Normal	NORMAL
Bande Chrome	CrO <sub>2</sub>
Bande au métal	METAL

Ouvrir le couvercle du logement de la cassette. Puis nettoyer les têtes, le galet presseur et le cabestan avec de l'alcool. Procéder ensuite au réglage suivant.

### 1. Réglage de vitesse de défilement

- (1) Relier un fréquencemètre sur TP 901 ou TP 902. Sur la platine 1, reproduire (sens normal de défilement) environ le milieu de la bande d'essai MTT-111 et régler RT903 de façon à ce que l'on obtienne  $3000 \text{ Hz} \pm 20 \text{ Hz}$ . Puis, s'assurer du  $3000 \text{ Hz} \pm 90 \text{ Hz}$  lors de la reproduction sur la platine 1 (sens inverse de défilement) et sur la platine 2.
- (2) S'assurer du  $6000 \text{ Hz} \pm 600 \text{ Hz}$  lorsque TP 903 est court-circuité à la masse (GND).

### 2. Réglage d'azimuth de tête

- (1) Relier un voltmètre CA sur TP 901 ou TP 902. Reproduire environ la bande d'essai MTT-114 (10 kHz) et régler la vis de réglage d'angle de la tête de façon à ce que la sortie soit maximale.  
Si les crêtes des canaux gauche (L) et droit (R) sont différentes, prendre la crête du canal gauche (L) comme référence (à ce point, la différence entre les crêtes des deux canaux doit être comprise dans une plage de 2 dB.) Effectuer ce réglage pour la platine 1 et la platine 2. Une fois le réglage effectué, appliquer la vis de verrouillage.

### 3. Réglage du niveau d'enregistrement

- (1) Relier un voltmètre CA sur TP 901 ou TP 902. Relier un générateur à l'entrée CD (CD INPUT) et appliquer une onde sinusoïdale de 1 kHz. Mettre la platine en mode d'enregistrement et régler la sortie du générateur de façon à ce que la sortie au niveau de TP 901 ou TP 902 soit de  $245 \text{ mV} - 25 \text{ dB}$ .
- (2) Effectuer l'enregistrement et la reproduction et régler RT 901 LR de façon à ce que la sortie au niveau de TP 901 ou TP 902 soit de  $245 \text{ mV} - 25 \text{ dB} \pm 3 \text{ dB}$ .

### 4. Réglage du courant de polarisation

- (1) Régler RT 902 LR environ au milieu (réglage grossier).
- (2) A l'aide d'une bande Lo-D UDR, enregistrer et reproduire un signal de 400 Hz et un signal de 10 kHz à un niveau de  $245 \text{ mV} - 25 \text{ dB}$ . Régler RT 902 LR de façon à ce que la sortie de 10 kHz soit de  $\pm 1,5 \text{ dB}$  compte-tenu de la sortie de 400 Hz.

- (3) Enregistrer le signal de 400 Hz à un niveau de 245 mV — 10 dB. S'assurer qu'une sortie reproduite soit de 245 mV — 10 dB  $\pm$  2 dB.
- (4) Puis, utiliser la bande référence à un niveau de — 25 dB et mesurer les caractéristiques de fréquence de reproduction afin de confirmer que ces valeurs sont dans les limites spécifiées.

## 5. Vérification du Dolby

- (1) En mode d'enregistrement, appliquer une onde sinusoïdale de 5 kHz à l'entrée CD (CD INPUT) et régler sur 245 mV — 25 dB la tension entre les points d'essai TP 901 ou TP 902 et la masse (GND).
- (2) S'assurer que la tension entre TP 901 ou TP 902 et la masse (GND) soit de — 19,6 dB.  $\pm$  2 dB lorsque le commutateur de DOLBY est enclenché (ON).

## 6. Inspection et réglage du châssis cassette

No.	Point d'inspection	Valeur de référence	
		Reproduction	Enregistrement
1	Couple de reproduction	27 à 60 g-cm	27 à 60 g-cm
2	Couple d'avance/retour rapide (FF/REW)	55 à 120 g-cm	55 à 120 g-cm
3	Force d'entraînement de la bande	Supérieure à 50 g	Supérieure à 100 g
4	Tension de retour d'alimentation	1,8 à 5,0 g-cm	1,8 à 5,0 g-cm

## 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 pièces métalliques	Molycoat (EL-10M)
Prévention de vibration de ressort		Floyl (GB-TS-1)

Remarque:

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

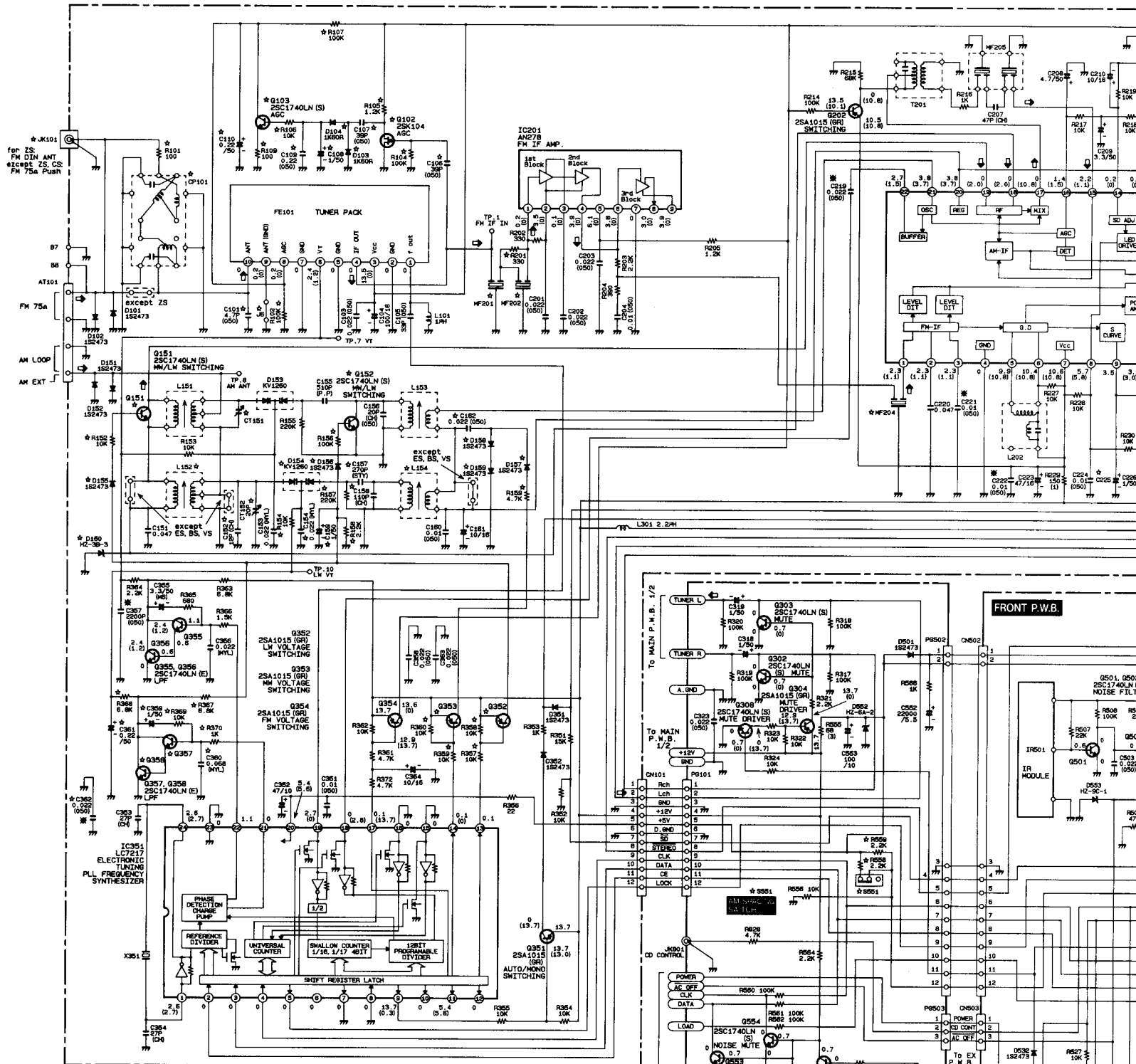
## ENTRETIEN

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

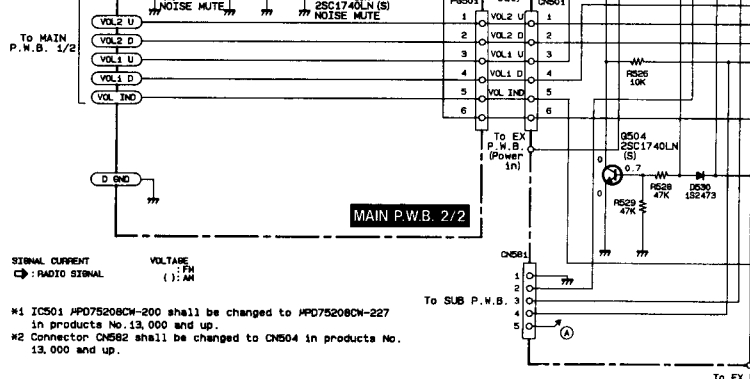
Enlever la poussière des surfaces de l'appareil avec un chiffon sec. Ne jamais utiliser de solvants, de benzine ou d'alcool car ils abîmeraient le fini des surfaces.

# CIRCUIT DIAGRAM · SCHALTPLAN · PLAN DE CIRCUIT

※ : Axial lead cylindrical capacitor  
 ※ : Zylindrischer Keramik Kondensator  
 ※ : Condensateur céramique à cli



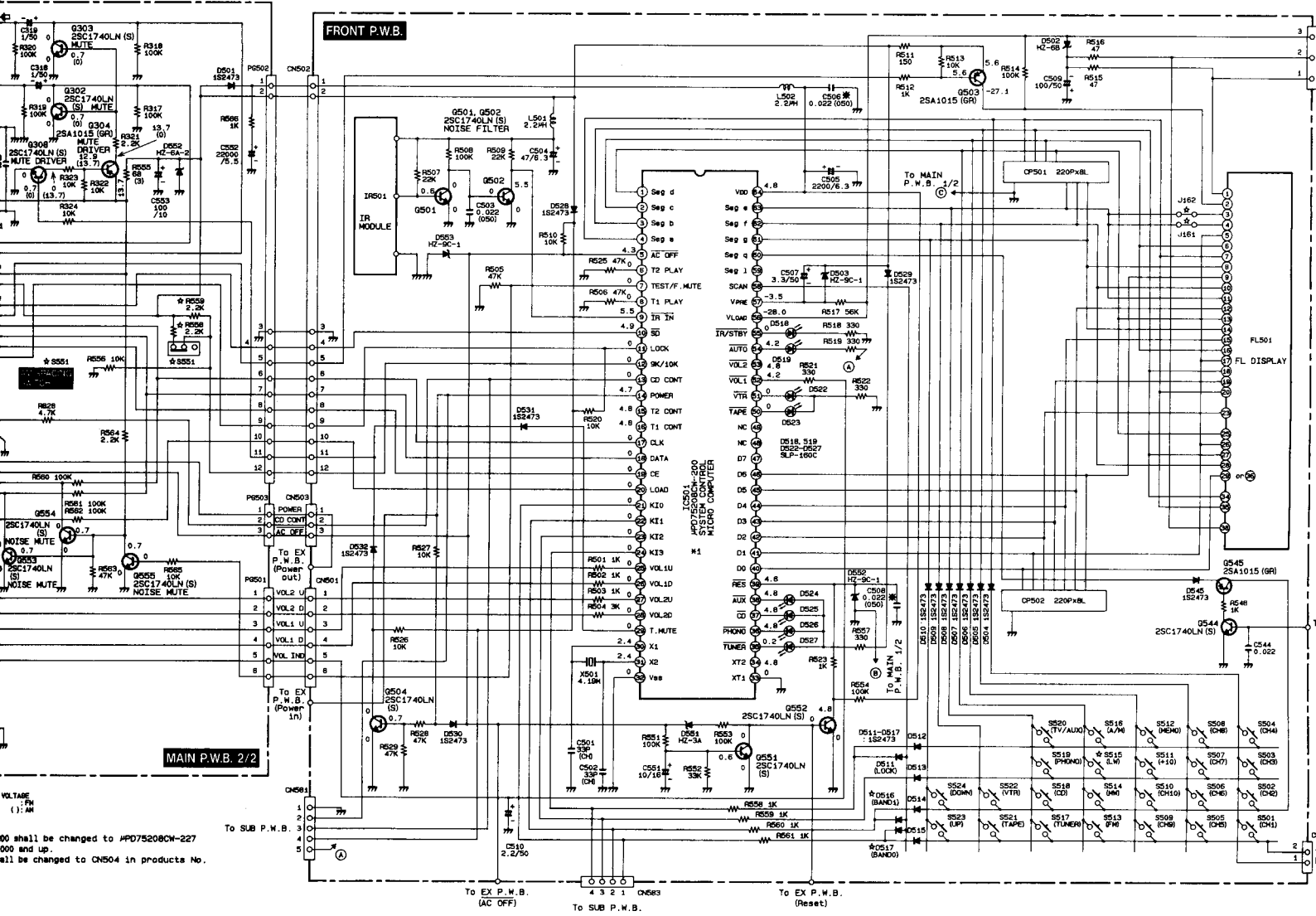
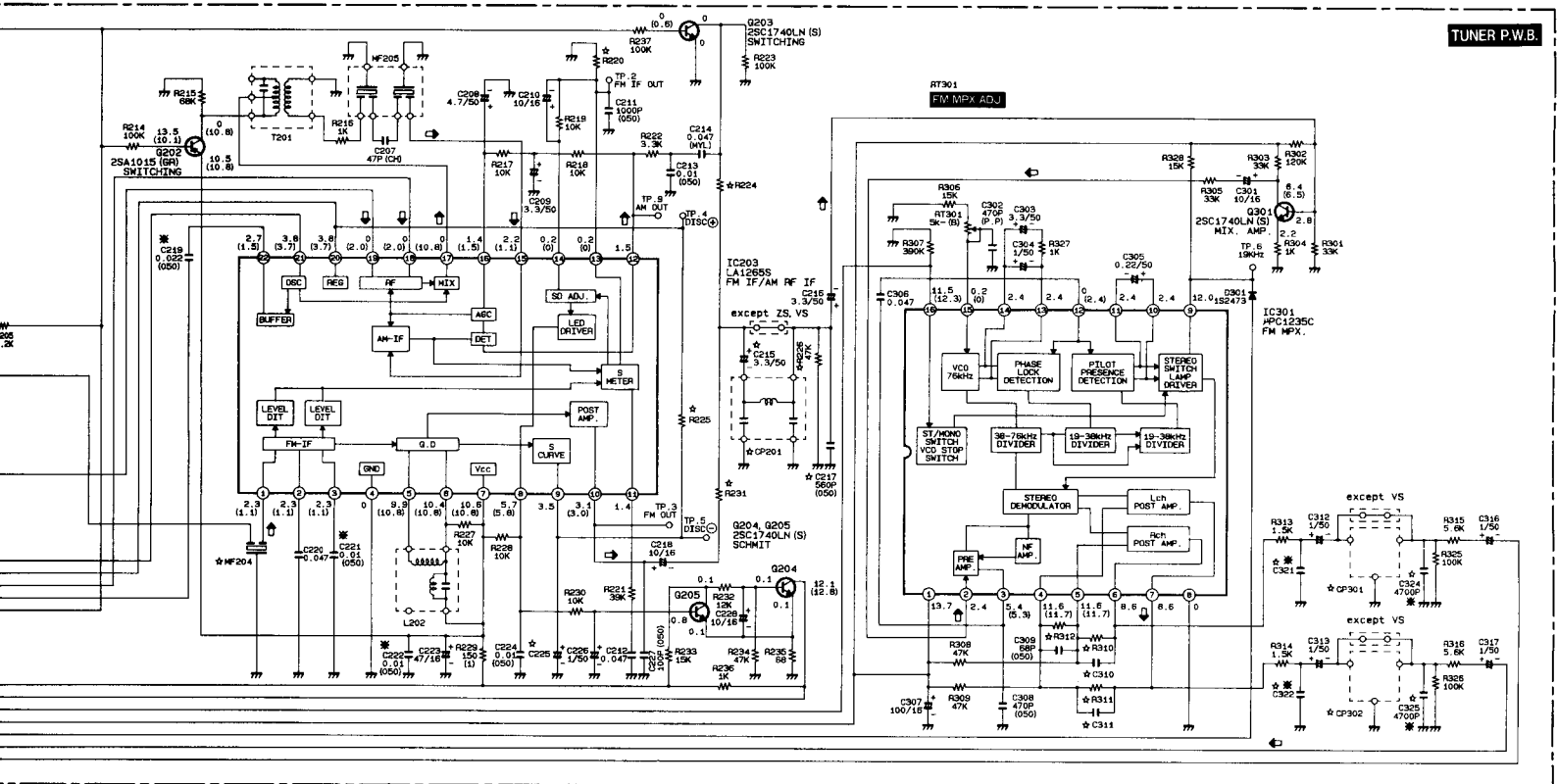
☆	ES, BS, VS	other	☆	ES, BS, VS	other	☆	ZS	other	☆	ES, BS, VS	CS	other
C152	use	---	Q151	use	---	C110	use	---	C215	use	use	---
C154	use	---	Q152	use	---	C225	3.3/50	1/2	C217	use	use	---
C157	use	---	Q352	use	---	C107	use	---	C321	use	---	---
C158	use	---	Q353	use	---	C311	1500P	820P	C325	---	---	---
C159	use	---	Q354	use	---	C321	0.022	0.01	C325	---	---	---
C162	use	---	Q355	use	---	R301	use	---	R224	10K	10K	22K
C359	use	---	Q356	use	---	R102	use	---	R225	use	use	---
C360	use	---	Q357	use	---	R103	use	---	R231	5.6K	5.6K	27K
C361	use	---	Q358	use	---	R104	use	---	R312	150K	150K	220K
C362	use	---	Q359	use	---	R105	use	---	CP201	use	use	---
R152	use	---	Q360	use	---	R106	use	---	CP301	use	use	---
R154	use	---	Q361	use	---	R107	use	---	CP302	use	use	---
R156	use	---	Q362	use	---	R108	use	---	MF201	MA5	HE5	---
R157	use	---	Q363	use	---	R109	use	---	MF204	MA5	HE5	---
R158	use	---	Q364	use	---	R110	use	---	JK101	DIN	75a	Push
R159	use	---	Q365	use	---	R111	use	---	JK	---	---	---
R160	use	---	Q366	use	---	R112	use	---	SD1	use	---	---
R161	use	---	Q367	use	---	R113	use	---	---	---	---	---
R162	use	---	Q368	use	---	R114	use	---	---	---	---	---
R163	use	---	Q369	use	---	R115	use	---	---	---	---	---
R164	use	---	Q370	use	---	R116	use	---	---	---	---	---
R165	use	---	---	---	---	R117	use	---	---	---	---	---
R166	use	---	---	---	---	R118	use	---	---	---	---	---
R167	use	---	---	---	---	R119	use	---	---	---	---	---
R168	use	---	---	---	---	R120	use	---	---	---	---	---
R169	use	---	---	---	---	R121	use	---	---	---	---	---
R170	use	---	---	---	---	R122	use	---	---	---	---	---



※ IC501 MPD75208CH-200 shall be changed to MPD75208CH-227 in products No. 13,000 and up.  
 ※ Connector C582 shall be changed to C504 in products No. 13,000 and up.

- \* : Axial lead cylindrical ceramic capacitor.
- ⊗ : Zalindrischer Keramikcondensator mit axialer Zuleitung.
- ⊗ : Condensateur céramique cylindrique à conducteur axial.

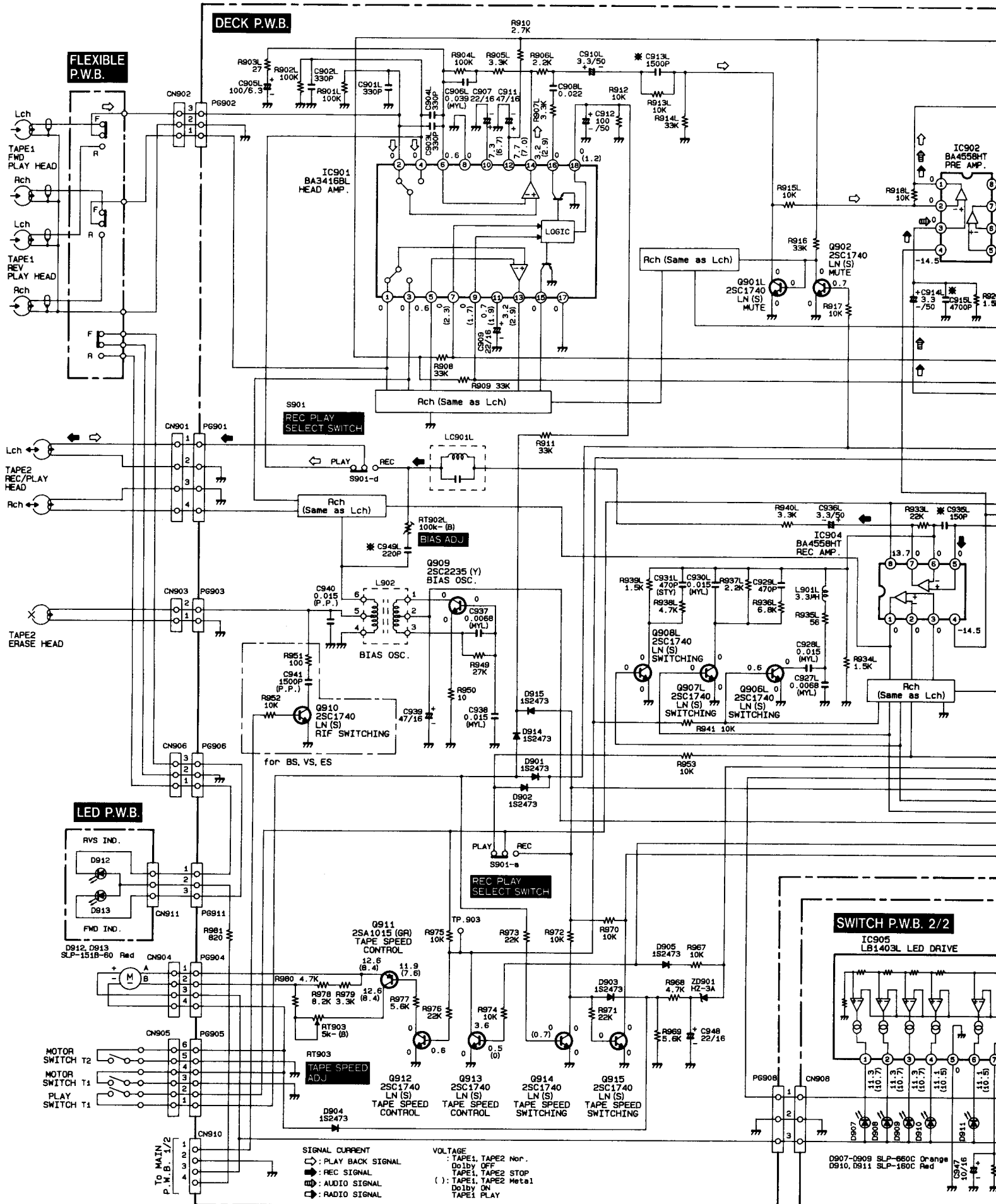
TUNER P.W.B.



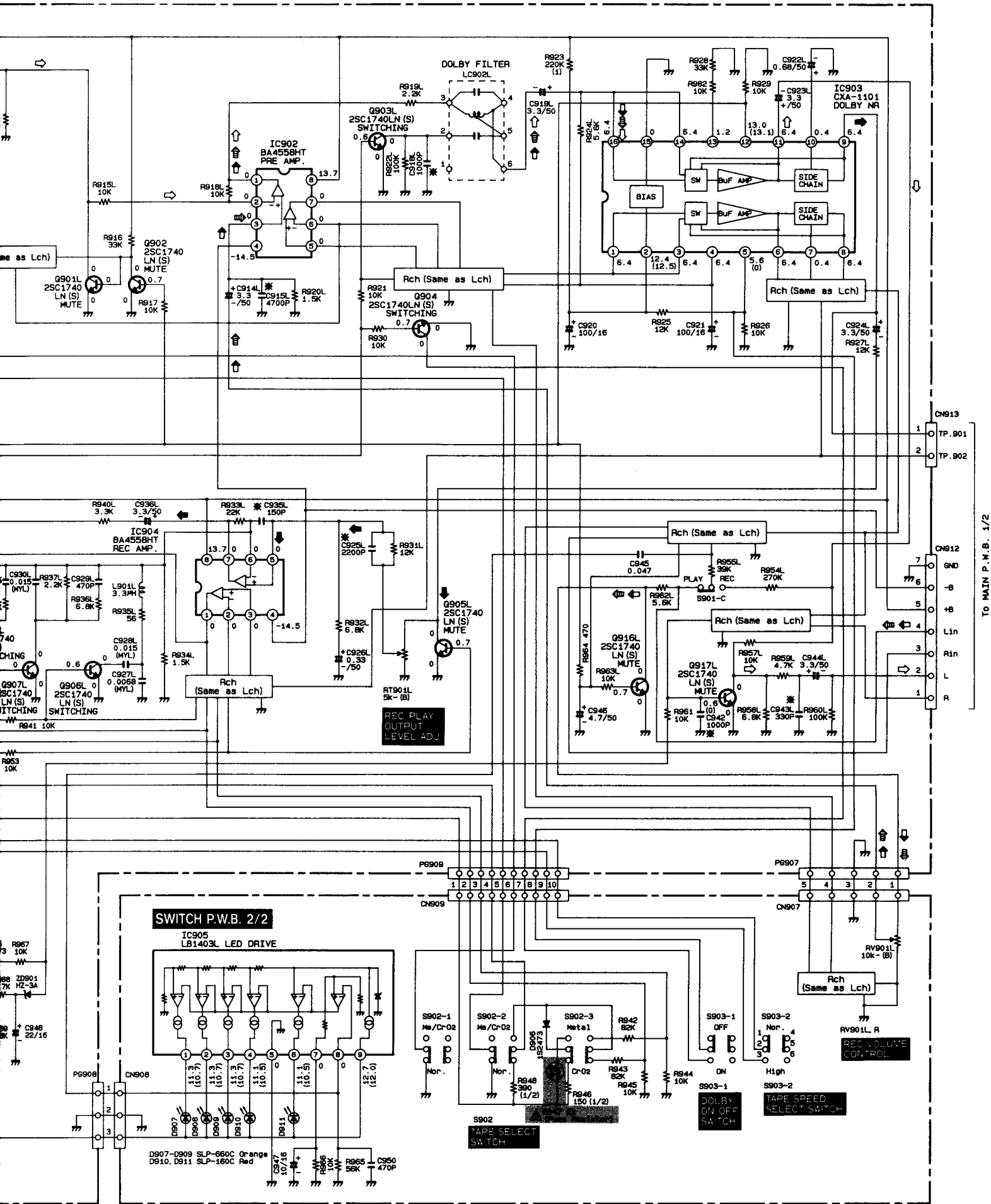


CIRCUIT DIAGRAM · SCHALTPLAN · PLAN DE CIRCUIT

※ : Axial lead cylindrical ceramic capacitor  
 ※ : Zylindrischer Keramik Kondensator mit axialer  
 ※ : Condensateur céramique cylindrique à co

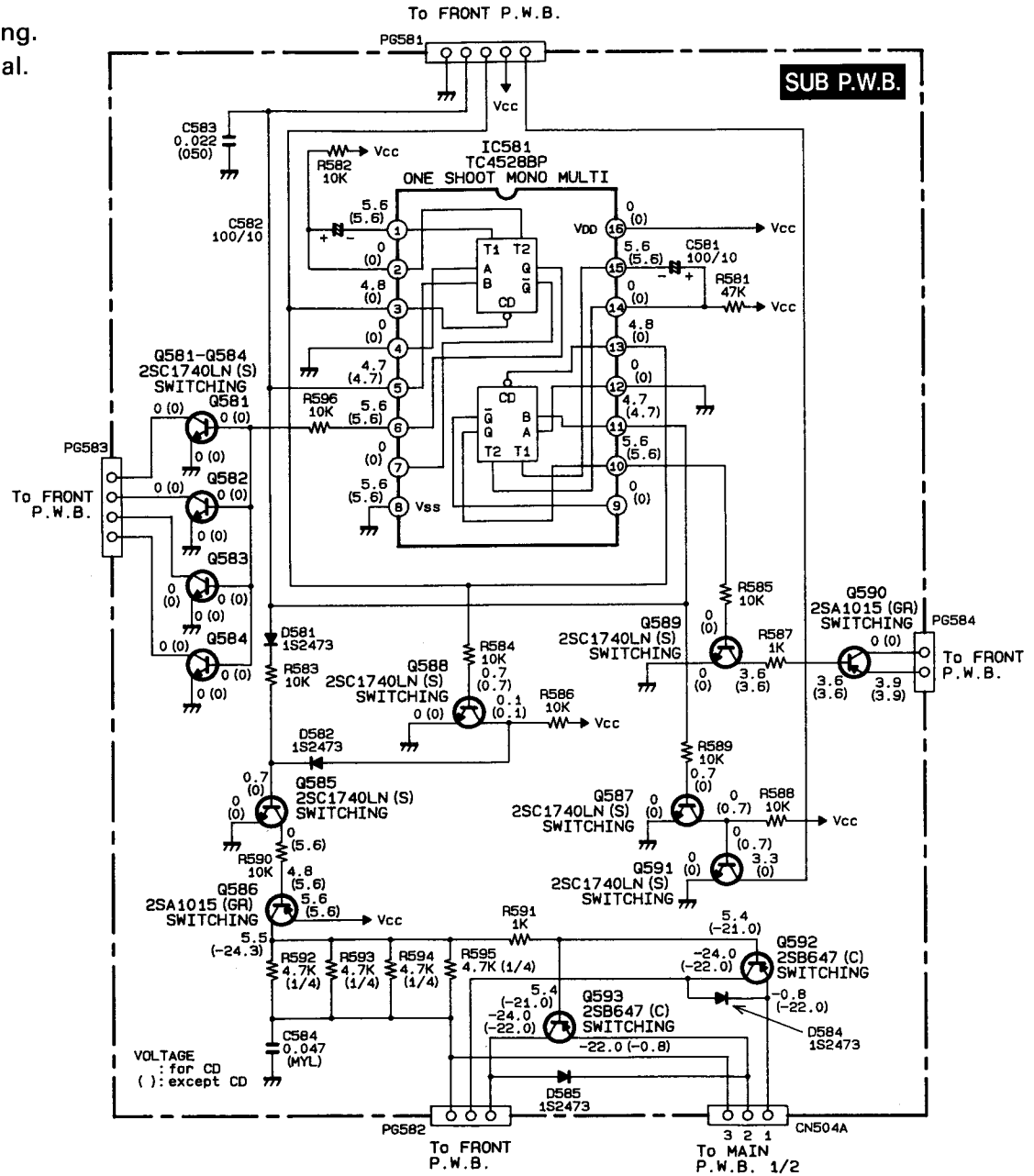
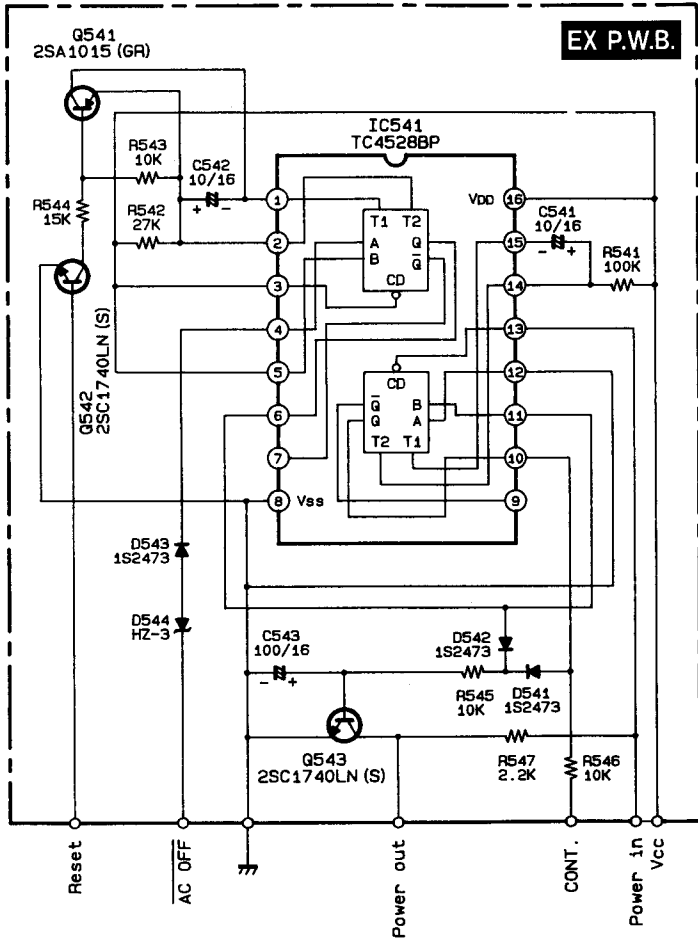


al lead cylindrical ceramic capacitor.  
 drischer Keramikkondensator mit axialer Zuleitung.  
 ndensateur céramique cylindrique à conducteur axial.



TO MAIN P.W.B. 1/2

- ※ : Axial lead cylindrical ceramic capacitor.
- ※ : Zylindrischer Keramik Kondensator mit axialer Zuleitung.
- ※ : Condensateur céramique cylindrique à conducteur axial.

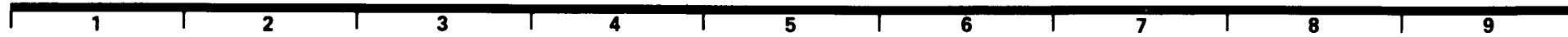


The SUB P.W.B. shall be deleted from products No.13,000 and up.

CIRCUIT DIAGRAM · SCHALTPLAN · PLAN DE CIRCUIT

HRD-MDS0

— 27 —



# DESCRIPTION OF NEW PARTS

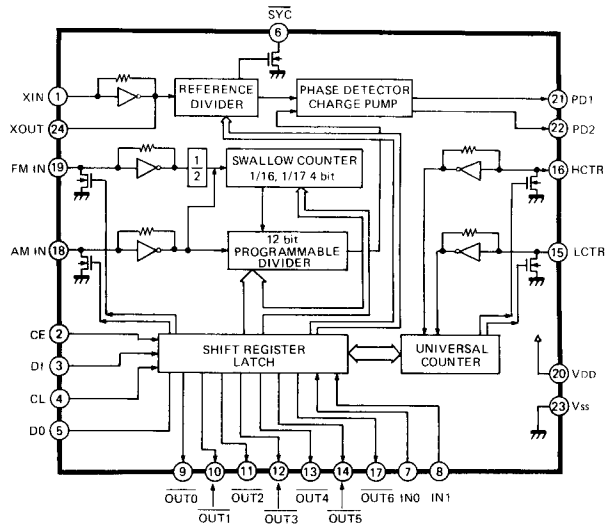
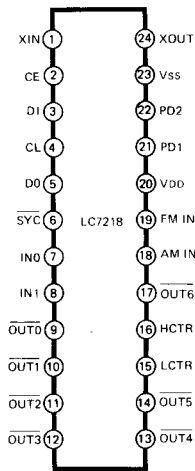
· **BESCHREIBUNG DER NEUEN BAUTEILE**

· **DESCRIPTION DES NOUVELLES PIECES**

- 1. Electronic-sync PLL frequency synthesizer for AV equipment LC7218 (IC351)
- 1. Elektronisch synchronisierter PLL-Frequenzsynthesizer für AV-Gerät LC7218 (IC351)
- 1. Synthétiseur de fréquence PLL à synchronisation électronique pour équipement AV LC7218 (IC351)

- (1) Pin layout diagram
- (1) Anschlubelegungsdiagramm
- (1) Schéma de disposition des broches

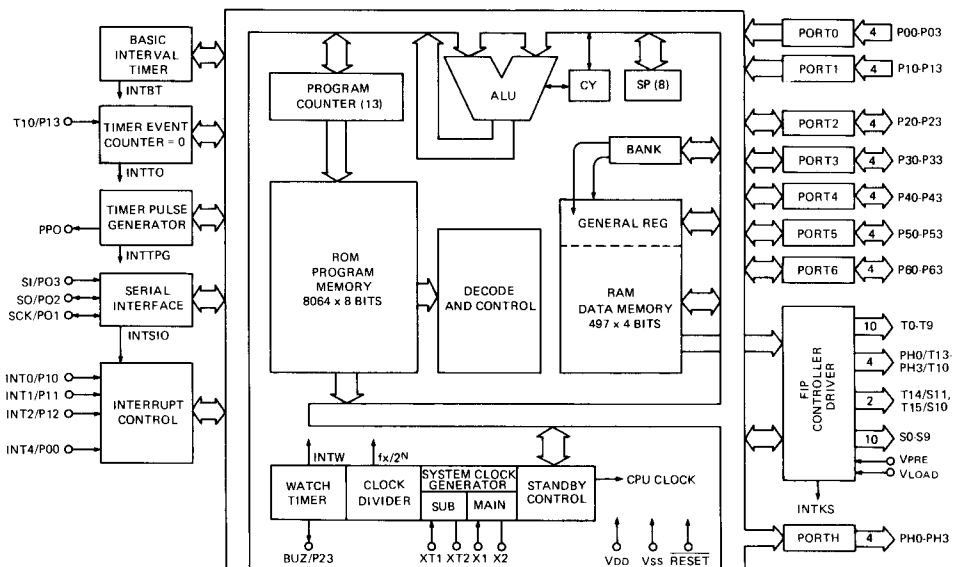
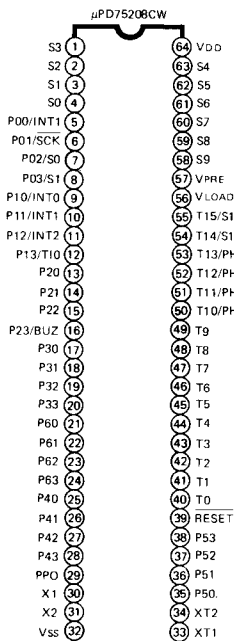
- (2) Block diagram
- (2) Blockschaltbild
- (2) Schéma logique



- 2. 4-bit CMOS one-chip microprocessor  $\mu$ PD75208 (IC501)
- 2. 4-Bit-CMOS-Einchipmikroprozessor  $\mu$ PD75208 (IC501)
- 2. Microprocesseur  $\mu$ PD75208 (IC501) CMOS de 4 bits à une microplaquette

- (1) Pin layout diagram
- (1) Anschlubelegungsdiagramm
- (1) Schéma de disposition des broches

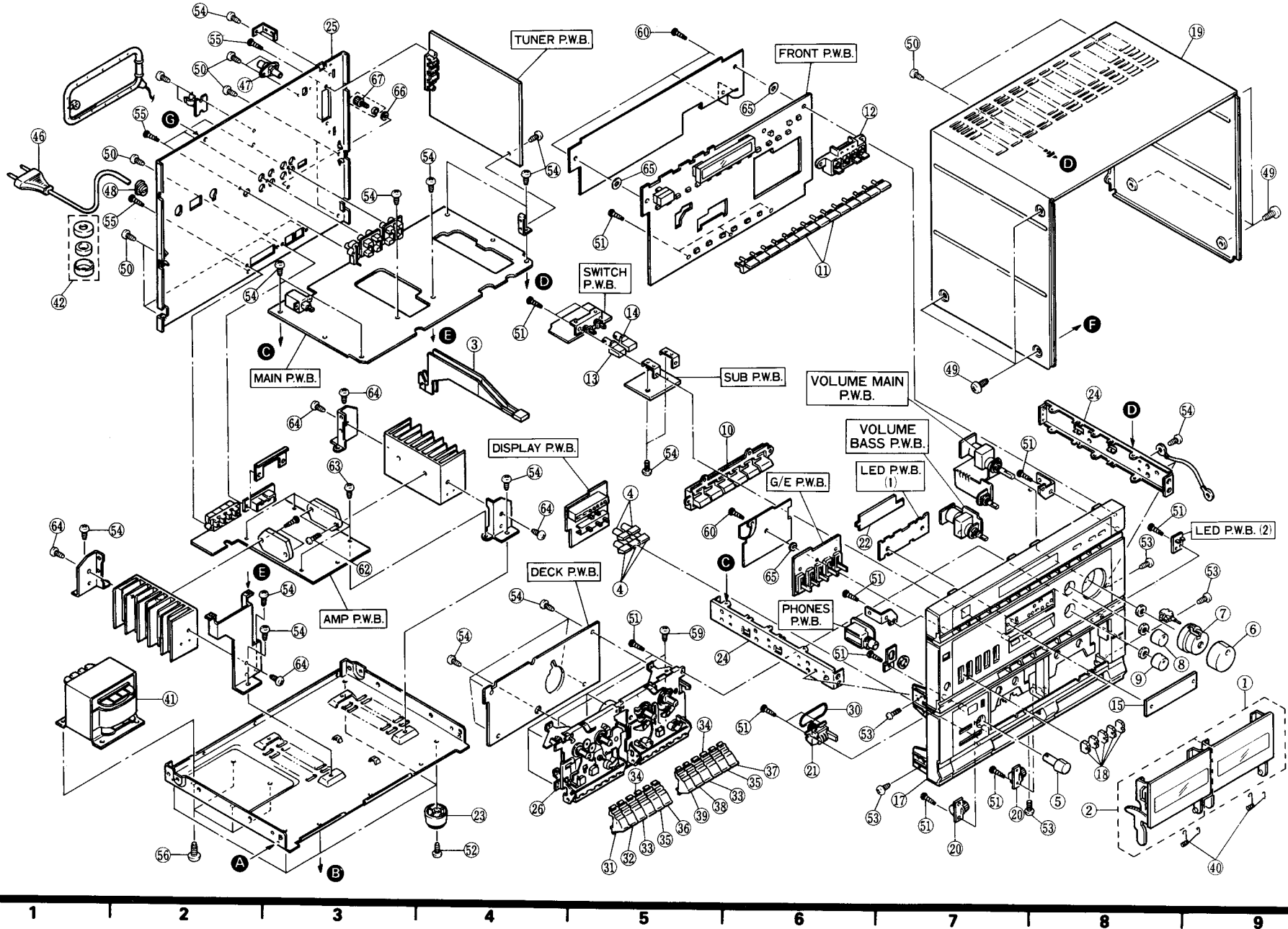
- (2) Block diagram
- (2) Blockschaltbild
- (2) Schéma logique



(3) Individual Terminal Functions  
 (3) Einzelne Anschlußfunktionen  
 (3) Fonctions des bornes individuelles

Pin No. Kontakt-Nr. Broche No.	Port Name Port-Bezeichnung Nom du port	I/O E/A I/O	Corresponding Terminal Zugehöriger Anschluß Borne correspondante	Function Funktion Fonction	
5	P00	I E	INT4	4-bit input port (PORT0). 4-Bit-Eingangs-Port (PORT0) Port d'entrée 4 bits (PORT0)	
6	P01	I/O E/A	SCK		
7	P02	I/O E/A	SO		
8	P03	I E	SI		
9	P10	I E	INT0	4-bit input port (PORT1). 4-Bit-Eingangs-Port (PORT1) Port d'entrée 4 bits (PORT1)	with noise reduction function mit Rauschunterdrückungsfunktion avec fonction de réduction de bruit
10	P11		INT1		
11	P12		INT2		
12	P13		TI0		
13	P20	I/O E/A	---	4-bit input/output port (PORT2). 4-Bit-Ein/Ausgangs-Port (PORT2) Port d'entrée/sortie de 4 bits (PORT2)	
14	P21		---		
15	P22		---		
16	P23		BUZ		
17-20	P30-33	I/O E/A	---	Programmable 4-bit input/output port (PORT3). Allows for bit-per-bit input/output setting. Programmierbarer 4-Bit Ein/Ausgangs-Port (PORT3) Möglichkeit für bitweise Ein/Ausgangseinstellung Port d'entrée/sortie de 4 bits programmable (PORT3). Permet un réglage d'entrée/sortie bit par bit.	
21-24	P60-P63	I/O E/A	---	Programmable 4-bit input/output port (PORT6). Allows for bit-per-bit input/output setting. Programmierbarer 4-Bit Ein/Ausgangs-Port (PORT6) Möglichkeit für bitweise Ein/Ausgangseinstellung Port d'entrée/sortie de 4 bits programmable (PORT6). Permet un réglage d'entrée/sortie bit par bit.	
25-28	P40-P43	I/O E/A	---	4-bit input/output port (PORT4). Allows for direct LED drive. 4-Bit-Ein/Ausgangs-Port (PORT4) Möglichkeit zur direkten LED-Ansteuerung Port d'entrée/sortie de 4 bits (PORT4) Permet une attaque directe des LED.	
35-38	P50-P53	I/O E/A	---	4-bit input/output port (PORT5). Allows for direct LED drive. 4-Bit-Ein/Ausgangs-Port (PORT5) Möglichkeit zur direkten LED-Ansteuerung Port d'entrée/sortie de 4 bits (PORT5) Permet une attaque directe des LED.	
50	PH3	O A	T10	Built-in pulldown resistor. Ideal for key input. 4-bit P-channel open-drain, high voltage-resistance, high current output port (PORTH). Allows for direct LED drive. Pulldown resistor can be incorporated (mask option). Eingebauter pulldown-widerstand, ideal für Tasteneingabe. 4-Bit-P-kanal-Port, offener Drain, hoher Spannungswiderstand, hoher Ausgangsstrom (PORTH). Möglichkeit für direkte LED-Ansteuerung, Pulldown-Widerstand integrierbar (Maskieroption). Résistance pulldown incorporée. Idéale pour entrée Par touche. Port de sorti à haute intensité, résistant aux tensions élevées, open-drain canal P de 4 bits (PORTH). Permet une attaque directe des LED. Une résistance pulldown peut être incorporée (option masque).	
51	PH2		T11		
52	PH1		P12		
53	PH0		P13		

- Nos. are reference Nos. of parts list.
- Diese Numerierung bezieht sich auf die Teileliste.
- Ces numéros correspondent à la liste des pièces.



HRD-MD50

EXPLODED VIEW EXPLOSIONSANSICHT VUE EXPLOSEE  
 (Cabinet) (Chassis) (Coffret)

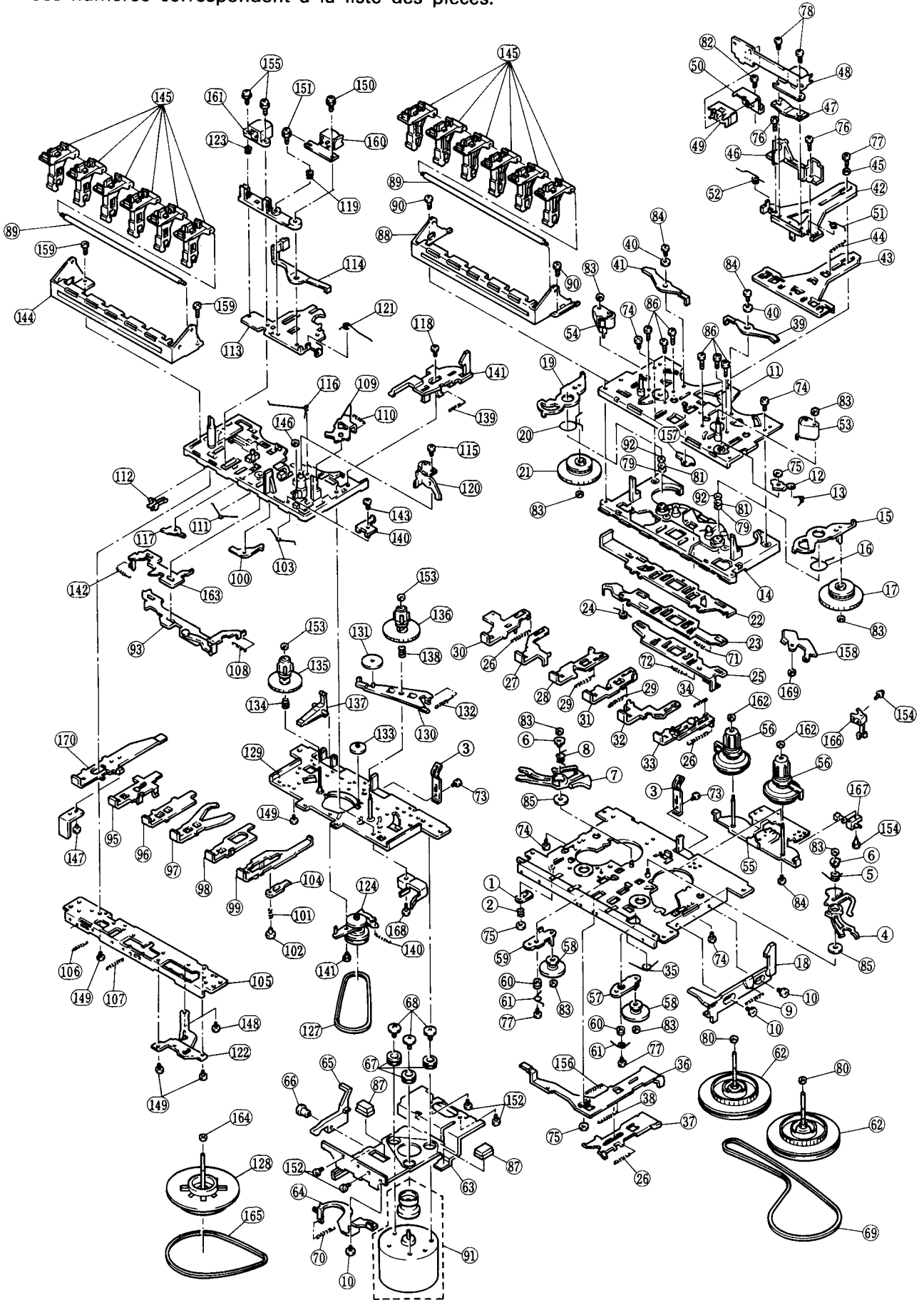
A  
B  
C  
D  
E  
F  
G

1 2 3 4 5 6 7 8 9

**EXPLODED VIEW EXPLOSIONSANSICHT VUE EXPLOSEE**  
**(Cassette Chasis) (Casseterdech-Chassis) (Châssis de Cassette)**

HRD-MD50

- Nos. are reference Nos. of parts list.
- Diese Numerierung bezieht sich auf die Teileliste.
- Ces numéros correspondent à la liste des pièces.



A  
B  
C  
D  
E  
F  
G

SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION
CAPACITORS								
C001	1243901	CD 0.01MF ±100% 400V	C226	02528112	EL 1 μF ±20% 50V	C401R	0240039	CD 330PF ±10% 50V [for ZS]
C101	0230608	CD 4.7PF ±10% 50V [for ZS]	C227	0240033	CD 100PF ±10% 50V	C402L	02750162	EL 0.068 μF ±20% 50V
C103	0240066	CD 0.022 μF ±80% 16V	C228	02525212	EL 10 μF ±20% 16V	C402R	02750162	EL 0.068 μF ±20% 50V
C104	02525312	EL 100 μF ±20% 16V	C301	02525212	EL 10 μF ±20% 16V	C403	02525212	EL 10 μF ±20% 16V
C105	0230624	CD 33PF ±5% 50V	C302	0279328	MF 470PF ±5% 100V	C404	02525212	EL 10 μF ±20% 16V
C106	0230626	CD 39PF ±5% 50V [for ZS]	C303	02528132	EL 3.3 μF ±20% 50V	C405L	0240038	CC 270PF ±10% 50V
C107	0230626	CD 39PF ±5% 50V [for ZS]	C304	02528112	EL 1 μF ±20% 50V	C405R	0240038	CC 270PF ±10% 50V
C108	02528112	EL 1 μF ±20% 50V [for ZS]	C305	02528022	EL 0.22 μF ±20% 50V	C406L	0242020	EL 4.7 μF ±20% 50V
C109	0240066	CD 0.022PF ±80% 16V [for ZS]	C306	0240220	CD 0.047 μF ±10% 25V	C406R	02528	EL 4.7 μF ±20% 50V
C110	02528022	EL 0.22 μF ±20% 50V	C307	0252537	EL 47 μF ±20% 16V	C407L	02740362	MF 0.0082 μF ±10% 50V
C151	0240220	CD 0.047 μF ±10% 25V	C308	0240041	CD 470PF ±10% 50V	C407R	02740362	MF 0.0082 μF ±10% 50V
C152	0246442	CD 12PF ±5% 50V [for BS, ES, VS]	C309	0230632	CD 68PF ±5% 50V	C408L	0240053	CC 2200PF ±20% 16V
C153	02750132	MF 0.022 μF ±10% 50V	C310	02097262	CD 820PF ±10% 50V [except CS]	C408R	0240053	CC 2200PF ±20% 16V
C154	02750132	MF 0.022 μF ±10% 50V [for BS, ES, VS]	C310	02097322	CD 1500PF ±10% 50V [for CS]	C409L	02528122	EL 2.2 μF ±20% 50V
C155	0279326	MF 510PF ±2% 100V	C311	02097262	CD 820PF ±10% 50V [except CS]	C409R	02528122	EL 2.2 μF ±20% 50V
C156	0230659	CD 12PF ±50% 50V	C311	02097322	CD 1500PF ±10% 50V [for CS]	C410L	02528112	EL 1 μF ±20% 50V
C157	02283212	MF 220PF ±5% 50V [for BS, ES, VS]	C312	02528112	EL 1 μF ±20% 50V	C410R	02528112	EL 1 μF ±20% 50V
C158	0246465	CD 110PF ±5% 50V [for BS, ES, VS]	C313	02528112	EL 1 μF ±20% 50V	C411	02525212	EL 10 μF ±20% 16V
C159	02528112	EL 1 μF ±20% 50V [for BS, ES, VS]	C316	02528112	EL 1 μF ±20% 50V	C412	02525212	EL 10 μF ±20% 16V
C160	0240061	CD 0.01 μF ±30% 16V	C317	02528112	EL 1 μF ±20% 50V	C413L	0240033	CC 100PF ±10% 50V [for ZS]
C161	02525212	EL 10 μF ±20% 16V	C318	02528112	EL 1 μF ±20% 50V	C413R	0240033	CC 100PF ±10% 50V [for ZS]
C162	0240066	CD 0.022 μF ±80% 16V [for BS, ES, VS]	C319	02528112	EL 1 μF ±20% 50V	C414L	0240033	CC 100PF ±10% 50V [for ZS]
C201	0240066	CD 0.022 μF ±80% 16V	C321	0240061	CC 0.01 μF ±30% 16V [except CS]	C414R	0240033	CC 100PF ±10% 50V [for ZS]
C202	0240066	CD 0.022 μF ±80% 16V	C321	0240066	CC 0.022 μF ±80% 16V [for CS]	C415L	0240033	CC 100PF ±10% 50V [for ZS]
C203	0240066	CD 0.022 μF ±80% 16V	C322	0240061	CC 0.01 μF ±30% 16V [except CS]	C415R	0240033	CC 100PF ±10% 50V [for ZS]
C204	0240061	CD 0.01 μF ±30% 16V	C322	0240066	CC 0.022 μF ±80% 16V [for CS]	C416L	02528132	EL 3.3 μF ±20% 50V
C207	0246465	CD 47PF ±5% 50V	C323	0240066	CD 0.022 μF ±80% 16V	C416R	02528132	EL 3.3 μF ±20% 50V
C208	02528152	EL 4.7 μF ±20% 50V	C324	0240057	CC 4700PF ±30% 16V [for VS]	C417L	02528132	EL 3.3 μF ±20% 50V
C209	02528132	EL 3.3 μF ±20% 50V	C325	0240057	CC 4700PF ±30% 16V [for VS]	C417R	02528132	EL 3.3 μF ±20% 50V
C210	02525212	EL 10 μF ±20% 16V	C351	0240061	CC 0.01 μF ±30% 16V	C418L	02528052	EL 0.47 μF ±20% 50V
C211	0240045	CD 1000PF ±10% 50V	C352	0252325	EL 47 μF ±20% 10V	C418R	02528052	EL 0.47 μF ±20% 50V
C212	0240220	CD 0.047 μF ±10% 25V	C353	02464502	CD 27PF ±5% 50V	C419L	02528012	EL 0.1 μF ±20% 50V
C213	0240061	CD 0.01 μF ±30% 16V	C354	02464502	CD 27PF ±5% 50V	C419R	02528012	EL 0.1 μF ±20% 50V
C214	02750152	MF 0.047 μF ±10% 50V	C355	1252879	EL 3.3MF ±20% 50V	C420L	02528032	EL 0.33 μF ±20% 50V
C215	02528132	EL 3.3 μF ±20% 50V [for VS, ZS]	C356	02750132	MF 0.022 μF ±10% 50V	C420R	02528032	EL 0.33 μF ±20% 50V
C216	02528132	EL 3.3 μF ±20% 50V	C357	0240053	CC 2200PF ±20% 16V	C421L	02750132	MF 0.022 μF ±10% 50V
C217	0240042	CD 560PF ±10% 50V [for VS, ZS]	C359	02528112	EL 1 μF ±20% 50V [for BS, ES, VS]	C421R	02750132	MF 0.022 μF ±10% 50V
C218	02525212	EL 10 μF ±20% 16V	C360	02750162	MF 0.068 μF ±10% 50V [for BS, ES, VS]	C422L	02750162	MF 0.068 μF ±10% 50V
C219	0240066	CC 0.022 μF ±80% 16V	C361	02528022	EL 0.22 μF ±20% 50V [for BS, ES, VS]	C422R	02750162	MF 0.068 μF ±10% 50V
C220	0240220	CD 0.047 μF ±10% 25V	C362	0240066	CC 0.022 μF ±80% 16V [for BS, ES, VS]	C423L	02740152	MF 0.0047 μF ±10% 50V
C221	0240061	CC 0.01 μF ±30% 16V	C364	02525212	EL 10 μF ±20% 16V	C423R	02740152	MF 0.0047 μF ±10% 50V
C222	0240061	CC 0.01 μF ±30% 16V	C401L	0240035	CD 150PF ±10% 50V [except ZS]	C424L	02750132	MF 0.022 μF ±10% 50V
C223	02525252	EL 47 μF ±20% 16V	C401L	0240039	CD 330PF ±10% 50V [for ZS]	C424R	02750132	MF 0.022 μF ±10% 50V
C224	0240061	CD 0.01 μF ±30% 16V	C401R	0240035	CD 150PF ±10% 50V [except ZS]	C425L	02097312	CD 1000PF ±10% 50V
C225	02528112	EL 1 μF ±20% 50V				C425R	02097312	CD 1000PF ±10% 50V
C225	02528132	EL 3.3 μF ±20% 50V [for CS]				C426L	02740152	MF 0.0042 μF ±10% 50V
						C426R	02740152	MF 0.0042 μF ±10% 50V
						C427L	02097212	CD 330PF ±10% 50V
						C427R	02097212	CD 330PF ±10% 50V
						C428L	02097312	CD 1000PF ±10% 50V
						C428R	02097312	CD 1000PF ±10% 50V
						C429L	02528132	EL 3.3 μF ±20% 50V
						C429R	02528132	EL 3.3 μF ±20% 50V
						C430	02525252	EL 47 μF ±20% 16V



SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION
C431	02525312	EL 100 μF ±20% 16V	C718L	02760112	PP 0.1 μF ±10% 50V	C830	02760112	PP 0.1 μF ±10% 50V
C432	0240066	CC 0.022 μF ± <sup>80</sup> / <sub>20</sub> % 16V	C718R	02760112	PP 0.1 μF ±10% 50V	C831	0240061	CC 0.01 μF ±30% 16V
C433L	0240051	CC 1500PF ±20% 16V	C719L	02760112	PP 0.1 μF ±10% 50V	C832	0240061	CC 0.01 μF ±30% 16V
C433R	0240051	CC 1500PF ±20% 16V	C719R	02760112	PP 0.1 μF ±10% 50V	C833	02760112	PP 0.1 μF ±10% 50V
C450	0240066	CC 0.22 μF ± <sup>80</sup> / <sub>20</sub> % 25V	C720L	02760112	PP 0.1 μF ±10% 50V	C834	0240220	CD 0.047 μF ±10% 25V
C451	0240066	CC 0.22 μF ± <sup>80</sup> / <sub>20</sub> % 25V	C720R	02760112	PP 0.1 μF ±10% 50V	C835	0240220	CD 0.047 μF ±10% 25V
C452	02525252	EL 47 μF ±20% 16V	C721	02522312	EL 100 μF ±20% 6.3V	C837	0240061	CC 0.01 μF ±30% 16V
C453	02525252	EL 47 μF ±20% 16V	C722	02528112	EL 1.0 μF ±20% 50V	C838	0240061	CC 0.01 μF ±30% 16V
C501	02464525	CC 33PF ±5% 50V	C723	02528152	EL 4.7 μF ±20% 50V	C901L	02097212	CD 330PF ±10% 50V
C502	02464525	CD 33PF ±5% 50V	C724	02523232	EL 33 μF ±20% 10V	C901R	02097212	CD 330PF ±10% 50V
C503	0240066	CC 0.022 μF ± <sup>80</sup> / <sub>20</sub> % 16V	C725	02441735	CD 0.022 μF ± <sup>80</sup> / <sub>20</sub> % 50V	C902L	02097212	CD 330PF ±10% 50V
C504	02522252	EL 47 μF ±20% 6.3V	C726L	02528132	EL 3.3 μF ±20% 50V	C902R	02097212	CD 330PF ±10% 50V
C505	0252242K	EL 2200 μF ±20% 6.3V	C726R	02528132	EL 3.3 μF ±20% 50V	C903L	02097212	CD 330PF ±10% 50V
C506	0240066	CC 0.022 μF ± <sup>80</sup> / <sub>20</sub> % 16V	C727	02525212	EL 10 μF ±20% 16V	C903R	02097212	CD 330PF ±10% 50V
C507	02528132	EL 3.3 μF ±20% 50V	C728	02525212	EL 10 μF ±20% 16V	C904L	02097212	CD 330PF ±10% 50V
C508	0240066	CC 0.022 μF ± <sup>80</sup> / <sub>20</sub> % 16V	C729L	0244171	CD 0.01 μF ± <sup>80</sup> / <sub>20</sub> % [for ZS] 50V	C904R	02097212	CD 330PF ±10% 50V
C509	02528312	EL 100 μF ±20% 50V	C729R	0244171	CD 0.01 μF ± <sup>80</sup> / <sub>20</sub> % [for ZS] 50V	C905L	02522312	EL 100 μF ±20% 6.3V
C510	0252812	EL 2.2 μF ± <sup>80</sup> / <sub>20</sub> % 50V	C730L	0244171	CD 0.01 μF ± <sup>80</sup> / <sub>20</sub> % [for ZS] 50V	C905R	02522312	EL 100 μF ±20% 6.3V
C551	02525212	EL 10 μF ±20% 16V	C730R	0244171	CD 0.01 μF ± <sup>80</sup> / <sub>20</sub> % [for ZS] 50V	C906L	02750342	MF 0.039 μF ±10% 50V
C553	02523312	EL 100 μF ±20% 10V	C731L	0244171	CD 0.01 μF ± <sup>80</sup> / <sub>20</sub> % [for ZS] 50V	C906R	02750342	MF 0.039 μF ±10% 50V
C581	02523312	EL 100 μF ±20% 10V	C731R	0244171	CD 0.01 μF ± <sup>80</sup> / <sub>20</sub> % [for ZS] 50V	C907	02525222	EL 22 μF ±20% 16V
C582	02523312	EL 100 μF ±20% 10V	C732	1276511	MF 0.1 μF ±10% 100V	C908L	02091732	CD 0.022 μF ± <sup>80</sup> / <sub>20</sub> % 50V
C583	0240066	CC 0.022 μF ± <sup>80</sup> / <sub>20</sub> % 16V	C733	1276511	MF 0.1 μF ±10% 100V	C908R	02091732	CD 0.022 μF ± <sup>80</sup> / <sub>20</sub> % 50V
C584	02750152	MF 0.047 μF ±10% 50V	C734	1252831	EL 100 μF ±20% 50V	C909	02525222	EL 22 μF ±20% 16V
C601	02750152	MF 0.047 μF ±10% 50V	C735	02760112	MF 0.1 μF ±10% 50V	C910L	02528132	EL 3.3 μF ±20% 50V
C602	02740162	MF 0.0068 μF ±10% 50V	C736L	02528132	EL 3.3 μF ±20% 50V	C910R	02528132	EL 3.3 μF ±20% 50V
C603	02760112	MF 0.1 μF ±10% 50V	C736R	02528132	EL 3.3 μF ±20% 50V	C911	02525252	EL 47 μF ±20% 16V
C604	02525212	EL 10 μF ±20% 16V	C739	0240066	CC 0.022 μF ± <sup>80</sup> / <sub>20</sub> % [for ZS] 16V	C912	02522312	EL 100 μF ±20% 6.3V
C605	02525212	EL 10 μF ±20% 16V	C801	02599982	EL 5600 μF ±20% 35V	C913L	0240051	CC 1500PF ±20% 16V
C606	02528132	EL 3.3 μF ±20% 50V	C802	02599982	EL 5600 μF ±20% 35V	C913R	0240051	CC 1500PF ±20% 16V
C607	02528132	EL 3.3 μF ±20% 50V	C803	02599982	EL 5600 μF ±20% 35V	C914L	02528132	EL 3.3 μF ±20% 50V
C608	02525212	EL 10 μF ±20% 16V	C804	02599982	EL 5600 μF ±20% 35V	C914R	02528132	EL 3.3 μF ±20% 50V
C701L	0240041	CC 470PF ±10% 50V	C805	1276511	MF 0.1 μF ±10% 100V [except ZS]	C915L	0240057	CC 4700PF ±30% 16V
C701R	0240041	CC 470PF ±10% 50V	C806	0245408	CD 0.01 μF ±20% 500V	C915R	0240057	CC 4700PF ±30% 16V
C702L	02522312	EL 100 μF ±20% 6.3V	C807	0245408	CD 0.01 μF ±20% 500V	C918L	0240045	CC 1000PF ±10% 50V
C702R	02522312	EL 100 μF ±20% 6.3V	C808	0245408	CD 0.01 μF ±20% 500V	C918R	0240045	CC 1000PF ±10% 50V
C703L	0230606	CD 3.3PF ±10% 50V	C809	0245408	CD 0.01 μF ±20% 500V	C919L	02528132	EL 3.3 μF ±20% 50V
C703R	0230606	CD 3.3PF ±10% 50V	C810	02525352	EL 470 μF ±20% 16V	C919R	02528132	EL 3.3 μF ±20% 50V
C704L	02528252	EL 47 μF ±20% 50V	C811	02525412	EL 1000 μF ±20% 16V	C920	02525312	EL 100 μF ±20% 16V
C704R	02528252	EL 47 μF ±20% 50V	C813	02525412	EL 1000 μF ±20% 16V	C921	02525312	EL 100 μF ±20% 16V
C705	02528212	EL 10 μF ±20% 50V	C814	02441735	CD 0.022 μF ± <sup>80</sup> / <sub>20</sub> % 50V	C922L	02528072	EL 0.68 μF ±20% 50V
C706	1252831	EL 100 μF ±20% 50V	C815	02441735	CD 0.022 μF ± <sup>80</sup> / <sub>20</sub> % 50V	C922R	02528072	EL 0.68 μF ±20% 50V
C707	0240039	CC 330PF ±10% 50V	C817	02441735	CD 0.022 μF ± <sup>80</sup> / <sub>25</sub> % 50V	C923L	02528132	EL 3.3 μF ±20% 50V
C708L	02528132	EL 3.3 μF ±20% 50V	C818	02526252	EL 47 μF ±20% 25V	C923R	02528132	EL 3.3 μF ±20% 50V
C708R	02528132	EL 3.3 μF ±20% 50V	C820	02526252	EL 47 μF ±20% 25V	C924L	02528132	EL 3.3 μF ±20% 50V
C709L	0240041	CC 470PF ±10% 50V	C821	02525212	EL 10 μF ±20% 16V	C924R	02528132	EL 3.3 μF ±20% 50V
C709R	0240041	CC 470PF ±10% 50V	C822	02525212	EL 10 μF ±20% 50V	C925L	0240053	CC 2200PF ±20% 16V
C710L	0240039	CC 330PF ±10% 50V	C823	1252831	EL 100 μF ±20% 50V	C925R	0240053	CC 2200PF ±20% 16V
C710R	0240039	CC 330PF ±10% 50V	C824	02441735	CD 0.022 μF ± <sup>80</sup> / <sub>20</sub> % 50V	C926L	02528032	EL 0.33 μF ±20% 50V
C711L	02528132	EL 3.3 μF ±20% 50V	C825	02528252	EL 47 μF ±20% 50V	C926R	02528032	EL 0.33 μF ±20% 50V
C711R	02528132	EL 3.3 μF ±20% 50V	C826	0240045	CC 1000PF ± <sup>80</sup> / <sub>20</sub> % 50V	C927L	02740162	MF 0.0068 μF ±10% 50V
C712L	0230606	CD 3.3PF ±10% 50V	C827	02525352	EL 470 μF ±20% 16V	C927R	02740162	MF 0.0068 μF ±10% 50V
C712R	0230606	CD 3.3PF ±10% 50V	C828	0240061	CC 0.01 μF ±30% 16V	C928L	02750122	MF 0.015 μF ±10% 50V
C713L	02528252	EL 47 μF ±20% 50V	C829	0240061	CC 0.01 μF ±30% 16V	C928R	02750122	MF 0.015 μF ±10% 50V
C713R	02528252	EL 47 μF ±20% 50V				C929L	0209723	CD 470PF ±10% 50V
C714	02528212	EL 10 μF ±20% 50V				C929R	0209723	CD 470PF ±10% 50V
C715	1252831	EL 100 μF ±20% 50V				C930L	02750132	MF 0.015 μF ±10% 50V
C716L	02522312	EL 100 μF ±20% 6.3V				C930R	02750132	MF 0.015 μF ±10% 50V
C716R	02522312	EL 100 μF ±20% 6.3V				C931L	02750122	MF 0.015 μF ±5% 50V
C717L	02760112	PP 0.1 μF ±10% 50V				C931R	02750122	MF 0.015 μF ±10% 50V
C717R	02760112	PP 0.1 μF ±10% 50V				C935L	0240035	CD 150PF ±10% 50V

SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION
C935R	0240035	CD 150PF ±10% 50V	R217	0113639	CF 10KΩ ±5% 1/6W	R315	0113633	CF 5.6KΩ ±5% 1/6W
C936L	02528132	EL 3.3 μF ±20% 50V	R218	0113639	CF 10KΩ ±5% 1/6W	R316	0113633	CF 5.6KΩ ±5% 1/6W
C936R	02528132	EL 3.3 μF ±20% 50V	R219	0113639	CF 10KΩ ±5% 1/6W	R317	0113665	CF 100KΩ ±5% 1/6W
C937	02740162	MF 6800PF ±10% 50V	R220	0113631	CF 4.7KΩ ±5% 1/6W	R318	0113663	CF 100KΩ ±5% 1/6W
C938	02750122	MF 0.015 μF ±10% 50V			[except ZS]	R319	0113663	CF 100KΩ ±5% 1/6W
C939	02525252	EL 47 μF ±20% 16V	R220	0113641	CF 12KΩ ±5% 1/6W	R320	0113663	CF 100KΩ ±5% 1/6W
C940	0279321	PP 0.015 μF ±5% 100V			[for ZS]	R321	0113623	CF 2.2KΩ ±5% 1/6W
C941	1279337	MF 0.0015 μF ±5% 100V	R220	0113637	CF 8.2KΩ ±5% 1/6W	R322	0113639	CF 10KΩ ±5% 1/6W
		[for BS, ES, VS]	R221	0113591	CF 100KΩ ±5% 1/6W	R323	0113639	CF 10KΩ ±5% 1/6W
C942	0240045	CC 1000PF ±10% 50V	R222	0113627	CF 3.3KΩ ±5% 1/6W	R324	0113639	CF 10KΩ ±5% 1/6W
C943L	0240039	CC 330PF ±10% 50V	R223	0113663	CF 100KΩ ±5% 1/6W	R325	0113663	CF 100KΩ ±5% 1/6W
C943R	0240039	CC 330PF ±10% 50V	R224	0113639	CF 10KΩ ±5% 1/6W			[for BS, KS, ES]
C944L	02528132	EL 3.3 μF ±20% 50V			[for VS, ZS]	R326	0113663	CF 100KΩ ±5% 1/6W
C944R	02528132	EL 3.3 μF ±20% 50V	R224	0113647	CF 22KΩ ±5% 1/6W			[for BS, KS, ES]
C945	02091752	CD 0.047 μF ±20% 50V			[except VS, ZS]	R327	0113615	CF 1KΩ ±5% 1/6W
C946	02528152	EL 4.7 μF ±20% 50V	R225	0113641	CF 12KΩ ±5% 1/6W			[for BS, KS, ES]
C947	02525212	EL 10 μF ±20% 16V			[for CS]	R328	0113643	CF 15KΩ ±5% 1/6W
C948	02525222	EL 22 μF ±20% 16V	R225	0113649	CF 27KΩ ±5% 1/6W			[for BS, KS, ES]
C949L	0240037	CC 220PF ±10% 50V			[except CS]	R351	0113643	CF 15KΩ ±5% 1/6W
C949R	0240037	CC 220PF ±10% 50V	R226	0113655	CF 47KΩ ±5% 1/6W	R352	0113639	CF 10KΩ ±5% 1/6W
					[for VS, ZS]			
C950	0240041	CC 470PF ±10% 50V	R227	0113639	CF 10KΩ ±5% 1/6W	R353	0113615	CF 1KΩ ±5% 1/6W
RESISTORS			R228	0113639	CF 10KΩ ±5% 1/6W	R354	0113639	CF 10KΩ ±5% 1/6W
R001	0139005	CF 2.7MΩ ±10% 1/2W	R229	1119423	ME 150Ω ±10% 1W	R355	0113639	CF 10KΩ ±5% 1/6W
		[for CB]	R230	0113639	CF 10KΩ ±5% 1/6W	R356	0113575	CF 22Ω ±5% 1/6W
R101	0113591	CF 100Ω ±5% 1/6W	R231	0113635	CF 6.8KΩ ±5% 1/6W	R357	0113639	CF 10KΩ ±5% 1/6W
		[for ZS]			[for BS, ES, VS]			
R102	0113663	CF 100KΩ ±5% 1/6W	R231	0113649	CF 27KΩ ±5% 1/6W	R358	0113639	CF 10KΩ ±5% 1/6W
R104	0113663	CF 100KΩ ±5% 1/6W			[for CS]			[for BS, ES, VS]
		[for ZS]	R231	0113643	CF 15KΩ ±5% 1/6W	R359	0113639	CF 10KΩ ±5% 1/6W
R105	0113617	CF 1.2KΩ ±5% 1/6W			[except VS, ZS, CS]			
		[for ZS]	R232	0113641	CF 12KΩ ±5% 1/6W	R360	0113639	CF 10KΩ ±5% 1/6W
R106	0113639	CF 10KΩ ±5% 1/6W	R233	0113643	CF 15KΩ ±5% 1/6W			[for BS, ES, VS]
		[for ZS]	R234	0113655	CF 47KΩ ±5% 1/6W	R361	0113631	CF 4.7KΩ ±5% 1/6W
			R235	0113587	CF 68Ω ±5% 1/6W	R362	0113639	CF 10KΩ ±5% 1/6W
R107	0113663	CF 100KΩ ±5% 1/6W	R236	0113615	CF 1KΩ ±5% 1/6W	R363	0113635	CF 6.8KΩ ±5% 1/6W
R109	0113591	CF 100Ω ±5% 1/6W	R237	0113663	CF 100KΩ ±5% 1/6W	R364	0113623	CF 2.2KΩ ±5% 1/6W
		[for ZS]	R301	0113651	CF 33KΩ ±5% 1/6W	R365	0113611	CF 680Ω ±5% 1/6W
R110	0113583	CF 47Ω ±5% 1/6W	R302	0113665	CF 120KΩ ±5% 1/6W	R366	0113619	CF 1.5KΩ ±5% 1/6W
R152	0113639	CF 10KΩ ±5% 1/6W	R303	0113627	CF 3.3KΩ ±5% 1/6W	R367	0113635	CF 6.8KΩ ±5% 1/6W
		[for BS, ES, VS]	R304	0113615	CF 1KΩ ±5% 1/6W			[for BS, ES, VS]
R153	0113639	CF 10KΩ ±5% 1/6W	R305	0113651	CF 33KΩ ±5% 1/6W	R368	0113635	CF 6.8KΩ ±5% 1/6W
R154	0113639	CF 10KΩ ±5% 1/6W	R306	0113643	CF 15KΩ ±5% 1/6W			[for BS, ES, VS]
		[for BS, ES, VS]	R307	0113677	CF 390KΩ ±5% 1/6W	R369	0113639	CF 10KΩ ±5% 1/6W
R155	0113671	CF 220KΩ ±5% 1/6W	R308	0113655	CF 47KΩ ±5% 1/6W			[for BS, ES, VS]
			R309	0113655	CF 47KΩ ±5% 1/6W	R370	0113615	CF 1KΩ ±5% 1/6W
R156	0113663	CF 100KΩ ±5% 1/6W	R310	0113655	CF 47KΩ ±5% 1/6W	R372	0113631	CF 4.7KΩ ±5% 1/6W
		[for BS, ES, VS]			[for CS]	R401L	0113615	CF 1KΩ ±5% 1/6W
R157	0113671	CF 220KΩ ±5% 1/6W			[for CS]	R401R	0113615	CF 1KΩ ±5% 1/6W
		[for BS, ES, VS]	R310	0113659	CF 68KΩ ±5% 1/6W	R402L	0113615	CF 1KΩ ±5% 1/6W
R158	0113623	CF 2.2KΩ ±5% 1/6W			[except CS]	R402R	0113615	CF 1KΩ ±5% 1/6W
		[for BS, ES, VS]	R311	0113655	CF 47KΩ ±5% 1/6W			
R159	0113631	CF 4.7KΩ ±5% 1/6W			[for CS]	R403L	0113615	CF 1KΩ ±5% 1/6W
		[for BS, ES, VS]	R311	0113659	CF 68KΩ ±5% 1/6W	R403R	0113615	CF 1KΩ ±5% 1/6W
R201	0113603	CF 330Ω ±5% 1/6W			[except CS]	R404L	0113623	CF 2.2KΩ ±5% 1/6W
		[except ZS]	R312	0113667	CF 150KΩ ±5% 1/6W			[except ZS]
R202	0113603	CF 330Ω ±5% 1/6W			[for VS, ZS]	R404L	0113627	CF 3.3KΩ ±5% 1/6W
R203	0113623	CF 2.2KΩ ±5% 1/6W	R312	0113671	CF 220KΩ ±5% 1/6W			[for ZS]
R204	0113605	CF 390Ω ±5% 1/6W			[for CS]	R404R	0113623	CF 2.2KΩ ±5% 1/6W
R205	0113617	CF 1.2KΩ ±5% 1/6W	R312	0113673	CF 270KΩ ±5% 1/6W			[except ZS]
R214	0113663	CF 100KΩ ±5% 1/6W			[except CS, VS, ZS]	R404R	0113627	CF 3.3KΩ ±5% 1/6W
R215	0113659	CF 68KΩ ±5% 1/6W	R313	0113619	CF 1.5KΩ ±5% 1/6W			[for ZS]
R216	0113615	CF 1.0KΩ ±5% 1/6W	R314	0113619	CF 1.5KΩ ±5% 1/6W	R405L	0113655	CF 47KΩ ±5% 1/6W

SYMBOL No.	PART No.	DESCRIPTION			SYMBOL No.	PART No.	DESCRIPTION			SYMBOL No.	PART No.	DESCRIPTION					
R405R	0113655	CF	47KΩ	±5%	1/6W	R553	0113663	CF	100KΩ	±5%	1/6W	R704R	0129609	CF	2.2KΩ	±5%	1/6W
R406L	0113611	CF	680Ω	±5%	1/6W	R554	0113663	CF	100KΩ	±5%	1/6W	△R705	1110621	FR	100Ω	±5%	1/4W
R406R	0113611	CF	680Ω	±5%	1/6W	R555	1119611	ME	68Ω	±10%	3W	△R706	1110605	FR	22Ω	±5%	1/4W
R407L	0113673	CF	270KΩ	±5%	1/6W	R556	0113639	CF	10KΩ	±5%	1/6W	R707L	0113657	CF	56KΩ	±5%	1/6W
R407R	0113673	CF	390KΩ	±5%	1/6W							R707R	0113657	CF	56KΩ	±5%	1/6W
R408L	0113651	CF	33KΩ	±5%	1/6W	R557	0113603	CF	330Ω	±5%	1/6W	R708	0129579	CF	560Ω	±5%	1/4W
R408R	0113651	CF	33KΩ	±5%	1/6W	R558	0113623	CF	2.2KΩ	±5%	1/6W	R709	0129635	CF	15KΩ	±5%	1/4W
R409L	0113661	CF	82KΩ	±5%	1/6W							R710	0113647	CF	22KΩ	±5%	1/6W
R409R	0113661	CF	82KΩ	±5%	1/6W	R559	0113623	CF	2.2KΩ	±5%	1/6W	R711L	0113657	CF	56KΩ	±5%	1/6W
R410	0113621	CF	1.8KΩ	±5%	1/6W							R711R	0113657	CF	56KΩ	±5%	1/6W
						R560	0113663	CF	100KΩ	±5%	1/6W	R713L	0113657	CF	56KΩ	±5%	1/6W
R411L	0113663	CF	100KΩ	±5%	1/6W	R561	0113663	CF	100KΩ	±5%	1/6W	R713R	0113657	CF	56KΩ	±5%	1/6W
R411R	0113663	CF	100KΩ	±5%	1/6W	R562	0113663	CF	100KΩ	±5%	1/6W	R714L	0113647	CF	22KΩ	±5%	1/6W
R413L	0113663	CF	100KΩ	±5%	1/6W	R563	0113655	CF	47KΩ	±5%	1/6W	R714R	0113647	CF	22KΩ	±5%	1/6W
R413R	0113663	CF	100KΩ	±5%	1/6W	R564	0113623	CF	2.2KΩ	±5%	1/6W	△R715	1110621	FR	100Ω	±5%	1/4W
R414L	0113631	CF	4.7KΩ	±5%	1/6W	R565	0113639	CF	10KΩ	±5%	1/6W	△R716	1110605	FR	22Ω	±5%	1/4W
R414R	0113631	CF	4.7KΩ	±5%	1/6W	R581	0113655	CF	47KΩ	±5%	1/6W	R717L	0129609	CF	2.2KΩ	±5%	1/4W
R415L	0113615	CF	1KΩ	±5%	1/6W	R582	0113639	CF	10KΩ	±5%	1/6W	R717R	0129609	CF	2.2KΩ	±5%	1/4W
R415R	0113615	CF	1KΩ	±5%	1/6W	R583	0113639	CF	10KΩ	±5%	1/6W	R718L	0129609	CF	2.2KΩ	±5%	1/4W
R421L	0113627	CF	4.7KΩ	±5%	1/6W	R584	0113639	CF	10KΩ	±5%	1/6W	R718R	0129609	CF	2.2KΩ	±5%	1/4W
R421R	0113627	CF	4.7KΩ	±5%	1/6W												
						R585	0113639	CF	10KΩ	±5%	1/6W	R719L	0113657	CF	56KΩ	±5%	1/6W
R422L	0113663	CF	100KΩ	±5%	1/6W	R586	0113639	CF	10KΩ	±5%	1/6W	R719R	0113657	CF	56KΩ	±5%	1/4W
R422R	0113663	CF	100KΩ	±5%	1/6W	R587	0113615	CF	1KΩ	±5%	1/6W	R720L	0113609	CF	560Ω	±5%	1/6W
R423L	0113673	CF	47KΩ	±5%	1/6W	R588	0113639	CF	10KΩ	±5%	1/6W	R720R	0113609	CF	560Ω	±5%	1/6W
R423R	0113673	CF	47KΩ	±5%	1/6W	R589	0113639	CF	10KΩ	±5%	1/6W	R736L	0129531	CF	10Ω	±5%	1/4W
R424L	0113627	CF	3.3KΩ	±5%	1/6W	R590	0113639	CF	10KΩ	±5%	1/6W	R736R	0129531	CF	10Ω	±5%	1/4W
R424R	0113627	CF	3.3KΩ	±5%	1/6W	R591	0113615	CF	1KΩ	±5%	1/6W	R737L	0129531	CF	10Ω	±5%	1/4W
R425	0113639	CF	10KΩ	±5%	1/6W	R592	0129617	CF	4.7KΩ	±5%	1/4W	R737R	0129531	CF	10Ω	±5%	1/4W
R426	0113647	CF	22KΩ	±5%	1/6W	R593	0129617	CF	4.7KΩ	±5%	1/4W	R738L	0113665	CF	120KΩ	±5%	1/6W
R427	0113595	CF	150Ω	±5%	1/6W	R594	0129617	CF	4.7KΩ	±5%	1/4W	R738R	0113665	CF	120KΩ	±5%	1/6W
R450	0113295	CF	470Ω	±5%	1/2W												
						R595	0129617	CF	4.7KΩ	±5%	1/4W	R739L	0113665	CF	120KΩ	±5%	1/6W
R451	0113295	CF	470Ω	±5%	1/2W	R596	0113639	CF	10KΩ	±5%	1/6W	R739R	0113665	CF	120KΩ	±5%	1/6W
R501	0113615	CF	1KΩ	±5%	1/6W	R602L	0113657	CF	56KΩ	±5%	1/6W	R740L	1119029	ME	4.7Ω	±10%	1W
R502	0113615	CF	1KΩ	±5%	1/6W	R602R	0113657	CF	56KΩ	±5%	1/6W	R740R	1119029	ME	4.7Ω	±10%	1W
R503	0113615	CF	1KΩ	±5%	1/6W	R603	0113657	CF	56KΩ	±5%	1/6W	R741L	1119029	ME	4.7Ω	±10%	1W
R504	0113615	CF	1KΩ	±5%	1/6W	R604	0113657	CF	56KΩ	±5%	1/6W	R741R	1119029	ME	4.7Ω	±10%	1W
R505	0113655	CF	47KΩ	±5%	1/6W	R605	0113655	CF	47KΩ	±5%	1/6W	R742	01132962	CF	560Ω	±5%	1/2W
R506	0113655	CF	47KΩ	±5%	1/6W	R606	0113631	CF	4.7KΩ	±5%	1/6W	R743	01132962	CF	560Ω	±5%	1/2W
R507	0113647	CF	22KΩ	±5%	1/6W	R607	0113609	CF	560Ω	±5%	1/6W	R744	0113657	CF	56KΩ	±5%	1/6W
R508	0113663	CF	100KΩ	±5%	1/6W	R608	0113613	CF	820Ω	±5%	1/6W	R745	0129631	CF	10KΩ	±5%	1/4W
R509	0113647	CF	22KΩ	±5%	1/6W												
						R609	0129601	CF	1KΩ	±5%	1/4W	R746	0113639	CF	10KΩ	±5%	1/6W
R510	0113639	CF	10KΩ	±5%	1/6W	R611L	0113615	CF	1KΩ	±5%	1/6W	R747L	0113615	CF	1KΩ	±5%	1/6W
R511	0113595	CF	150Ω	±5%	1/6W	R611R	0113615	CF	1KΩ	±5%	1/6W	R747R	0113615	CF	1KΩ	±5%	1/6W
R512	0113615	CF	1KΩ	±5%	1/6W	R612L	0113639	CF	10KΩ	±5%	1/6W	R748L	0113655	CF	47KΩ	±5%	1/6W
R513	0113639	CF	10KΩ	±5%	1/6W	R612R	0113639	CF	10KΩ	±5%	1/6W	R748R	0113655	CF	47KΩ	±5%	1/6W
R514	0113663	CF	100KΩ	±5%	1/6W	R613	0113657	CF	56KΩ	±5%	1/6W	R749L	0113649	CF	27KΩ	±5%	1/6W
R515	0113583	CF	47Ω	±5%	1/6W	R614	0113663	CF	100KΩ	±5%	1/6W	R749R	0113649	CF	27KΩ	±5%	1/6W
R516	0113583	CF	47Ω	±5%	1/6W	R615	0113639	CF	10KΩ	±5%	1/6W	R750L	0113615	CF	1KΩ	±5%	1/6W
R517	0113657	CF	56KΩ	±5%	1/6W	R616	0113639	CF	10KΩ	±5%	1/6W	R750R	0113615	CF	1KΩ	±5%	1/6W
R518	0113603	CF	330Ω	±5%	1/6W	R617	0129561	CF	100KΩ	±5%	1/4W	R751L	0129549	CF	56Ω	±5%	1/4W
R519	0113603	CF	330Ω	±5%	1/6W												
						R618	0113663	CF	100KΩ	±5%	1/6W	R751R	0129549	CF	56Ω	±5%	1/4W
R520	0113639	CF	10KΩ	±5%	1/6W	R619	0113625	CF	2.7KΩ	±5%	1/6W	R752	0113663	CF	100KΩ	±5%	1/6W
R521	0113603	CF	330Ω	±5%	1/6W	R620L	0113639	CF	10KΩ	±5%	1/6W	R753L	0113657	CF	56KΩ	±5%	1/6W
R522	0113603	CF	330Ω	±5%	1/6W	R620R	0113638	CF	10KΩ	±5%	1/6W	R753R	0113657	CF	56KΩ	±5%	1/6W
R523	0113615	CF	1KΩ	±5%	1/6W	R701L	0113623	CF	2.2KΩ	±5%	1/6W	R754	0129579	CF	560Ω	±5%	1/4W
R525	0113655	CF	47KΩ	±5%	1/6W	R701R	0113623	CF	2.2KΩ	±5%	1/6W	R755	0129635	CF	15KΩ	±5%	1/4W
R526	0113639	CF	10KΩ	±5%	1/6W	R702L	0113611	CF	680Ω	±5%	1/6W	R757	0113639	CF	10KΩ	±5%	1/6W
R527	0113639	CF	10KΩ	±5%	1/6W	R702R	0113611	CF	680KΩ	±5%	1/6W	R758	0113639	CF	10KΩ	±5%	1/6W
R528	0113651	CF	33KΩ	±5%	1/6W	R703L	0129609	CF	2.2KΩ	±5%	1/4W	R759	0113623	CF	2.2KΩ	±5%	1/6W
R529	0113651	CF	33KΩ	±5%	1/6W	R703R	0129609	CF	2.2KΩ	±5%	1/6W	R760L	0113639	CF	10KΩ	±5%	1/6W
R551	0113663	CF	100KΩ	±5%	1/6W												
R552	0113651	CF	33KΩ	±5%	1/6W	R704L	0129609	CF	2.2KΩ	±5%	1/6W	R760L	0113639	CF	10KΩ	±5%	1/6W

SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION
R761L	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R918R	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R960L	0113663	CF 100K $\Omega$ $\pm$ 5% 1/6W
R761R	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R919L	0113623	CF 2.2K $\Omega$ $\pm$ 5% 1/6W	R960R	0113663	CF 100K $\Omega$ $\pm$ 5% 1/6W
R762L	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R919R	0113623	CF 2.2K $\Omega$ $\pm$ 5% 1/6W	R961	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W
R762R	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R920L	0113619	CF 1.5K $\Omega$ $\pm$ 5% 1/6W	R962L	0113633	CF 5.6K $\Omega$ $\pm$ 5% 1/6W
R801	1119141	ME 6.8 $\Omega$ $\pm$ 5% 2W	R290R	0113619	CF 1.5K $\Omega$ $\pm$ 5% 1/6W	R962R	0113633	CF 5.6K $\Omega$ $\pm$ 5% 1/6W
$\Delta$ R802	1110625	FR 220 $\Omega$ $\pm$ 5% 1/4W	R921	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R963L	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W
R803	0113629	CF 3.9K $\Omega$ $\pm$ 5% 1/6W	R922L	0113663	CF 100K $\Omega$ $\pm$ 5% 1/6W	R963R	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W
R804	0113615	CF 1K $\Omega$ $\pm$ 5% 1/6W	R922R	0113663	CF 100K $\Omega$ $\pm$ 5% 1/6W	R964	0113607	CF 470 $\Omega$ $\pm$ 5% 1/6W
R809	0113615	CF 1K $\Omega$ $\pm$ 5% 1/6W	R923	1119425	ME 220 $\Omega$ $\pm$ 10% 1W	R965	0113657	CF 56K $\Omega$ $\pm$ 5% 1/6W
R810	0113627	CF 3.3K $\Omega$ $\pm$ 5% 1/6W	R924L	0113633	CF 5.6K $\Omega$ $\pm$ 5% 1/6W	R966	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W
$\Delta$ R811	1110609	FR 47 $\Omega$ $\pm$ 5% 1/4W	R924R	0113633	CF 5.6K $\Omega$ $\pm$ 5% 1/6W	R967	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W
R812	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R925	0113641	CF 12K $\Omega$ $\pm$ 5% 1/6W	R968	0113631	CF 4.7K $\Omega$ $\pm$ 5% 1/6W
R813	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R926	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R969	0113633	CF 5.6K $\Omega$ $\pm$ 5% 1/6W
R814	0113655	CF 47K $\Omega$ $\pm$ 5% 1/6W	R927L	0113641	CF 12K $\Omega$ $\pm$ 5% 1/6W	R970	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W
R815	0113647	CF 22K $\Omega$ $\pm$ 5% 1/6W	R927R	0113641	CF 12K $\Omega$ $\pm$ 5% 1/6W	R971	0113647	CF 22K $\Omega$ $\pm$ 5% 1/6W
R816	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R928	0113651	CF 33K $\Omega$ $\pm$ 5% 1/6W	R972	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W
R817	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R929	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R973	0113647	CF 22K $\Omega$ $\pm$ 5% 1/6W
R819	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R930	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R974	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W
R820	0113647	CF 22K $\Omega$ $\pm$ 5% 1/6W	R931L	0113641	CF 12K $\Omega$ $\pm$ 5% 1/6W	R975	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W
R821	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R931R	0113641	CF 12K $\Omega$ $\pm$ 5% 1/6W	R976	0113647	CF 22K $\Omega$ $\pm$ 5% 1/6W
R822	0113647	CF 22K $\Omega$ $\pm$ 5% 1/6W	R932L	0113635	CF 6.8K $\Omega$ $\pm$ 5% 1/6W	R977	0113633	CF 5.6K $\Omega$ $\pm$ 5% 1/6W
R823	0113647	CF 22K $\Omega$ $\pm$ 5% 1/6W	R932R	0113635	CF 6.8K $\Omega$ $\pm$ 5% 1/6W	R978	0113637	CF 8.2K $\Omega$ $\pm$ 5% 1/6W
R824	0113647	CF 22K $\Omega$ $\pm$ 5% 1/6W	R933L	0113647	CF 22K $\Omega$ $\pm$ 5% 1/6W	R979	0113627	CF 3.3K $\Omega$ $\pm$ 5% 1/6W
R825	0113611	CF 680 $\Omega$ $\pm$ 5% 1/6W	R933R	0113647	CF 22K $\Omega$ $\pm$ 5% 1/6W	R980	0113631	CF 4.7K $\Omega$ $\pm$ 5% 1/6W
R826	0113615	CF 1K $\Omega$ $\pm$ 5% 1/6W	R934L	0113619	CF 1.5K $\Omega$ $\pm$ 5% 1/6W	R981	0113613	CF 820 $\Omega$ $\pm$ 5% 1/6W
R827	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R934R	0113619	CF 1.5K $\Omega$ $\pm$ 5% 1/6W	R982	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W
R828	0113631	CF 4.7K $\Omega$ $\pm$ 5% 1/6W	R935L	01135852	CF 56 $\Omega$ $\pm$ 5% 1/6W	IC & TRANSISTORS		
R831	1119041	ME 10 $\Omega$ $\pm$ 10% 1W	R935R	01135852	CF 56 $\Omega$ $\pm$ 5% 1/6W	IC201	23684312	AN278
R832	1119041	CF 10 $\Omega$ $\pm$ 10% 1W	R936L	0113635	CF 6.8K $\Omega$ $\pm$ 5% 1/6W	IC203	23004122	LA1265S
R833	0129601	CF 1K $\Omega$ $\pm$ 5% 1/4W [except CS]	R936R	0113635	CF 6.8K $\Omega$ $\pm$ 5% 1/6W	IC301	2387551	$\mu$ PC1235C
R835	0129601	CF 1K $\Omega$ $\pm$ 5% 1/4W	R937L	0113623	CF 2.2K $\Omega$ $\pm$ 5% 1/6W	IC351	2385201	LC7218
$\Delta$ R837	1110621	FR 100 $\Omega$ $\pm$ 5% 1/4W	R937R	0113623	CF 2.2K $\Omega$ $\pm$ 5% 1/6W	IC401	2388302	BA4558HT
R838	0113625	CF 2.7K $\Omega$ $\pm$ 5% 1/6W	R938L	0113613	CF 820 $\Omega$ $\pm$ 5% 1/6W	IC402	2388672	TC9163N
R901L	0113663	CF 100K $\Omega$ $\pm$ 5% 1/6W	R938R	0113613	CF 820 $\Omega$ $\pm$ 5% 1/6W	IC403	2388302	BA4558HT
R901R	0113663	CF 100K $\Omega$ $\pm$ 5% 1/6W	R939L	0113619	CF 1.5K $\Omega$ $\pm$ 5% 1/6W	IC404	23008412	BA3812L
R902L	0113663	CF 100K $\Omega$ $\pm$ 5% 1/6W	R939R	0113619	CF 1.5K $\Omega$ $\pm$ 5% 1/6W	IC404R	23008412	BA3812L
R902R	0113663	CF 100K $\Omega$ $\pm$ 5% 1/6W	R940L	0113627	CF 3.3K $\Omega$ $\pm$ 5% 1/6W	IC501	23018632	MPD75208CW-200
R903L	0113577	CF 27 $\Omega$ $\pm$ 5% 1/6W	R940R	0113627	CF 3.3K $\Omega$ $\pm$ 5% 1/6W	IC581	2387201	TC4528BP
R903R	0113577	CF 27 $\Omega$ $\pm$ 5% 1/6W	R941	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	IC601	2388302	BA4558HT
R904L	0113663	CF 100K $\Omega$ $\pm$ 5% 1/6W	R942	0113661	CF 82K $\Omega$ $\pm$ 5% 1/6W	IC701	23011612	STK4142II
R904R	0113663	CF 100K $\Omega$ $\pm$ 5% 1/6W	R943	0113661	CF 82K $\Omega$ $\pm$ 5% 1/6W	IC702	23011612	STK4142II
R905L	0113627	CF 3.3K $\Omega$ $\pm$ 5% 1/6W	R944	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	IC703	2387581	$\mu$ PC1237H
R905R	0113627	CF 3.3K $\Omega$ $\pm$ 5% 1/6W	R945	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	IC704	2388302	BA4558HT
R906L	0113623	CF 2.2K $\Omega$ $\pm$ 5% 1/6W	R946	0113289	CF 150 $\Omega$ $\pm$ 5% 1/2W	IC801	23017012	BA6209N
R906R	0113623	CF 2.2K $\Omega$ $\pm$ 5% 1/6W	R948	0113294	CF 390 $\Omega$ $\pm$ 5% 1/2W	IC802	23017012	BA6209N
R907L	0113627	CF 3.3K $\Omega$ $\pm$ 5% 1/6W	R949	0113649	CF 27K $\Omega$ $\pm$ 5% 1/6W	IC901	23010522	BA3416BL
R907R	0113627	CF 3.3K $\Omega$ $\pm$ 5% 1/6W	R950	0113567	CF 10 $\Omega$ $\pm$ 5% 1/6W	IC902	2388302	BA4558HT
R908	0113651	CF 33K $\Omega$ $\pm$ 5% 1/6W	R951	0113591	CF 100 $\Omega$ $\pm$ 5% 1/6W [for BS, ES, VS]	IC903	23020912	CXA-1101
R909	0113651	CF 33K $\Omega$ $\pm$ 5% 1/6W	R952	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W [for BS, ES, VS]	IC904	2388302	BA4558HT
R910	0113625	CF 2.7K $\Omega$ $\pm$ 5% 1/6W	R953	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	IC905	2387051	LB1403L
R911	0113651	CF 33K $\Omega$ $\pm$ 5% 1/6W	R954L	0113673	CF 270K $\Omega$ $\pm$ 5% 1/6W	Q102	2328803	2SK104 [for ZS]
R912	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R954R	0113673	CF 270K $\Omega$ $\pm$ 5% 1/6W	Q103	2328652	2SC1740LN(S) [for ZS]
R913L	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R955L	0113653	CF 39K $\Omega$ $\pm$ 5% 1/6W	Q151	2328652	2SC1740LN(S) [for BS, ES, VS]
R913R	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R955R	0113653	CF 39K $\Omega$ $\pm$ 5% 1/6W	Q152	2328652	2SC1740LN(S) [for BS, ES, VS]
R914L	0113651	CF 33K $\Omega$ $\pm$ 5% 1/6W	R957L	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	Q202	2329183	2SA1015(GR)
R914R	0113651	CF 33K $\Omega$ $\pm$ 5% 1/6W	R957R	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	Q203	2328652	2SC1740LN(S)
R915L	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R958L	0113635	CF 6.8K $\Omega$ $\pm$ 5% 1/6W			
R915R	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R958R	0113635	CF 6.8K $\Omega$ $\pm$ 5% 1/6W			
R916	0113651	CF 33K $\Omega$ $\pm$ 5% 1/6W	R959L	0113631	CF 4.7K $\Omega$ $\pm$ 5% 1/6W			
R917	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W	R959R	0113631	CF 4.7K $\Omega$ $\pm$ 5% 1/6W			
R918L	0113639	CF 10K $\Omega$ $\pm$ 5% 1/6W						

SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION
Q204	2328652	2SC1740LN(S)	Q903L	2328652	2SC1740LN(S)	D512	2337601	1S2473
Q205	2328652	2SC1740LN(S)	Q903R	2328652	2SC1740LN(S)	D513	2337601	1S2473
Q301	2328652	2SC1740LN(S)	Q904	2328652	2SC1740LN(S)	D514	2337601	1S2473
Q302	2328652	2SC1740LN(S)	Q905L	2328652	2SC1740LN(S)	D515	2337601	1S2473
Q303	2328652	2SC1740LN(S)	Q905R	2328652	2SC1740LN(S)	D516	2337601	1S2473
Q304	2329183	2SA1015(GR)	Q906L	2328652	2SC1740LN(S)	D517	2337601	1S2473
Q305	2328652	2SC1740LN(S)	Q906R	2328652	2SC1740LN(S)			[for CS]
Q351	2329183	2SA1015(GR)	Q907L	2328652	2SC1740LN(S)	D528	2337601	1S2473
Q352	2329183	2SA1015(GR) [for BS, ES, VS]	Q907R	2328652	2SC1740LN(S)	D529	2337601	1S2473
			Q908L	2328652	2SC1740LN(S)	D530	2337601	1S2473
Q353	2329183	2SA1015(GR) [for BS, ES, VS]	Q908R	2328652	2SC1740LN(S)	D531	2337601	1S2473
Q354	2329183	2SA1015(GR)	Q909	2317782	2SC2235(Y)	D532	2337601	1S2473
Q355	2328653	2SC1740LN(E)	Q910	2328652	2SC1740LN(S) [for BS, ES, VS]	D551	23374312	HZ-3(A)
Q356	2328653	2SC1740LN(E)	Q911	2329183	2SA1015(GR)	D552	23375272	HZ-9(C1)
Q357	2328653	2SC1740LN(E) [for BS, ES, VS]	Q912	2328652	2SC1740LN(S)	D553	23375272	HZ-9(C1)
Q358	2328653	2SC1740LN(E) [for BS, ES, VS]	Q913	2328652	2SC1740LN(S)	D581	2337601	1S2473
Q401	2328652	2SC1740LN(S)	Q914	2328652	2SC1740LN(S)	D582	2337601	1S2473
Q501	2328652	2SC1740LN(S)	Q915	2328652	2SC1740LN(S)	D583	2337601	1S2473
Q502	2328652	2SC1740LN(S)	Q916L	2328652	2SC1740LN(S)	D584	2337601	1S2473
Q503	2329183	2SA1015(GR)	Q916R	2328652	2SC1740LN(S)	D701	23390012	DS135D(F)
Q504	2328652	2SC1740LN(S)	Q917L	2328652	2SC1740LN(S)	D702	23390012	DS135D(F)
Q551	2328652	2SC1740LN(S)	Q917R	2328652	2SC1740LN(S)	D707	2337601	1S2473
Q552	2328652	2SC1740LN(S)				D708	2337601	1S2473
Q553	2328652	2SC1740LN(S)	DIODES			D709	2337601	1S2473
Q554	2328652	2SC1740LN(S)	D101	2337601	1S2473	D710	2337601	1S2473
Q555	2328652	2SC1740LN(S)	D102	2337601	1S2473	D711	2398781	11E2
Q581	2328652	2SC1740LN(S)	D103	2337931	1K60R [for ZS]	D712	2398781	11E2
Q582	2328652	2SC1740LN(S)	D104	2337931	1K60R [for ZS]	D713	2398781	11E2
Q583	2328652	2SC1740LN(S)	D151	2337601	1S2473	D714	2398781	11E2
Q584	2328652	2SC1740LN(S)	D152	2337601	1S2473	D801	23374612	S4VB20
Q585	2328652	2SC1740LN(S)	D153	2397321	KV1260	D802	23374612	S4VB20
Q586	2329183	2SA1015(GR)	D154	2397321	KV1260 [for BS, ES, VS]	D803	2398781	11E2
Q587	2328652	2SC1740LN(S)				D804	2398781	11E2
Q588	2328652	2SC1740LN(S)	D155	2337601	1S2473 [for BS, ES, VS]	D806	2398781	11E2
Q589	2328652	2SC1740LN(S)	D156	2337601	1S2473 [for BS, ES, VS]	D807	2398781	11E2
Q590	2328652	2SA1015(GR)	D157	2337601	1S2473 [for BS, ES, VS]	D808	2398781	11E2
Q591	2328652	2SC1740LN(S)	D158	2337601	1S2473 [for BS, ES, VS]	D810	2398781	11E2
Q592	2328625	2SB647C	D159	2337601	1S2473 [for BS, ES, VS]	D811	2337601	1S2473
Q593	2328625	2SB647(C)	D160	23376162	HZ-3(B3)	D812	2337601	1S2473
Q601	2328652	2SC1740LN(S)	D301	2337601	1S2473	D813	2398781	11E2
Q602	2328652	2SC1740LN(S)	D351	2337601	1S2473	D814	2398781	11E2
Q704	2328652	2SC1740LN(S)	D352	2337601	1S2473	D815	2337601	1S2473
Q801	2317822	2SD880(Y)	D501	2337601	1S2473	D817	2337601	1S2473
Q802	2328652	2SC1740LN(S)	D502	23371222	HZ-6(B)	D818	2337601	1S2473
Q803	2317822	2SD880(Y)	D503	23375272	HZ-9(C1)	D901	2337601	1S2473
Q805	2328625	2SB647(C)	D504	2337601	1S2473	D902	2337601	1S2473
Q806	2329183	2SA1015(GR)	D505	2337601	1S2473	D903	2337601	1S2473
Q807	2328652	2SC1740LN(S)	D506	2337601	1S2473	D904	2337601	1S2473
Q808	2328652	2SC1740LN(S)	D507	2337601	1S2473	D905	2337601	1S2473
Q809	2328625	2SB647(C)	D508	2337601	1S2473	D906	2337601	1S2473
Q811	2328625	2SB647(C)	D509	2337601	1S2473	D914	2337601	1S2473
Q812	2329183	2SA1015(GR)	D510	2337601	1S2473	D915	2337601	1S2473
Q813	2328652	2SC1740LN(S)	D511	2337601	1S2473	ZD401	2337527	HZ-9(C)
Q814	2328652	2SC1740LN(S)				ZD601	23375272	HZ-9(C1)
Q816	2328652	2SC1740LN(S)				ZD602	23374312	HZ-3(A)
Q901L	2328652	2SC1740LN(S)				ZD801	23375632	HZ-12(A3)
Q901R	2328652	2SC1740LN(S)				ZD804	23386542	RD27E(B4)
Q902	2328652	2SC1740LN(S)				ZD805	23375892	HZ-5(C3)
						ZD806	23375892	HZ-5(C3)
						ZD901	23374312	HZ-3(A)
						D518	23391022	SLP-160C

SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION
D519	23391022	SLP-160C	L701L	2227361	AUDIO TRAP COIL	X501	2155323	CERAMIC OSCILLATOR 4.19MHZ
D522	23391022	SLP-160C	L701R	2227361	AUDIO TRAP COIL	△F001	2727744	BS FUSE TIME LUG
D523	23391022	SLP-160C	L702L	2227361	AUDIO TRAP COIL			[except CS, EW]
D524	23391022	SLP-160C	L702R	2227361	AUDIO TRAP COIL	△F001	2727894	FUSE-UL 4A 125V
D525	23391022	SLP-160C	L801	2227912	CHOCK COIL			[for CS]
D526	23391022	SLP-160C	L802	2227912	CHOCK COIL	△F801	2727745	BS FUSE
D527	23391022	SLP-160C	L803	2227912	CHOCK COIL			[except CS]
D601	2398672	SLR-34VC35H3	L804	2227912	CHOCK COIL	△F801	2727961	FUSE 2A 125V
D602	2398672	SLR-34VC35H3	L901L	2227991	CHOCK COIL			[for CS]
D603	2398672	SLR-34VC35H3	L901R	2227991	CHOCK COIL	△PR801	2728184	FUSE 0.5A
D604	2398672	SLR-34VC35H3	L902	2136823	BIAS OSC COIL	LC901L	2136791	BIAS TRAP 85K
D605	2398672	SLR-34VC35H3	T201	2154493	AM IF TRANSFORMER	LC901R	2136791	BIAS TRAP 85K
D606	2398672	SLR-34VC35H3	MISCELLANEOUS			LC902L	2228103	DOLBY FILTER
D907	23391042	SLP-660C				LC902R	2228103	DOLBY FILTER
D908	23391042	SLP-660C	JK101		FM DIN ANT. [for ZS]	△S001	2600152	POWER SWITCH
D909	23391042	SLP-660C			FM 75Ω ANT. [except CS, ZS]	S501	2639682	DECK SWITCH (CH1)
D910	23391022	SLP-160C	JK401	2668014	5P XH PLUG	S502	2639682	DECK SWITCH (CH2)
D911	23391022	SLP-160C	JK402	2678921	4P US PIN JACK	S503	2639682	DECK SWITCH (CH3)
D912	23388932	SLP-151B	JK403	2678921	4P US PIN JACK	S504	2639682	DECK SWITCH (CH4)
D913	23388932	SLP-151B	Jk703	2678494	HEADPHONE JACK	S505	2639682	DECK SWITCH (CH5)
	2347321	SLC-22VR66F	JK801	2678851	1P US PIN JACK	S506	2639682	DECK SWITCH (CH6)
VARIABLE RESISTORS			JK701	2689651	4P POSH TERMINAL	S507	2639682	DECK SWITCH (CH7)
R412	0152716	200kΩ (L/R BALANCE CONTROL)	JK702	26578312	SPEAKER SOCKET	S508	2639682	DECK SWITCH (CH8)
R416	0167011	100kΩ-(B) (G/E CONTROL)	JK801		CD CONTROL JACK	S509	2639682	DECK SWITCH (CH9)
R417	0167011	100kΩ-(B) (G/E CONTROL)	CP101	2137301	FM LOW-PASS FILTER [for ZS]	S510	2639682	DECK SWITCH (CH10)
R418	0167011	100kΩ-(B) (G/E CONTROL)	CP201	2136313	LOW PASS FILTER [for VS, ZS]	S511	2639682	DECK SWITCH (+ 10)
R419	0167011	100kΩ-(B) (G/E CONTROL)	CP301	2136314	LEAK FILTER 19kHz [for VS]	S512	2639682	DECK SWITCH (MEMO)
R420	0167011	100kΩ-(B) (G/E CONTROL)	CP302	2136314	LEAK FILTER 19kHz [for VS]	S513	2639682	DECK SWITCH (FM)
R601L	0189119	100kΩ-(B) (MAIN VOLUME CONTROL)	CP501	0241912	CERAMIC CAPACITOR 220P	S514	2639682	DECK SWITCH (MW)
R601R	0189119	100kΩ-(B) (MAIN VOLUME CONTROL)	CP502	0241912	CERAMIC CAPACITOR 220P	S515	2639682	DECK SWITCH (LW) [for BS, ES, VS]
R610	0159891	10kΩ-(B) (BASS VOLUME CONTROL)	CT151	0283125	TRIMMER CAPACITOR [except BS, ES, VS]	S516	2639682	DECK SWITCH (A/M)
RT301	0158954	5kΩ-(B)	CT151	0293126	TRIMMER CAPACITOR (WHITE) [for BS, ES, VS]	S517	2639682	DECK SWITCH (TUNER)
RT901L	0158924	5kΩ-(B) (REC/PLAY OUTPUT LEVEL ADJ.)	CT152	0283127	TRIMMER CAPACITOR (RED) [for BS, ES, VS]	S518	2639682	DECK SWITCH (CD)
RT901R	0158924	5kΩ-(B) (REC/PLAY OUTPUT LEVEL ADJ.)	RY701	2647751	DG RELAY	S519	2639682	DECK SWITCH (PHONO)
RT902L	0158928	100kΩ-(B) (BIAS ADJ.)	RY702	2647751	DG RELAY	S520	2639682	DECK SWITCH (TV/AUX)
RT902R	0158928	100kΩ-(B) (BIAS ADJ.)	FE101	24256712	FM TUNER PACK [except ZS]	S521	2639682	DECK SWITCH (TAPE)
RT903	0158924	5kΩ-(B) (TAPE SPEED ADJ.)	FE101	2425731	FM TUNER PACK [for ZS]	S522	2639682	DECK SWITCH (VTR)
RV901L	0150701	10kΩ-(B) (REC VOLUME CONTROL)	FL501	2949061	FIP 88RM8	S523	2639682	DECK SWITCH (UP)
RV901R	0150701	10kΩ-(B) (REC VOLUME CONTROL)	MF201	2134982	FM CERAMIC FILTER [for CS]	S524	2639682	DECK SWITCH (DOWN)
COILS & TRANSFORMERS			MF201	2135002	CERAMIC FILTER [except CS]	S551	2629381	SLIDE SWITCH (AM SPACING) [for EW]
L101	2227351	CHOCK COIL	MF202	2135002	CERAMIC FILTER [for SA]	S601	2600127	PUSH SWITCH 2KEY
L151	2137373	AM ANT COIL	MF204	2134982	FM CERAMIC FILTER [for CS]	S801	2629381	SLIDE SWITCH [for BS, ES, VS]
L152	2137374	AM ANT COIL [for BS, ES, VS]	MF204	2135002	CERAMIC FILTER [except CS]	S901	2628324	SLIDE SWITCH (REC/PLAY SELECT)
L153	2136493	MW OSC COIL	MF205	2155152	AM CERAMIC FILTER	S902	2600286	3KEY PUSH SWITCH (TAPE SELECT)
L154	2136494	LW OSC COIL [for BS, ES, VS]	X351	27803812	CRYSTAL OSCILLATOR 7.2MHZ	S903	2600284	2KEY PUSH SWITCH (ON/OFF/TAPE SPEED SELECT)
L202	2137033	FM DISCRIMINATOR COIL	CABINET CHASSIS			1	4005821	CASSETTE DOOR ASSY (TAPE 1)
L301	2227912	CHOCK COIL				2	4005822	CASSETTE DOOR ASSY (TAPE 2)
L501	2227912	CHOCK COIL				3	3309221	POWER BOTTON
L502	2227912	CHOCK COIL				4	3307201	PUSH BOTTON
						5	3309161	REC VOLUME KNOB
						6	3308702	VOLUME KNOB
						7	3308681	VOLUME HOLDER

SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION
8	3309251	KNOB (18) IN COLOR	△43	3658372	AC OUTLET [for CS]	CASSETTE CHASSIS		
9	3309252	KNOB (18)	44	2618053	AC SWITCH [for EW]			
10	3308676	FUNCTION	△45	2702713	AC POWER SUPPLY CORD [for CS]	1	48191312	PAUSE lever
11	3309121	TUNING BOTTON	△	2749582	AC POWER SUPPLY CORD [for BS]	2	48191322	PAUSE lever spring
12	3309112	BAND CHANGE BOTTON [for BS, ES, VS]	△	2718091	AC POWER SUPPLY CORD [for KS, ES, VS, ZS]	3	4842395	Pack spring plate
	3309114	BAND CHANGE BOTTON [except BS, ES, VS]	△	2749622	AC POWER SUPPLY CORD [for SA]	4	4853652	Auto lever (F)
13	3309241	BOTTON	△	2706584	AC POWER SUPPLY CORD [for EW]	5	4853653	Auto lever (F) spring
14	3309242	BOTTON	46	2677911	SOCKET (FM 75) [except CS, ZS]	6	4853654	Spring stopper
15	3909601	BLIND (A)	47	2658391	DIN ANTENNA SOCKET	7	4853655	Auto lever (R)
17	3808813	FRONT PANEL [for CS]		3913006	BUSHING [except EW]	8	4853656	Auto lever (R) spring
	3808814	FRONT PANEL [except CS]	49	8679610	BUSHING [for EW]	9	4853658	Eject slide lever spring
18	3309231	G/E KNOB	50	8679408	DT SCREW (4 φ x 10)	10	4833465	Special screw
19	4479032	COVER	51	86914102	BT SCREW (3 φ x 8)	11	4853659	Sub chassis
20	3950381	DANPER SUBASSEMBLY	52	8671410	DT SCREW (3 φ x 10)	12	4853650	Turn over arm
21	2588921	COUNTER	53	8671408	DT SCREW Z (3 φ x 8)	13	4853661	Turn over spring
22	3909671	FILTER	54	86714062	BT BIND SCREW (3 φ x 6)	14	4853662	Button base assy
23	3927411	FOOT	55	86994102	BT SCREW BLACK	15	4853663	T gear arm (F) assy
24	4479831	SIDE PLATE	56	8671608	DT SCREW (4 φ x 8)	16	4853664	T gear arm (F) spring
25	4479841	REAR PLATE [for CS]	57	4819072	SCREW (2 φ x 8)	17	4853665	T cam gear (F)
	4479842	REAR PLATE [for BS]	58	48191862	TAMS SCREW (2 φ x 3)	18	4856321	Eject slide lever
	4479843	REAR PLATE [for KS]	59	8711104	SCREW PAN HEAD (2 φ x 4)	19	4853666	T gear arm (R) assy
	4479844	REAR PLATE [for ES, VS]	60	86914122	BT SCREW (3 φ x 12)	20	4853667	T gear arm (R) spring
	4479845	REAR PLATE [for ZS]	61	2567111	DT SCREW	21	4853668	T cam gear (R)
	4479846	REAR PLATE [for SA]	62	8784446	BT SCREW (3 φ x 16)	22	4853669	Slide plate
	4479847	REAR PLATE [for EW]	63	86714062	DT SCREW (3 φ x 6)	23	4853660	Lock actuator assy
26	2589441	TN-521ZSW-153 DECK	64	879440	BT SCREW (3 φ x 10)	24	4853671	Lock release spring
27	4831623	OPERATION LEVER	65	47900952	FIBER WASHER	25	4853672	SW actuator assy
28	4831624	B FLAME	66	4408861	WASHER	26	4853674	Button lever spring
29	4819232	LAVER SHAFT SUM-24L	67	4575661	EARTH SCREW	27	4853675	PLAY button lever
30	4620021	COUNTER BELT	ACCESSORIES			28	4853676	FF button lever R (S)
31	3309171	D OPERATION BUTTON					2667922	SIMENSE PLUG [for EW]
32	3309172	D OPERATION BUTTON		2727745	BS FUZE [for EW]	30	4856322	Mode button (S)
33	3309173	D OPERATION BUTTON		2949081	R.C TRANSMITTER RB-MD50	31	4853678	FF button lever F (S)
34	3309174	D OPERATION BUTTON		2758342	AM LOOP ANTENNA	32	4853679	STOP button lever (S)
35	3309175	D OPERATION BUTTON		2757528	FM ANTENNA [except ZS]	33	4853670	Program button lever (S)
36	3309176	D OPERATION BUTTON		3680521	ANTENNA HOLDER ASS	34	4853681	Pull arm spring
37	3309177	OPERATION BUTTON				35	4853682	STOP button lever spring
38	3309178	OPERATION BUTTON				36	4853683	Relay plate
39	3309179	OPERATION BUTTON				37	4853684	FF SW plate
40	3391925	EJECT SPRING				38	4853685	R.C. spring
△41	2267521	POWER TRANSFORMER [for CS]				39	4853686	Auto control arm (F)
△	2267522	POWER TRANSFORMER [for KS, ES, VS, ZS]				40	4853687	Control collar
△	2267523	POWER TRANSFORMER [for BS, SA]				41	4853688	Auto control arm (R)
△	2267524	POWER TRANSFORMER [for EW]				42	4853689	Head panel
42	2137381	LINE FILTER [for ZS]				43	4853680	R.C. plate
						44	4853691	R.C. plate spring
						45	4853692	H.P. collar
						46	4853693	Tape guide
						47	4853694	Head spring plate
						48	2557631	P head
						49	4842401	Slide switch
						50	4853696	Switch bracket
						51	4853697	Pinch roller spring (F)
						52	4853698	Pinch roller spring (R)
						53	4853699	Pinch roller (F) assy
						54	4853690	Pinch roller (R) assy
						55	4853701	Reel plate assy
						56	4853702	Reel assy
						57	4853704	FF gear arm (F) assy
						58	4853705	FF gear
						59	4853706	FF gear arm (R) assy
						60	4853707	FF gear arm collar

SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION
61	4853708	FF gear arm spring (F)	118	48190452	Screw
62	4853709	Flywheel assy	119	48190172	Spring
63	4853711	Motor bracket	120	4839372	Pinch roller arm assy
64	4853712	P kick lever	121	4842424	Pinch roller spring
65	4833463	Lever	122	4831610	Metal guide
66	4833466	Special screw	123	4856333	E.H. spring
67	4842404	Motor rubber	124	48537282	RF pulley arm assy
68	48195332	Motor collar screw	125	48202252	RF pulley arm spring
69	4856323	Belt	126	48202262	RF arm collar screw
70	4853715	P kick lever spring	127	48202272	RF belt
71	4853716	Lock actuator spring	128	4850092	Flywheel
72	4853717	SW actuator spring	129	4842428	Reel base assy
73	4853719	C tapping screw (2 φ x 3)	130	4842429	T gear plate assy
74	48191912	Tapping screw (2 φ x 6)	131	4839378	Take up roller gear
75	4842443	Washer (2.1 φ x 5 x 0.5)	132	48190202	TG plate spring
76	4853710	Tams screw (2 φ x 6)	133	4839379	FF gear
77	4853721	Camera S tapping screw (1.7 φ x 4)	134	4842420	Back tension spring
78	4853722	Screw (2 φ x 4.5)	135	4842431	Supply reel assy
79	4842414	Washer (2 φ x 3.5 x 0.3)	136	4853729	Take up reel assy
80	4842430	Washer (2.1 φ x 3 x 0.3)	137	4832421	Record safety lever
81	4853723	Washer (1.45 φ x 4 x 0.5)	138	4839382	Back tension spring
82	4842412	Camera S tapping screw (1.7 φ x 2.5)	139	48190442	Eject slide lever spring
83	4842444	Washer (1.2 φ x 3 x 0.25)	140	4842433	Bracket
84	4853724	Camera S tapping screw (1.7 φ x 3)	141	4856336	Eject slide lever
85	4853725	Washer (3 φ x 8.5 x 0.13)	142	48202182	Switch actuator spring
86	4853726	Camera S tapping screw (1.7 φ x 8)	143	4842434	Camera tapping screw (2 φ x 3.5)
87	4856324	Felt	144	4856339	Button flame (S)
88	4856326	Button flame (S)	145	4856330	Operation lever
89	4856327	Button lever shaft	146	48190782	Washer (1.55 φ x 3.8 x 0.5)
90	4856328	Screw (2 φ x 9)	147	48191862	Tams screw (2 φ x 3)
91	4856672	Motor assy	148	48190682	Screw tapping
92	8501744	P washer (1.75 φ x 4 x 0.3)	149	48196072	Bind tapping screw (2 φ x 5)
93	4839371	Push button actuator assy	150	48190602	Screw (2 φ x 7)
94	4823651	REC button lever	151	48196002	Azimuth screw
95	4823661	PLAY button lever	152	4832431	Tapping bind screw (2 φ x 4)
96	4823671	REW button lever	153	4853731	Washer (1.2 φ x 3.7 x 0.4)
97	4823681	FF button lever	154	4856329	Screw (2 φ x 5)
98	4823691	STOP button lever	155	4856342	Screw (2 φ x 8)
99	4823701	PAUSE button lever	156	4856345	Spring
100	48189902	REW lever	157	4853733	RC arm
101	48191322	PAUSE lever spring	158	4853734	FF control arm
102	48191332	PAUSE stopper	159	4856344	Screw (2 φ x 7)
103	48191002	Button lever spring	160	4819554	R/P head
104	4856320	PAUSE lever	161	2557531	E head
105	48202152	Sub chassis	162	4819077	Washer (1.2 φ x 3 x 0.4)
106	48190072	Button lever spring	163	48189922	Switch plate
107	48202172	PLAY button lever spring	164	4832432	Washer (2.05 φ x 4 x 0.5)
108	4819008	Actuator spring	165	8501746	Main belt
109	48190092	Auto lever	166	8501749	Leaf switch MSW-1275
110	48190002	Auto lever spring	167	8501741	Leaf switch MSW-1290
111	48202142	Button lever spring	168	48191912	P Tapping screw ( φ 2 x 6)
112	4856331	Leaf switch MSW-1541T	169	8501740	P Washer CUT ( φ 2.8 x 6 x 0.5)
113	4856332	Head panel	170	8501731	Record spring board
114	4842423	Sensing plate assy			
115	4832522	Screw			
116	48202212	Head panel spring			
117	48190062	PR stopper			

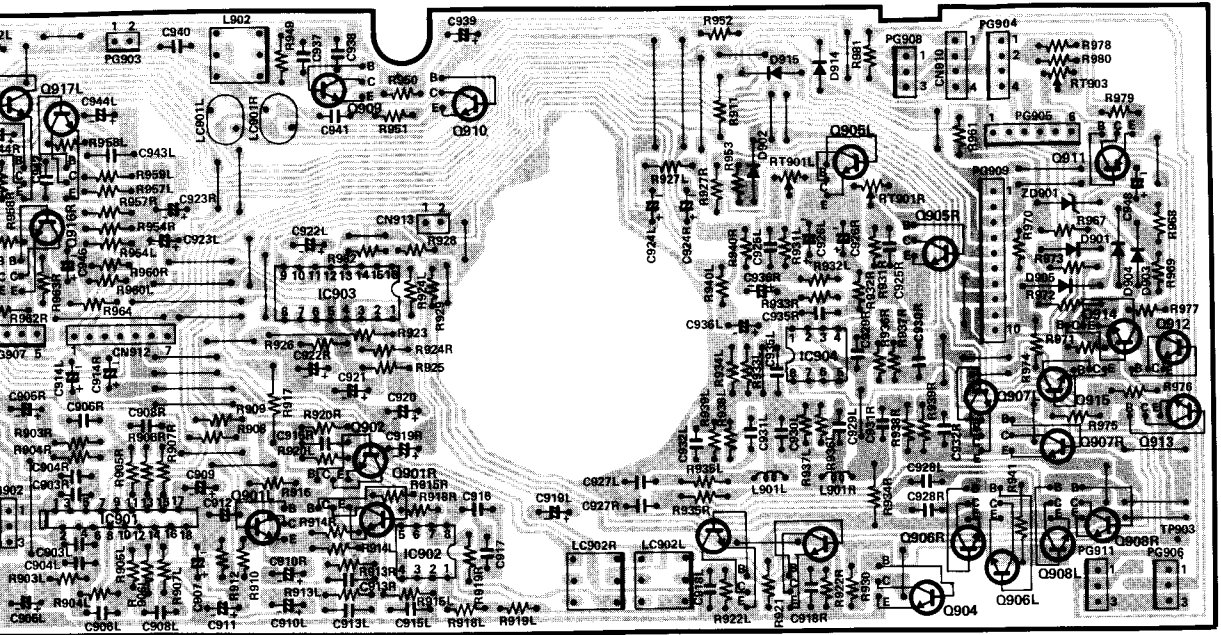


S901  
REC/PLAY SELECT SWITCH

RT902L, R  
BIAS ADJ.

RT901L, R  
REC. PLAY OUTPUT  
LEVEL ADJ.

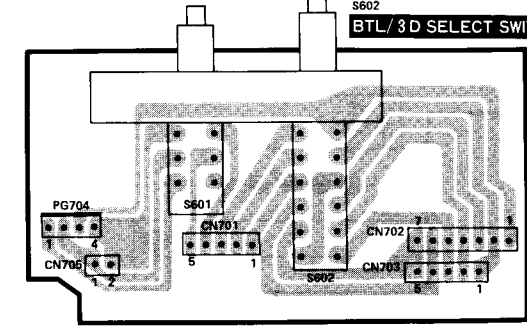
RT903  
TAPE SPEED ADJ.



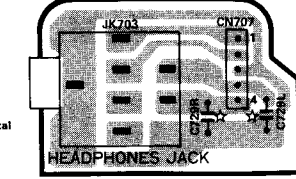
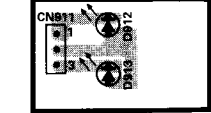
SWITCH P.W.B. (1)

S601  
3D SYSTEM SWITCH

S602  
BTL/3D SELECT SWITCH



LED P.W.B. (2) HEADPHONES P.W.B.

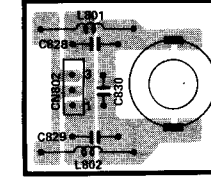


Voltage  
TAPE 1, TAPE 2: Normal  
TAPE 1, TAPE 2: STOP  
Dolby: OFF

TAPE 1, TAPE 2: Metal  
TAPE 1: PLAY  
TAPE 2: STOP  
Dolby: ON

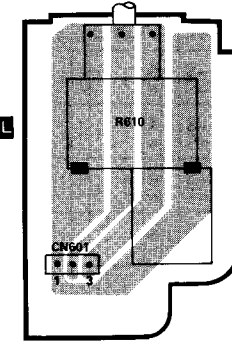
	E	C	B
Q904	0	0	0.7
Q905L, R	0	0	0.7
Q906L, R	0	0	0.6
Q907L, R	0	0	0
Q908L, R	0	0	0
Q909	0	0	0
Q910	0	0	0
Q911	12.6/8.4	12.6/8.4	11.9/7.6
Q912	0	0	0.5
Q913	0	3.5	0.5/0
Q914	0	0	0/0.7
Q915	0	0	0
Q916L, R	0	0	0.7
Q917L, R	0	0	0.6/0

VOLUME  
BASS P.W.B.

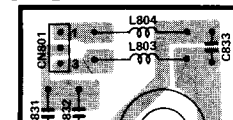


BASS CONTROL  
MOTOR

R610  
BASS CONTROL



VOLUME MAIN P.W.B.



IC402	Pin No.	IC403	Pin No.
-14.2	1 ~ 3	0	0
0	4	-14.4	4
13.5	5 ~ 7	0	5, 6, 7
	8	13.6	8

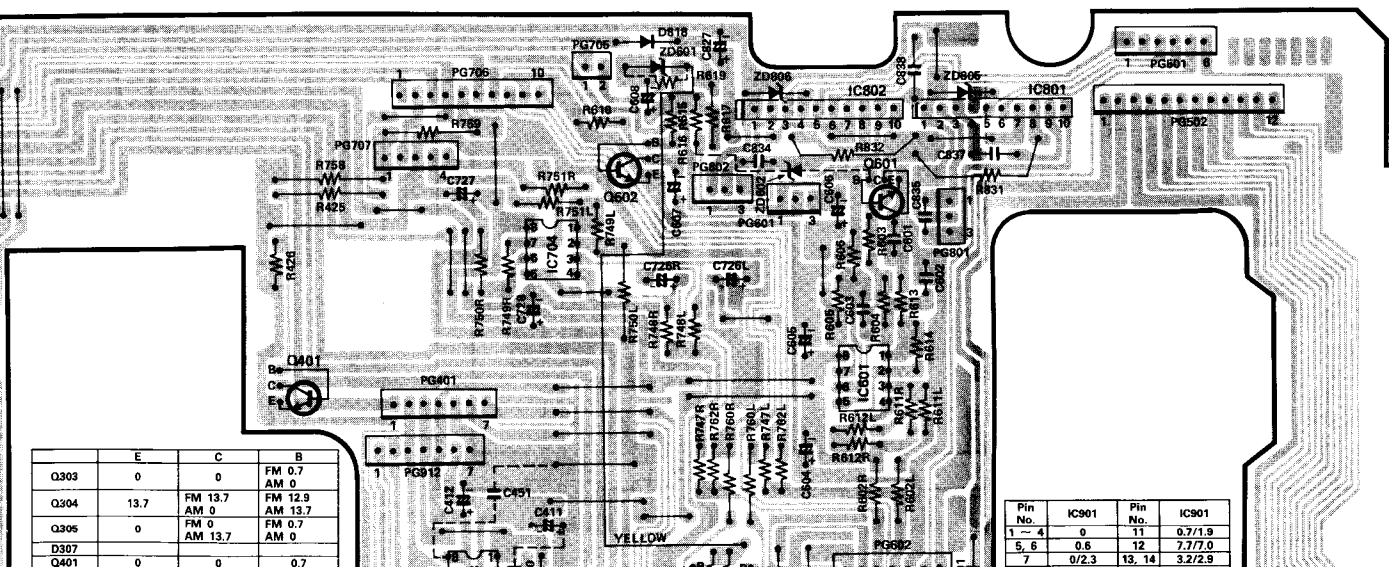
Pin No.	IC601	Pin No.	IC601
1 ~ 3	0	1 ~ 3	0
4	-14.4	4	-14.4
5, 6, 7	0	5, 6, 7	0
8	13.6	8	13.6

Pin No.	IC704	Pin No.	IC704
1 ~ 3	0	1 ~ 3	0
4	-14.4	4	-14.4
5 ~ 7	0	5 ~ 7	0
8	13.6	8	13.6

Pin No.	IC801	Pin No.	IC801
1	0	5, 6	0
2	0.5	7, 8	12.0
3	0.9	9	0.9
4	1.0	10	0.5

Pin No.	IC802	Pin No.	IC802
1	0	7, 8	12.0
2	0.5	9	0.9
3, 4	0.9	10	0.5
5, 6	0		

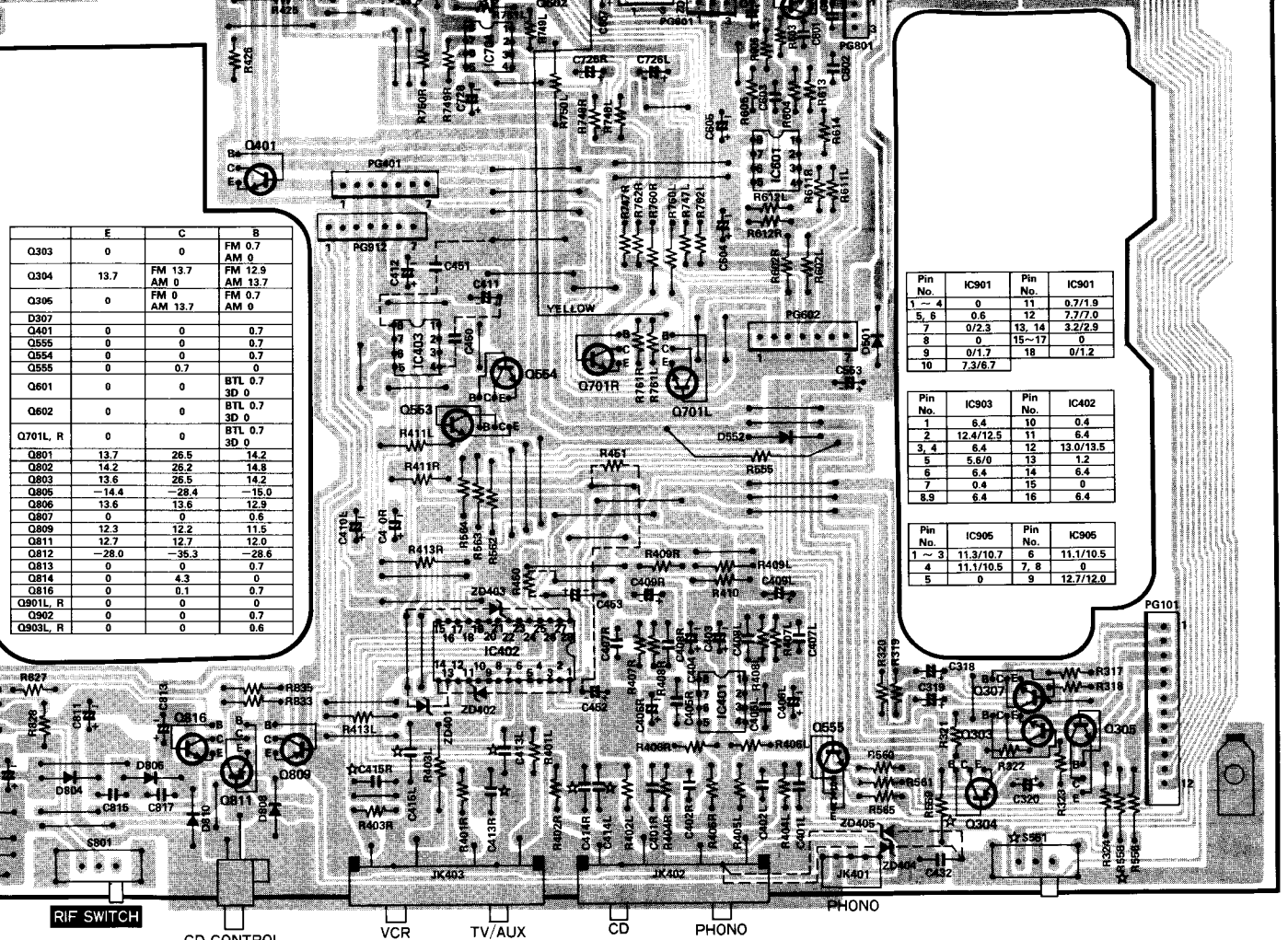
Pin No.	IC902	Pin No.	IC904
1 ~ 3	0	1 ~ 3	0
4	-14.5	4	-14.5
5 ~ 7	0	5 ~ 7	0
8	13.7	8	13.7



Pin No.	IC901	Pin No.	IC901
1 ~ 4	0	11	0.7/1.9
5, 6	0.6	12	7.7/7.0
7	0/2.3	13, 14	3.2/2.9

	E	C	B
Q303	0	0	FM 0.7 AM 0
Q304	13.7	FM 13.7 AM 0	FM 12.9 AM 13.7
Q305	0	FM 0 AM 13.7	FM 0.7 AM 0
D307	0	0	0
Q401	0	0	0.7

	E	C	B
Q303	0	0	FM 0.7 AM 0
Q304	13.7	FM 13.7 AM 0	FM 12.9 AM 13.7
Q305	0	FM 0 AM 13.7	FM 0.7 AM 0
D307			
Q401	0	0	0.7
Q555	0	0	0.7
Q554	0	0	0.7
Q555	0	0.7	0
Q601	0	0	BTL 0.7 3D 0
Q602	0	0	BTL 0.7 3D 0
Q701L, R	0	0	BTL 0.7 3D 0
Q801	13.7	26.5	14.2
Q802	14.2	26.2	14.8
Q803	13.6	26.5	14.2
Q805	-14.4	-28.4	-15.0
Q806	13.6	13.6	12.9
Q807	0	0.6	0
Q809	12.3	12.2	11.5
Q811	12.7	12.7	12.0
Q812	-28.0	-35.3	-28.6
Q813	0	0	0.7
Q814	0	4.3	0
Q816	0	0.1	0.7
Q901L, R	0	0	0
Q902	0	0	0.7
Q903L, R	0	0	0.6

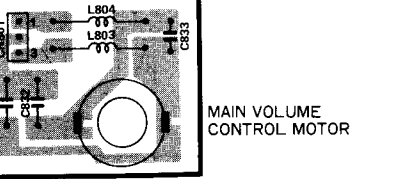


Pin No.	IC901	Pin No.	IC901
1	4	11	0.7/1.9
5, 6	0.6	12	7.7/7.0
7	0/2.3	13, 14	3.2/2.9
8	0	15-17	0
9	0/1.7	18	0/1.2
10	7.3/6.7		

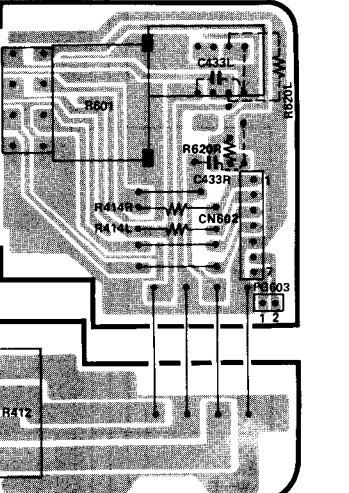
Pin No.	IC903	Pin No.	IC402
1	6.4	10	0.4
2	12.4/12.5	11	6.4
3, 4	6.4	12	13.0/13.5
5	5.6/0	13	1.2
6	6.4	14	6.4
7	0.4	15	0
8, 9	6.4	16	6.4

Pin No.	IC905	Pin No.	IC905
1-3	11.3/10.7	6	11.1/10.5
4	0	7, 8	0
5	11.1/10.5	9	12.7/12.0

VOLUME MAIN P.W.B.



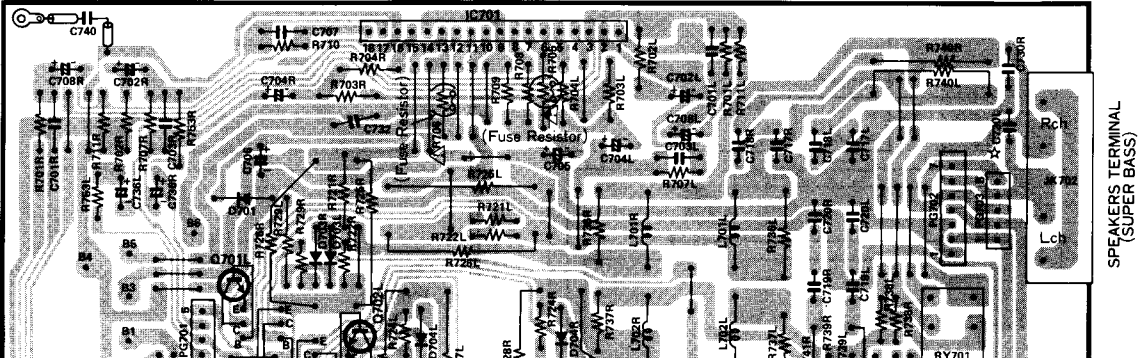
R601 MAIN VOLUME CONTROL



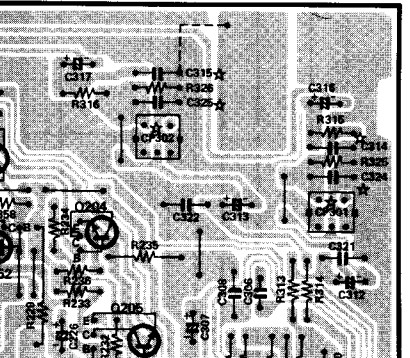
R412 BALANCE CONTROL



AMP. P.W.B.



RT 301 FM WPX ADJ.

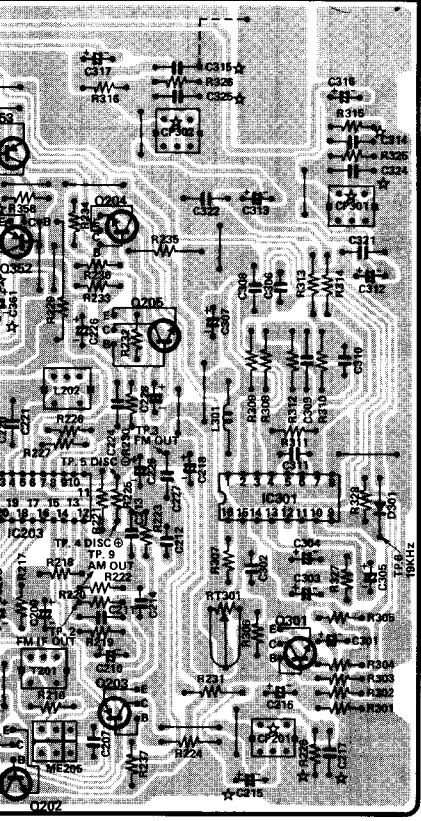


The circuit symbol (☆) means difference for destination. (Refer to the Das Schaltkreissymbol (☆) weist auf unterschiedliche Zielrichtungen hin. Le symbol de circuit (☆) signifie qu'il s'agit des difference pour destination.

SPEAKERS TERMINAL (SUPER BASS)

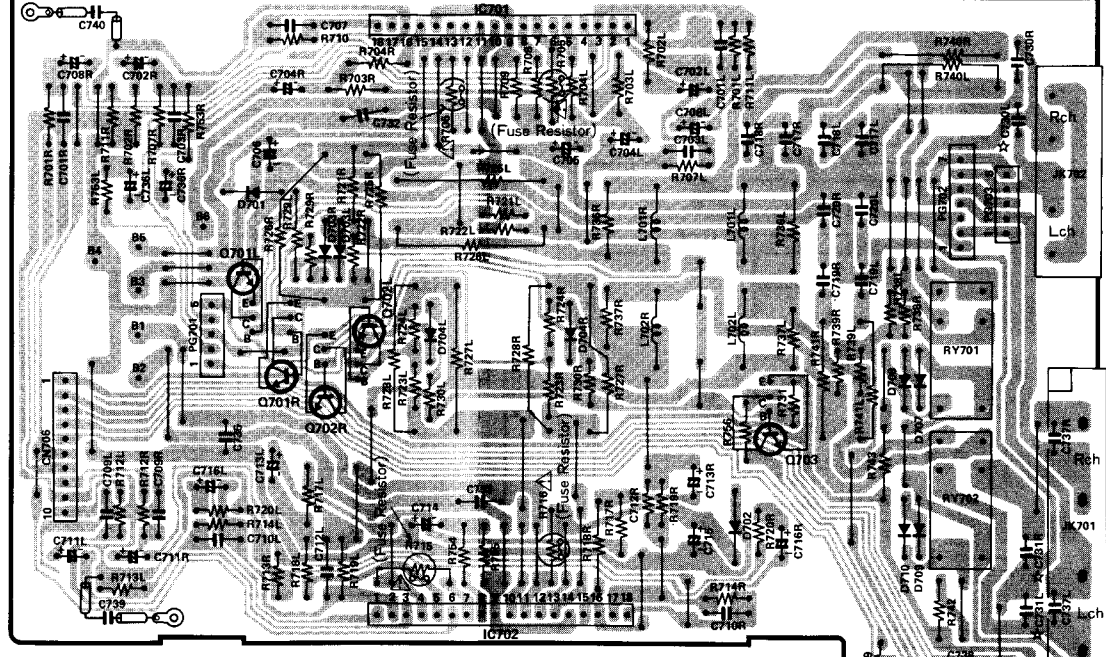


RT301  
FM MPX ADJ

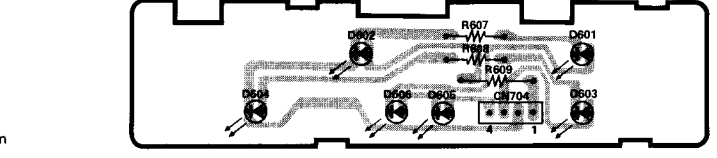


Is No. MPD

**AMP. P.W.B.**



**LED P.W.B. (1)**



SPEAKERS TERMINAL  
(SUPER BASS)

SPEAKERS TERMINAL

Q102	D	G	S

	E	C	B
Q103			
Q151			
Q152			
Q202	FM 10.5 AM 10.8	FM 0 AM 10.8	FM 13.5 AM 10.1
Q203	0	0	FM 0.6 AM 0
Q204	0.1	FM 12.1 AM 12.8	0.1
Q205	0.1		0.8
Q301	2.2	FM 8.4 AM 6.5	2.8
Q351	13.7	FM 0 AM 13.7	FM 13.7 AM 13.0
Q352	13.7		
Q353	13.7		
Q354	13.7	FM 13.6 AM 0	FM 12.9 AM 13.7
Q355	0.6	FM 2.4 AM 1.2	1.1
Q356	0	FM 2.4 AM 1.2	0.6
Q357			
Q358	0		
Q501	0	0	0.6
Q502	0	5.5	0
Q503	5.6	-27.1	5.6
Q504	0	0	0.7
Q551	0	0	0.6
Q552	0	4.8	0
Q701L R			
Q702L R			
Q732			
Q704	0.8	0.9	1.6
Q808	0	0	0.7

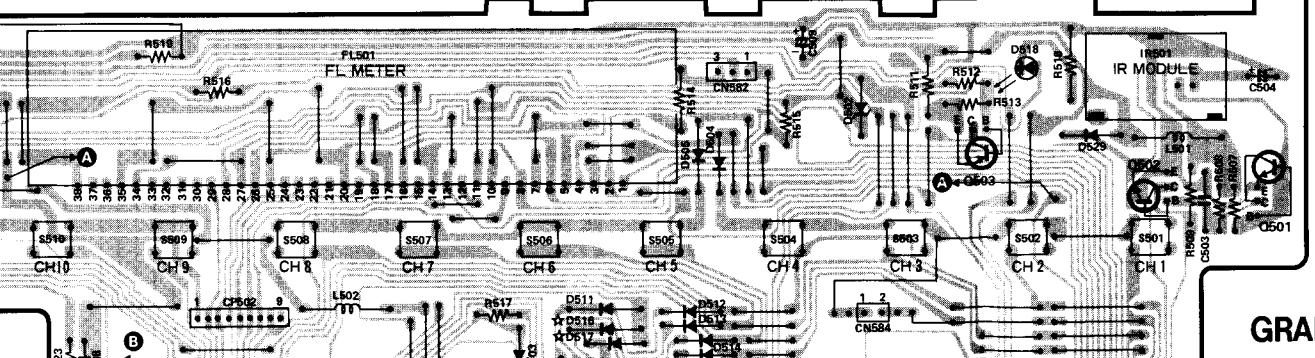
☆	ZS	VS	VC	Other
C215	USE	USE	—	—
C217	USE	USE	—	—
C24.325	—	USE	—	—
CP201	USE	—	—	—
CP301	—	USE	—	—
CP302	—	USE	—	—

☆	ZS	UC	Other
J6	USE	—	—

☆	VC	Other
D516	—	USE
D517	USE	—

Pin No.	FE101
1, 2	0
3	FM 13.5 AM 0
4, 5	0
6	FM 2.4 AM 1.2
7	0
8, 9	FM 0.2 AM 0
10	0

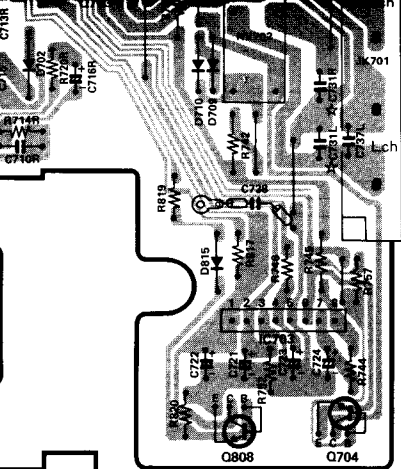
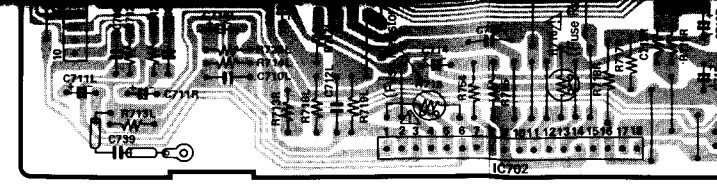
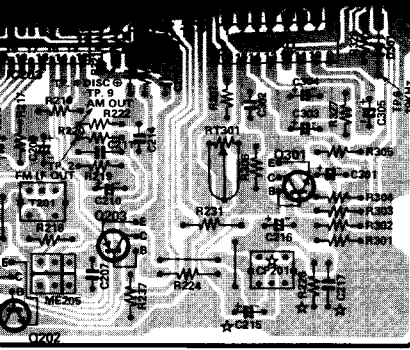
Pin No.	IC201
1	FM 0.2 AM 0
2	FM 3.5 AM 0
3	FM 0.1 AM 0
4	FM 3.9 AM 0
5	FM 6.1 AM 0
6	FM 3.8 AM 0
7	0
8	FM 3.0 AM 0
9	FM 3.9 AM 0



**GRAPHIC EQUALIZER P.W.B.**

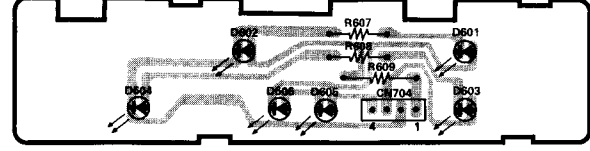
Pin No.	IC203	Pin No.	IC203

difference for destination. (Refer to the table in page 16.)  
 exist auf unterschiedliche Zielrichtungen hin. (Siehe die Tabelle auf Seite 16.)  
 diffie qu'il s'agit des difference pour destination. (Consulter la table dans le page 16.)

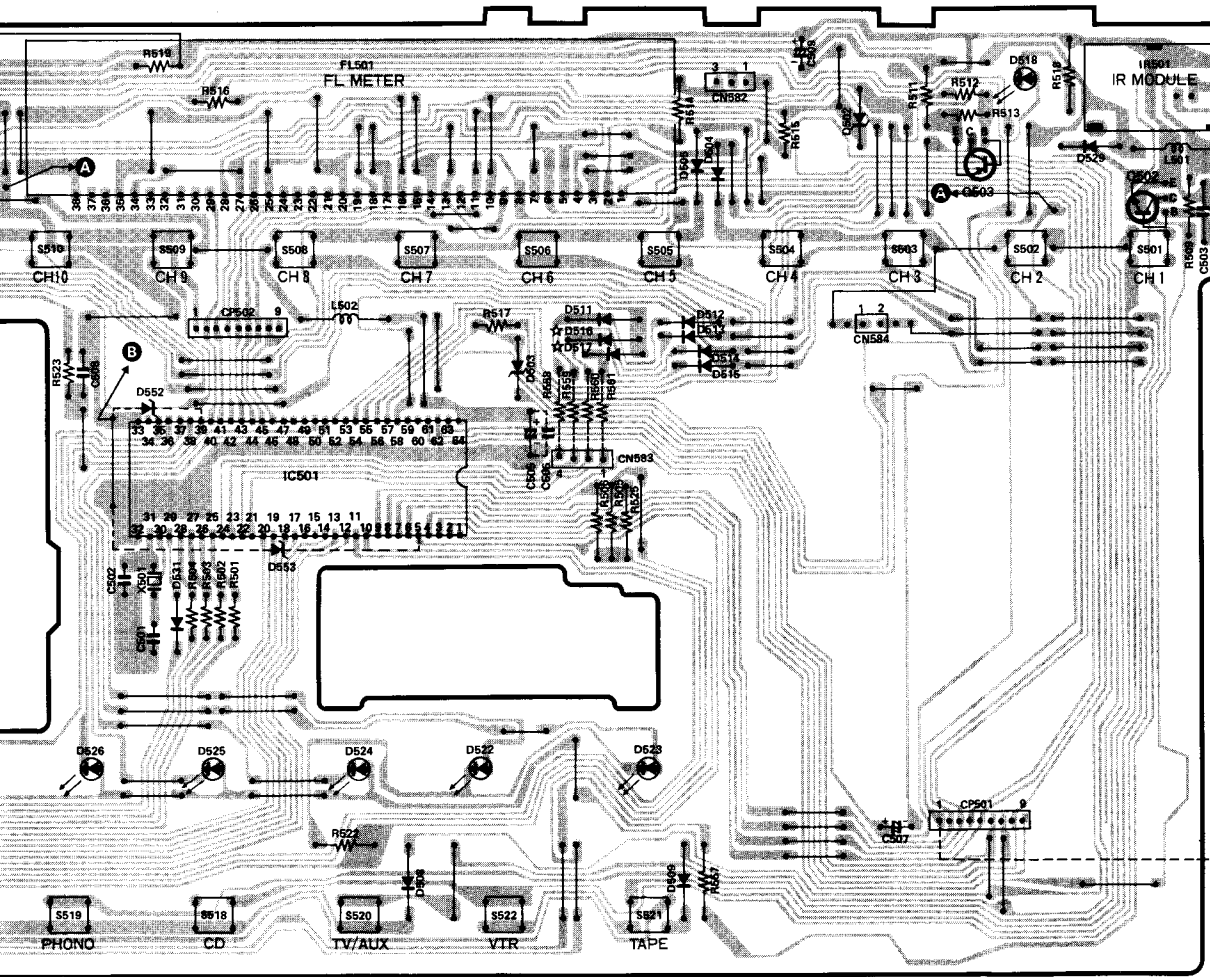


SPEAKERS TERMINAL

LED P.W.B. (1)



No. Note 3 : Connector CN582 shall be changed to CN504 in products No. 13,000 and up.

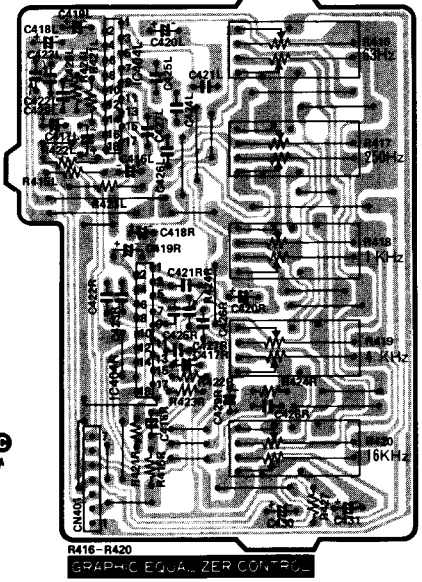


	ZS	VS	VC	Other
C215	USE	USE		
C217	USE	USE		
C242S	USE	USE		
CP201	USE	USE		
CP301		USE		
CP302		USE		

☆	ZS	UC	Other
J6	USE		

☆	VC	Other
D516		USE
D517	USE	

GRAPHIC EQUALIZER P.W.B.



R416-R420 GRAPHIC EQUALIZER CONTROL

Q102	D	G	S	
Q103		E	C	B
Q151				
Q152				
Q202	FM 10.5 AM 10.8	FM 0 AM 0	FM 13.5 AM 10.1	FM 0.6 AM 0
Q203	0	0	0	0
Q204	0.1	FM 12.1 AM 12.8	0.1	0.8
Q205	0.1	0.1	0.8	0.8
Q301	2.2	FM 6.4 AM 6.5	2.8	2.8
Q351	13.7	FM 0 AM 13.7	FM 13.7 AM 13.0	FM 13.7 AM 13.0
Q352	13.7	13.7	13.7	13.7
Q353	13.7	13.7	13.7	13.7
Q354	13.7	FM 13.6 AM 0	FM 12.9 AM 13.7	FM 12.9 AM 13.7
Q355	0.6	FM 2.4 AM 1.2	1.1	1.1
Q356	0	FM 2.4 AM 1.2	0.6	0.6
Q357	0	0	0	0
Q501	0	0	0.6	0.6
Q502	0	5.5	0	0
Q503	5.6	-27.1	5.6	5.6
Q504	0	0	0.7	0.7
Q551	0	0	0.6	0.6
Q552	0	4.8	0	0
Q701L,R				
Q702L,R				
Q703				
Q704	0.8	0.9	1.6	1.6
Q808	0	0	0.7	0.7

Pin No.	FE101	Pin No.	IC201
1, 2	0	1	FM 0.2 AM 0
3	FM 13.5 AM 0	2	FM 3.5 AM 0
4, 5	0	3	FM 0.1 AM 0
6	FM 2.4 AM 1.2	4	FM 3.9 AM 0
7	0	5	FM 6.1 AM 0
8, 9	FM 0.2 AM 0	6	FM 3.8 AM 0
10	0	7	0
		8	FM 3.0 AM 0
		9	FM 3.9 AM 0

Pin No.	IC203	Pin No.	IC203
1 ~ 3	FM 2.3 AM 1.1	12	1.5
4	0	13, 14	FM 0.2 AM 0
5	FM 9.9 AM 10.8	15	FM 2.2 AM 1.1
6	FM 10.4 AM 10.8	16	FM 1.4 AM 1.5
7	FM 10.6 AM 10.8	17	FM 0
8	FM 5.7 AM 5.8	18, 19	FM 0
9	FM 3.5 AM 3.0	20	FM 2.0 AM 2.4
10	FM 3.1 AM 3.0	20, 21	FM 3.8 AM 3.7
11	1.4	22	FM 2.7 AM 1.5

Pin No.	IC301	Pin No.	IC301
1	13.7	9	12.0
2	2.4	10, 11	2.4
3	FM 5.4 AM 5.3	12	FM 0 AM 2.4
4, 5	FM 11.6 AM 11.7	13, 14	2.4
6, 7	8.6	15	FM 0.2 AM 0
8	0	16	FM 11.5 AM 12.2

Pin No.	IC351	Pin No.	IC351
1	FM 2.6 AM 2.7	17	FM 0.1 AM 13.7
2 ~ 8	0	18	FM 0
9	FM 13.7 AM 0.3	19	FM 2.8 AM 2.7
10	0	20	AM 0
11	FM 5.4 AM 5.6	20	FM 5.4 AM 5.6
12	0	21	0
13	0.1	22	1.1
14	FM 0.1 AM 0	23	0
15, 16	0	24	FM 2.6 AM 2.7

Pin No.	IC501	Pin No.	IC501	Pin No.	IC701	Pin No.	IC701	Pin No.	IC702	Pin No.	IC702	Pin No.	IC703	Pin No.	IC703
17-29	0	52	4.2	1, 2	-0.2	10	0	1, 2	-0.2	10	0	1 ~ 3	0	6	0.8
30-31	2.4	53	4.8				28.8								

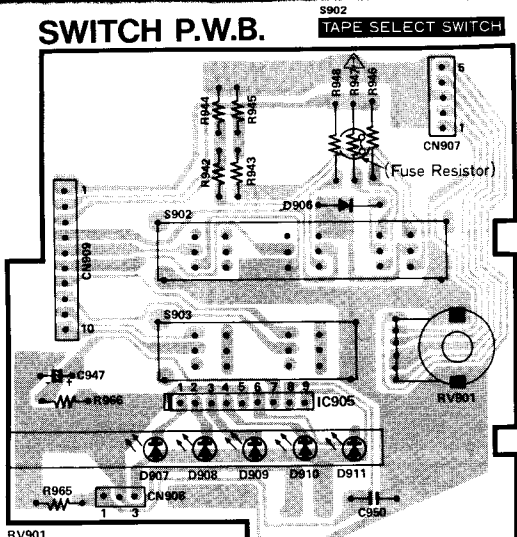
page 16.)  
die Tabelle auf Seite 16.)  
Consulter la table dans le page 16.)

G

H

I

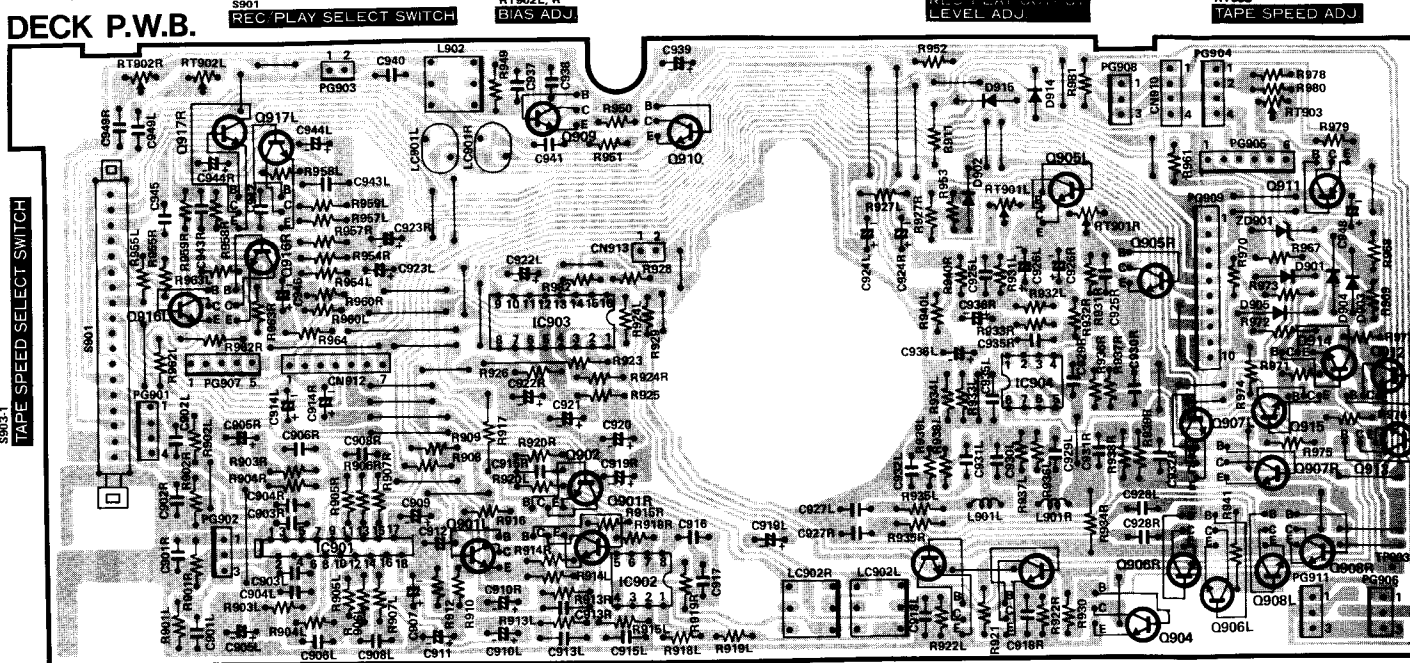
# SWITCH P.W.B.



RV901 REC VOLUME CONTROL

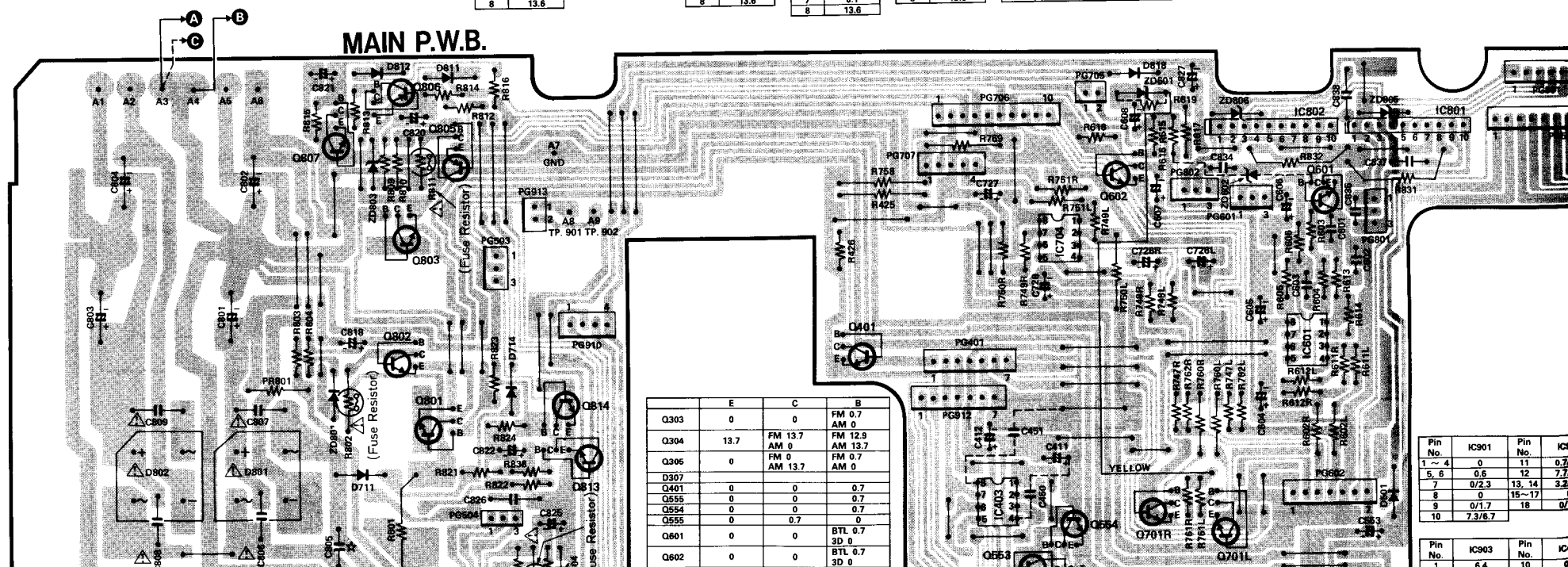
☆	LV	Other	☆	CS	VS,KS,BS	ES	SA	EW	ZS
S515	USE	---	C413LR	---	---	---	---	---	USE
☆	EW	Other	C414LR	---	---	---	---	---	USE
S551	USE	---	C415LR	---	---	---	---	---	USE
R558	USE	---	C729LR	---	---	---	---	---	USE
			C730LR	---	---	---	---	---	USE
			C731LR	---	---	---	---	---	USE
☆	VS, CS	Other	C805	USE	USE	USE	USE	USE	USE
R559	USE	---	R001	USE	---	---	---	---	---

# DECK P.W.B.



Pin No.	IC401	Pin No.	IC402	Pin No.	IC403	Pin No.	IC601	Pin No.	IC704	Pin No.	IC801	Pin No.	IC801	Pin No.	IC802	Pin No.	IC802	Pin No.	IC902	Pin No.	IC904
1 ~ 3	0	1	-14.2	1 ~ 3	0	1 ~ 3	0	1 ~ 3	0	1	0	7, 8	12.0	1 ~ 3	0	1 ~ 3	0	1 ~ 3	0	1 ~ 3	0
4	-14.4	2-27	0	4	-14.4	4	-14.4	4	-14.4	2	0.5	7.8	12.0	2	0.5	0.5	0	4	-14.5	4	-14.5
5 ~ 7	0	28	13.5	5 ~ 7	0	5	0	5 ~ 7	0	3	0.9	9	0.9	3, 4	0	0	0	5 ~ 7	0	5 ~ 7	0
8	13.6			8	13.6	6	13.6	8	13.6	4	1.0	10	0.5	5, 6	0	5, 6	0	8	13.7	8	13.7

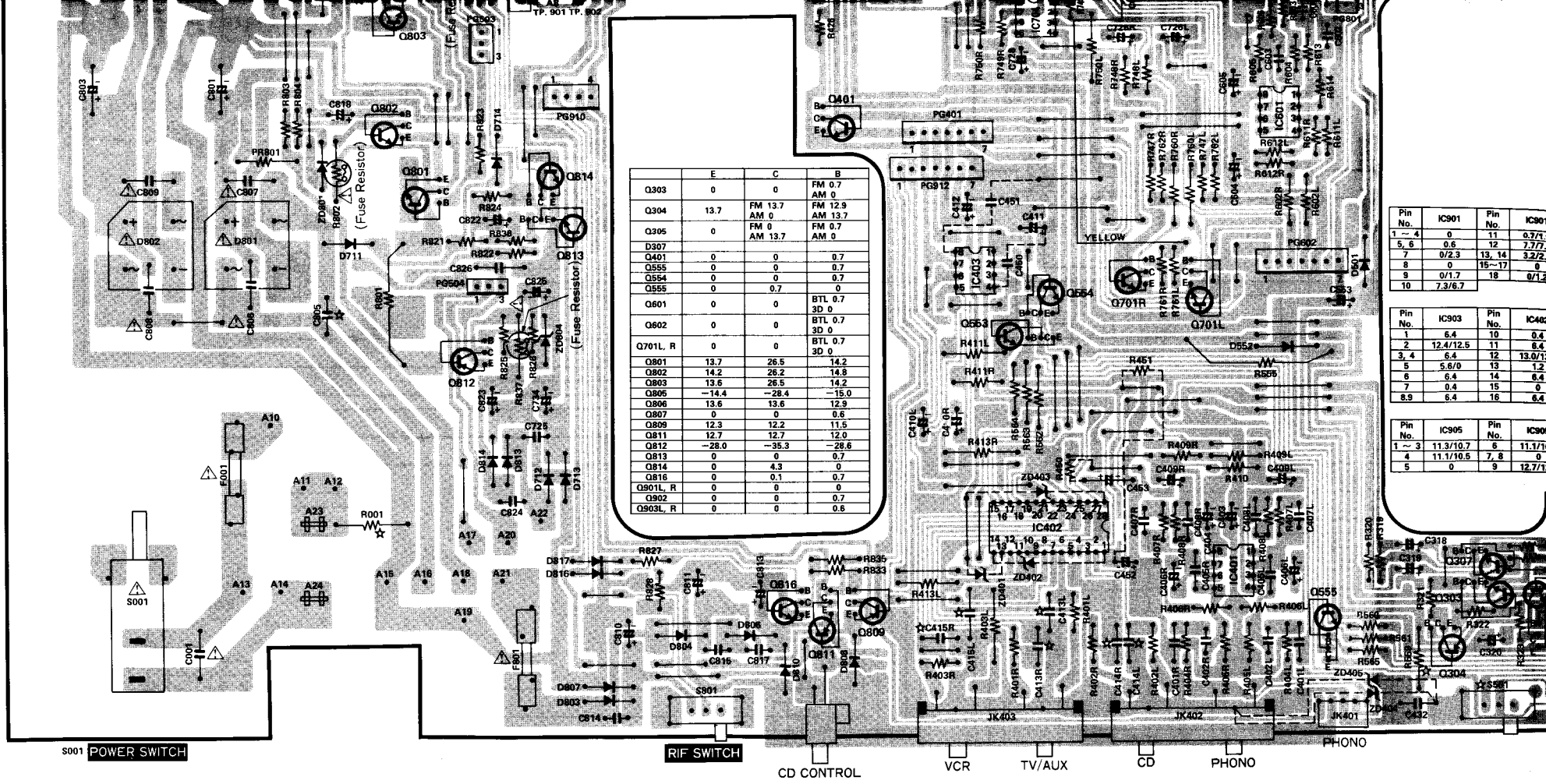
# MAIN P.W.B.



	E	C	B
Q303	0	0	FM 0.7 AM 0
Q304	13.7	FM 13.7 AM 0	FM 12.9 AM 13.7
Q306	0	FM 0 AM 13.7	FM 0.7 AM 0
D307			
Q401	0	0	0.7
Q554	0	0	0.7
Q555	0	0.7	0
Q601	0	0	BTL 0.7 3D 0
Q602	0	0	BTL 0.7 3D 0

Pin No.	IC901	Pin No.	IC901
1 ~ 4	0	11	0.7
5, 6	0.6	12	7.7
7	0/2.3	13, 14	7.7
8	0	15-17	3.2
9	0/1.7	18	0/1.7
10	7.3/6.7		

Pin No.	IC903	Pin No.	IC903
1	6.4	10	6.4



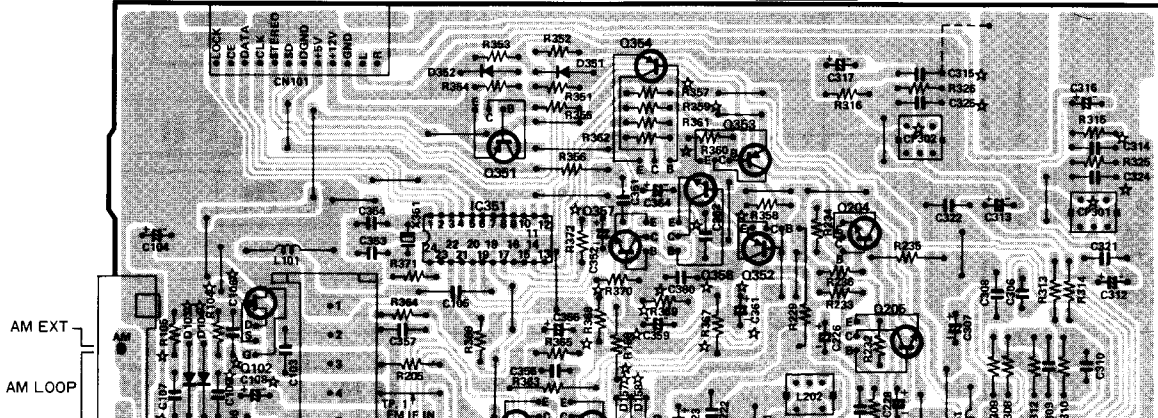
Pin No.	IC901	Pin No.	IC901
1-4	0	11	0.7/1.7
5, 6	0.6	12	7.7/7.7
7	0/2.3	13, 14	3.2/2.2
8	0	15-17	0
9	0/1.7	18	0/1.2
10	7.3/6.7		

Pin No.	IC903	Pin No.	IC400
1	6.4	10	0.4
2	12.4/12.5	11	8.4
3, 4	6.4	12	13.0/11.0
5	5.6/0	13	1.2
6	6.4	14	0.4
7	0.4	15	0
8, 9	6.4	16	0.4

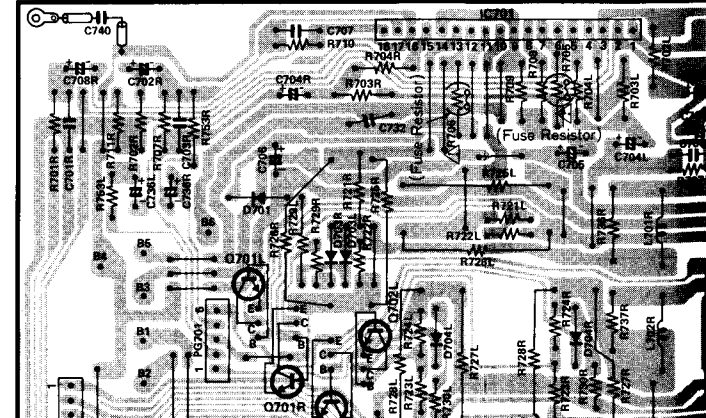
Pin No.	IC905	Pin No.	IC900
1-3	11.3/10.7	6	11.1/11.1
4	11.1/10.5	7, 8	0
5	0	9	12.7/11.1

### TUNER P.W.B.

### RT 301 FM MPX ADJ

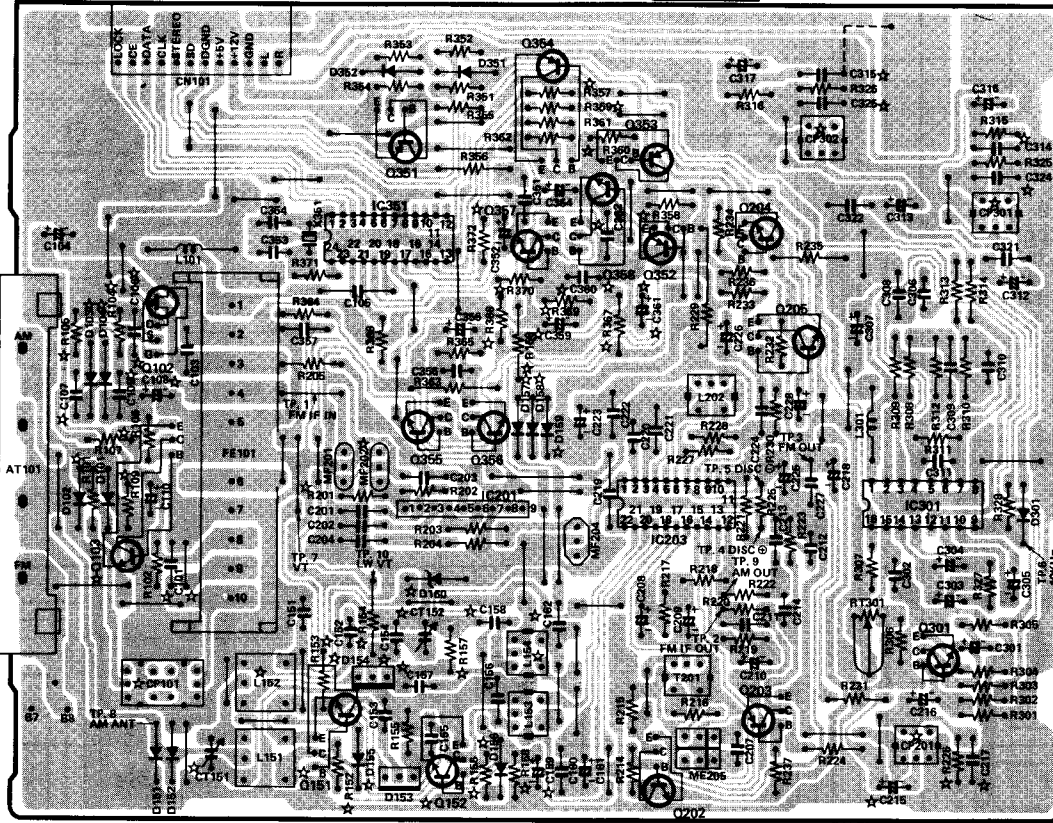


### AMP. P.W.B.

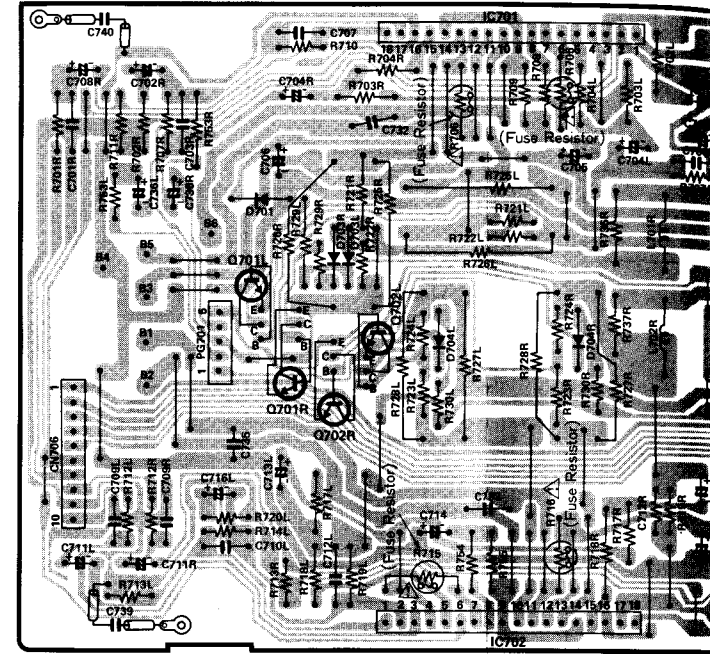


TUNER P.W.B.

RT301  
FM MPX ADJ.



AMP. P.W.B.



AM EXT  
AM LOOP  
FM 75Ω

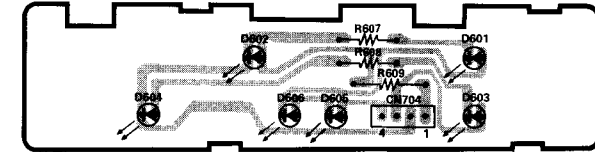
☆	LW	Other
L151	USE	---
L152	USE	---
D155	USE	---
D156	USE	---
D157	USE	---
D158	USE	---
D159	USE	---
D160	USE	---
Q151	USE	---
Q152	USE	---
Q352	USE	---
Q353	USE	---
Q357	USE	---
Q358	USE	---
R152	USE	---
R154	USE	---
R156	USE	---
R157	USE	---
R158	USE	---
R159	USE	---

Note 1 : The SUB P.W.B. shall be deleted from products No. 13,000 and up.

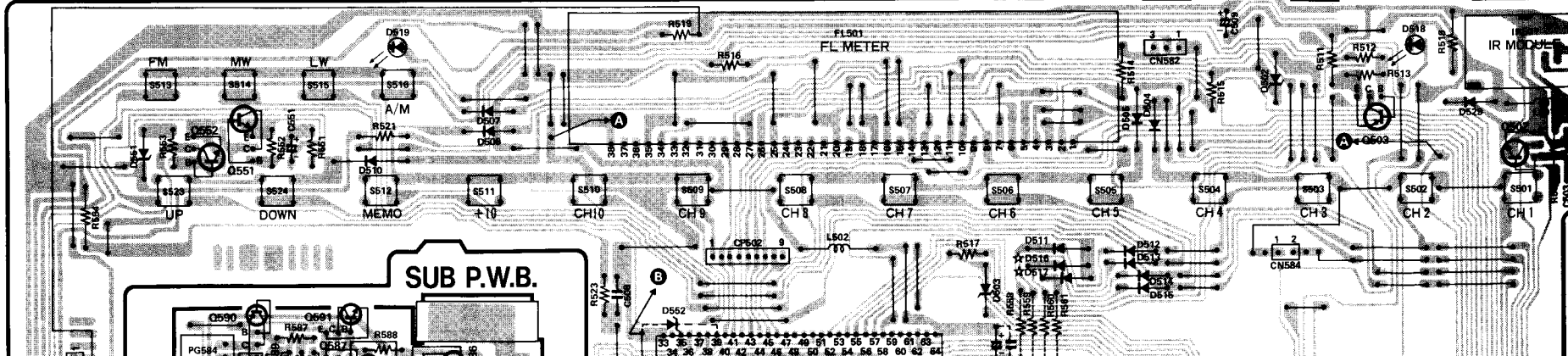
Note 2 : IC501 MPD75208CW-200 shall be changed to MPD 75208CW-227 in products No. 13,000 and up.

Note 3 : Connector CN582 shall be changed to CN504 in products No. 13,000 and up.

LED P.W.B. (1)

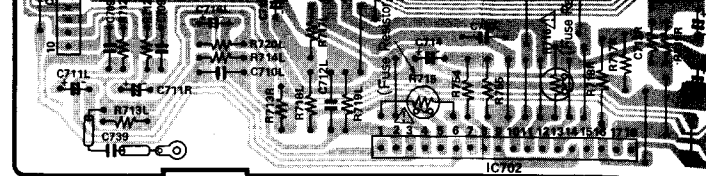
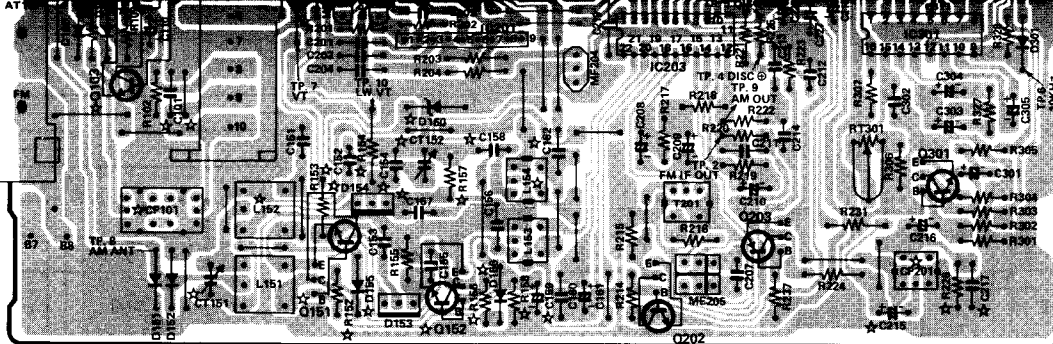


FRONT P.W.B.

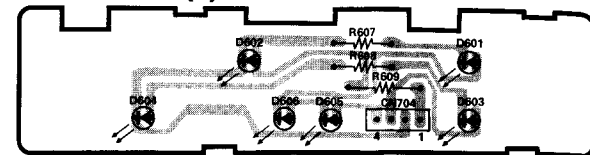


☆	LW	Other
R357	USE	---
R358	USE	---
R359	USE	---
R360	USE	---
R367	USE	---
R368	USE	---
R369	USE	---
R370	USE	---
CT152	USE	---
C152	USE	---
C154	USE	---
C157	USE	---
C158	USE	---
C159	USE	---
C162	USE	---
C359	USE	---
C360	USE	---

FM 75Ω



LED P.W.B. (1)



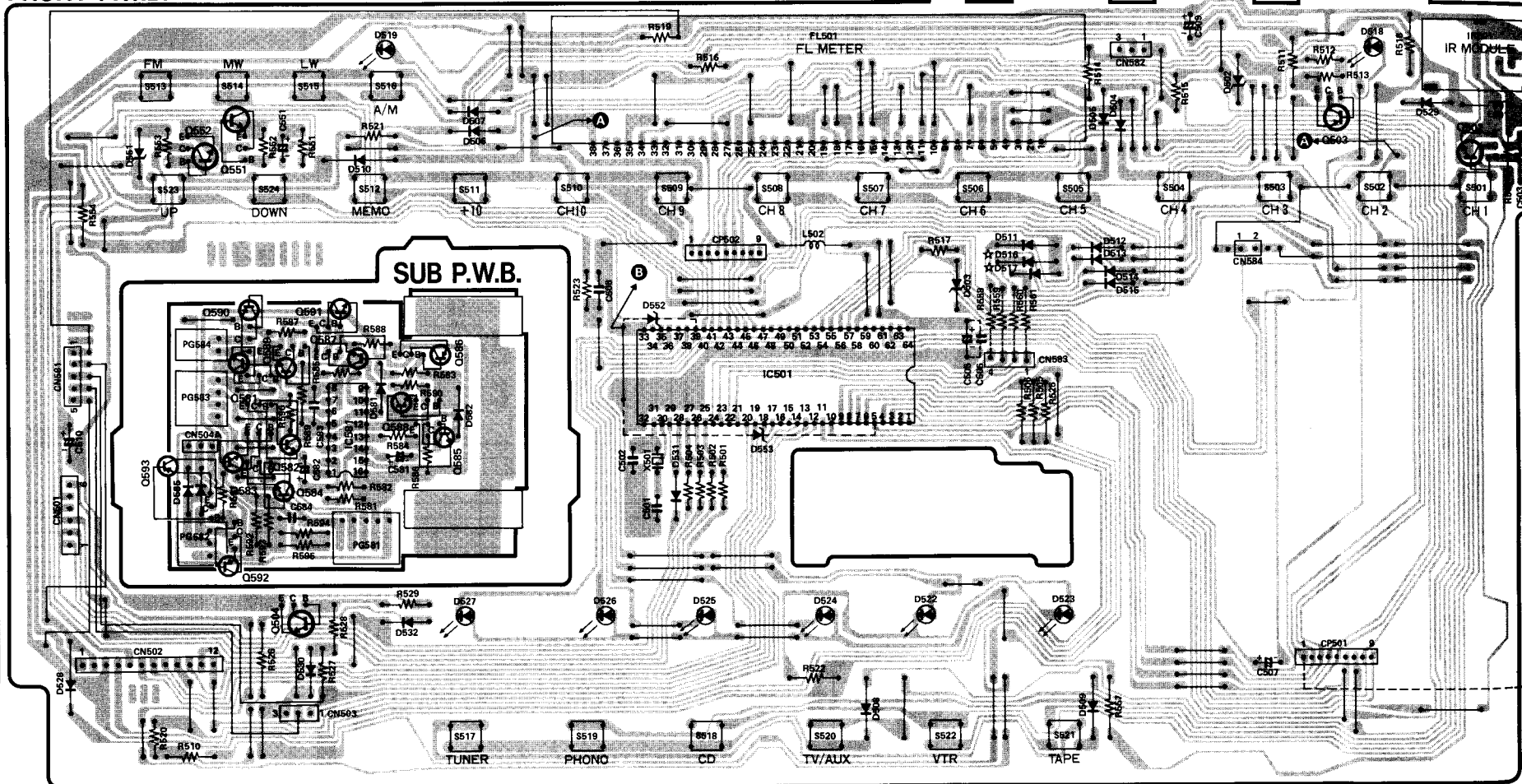
☆	LW	Other
L151	USE	
L152	USE	
D155	USE	
D156	USE	
D157	USE	
D158	USE	
D159	USE	
D160	USE	
Q151	USE	
Q152	USE	
Q352	USE	
Q353	USE	
Q357	USE	
Q358	USE	
R152	USE	
R154	USE	
R156	USE	
R157	USE	
R158	USE	
R159	USE	

Note 1 : The SUB P.W.B. shall be deleted from products No. 13,000 and up.

Note 2 : IC501 MPD75208CW-200 shall be changed to MPD 75208CW-227 in products No. 13,000 and up.

Note 3 : Connector CN582 shall be changed to CN504 in products No. 13,000 and up.

FRONT P.W.B.



☆	LW	Other
R357	USE	
R358	USE	
R359	USE	
R360	USE	
R367	USE	
R368	USE	
R369	USE	
R370	USE	
CT152	USE	
C152	USE	
C154	USE	
C157	USE	
C158	USE	
C159	USE	
C162	USE	
C359	USE	
C360	USE	
C361	USE	
C362	USE	

☆	ZS	Other
Q102	USE	
Q103	USE	
D103	USE	
D104	USE	
R101	USE	
R104	USE	
R105	USE	
R106	USE	
R109	USE	
R201	USE	
C101	USE	
C106	USE	
C107	USE	
C108	USE	
C109	USE	
C314	USE	
C315	USE	
CP101	USE	
MF202	USE	

Voltage For CD/except CD

Pin No.	IC581
1	5.6
2	0
3	4.8/0
4	0
5	4.7
6	5.6
7	0
8	5.6
9	0
10	5.6

	E	C	B
Q581	0	0	0
Q582	0	0	0
Q583	0	0	0

	E	C	B
Q588	0	0/5, 6	0/7, 0
Q589	0	3, 6	1, 6
Q590	3, 6	2, 4	1, 6

Pin No.	IC501	Pin No.	IC501	Pin No.	IC501
1~4	0	82	4.2		
11	4.2	17~29	0		
20, 31	2, 4				

Pin No.	IC701	Pin No.	IC701	Pin No.	IC701
1, 2	-0.2	10	0		
3	2.8				

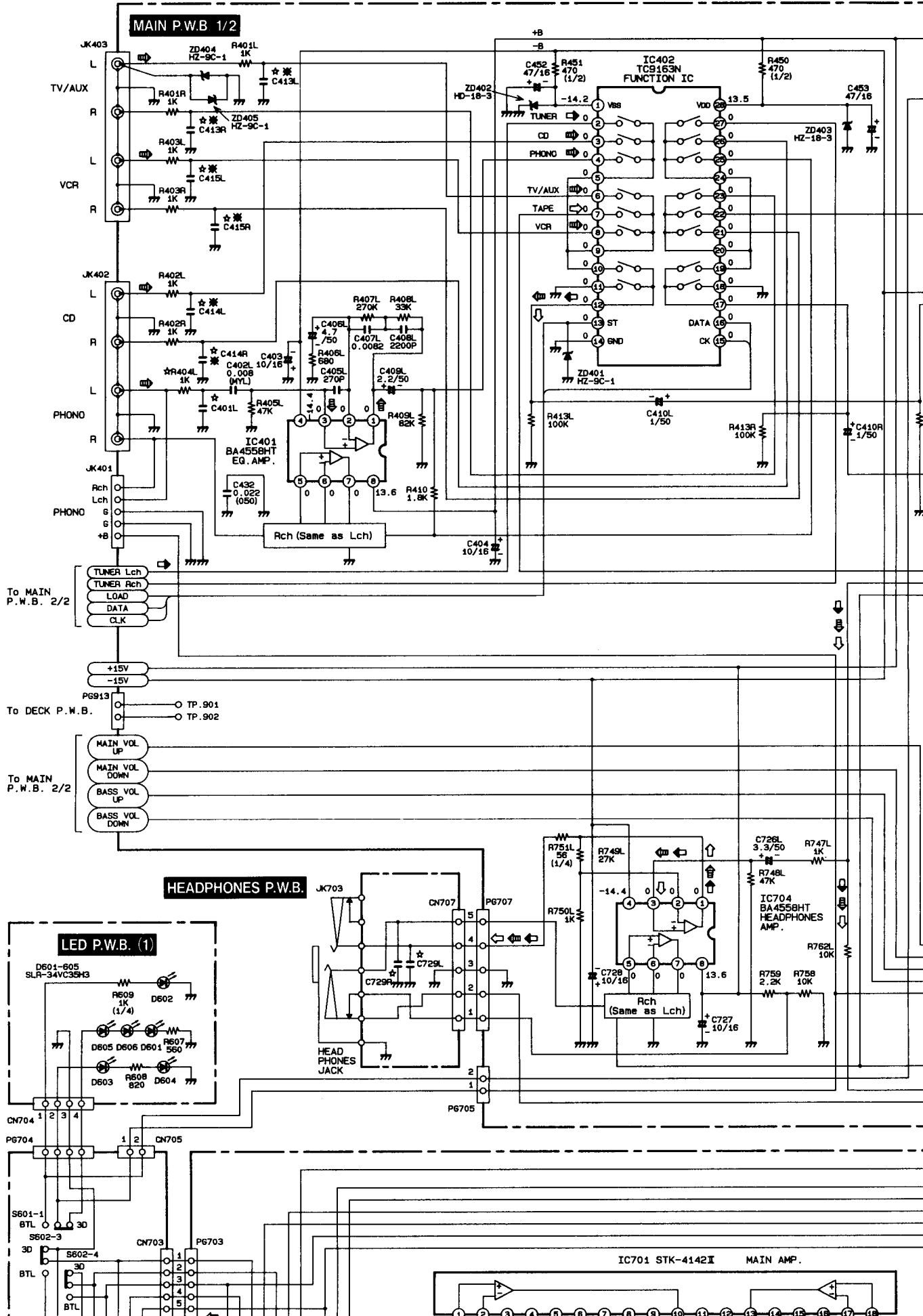
Pin No.	IC702	Pin No.	IC701	Pin No.	IC703	Pin No.	IC703
1, 2	-0.2	10	0				
3	2.8						

Pin No.	IC703	Pin No.	IC703
1~3	0	6	0.8
	0		0.8

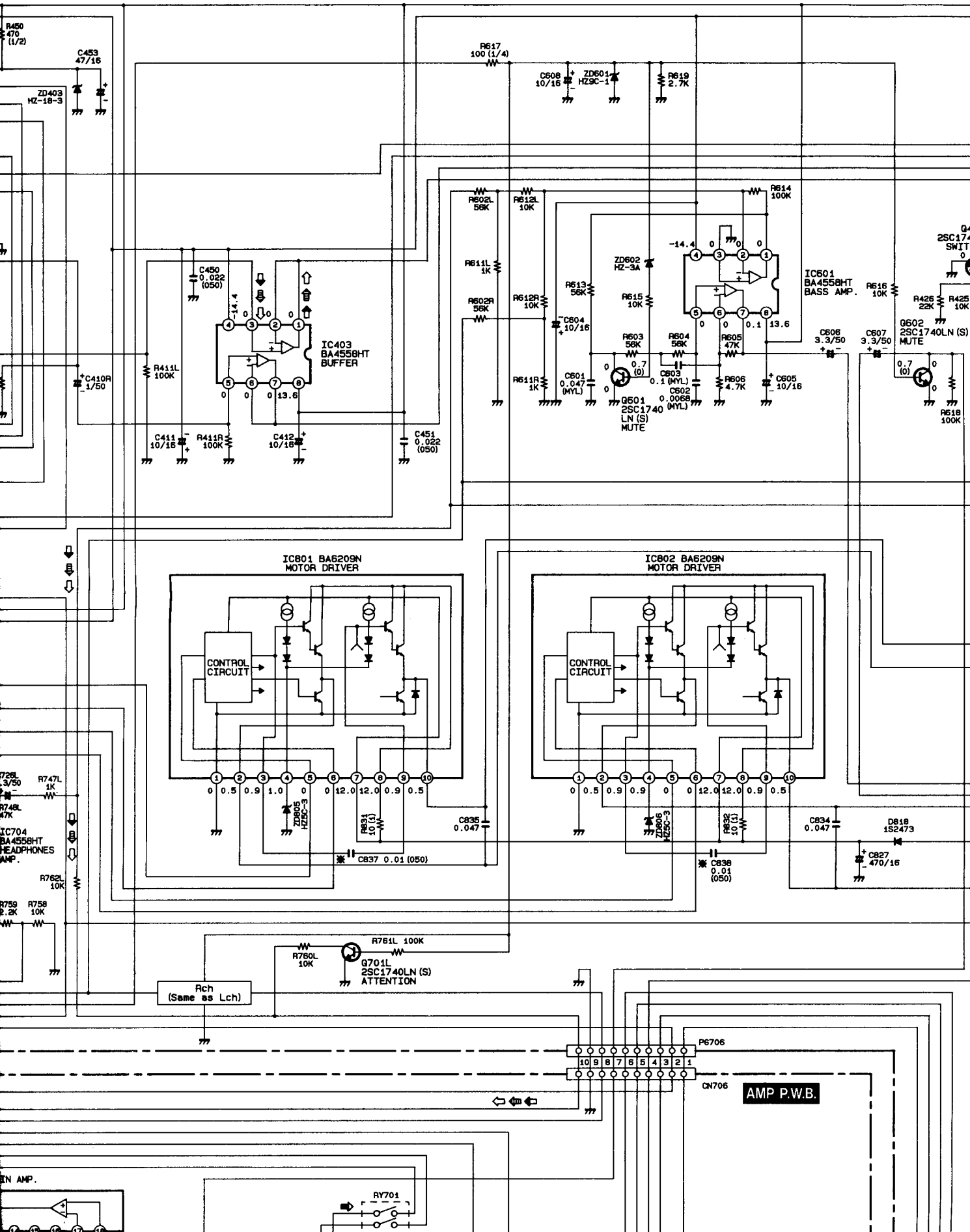


# CIRCUIT DIAGRAM · SCHALTPLAN · PLAN DE CIRCUIT

- ※ : Axial lead cylindrical ceramic
- ※ : Zylindrischer Keramik Kondensator
- ※ : Condensateur céramique à axe

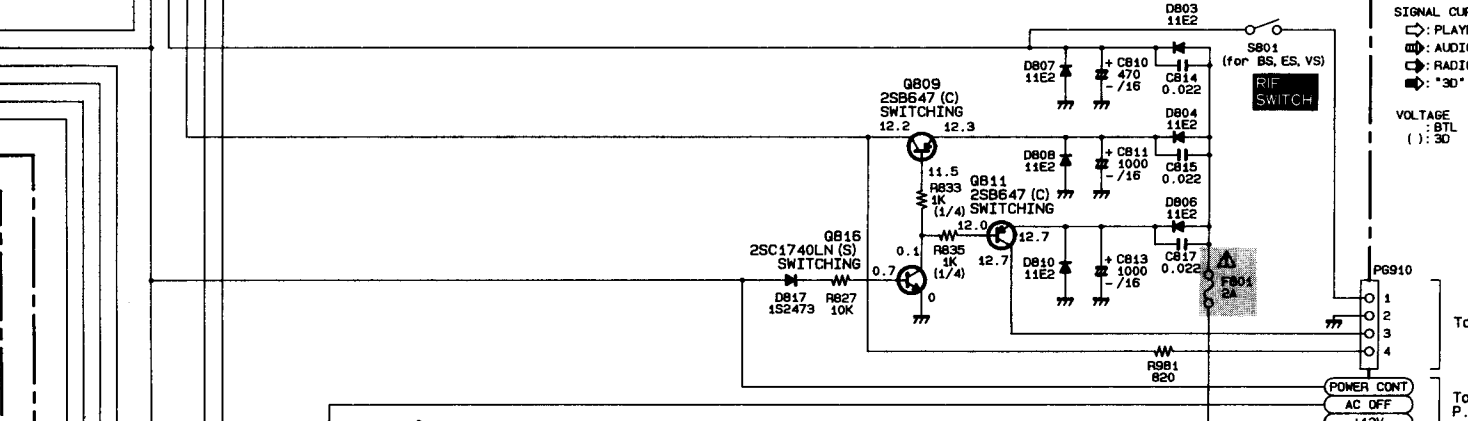
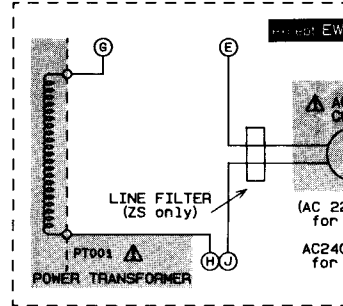
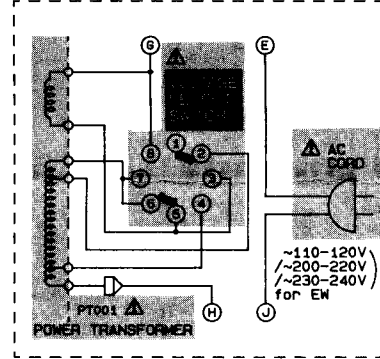
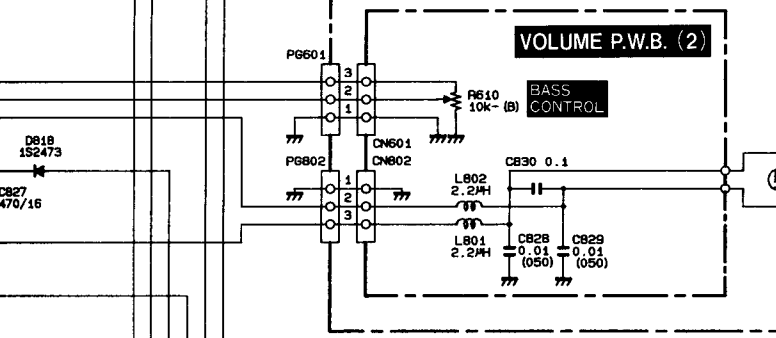
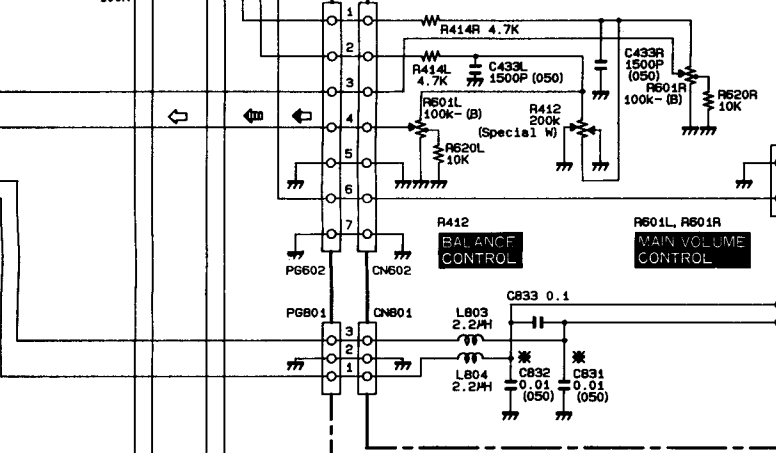
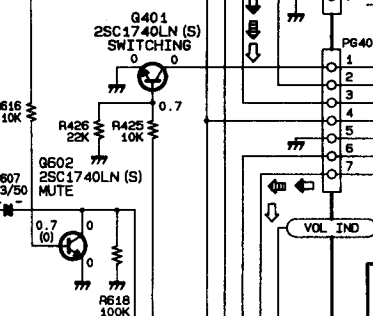
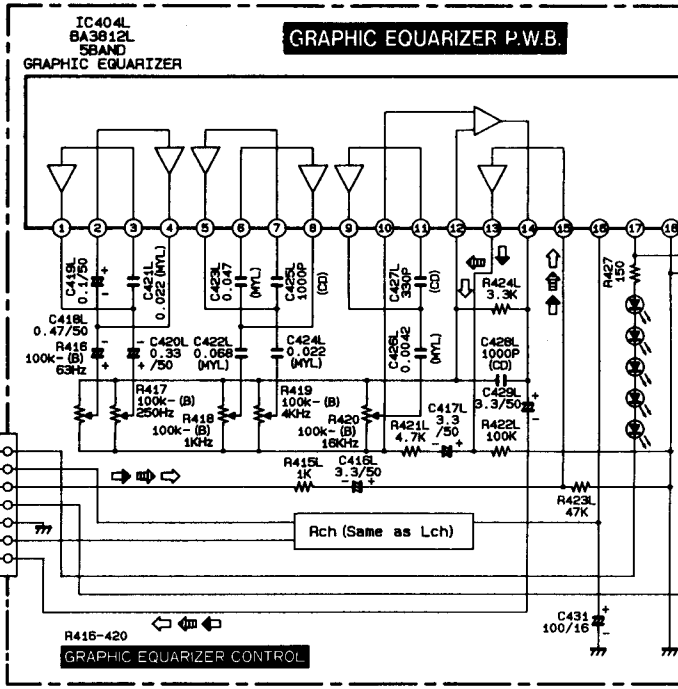


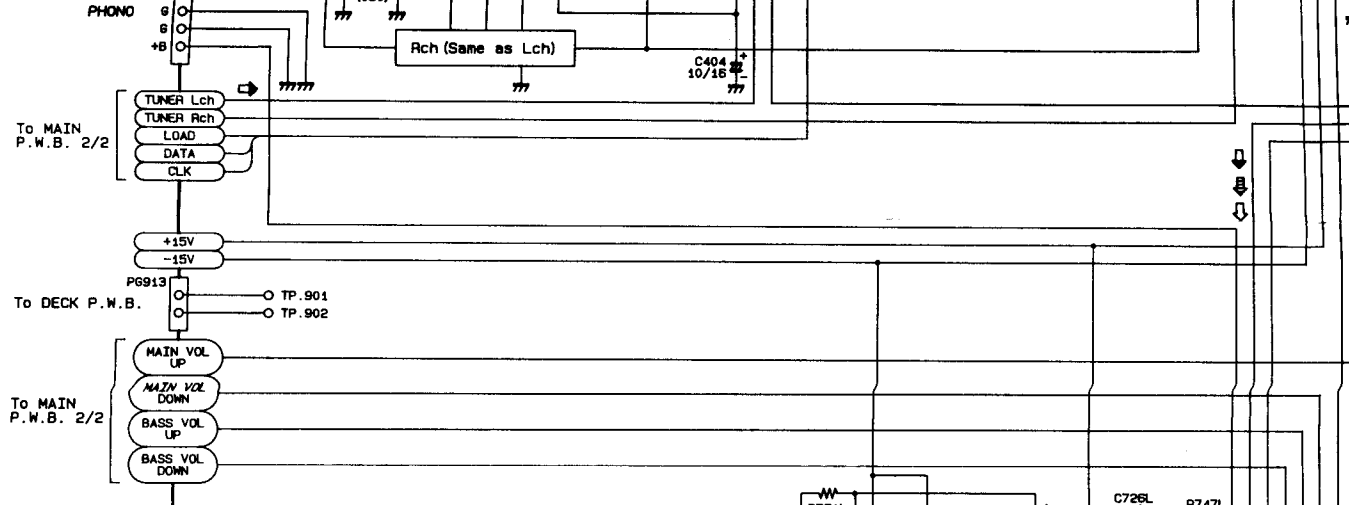
d cylindrical ceramic capacitor.  
 cher Keramikkondensator mit axialer Zuleitung.  
 ateur céramique clindrique à conducteur axial.



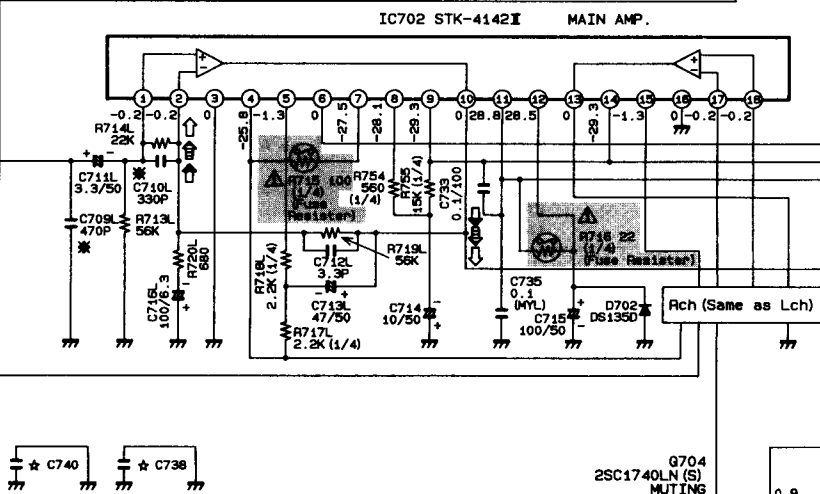
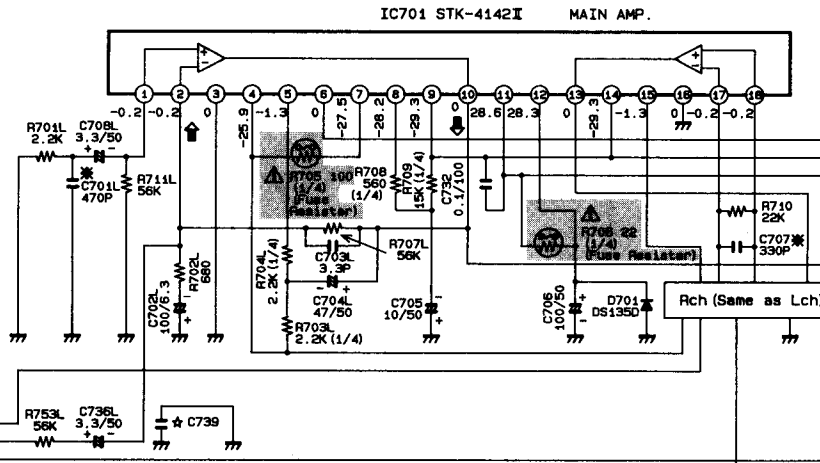
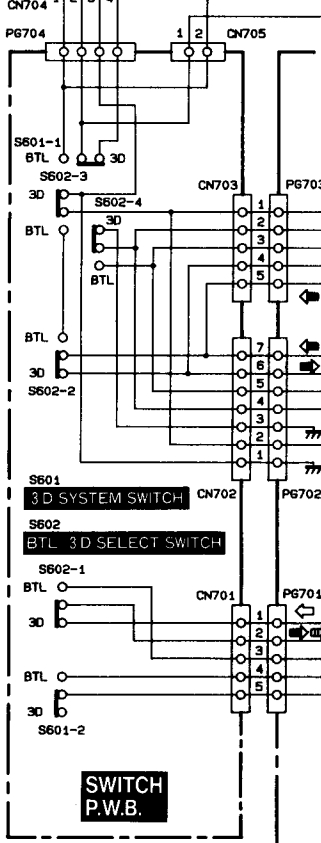
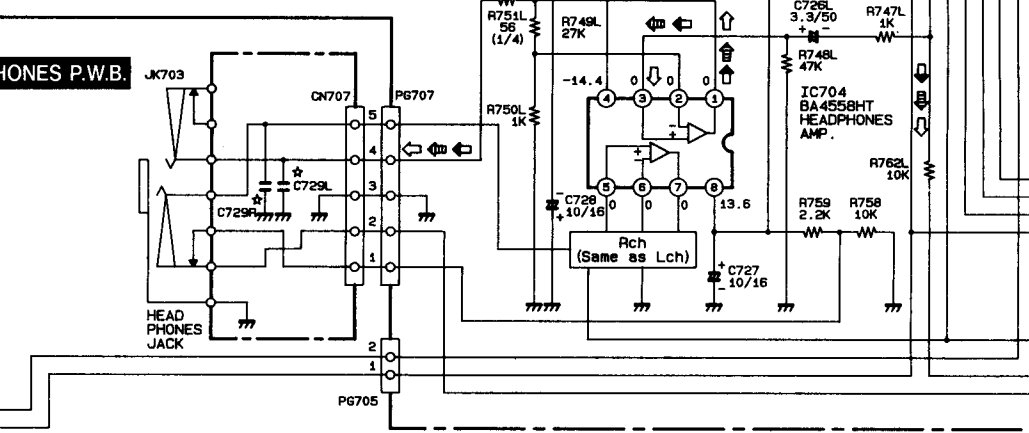
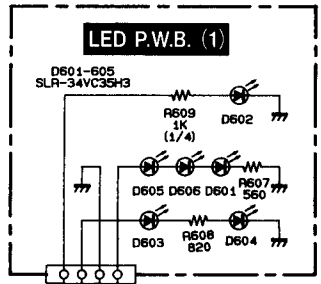
★	CS	VS, KS BS	ES	SA	EW	ZS
C401LR	150P	150P	150P	150P	150P	330P
C413LR	—	—	—	—	—	100P
C414LR	—	—	—	—	—	100P
C415LR	—	—	—	—	—	100P
C729LR	—	—	—	—	—	0.01
C731LR	—	—	—	—	—	0.01
C805	—	0.1 / 100	0.1 / 100	0.1 / 100	0.1 / 100	0.1 / 100
R001	2.7M	—	—	—	—	—
R404LR	2.2K	2.2K	2.2K	2.2K	2.2K	3.3K
C737LR	—	—	—	—	—	0.022 (MYL)
C738	—	—	—	—	—	0.022
C739	—	—	—	—	—	0.022
C740	—	—	—	—	—	0.022

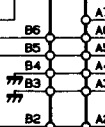
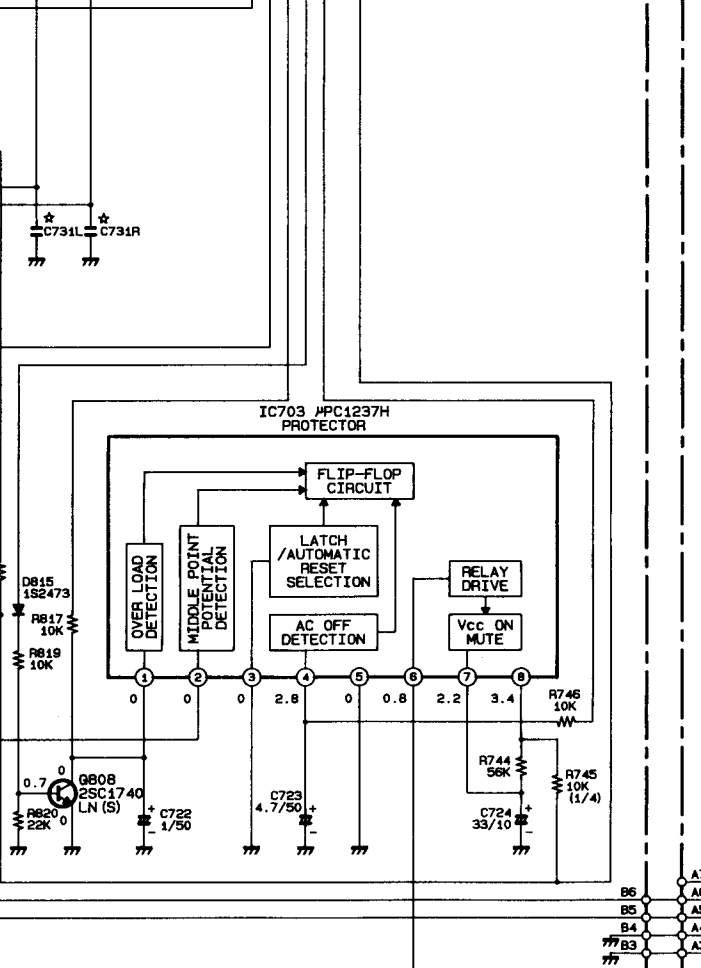
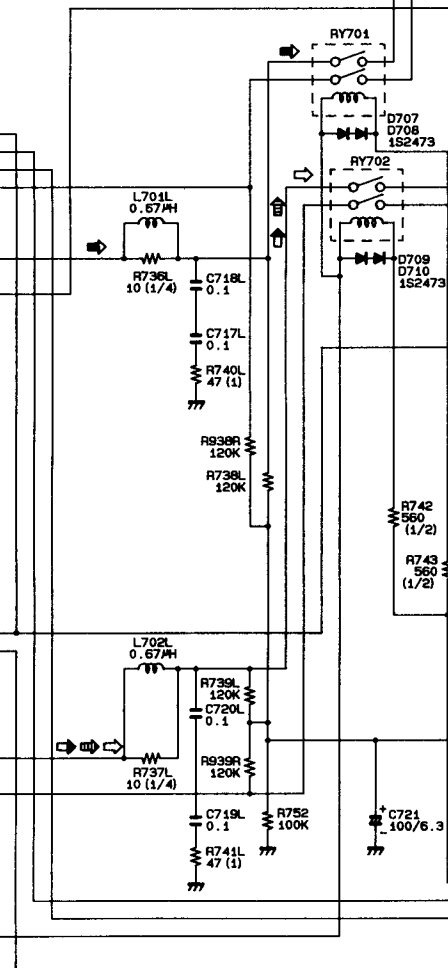
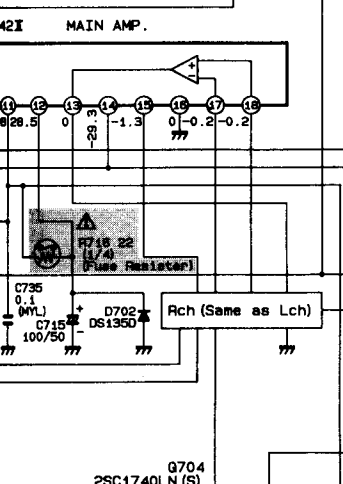
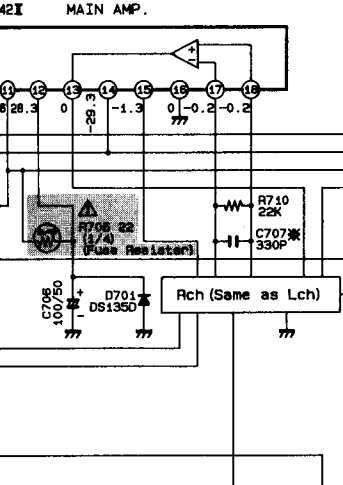
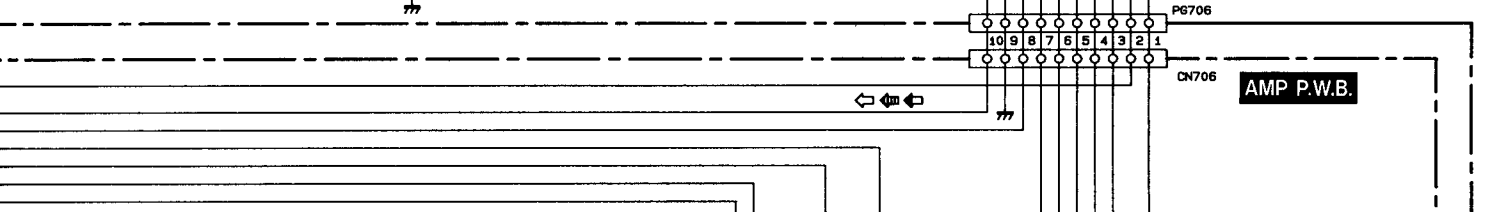
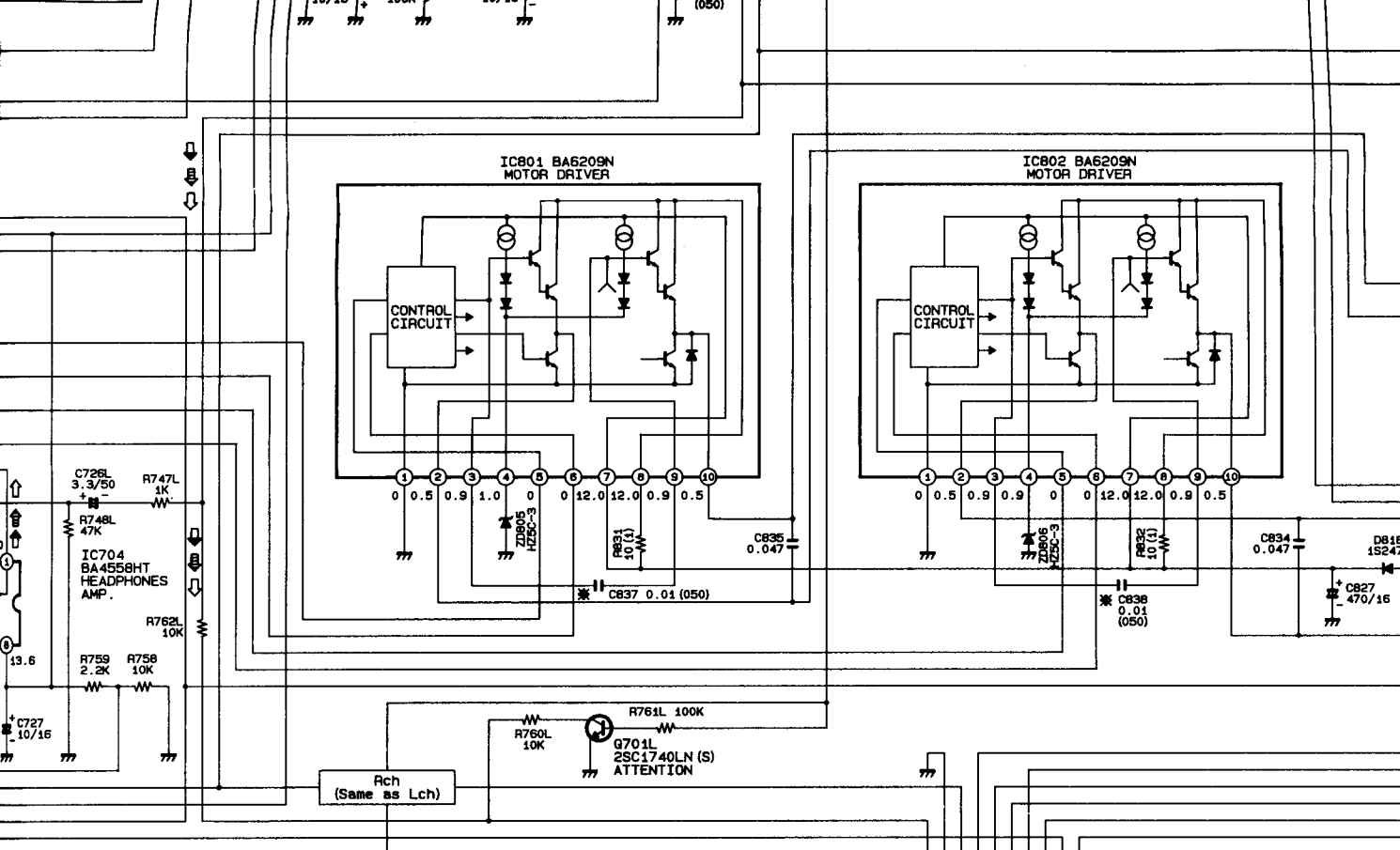
To DECK P.W.B.

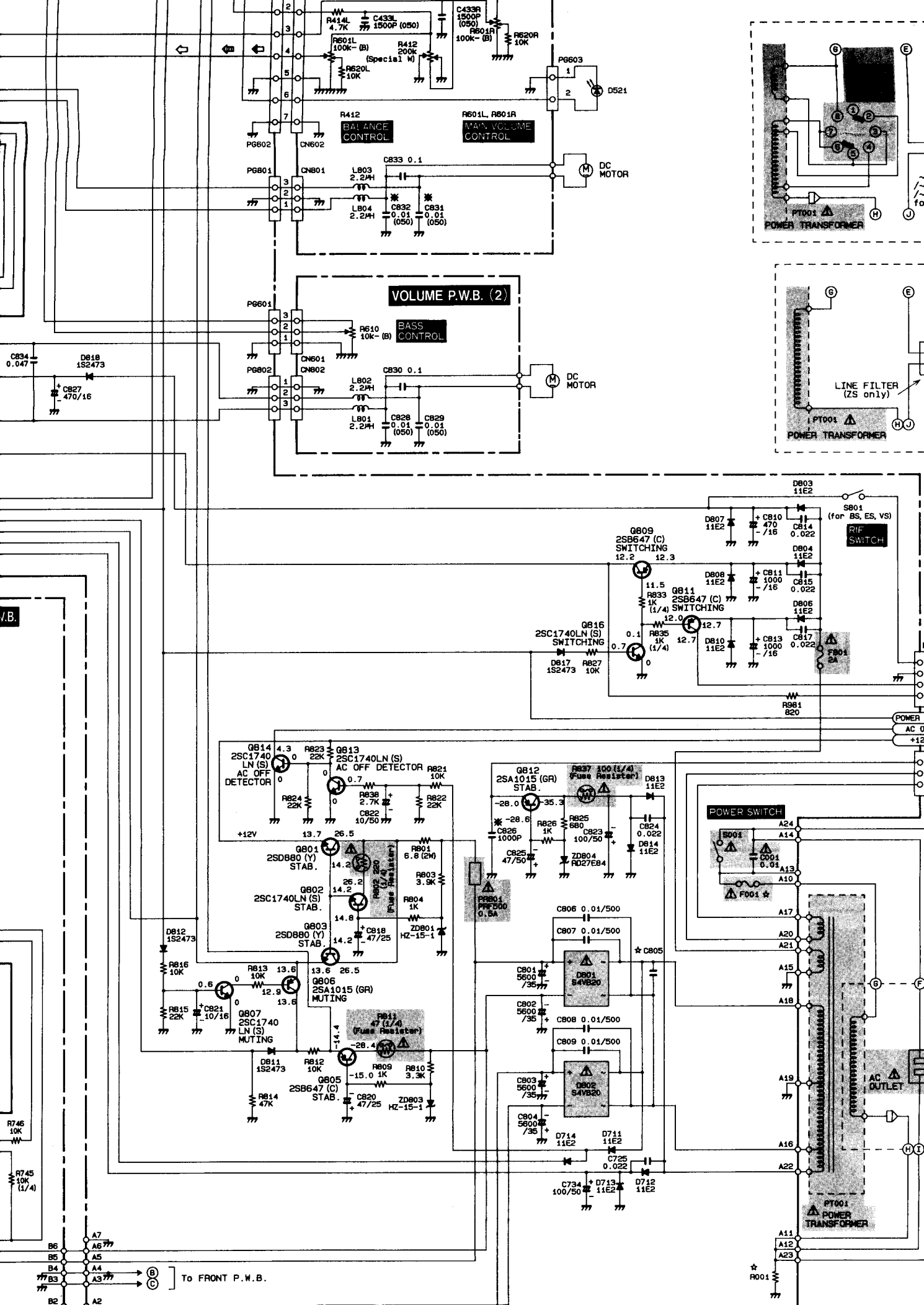




**HEADPHONES P.W.B.**



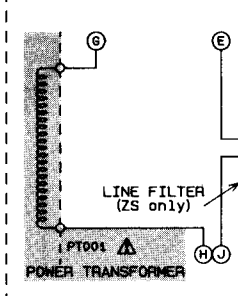
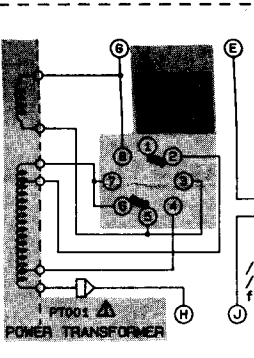




**BALANCE CONTROL**      **MAIN VOLUME CONTROL**

**VOLUME P.W.B. (2)**

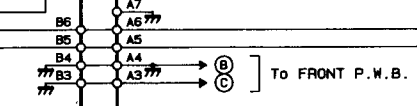
**BASS CONTROL**



**POWER SWITCH**

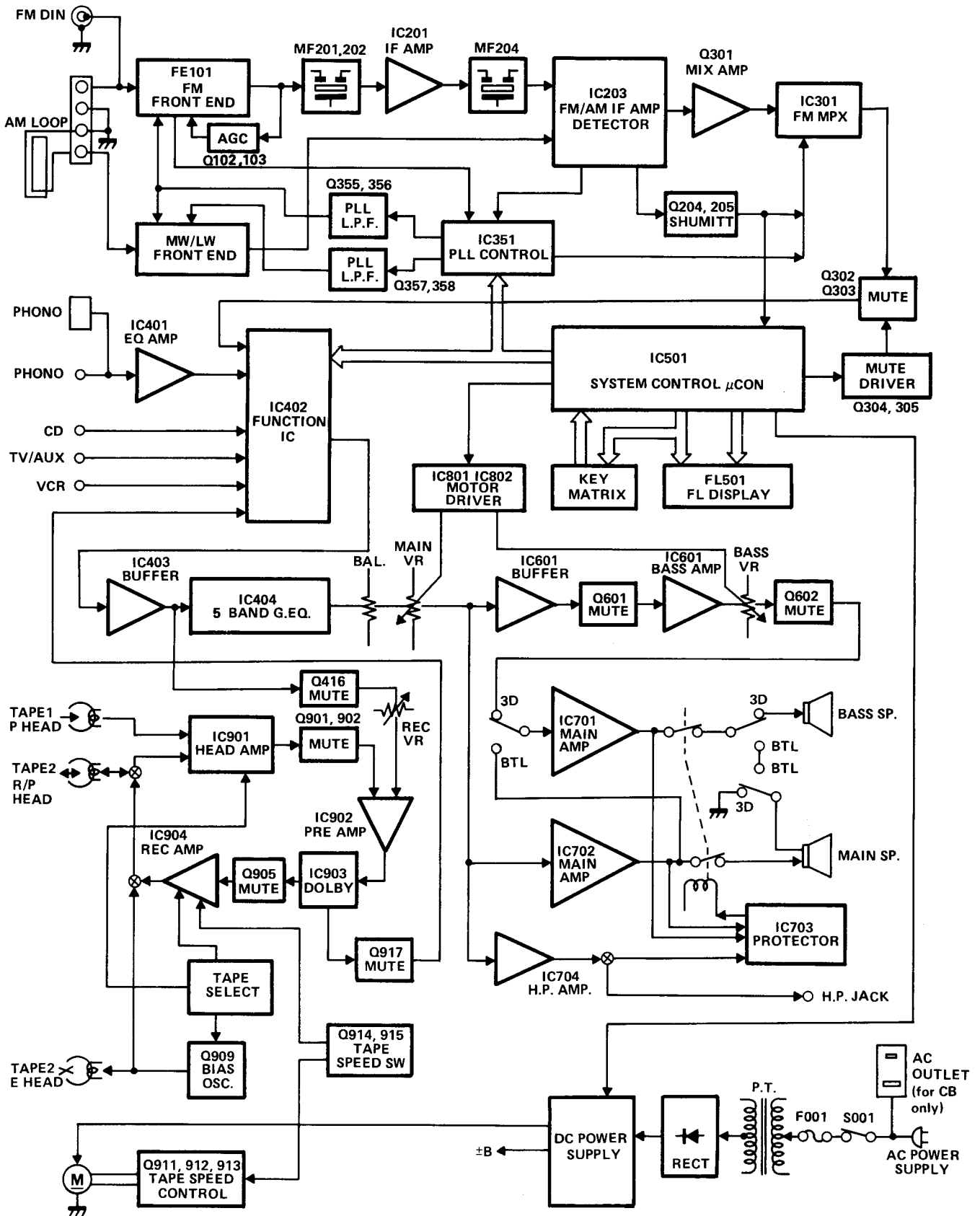
**AC OUTLET**

**POWER TRANSFORMER**



★ R001

BLOCK DIAGRAM · BLOCKSCHEMA · SCHÉMA





**HITACHI SALES EUROPA GmbH**  
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**  
P.O. Box 503, Oerebekk, 1620,  
Gressvik, Norway  
Tel. 032-28255

**SUOMEN HITACHI OY**  
Takojanckatu 5, 15800 Lahti 80, Finland  
Tel. (918) 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. 0222-421670

**HITACHI SALES ITALIANA, S.P.A.**  
Via Ludovico di Breme, 9-20156  
MILANO Italy  
Tel. (02) 30231

**HITACHI SALES BELGIUM S.A./N.V.**  
Chaussee de Namur, 56, B-1400 Nivelles, Belgium  
Tel. (3267) 21-71-81, (3267) 21-79-81

**HITACHI SALES IBERICA, S.A.**  
Gran Via Carlos Tercero, 101, 1-1, Barcelona-08028,  
Spain  
Tel. 330-8652

**HITACHI PRODUCTIONS MAROC ELECTRONIQUES  
DOMESTIQUES S.A.**  
Rue du Havre, Casablanca, Morocco  
Tel. 30-73-68, 30-73-57

**HITACHI CANARIAS S.A.**  
Calle San-Francisco No. 19, 38002, Santa Cruz de Tenerife  
Canary Islands  
Tel. 24-64-98

**HITACHI SALES (HELLAS) S.A.**  
110 Syngrou St., Athens, Greece  
Tel. 9219082, 9233469

**HITACHI SALES (MALAYSIA) SDN, BHD.**  
Wisma Hitachi, No. 2, Lorong 13/6A, 46200 Petaling  
Jaya, Malaysia  
Tel. 7573455

**HITACHI (SINGAPORE) PTE., LTD.**  
18 Pasir Panjang Road # 01-03 PSA  
Multi-Storey Complex, Singapore 0511  
Tel. 2738102

**HITACHI SALES (THAILAND) LTD.**  
2240-46, New Petchburi Road, Bangkapi, 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. 0-242976, 0-240126

**HITACHI SALES AUSTRALIA PTY LTD.**  
153 Keys Road, Moorabbin, Victoria 3189 Australia  
Tel. 555-8722

**HITACHI SALES CORPORATION OF AMERICA**  
Eastern Regional Office  
1200 Wall Street West, Lyndhurst, New Jersey 07071,  
U.S.A.  
Tel. 201-935-8980

**Mid-Western Regional Office**  
1400 Morse Ave., Elk Grove Village, Illinois. 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

**Headquaters 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 Centroamericana, S.A.**  
**HITACHI ELECTRONICA CENTROAMERICANA S.A.**  
San Rafael de Escazu, Apartado 10272, San Jose,  
Costa Rica  
Tel. 28-20-11, 28-00-37

**Hitachi Sales Corporation de Panama, S.A.**  
**INTERNATIONAL HITACHI SALES PANAMA, LTD.**  
**PRODUCTOS HITACHI, S.A.**  
(Apartado 7657) Panama 5 Panama City, Rep. of Panama  
Tel. 61-3100, 61-4305

**HITACHI-FRANCE (RADIO-T.V. ELECTRO-MENAGER) S.A.**  
95-101 Rue Charles Michels,  
93200 SAINT-DENIS,  
France  
Tel. 4821 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

**HRD-MD50 TY No. 593 EGF**