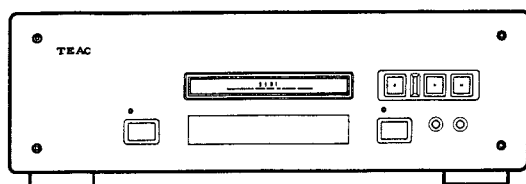


# TEAC



## SERVICE MANUAL

# VRDS-10SE

*Special Edition*

Compact Disc Player



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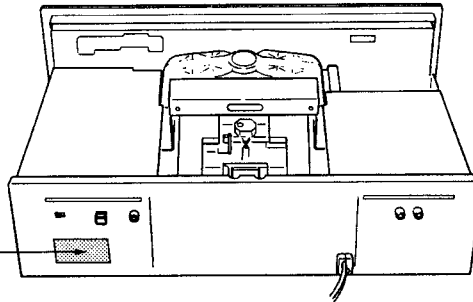
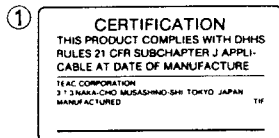
## 1 SAFETY INFORMATION

### SAFETY INFORMATION

This product has been designed and manufactured according to FDA regulations "title 21, CFR, chapter 1, subchapter J, based on the Radiation Control for Health and Safety Act of 1968", and is classified as class 1 laser product. There is not hazardous invisible laser radiation during operation because invisible laser radiation emitted inside of this product is completely confined in the protective housings. The label required in this regulation is shown ①.

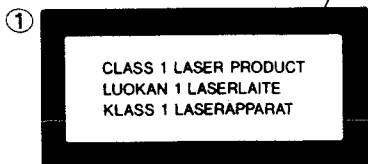
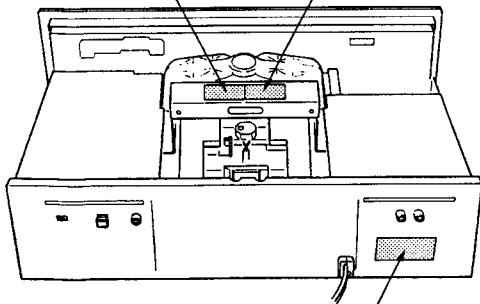
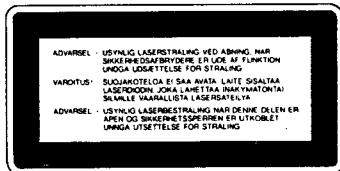
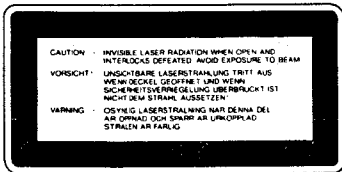
#### CAUTION

- If you remove the above-mentioned housings under the operating state of the product, there is a possibility of human access to the invisible laser radiation emitted from the optical pickup.
- Pay careful attention, not to let the invisible laser beam enter into your eyes.
- If you find a troubled state of the laser diode, change to the specified new optical pickup.
- If you find a troubled state of safety interlock parts, change to the same type parts described in parts list.



Optical pickup: Type : KSS-151A  
Manufacturer : SONY Corporation  
Laser output : Less than 0.2 mW on the objective lens  
Wavelength : 760 - 800 nm

### • CAUTION • ACHTUNG • OBSERVERA • ADVARSEL



① THIS LABEL IS ATTACHED TO THE PLACE AS ILLUSTRATED TO INFORM THAT THE APPARATUS CONTAINS A LASER COMPONENT.

① DIESE AUFKLEBEMARKE IST AN DEM IN DER ABBILDUNG GEZEIGTEN ORT ANGEBRACHT UM DARAUF HINZUWEISEN, DASS IM INNERN DES GERÄTS EINE LASER-KOMPONENTE BEFINDET.

① PÅSKRIFTEN SITTER PÅ APPARATEN SOM VISAS SOM UPPMANING OM ATT APPARATEN OMFATTAR EN INBYGGD LASERKOMPONENT.

① DETTE MÆRKAT ER ANBRAGT SOM VIST I ILLUSTRATIONEN FOR AT ADVARE BRUGEREN OM AT APPARATET INDEHOLDER EN LASERKOMPONENT.

② DETTE MÆRKAT ER SOM VIST PÅ ILLUSTRATIONEN ANBRAGT PÅ INDERSIDEN AF TOPDÆKSLET FOR AT ADVARE BRUGEREN OM AT YDERLIGERE FREMTRÆNGEN VIL VÆRE FORBUNDET MED FARE FOR AT UDSÆTTE SIG FOR LASERSTRÅLING.

ADVARSEL - BETJENING AF ANDRE KONTROLLER OG REGULATORER ELLER BENYTTELSE AF ANDRE FREMGANGSMÅDER END BESKREVET HERI ER FORBUNDET MED FARE FOR UDSÆTTELSE FOR LASERSTRÅLING.

VAROITUS: APPARATEN INNEHÅLLER LASER KOMPONENT MED STRÅLNING ÖVERSTIGANDE KLASS 1

"ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING."

"VAROITUS! SUOJAKOTELOA EI SAA AVATA. LAITE SISÄLTÄÄ LASERDIOODIN, JOKA LÄHETTÄÄ (NÄKYMÄTÖNTÄ) SILMILLE VAARALLISTA LASERISÄTEILYÄ."

ADVARSEL: USYNLIG LASERBESTRÅLING NÅR DENNE DELEN ER ÅPEN OG SIKKERHETSSPERREN ER UTKOBBET. UNNGÅ UTSETTELSE FOR STRÅLING.

## 2 SPECIFICATIONS

## 仕 様

## AUDIO

<b>Number of Channels</b>	2
<b>Frequency Response</b>	1 – 20,000Hz $\pm$ 0.3dB
<b>Signal to Noise Ratio</b>	Better than 110dB (1kHz)
<b>Dynamic Range</b>	Better than 99dB (1kHz)
<b>Harmonic Distortion</b>	0.0013 % (1kHz)
<b>Wow and Flutter</b>	Unmeasurable (Quartz accuracy)
<b>Channel Separation</b>	Better than 110dB (1kHz)
<b>Output Analog</b>	2.2Vrms
<b>Digital</b>	0.5Vp-p/75 $\Omega$ (Coaxial) – 15dBm – – 21dBm (Optical)
<b>D/A Converter</b>	Bitstream Conversion
<b>Digital Filter</b>	8-times oversampling 20-bit digital filter
<b>Analog Filter</b>	3rd order Butterworth filter

## PICK UP

<b>Type</b>	Optical 3-Beam laser pickup
<b>Objective Lens</b>	2-dimensional parallel drive
<b>Laser Type</b>	GaAlAs type semiconductor laser
<b>Wave Length</b>	780nm

## SIGNAL FORMAT

<b>Sampling Frequency</b>	44.1kHz
<b>Quantization Bit</b>	16-bit linear/channel
<b>Channel Bit Rate</b>	4.3218Mb/sec
<b>Channel Modulation Code</b>	EFM (Eight to Fourteen Modulation)
<b>Error Correction</b>	CIRC (Cross Interleave Reed Solomon Code)

## GENERAL

<b>Power Requirements</b>	120/230V AC, 50-60Hz (U.S.A./Canada/General Export Model) 230V AC, 50Hz (Europe/U.K. Model)
<b>Power Consumption</b>	22 watts
<b>Dimensions (W <math>\times</math> H <math>\times</math> D)</b>	442 $\times$ 149 $\times$ 331mm (17-3/8" $\times$ 5-7/8" $\times$ 13-1/16")
<b>Weight (net)</b>	11.0kg (24-4/16 lbs)
<b>Standard Accessories</b>	Wireless Remote Control Unit RC-481 : VRDS-10SE (N) RC-495 : VRDS-10SE (B) Battery (SUM-3, "AA", "R6" type) $\times$ 2, Lock Plate

## 〈オーディオ〉

オーディオチャンネル数	2チャンネル
周波数特性	1～20,000Hz $\pm$ 0.3dB
SN比	110dB以上(1kHz)
ダイナミックレンジ	99dB以上(1kHz)
高調波歪率	0.0013%以下(1kHz)
ワウ・フラッター	測定限界値以下(水晶発振精度)
チャンネルセパレーション	110dB以上(1kHz)
アナログ出力	2.2Vrms
デジタル出力	0.5Vp-p/75 $\Omega$ (COAXIAL) – 15～– 21dBm (OPTICAL)
D/Aコンバーター	ビットストリーム
デジタルフィルター	8倍オーバーサンプリング 20ビットデジタルフィルター
アナログフィルター	3次バターワースフィルター

## 〈ピックアップ〉

方式	対物レンズ駆動、光学式3ビーム
対物レンズ駆動方式	2次元平行駆動
光源	半導体レーザー
波長	780nm

## 〈信号フォーマット〉

標準化周波数	44.1kHz
量子化ビット数	16ビット・リニア/チャンネル
伝送レート	4.3218Mb/sec
変調方式	EFM
エラー訂正方式	CIRC

## 〈一般〉

電源	100V AC 50-60Hz
消費電力	18W
外形寸法	442 $\times$ 149 $\times$ 331mm (W $\times$ H $\times$ D)
重量	11kg

## 付属品

- ワイヤレスリモコン RC-481
- 乾電池(単3、SUM-3)  $\times$  2
- ロックプレート
- 取扱説明書

\*仕様および外観は、改善のため予告なく変更することがあります。

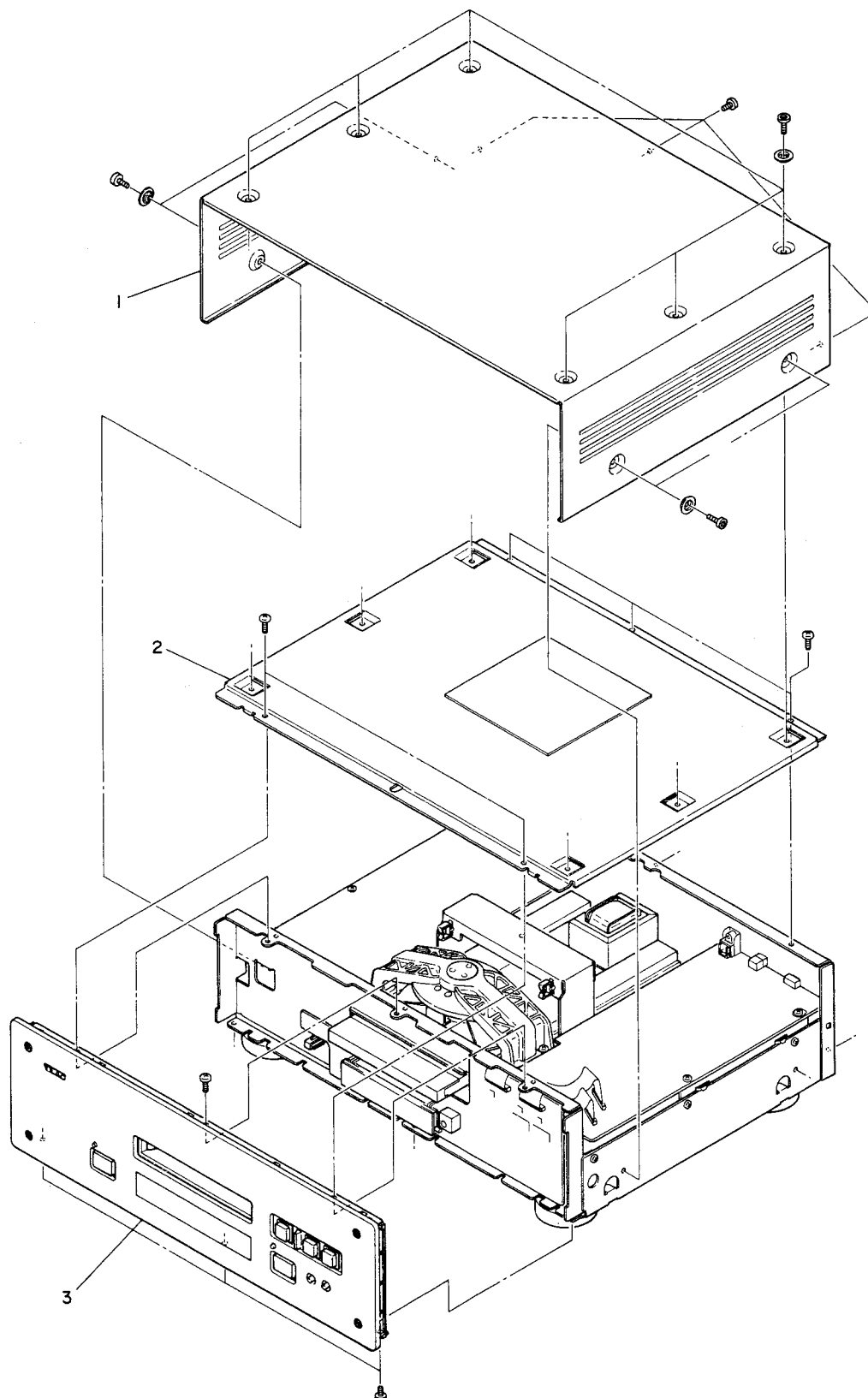
●Improvements may result in specification or feature changes without notice.

### 3 CASE AND FRONT PANEL REMOVAL

外装部品の外し方

Disassemble in number-order

番号順に外してください



## 4 ADJUSTMENT AND CHECKS

### 調整と確認

#### 1. Replacement of the pickup assembly

- Before removing the pickup assembly be sure to solder -bridge where indicated in the inset (Fig. 4-1) to prevent the laser diode from being electrostatically damaged. After replacing the pickup assembly, be sure to unsolder the antistatic bridge. Or else the laser diode does not function.
- Before servicing the pickup assembly be sure to prevent electrostatic-inducer destruction by grounding not only test equipment in use but also yourself as shown in Fig. 4-2.
- \* Electrostatic charge drastically shortens the operating life of the laser diode or possibly results in its destruction.
- During the transportation, mounting and dismounting of the assembly, support with your fingers at points A and B as shown in Fig. 4-3. Be particularly careful not to touch the actuator, photosensor and LD plate and do not apply force to them.
- Don't touch the plated portion of the flat cable end directly with fingers.
- Use care not to break the flat cable.
- Soldering must be done quickly at less than 30W, 320°C.
- Don't disassemble the pickup ass'y.
- Don't apply shock to the pickup ass'y.
- Don't place the assembly in a place subject to excessive dust, heat or moisture.

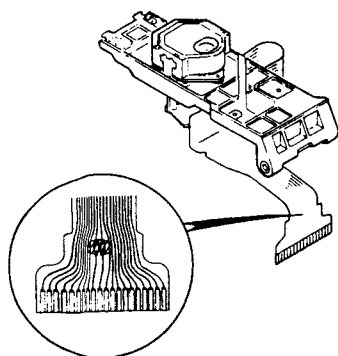


Fig. 4-1

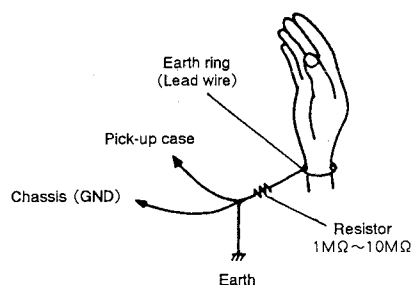


Fig. 4-2

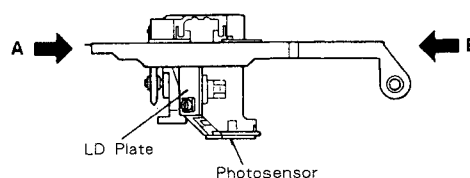


Fig. 4-3

#### 1. ピックアップ ASSY の交換

- ピックアップ ASSY を外すときは、レーザーダイオードの静電破壊防止のため、必ず斜線部分 (Fig. 4-1) を半田ブリッジしてから作業をしてください。また、取り付ける場合も取り付け後に半田ブリッジを外してください。
- 半田ブリッジをしたままではレーザーダイオードは動作しません。
- ピックアップ ASSY を取り扱う場合は、測定器などに確実なアースを取ると共に、人体アースを行ない、静電破壊を十分防止してください。(Fig. 4-2)
- \* レーザーダイオードは、静電気が加わると寿命が著しく低下したり、または破損しますので十分注意してください。
- 取り付け、取り外し、持ち運びの際は、Fig. 4-3 の A 部と B 部で支えてください。特にアクチュエーター、光検出部、LD プレート部は、手を触れたり力を加えたりしないでください。
- フラットケーブル先端のメッキ部分には直接指を触れないでください。
- フラットケーブルは折れやすいので十分注意をして作業してください。
- 半田ゴテは 30W, 320°C 以下を使用し、すばやく処理してください。
- ピックアップ ASSY 本体の調整および分解などはしないでください。
- ピックアップ ASSY に落下・衝撃は加えないでください。
- ゴミ・ホコリなどの発生する場所、高温・多湿の場所は避けてください。

#### 2. Objective

- Laser beams are similar to infrared rays. Don't look at the beams directly and keep your eyes at least 30cm away from them.
- Don't touch the objective with fingers.
- If objective becomes dirty, playback will deteriorate. To clean the objective, moisten a good cleaning tissue, such as made by KODAK, in isopropyl alcohol and wipe the objective gently. Wipe off and excess fluid with a dry cleaning tissue.

#### 2. 対物レンズについて

- レーザー光は近赤外線のため目視は困難です。目の安全のため、目をレンズから 30cm 以上離してください。
  - レンズには手を触れないでください。
  - レンズに汚れが付くと再生能力が低下しますので、次のように清掃してください。
- レンズクリーニングペーパー (KODAK 社製など) に、イソプロピルアルコール (I.P.A) を浸して清掃をし、液が残らないように必ず拭きとってください。

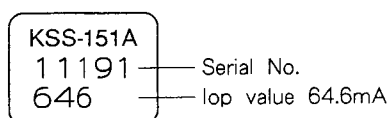
## 3. Laser diode check

[Iop(Intensity Optimum) check]

Connect a DC voltmeter to both ends of R407 on SERVO PCB. Measure the DC voltage while playing a disc to check that the measured value does not exceed the Iop value indicated on the pickup by 10mA. [ $I = \text{measured value} / 22$ ] If the measured value is higher than that indicated, the pickup may be damaged.

\* Pay special attention that parts are not damaged by static electricity.

- How to read numbers on sticker attached to the pickup (Example)



## 3. レーザーダイオードの破損チェック

[Iop(Intensity Optimum)値確認]

(ピックアップ交換時には必ず実行のこと)

DC ボルトメーターをSERVO PCBのR407の両端に接続する。PLAY中の直流電圧を測定し、その電圧から電流換算した値 [ $I = \text{測定電圧} / 22$ ] がピックアップに表示してあるIop値より10mA以上増加していないことを確認する。増加の場合は、破損している可能性がある。

\* 静電破壊に十分注意すること。

- ピックアップ添付シールの読み方 (例)

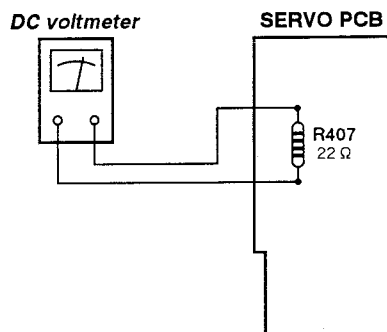
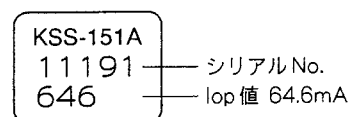


Fig. 4-4

## 4. Anti-shock bracket

To protect the laser pickup mechanism from shocks and movement during transit, it is secured by a special anti-shock bracket. Before starting operation, be sure to release this bracket, which is accessed from the bottom.

## 4. 防振装置について

本機は輸送時の振動からピックアップを守るため、防振装置で固定してあります。本機を動作させる場合は、必ず防振装置を解除してください。

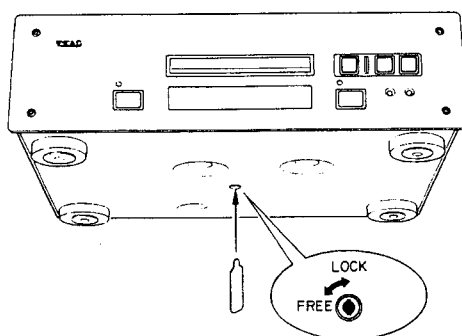


Fig. 4-5

## 4-1 SERVO ADJUSTMENT

## 4-1 サーボ調整

TEST DISC : MCD-111

テストディスク : MCD-111

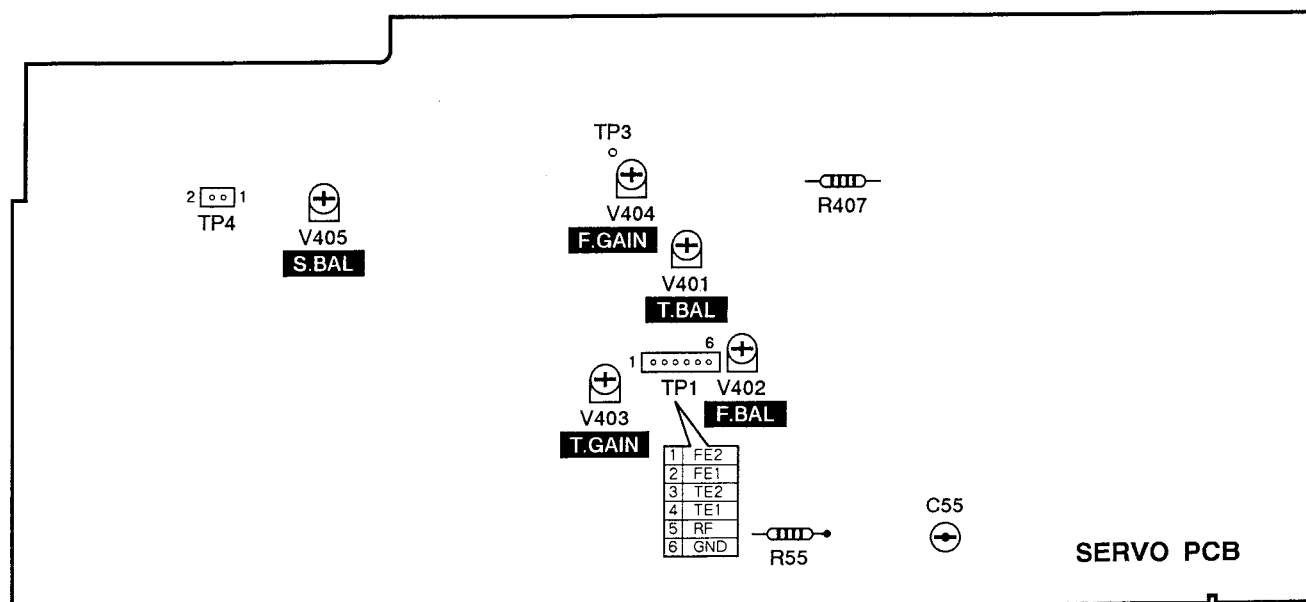
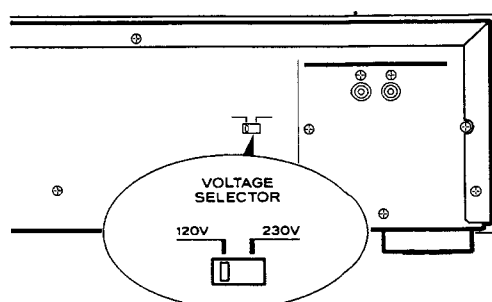


Fig. 4-6

## VOLTAGE CONVERSION

Be sure to remove the power cord from the AC outlet before repositioning the voltage converter switch.

1. Locate the voltage selector on the rear panel.
2. Using a flat-bladed screwdriver, set to the appropriate 230 V or 120 V position according to your area.



## 4-1-1 Checking the pickup actuator operation

Before loading the disc, turn the power ON and check that the pickup actuator moves up and down three times. (If the pickup is not at inside on the disc, perform the above operation after moving the pickup to the inside.)

## 4-1-2 Clock frequency adjustment

1. Put the probe (10:1) of the frequency counter on R55.
2. Adjust C55 so that the clock frequency is  $16.9344\text{MHz} \pm 423\text{Hz}$  at the stop mode.

## 4-1-3 Sled balance adjustment

1. Adjust V405 (S.BAL) for 0V potential between TP4 pin 1 and TP4 pin 2 (GND).

## 4-1-4 Tracking balance adjustment

1. Connect the oscilloscope between TP1 pin 4 (TE1) and TP1 pin 6 (GND), and press the SEARCH (◀▶) button.
2. Adjust V401 (T.BAL) so that the upper and lower amplitudes of the tracking error signal waveform become equal above and below 0V.

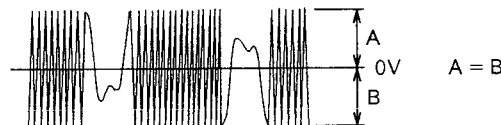


Fig. 4-7

## 4-1-5 Focus balance adjustment

1. Connect the oscilloscope between TP1 pin 5 (RF) and TP1 pin 6 (GND).
2. In the play mode, and adjust V402 (F.BAL) so that the waveform on the oscilloscope becomes maximum.

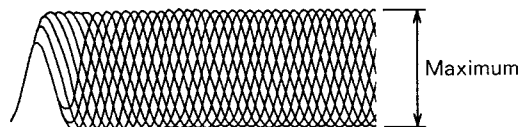


Fig. 4-8

## 4-1-1 ピックアップアクチュエーター動作チェック

電源ON時ピックアップアクチュエーターが3回上下動すること。(ピックアップが最内周にないときは、最内周に移動後上記動作すること。) ディスクは装着しない。

## 4-1-2 クロック周波数調整

1. 周波数カウンターのプローブ(10:1)をR55(X51側)にあてる。
2. 停止状態での周波数が  $16.9344\text{MHz} \pm 423\text{Hz}$  になるようにC55を調整する。

## 4-1-3 スレッドバランス調整

1. TP4の1番ピンとTP4の2番ピン(GND)間の電位差が0VになるようにV405(S.BAL)を調整する。

## 4-1-4 トラッキングバランス調整

1. TP1の4番ピン(TE1)とTP1の6番ピン(GND)間にオシロスコープを接続し、SEARCH(◀▶)を押す。
2. トラッキングエラー信号の波形が0Vを中心に振れるようV401(T.BAL)を調整する。

## 4-1-5 フォーカスバランス調整

1. TP1の5番ピン(RF)とTP1の6番ピン(GND)間にオシロスコープを接続する。
2. PLAY状態でオシロスコープの波形が最大になるようにV402(F.BAL)を調整する。



#### 4-1-6 Focus offset check

1. After adjusting the focus balance, stop the player. Check for an offset voltage of 50mV or less at TP3.  
If reading values are out of spec, adjust V402 (F.BAL) again.

#### 4-1-6 フォーカスオフセット確認

1. フォーカスバランス調整後STOP状態にしてTP3のオフセット電圧が50mV以下であることを確認する。  
もし規格に入らない場合は再度V402 (F.BAL)を調整する。

#### 4-1-7 Focus gain adjustment

1. Apply 1.07kHz/10Vp-p to TP1 pin 1 (FE2) from an external OSC via 100kΩ resistor.
2. Play the track 4, and adjust V404 (F.GAIN) so that phase at TP1 pin 2 (FE1) is 90° with respect to that of the external OSC.

#### 4-1-7 フォーカスゲイン調整

1. 外部OSCより100kΩの抵抗を介して1.07kHz/10Vp-pの信号をTP1の1番ピン(FE2)に入力する。
2. 4曲目を再生し、TP1の2番ピン(FE1)と外部OSCとの位相が90°になるようにV404 (F.GAIN)を調整する。

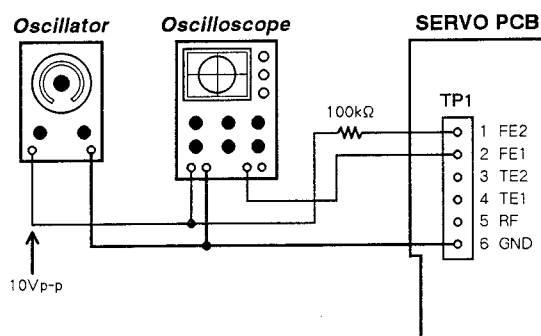


Fig. 4-9

#### 4-1-8 Tracking gain adjustment

1. Apply 1.30kHz/10Vp-p to TP1 pin 3 (TE2) from an external OSC via 100kΩ resistor.
2. Play the track 4, and adjust V403 (T.GAIN) so that phase at TP1 pin 4 (TE1) is 90° with respect to that of the external OSC.

#### 4-1-8 トラッキングゲイン調整

1. 外部OSCより100kΩの抵抗を介して1.30kHz/10Vp-pの信号をTP1の3番ピン(TE2)に入力する。
2. 4曲目を再生し、TP1の4番ピン(TE1)と外部OSCとの位相が90°になるようにV403 (T.GAIN)を調整する。

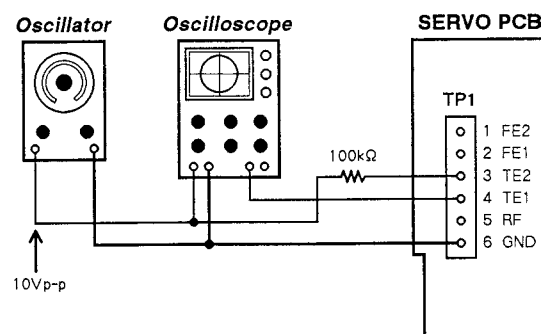


Fig. 4-10

## 4-2 AUDIO ADJUSTMENT オーディオ調整

ITEM 項 目	DISC: MCD-111		SPECIFICATIONS 規 格	REMARKS 備 考
	TRACK No.	FREQUENCY/LEVEL		
1. Output level 出力レベル	2	1kHz, 0dB	$2.2 \pm 0.3V_{rms}$	
2. Channel level difference チャンネルレベル差	2	1kHz, 0dB	1.0dB or less	
3. DC offset DC オフセット	17	1kHz, - 60dB	$0 \pm 5mV$	
4. Harmonic distortion 高調波歪率	2	1kHz, 0dB	0.004 % or less	400Hz HPF in 20kHz LPF in
5. Frequency response 周波数特性	3~6	20Hz~20kHz, 0dB	Within $\pm 1.0dB$	reference level: 1kHz
6. S/N ratio S/N比	7	$-\infty$ dB	100dB or better	DIN AUDIO (Use SHIBASOKU 725 or equivalent)
7. Channel separation チャンネル セパレーション	8, 10	1kHz, 0dB	95dB or better	DIN AUDIO
8. Emphasis effect エンファシス効果	13	16kHz, - 20dB	$-20 \pm 1.0dB$	reference level: 1kHz

## PARTS LIST SECTION

### NOTES

- PC boards shown are viewed from parts side.
- Parts marked with \* require longer delivery time.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- △ Parts marked with this sign are safety critical components. They must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- Parts of [ ] mark can be used only with the version designated.  
[J]: JAPAN [US]: U. S. A. [C]: CANADA [GE]: GENERAL EXPORT  
[E]: EUROPE [UK]: U. K.  
VRDS-10SE(N): Gold Version VRDS-10SE(B): Black Version

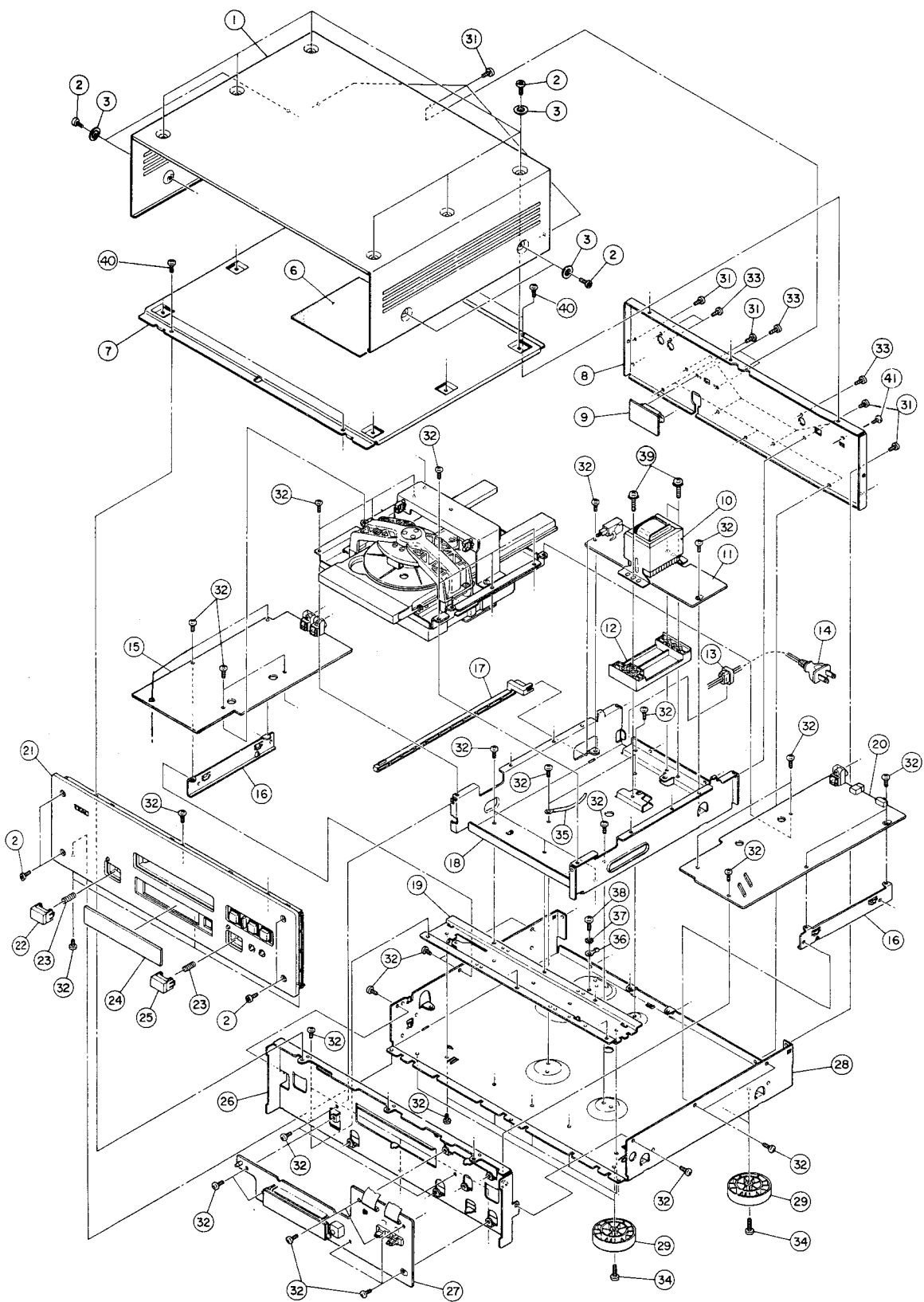
### 注 意

- プリント基板図は部品面が示されています。
- \* 印の部品は納期が若干かかります。  
あらかじめご了承ください。
- 分解図に部番のない部品及び品番のない部品は供給しません。
- 標準の抵抗、コンデンサーは省略してあります。  
回路図を参照してください。
- △ 印は安全重要部品です。  
交換する時は必ずティアック指定の部品を使用してください。
- 仕向先  
[J]: JAPAN [US]: U. S. A. [C]: CANADA [GE]: GENERAL EXPORT  
[E]: EUROPE [UK]: U. K.  
VRDS-10SE(N): Gold Version VRDS-10SE(B): Black Version

5 EXPLODED VIEWS AND PARTS LIST

分解図とパーツリスト

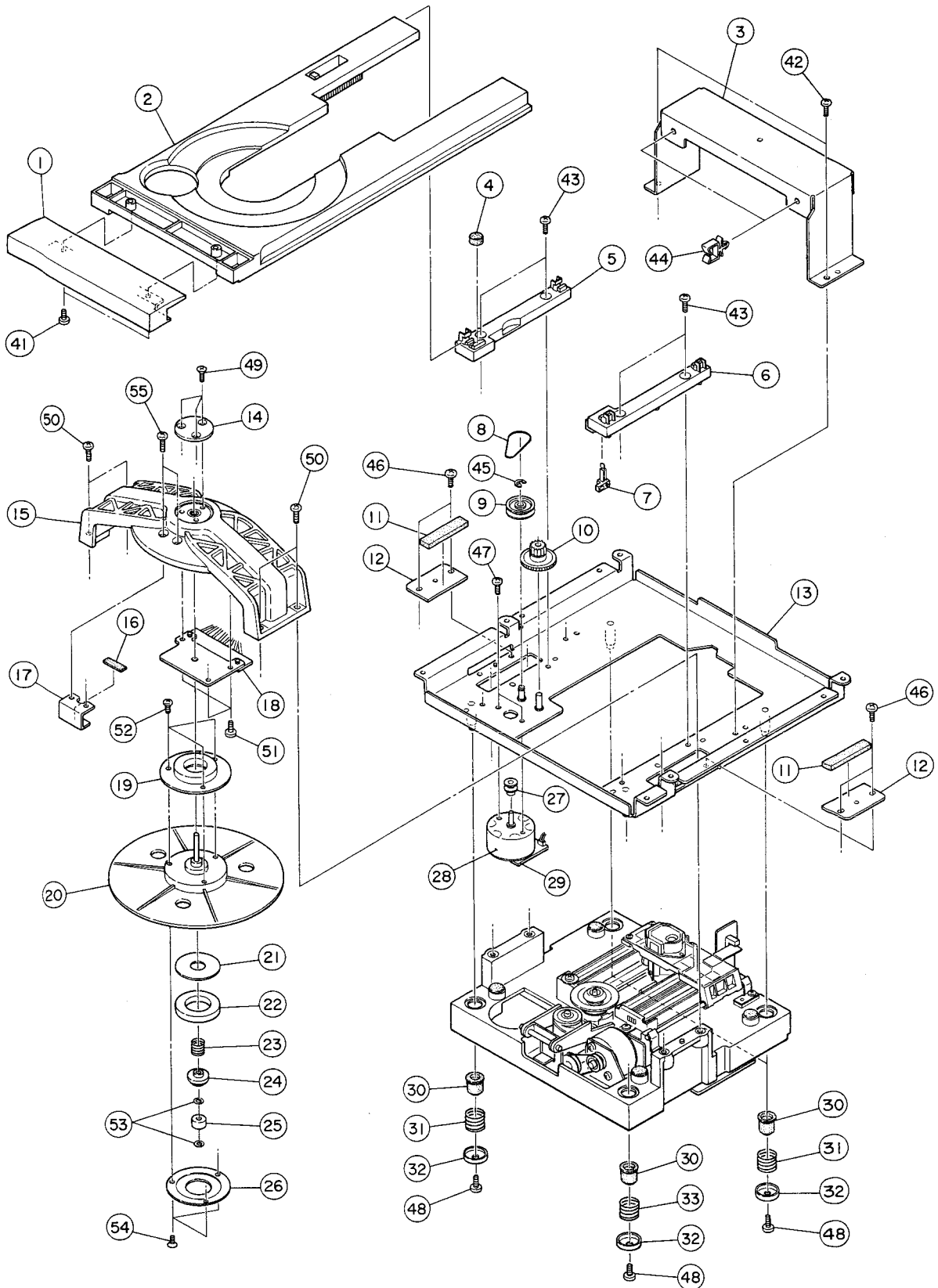
EXPLODED VIEW-1



## EXPLODED VIEW-1

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
1- 1	*5801572300	BONNET (7) .....	VRDS-10SE (N)
	*5801572500	BONNET (7-B) .....	VRDS-10SE (B)
1- 2	*5801532500	BOLT, HEXAGON SOCKET B .....	VRDS-10SE (N)
	*5801539500	BOLT, HEXAGON SOCKET B (BLK) .....	VRDS-10SE (B)
1- 3	*5801532900	COLLAR	
1- 6	*5801598300	RUBBER SHEET, 125X125 0.5T	
1- 7	*M00263400A	CHASSIS, TOP	
1- 8	*5801533002	REAR PANEL (A) [J, E, UK]	
	*5801533102	REAR PANEL (B) [US, C, GE]	
1- 9	*5200345600	VOLTAGE SELECTOR PCB ASSY [US, C, GE]	
1-10	△ 5320063300	POWER TRANSFORMER	
1-11	*5200345500	POWER PCB ASSY [J]	
	*5200345530	POWER PCB ASSY [US, C, GE]	
	*5200345540	POWER PCB ASSY [E]	
	*5200345550	POWER PCB ASSY [UK]	
1-12	*5801406000	TRANS BASE	
1-13	△ 5317005600	BUSHING, 2272	
1-14	△ 5350018400	AC CORD [J]	
	△ 5350019100	AC CORD, CSA 3-WIRE [US, C, GE]	
	△ 5128089001	AC CORD, EUR CLASS 1 [E]	
	△ 5350019001	AC CORD, BS 3-WIRE [UK]	
1-15	*E95024700A	PCB ASSY, AUDIO	
1-16	*5801531900	PCB ANGLE	
1-17	*5801532801	JOINT ROD	
1-18	*5801532003	CENTER CHASSIS	
1-19	*5801531601	CHASSIS ANGLE (B)	
1-20	*5200344700	SERVO PCB ASSY	
1-21	*M00352100A	FRONT PANEL ASSY (N) .....	VRDS-10SE (N)
	*M00352200A	FRONT PANEL ASSY (B) .....	VRDS-10SE (B)
1-21-a	5801530500	CAP ESCUTCHEON	
1-21-b	5801530801	BUTTON CAP (ST)	
1-21-c	5801530601	BUTTON CAP (PL)	
1-21-d	5801530701	BUTTON CAP (PA)	
1-22	5801531001	BUTTON CAP (P) ASSY .....	VRDS-10SE (N)
	5801539601	BUTTON CAP (P) BLK ASSY .....	VRDS-10SE (B)
1-23	5801070200	POWER SPRING	
1-24	*5801532700	FL COVER	
1-25	5801531101	BUTTON CAP (O/C) ASSY .....	VRDS-10SE (N)
	5801539701	BUTTON CAP (O/C) BLK ASSY .....	VRDS-10SE (B)
1-26	*5801532202	FRONT CHASSIS	
1-27	*5200345400	KEY PCB ASSY	
1-28	-----	MAIN CHASSIS	
1-29	5801414900	FOOT ASSY	
1-31	*5783813006	SCREW, BIND S-TITE M3X6 (ZN BLK)	
1-32	*5783033006	SCREW, BIND S-TITE M3X6	
1-33	*5783543008	SCREW, BIND P-TITE M3X8 (NI BLK)	
1-34	*5783034020	SCREW, BIND S-TITE M4X20	
1-35	*5786713000	HARNESS CLIP, 3.0X9.1X50	
1-36	*5786700600	EARTH LUG [US, C, GE, E, UK]	
1-37	*5785124000	WASHER, TOOTHED LOCK [US, C, GE, E, UK]	
1-38	*5783034006	SCREW, BIND S-TITE M4X6 [US, C, GE, E, UK]	
1-39	*5783244020	SCREW, BIND S-TITE SEMS-F M4X20	
1-40	*5783033008	SCREW, BIND S-TITE M3X8	
1-41	*5780023006	SCREW, BIND M3X6 (NI BLK)	

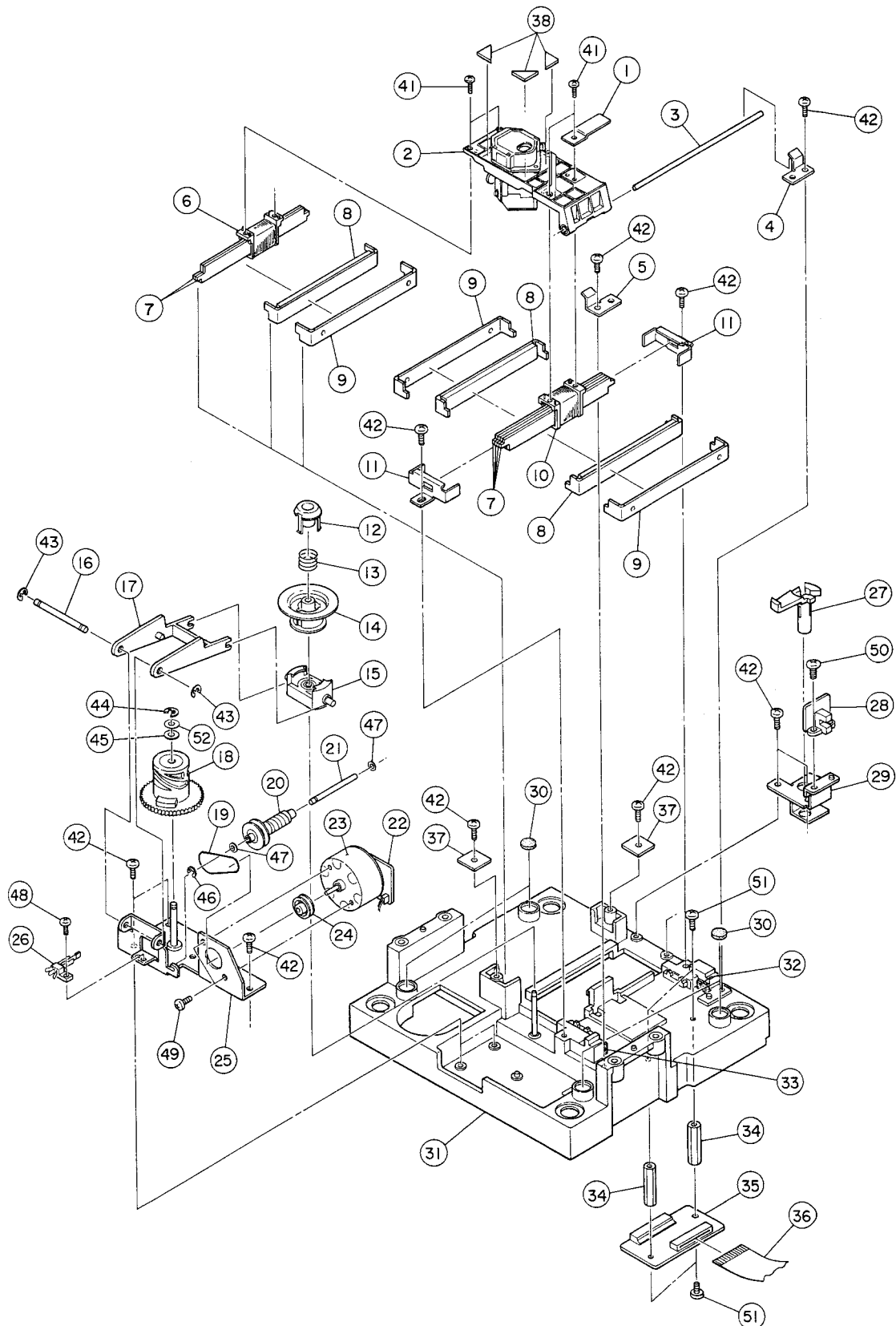
EXPLODED VIEW-2



## EXPLODED VIEW-2

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
2- 1	*5801532300	TRAY PANEL	
2- 2	*5801512600	TRAY (C)	
2- 3	*5801534000	TOP ANGLE	
2- 4	*5801132601	CUSHION	
2- 5	*5801203100	GUIDE (L)	
2- 6	*5801203002	GUIDE (R)	
2- 7	5301754000	SW, LEAF LSC-1220-1AU	
2- 8	5800979500	LOADING BELT	
2- 9	5800979400	GEAR (B)	
2-10	M00350500A	GEAR (A)	
2-11	*5801497100	CUSHION	
2-12	*5801497000	STOPPER	
2-13	*5801531703	MECH BASE CHASSIS ASSY	
2-14	*5801535300	SPINDLE SUPPORT (G)	
2-15	*5801506801	HOUSING ASSY	
2-16	*5801096900	RUBBER SHEET	
2-17	*5801513200	ROTOR STOPPER	
2-18	*5801057510	COIL SUPPORT ASSY	
2-19	*5801117100	ROTOR MAGNET ASSY	
2-20	*5801507100	TURN TABLE ASSY	
2-21	*5801057000	CLAMPER YOKE	
2-22	*5801493500	MAGNET, FB3BDH32X18X4.5M	
2-23	*5801096300	PRESSURE SPRING (C)	
2-24	*5801167701	CENTER CAP	
2-25	*5801056900	CENTER RING	
2-26	*5801057200	MAGNET HOLDER	
2-27	5800979201	MOTOR PULLEY	
2-28	5370009200	DC MOTOR, RF-500TB	
2-29	*5200344900	T-MOTOR PCB ASSY	
2-30	*5800846500	RUBBER BUSH	
2-31	*5800875001	FLOATING SPG C	
2-32	*5800846700	SPRING SUPPORT	
2-33	*5801086601	FLOATING SPG A	
2-41	*5783543006	SCREW, BIND P-TITE M3X6 (NI BLK)	
2-42	*5783033008	SCREW, BIND S-TITE M3X8	
2-43	*5783033008	SCREW, BIND S-TITE M3X8	
2-44	*M0035680	CABLE CLAMP, WS-1	
2-45	*5786003000	E-RING, E-3 (JIS)	
2-46	*5783693006	SCREW, BIND S-TITE M3X6 (NI BLK)	
2-47	*5780002603	SCREW, BIND M2. 6X3	
2-48	*5780003006	SCREW, BIND M3X6	
2-49	*5783663010	SCREW, FLAT B-TITE M3X10 (NI BLK)	
2-50	*5780023008	SCREW, BIND M3X8 (NI BLK)	
2-51	*5783533008	SCREW, BIND B-TITE M3X8 (NI BLK)	
2-52	*5780022004	SCREW, BIND M2X4 (NI BLK)	
2-53	*5785342200	WASHER, POLY 2. 6X5X0. 25T	
2-54	*5780212004	SCREW, FLAT M2X4 (NI)	
2-55	*5780023010	SCREW, BIND M3X10 (NI BLK)	

EXPLODED VIEW-3





## EXPLODED VIEW-3

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
3- 1	5801164700	SHUTTER	
3- 2	5347009800	LASER PICK UP ASSY	
3- 3	5801058900	GUIDE SHAFT	
3- 4	5801059100	SHAFT HOLDER(R)	
3- 5	5801059000	SHAFT HOLDER(F)	
3- 6	5801078300	COIL(S)	
3- 7	5801059400	YOKE(C)	
3- 8	*5801097400	YOKE(B) ASSY	
3- 9	5801059200	YOKE(A)	
3-10	5801078200	COIL(D)	
3-11	5801059600	YOKE HOLDER	
3-12	5801167800	GUIDE RING	
3-13	5801096200	PRESSURE SPRING(G)	
3-14	5801165700	CLAMPER	
3-15	5801201100	HOLDER	
3-16	5801201800	SHAFT(B)	
3-17	5801201500	LIFT ARM	
3-18	5801202700	CYLINDER CAM	
3-19	5800979500	LOADING BELT	
3-20	5800669800	WORM ASSY	
3-21	5801201700	SHAFT(A)	
3-22	*5200345000	C-MOTOR PCB ASSY	
3-23	5370009200	DC MOTOR, RF-500TB	
3-24	5801170200	MOTOR PULLEY	
3-25	*5801521500	CLAMPER BASE(B)	
3-26	5301754000	SW, LEAF LSC-1220-1AU	
3-27	5801164901	PU LOCK ARM	
3-28	*5200345100	SENSOR PCB ASSY	
3-29	5801164800	LOCK ARM BRACKET	
3-30	*5801095900	RUBBER WASHER	
3-31	*5801203505	MECH BASE	
3-32	5801288300	STOPPER(B)	
3-33	5801288200	STOPPER(A)	
3-34	5730042300	SPACER, L=25	
3-35	*5200344800	JOINT PCB ASSY	
3-36	*5355243700	FLAT CABLE A, 20P	
3-37	*M00097300A	PLATE, STOPPER A	
3-38	*M00276500A	WEIGHT, PU	
3-41	*5783011704	SCREW, PAN B-TITE M1. 7X4	
3-42	*5783533008	SCREW, BIND B-TITE M3X8(NI BLK)	
3-43	*5786002000	E-RING, E-2(JIS)	
3-44	*5786003000	E-RING, E-3(JIS)	
3-45	*5785314100	WASHER, POLY 4X8X0. 5T	
3-46	*5786001500	E-RING, E-1. 5(JIS)	
3-47	*5785302400	WASHER, POLY 2. 1X5X0. 25T	
3-48	*5780132004	SCREW, PAN SEMS-A M2X4	
3-49	*5780002603	SCREW, BIND M2. 6X3	
3-50	*5783033008	SCREW, BIND S-TITE M3X8	
3-51	*5780003006	SCREW, BIND M3X6	
3-52	*5785304200	WASHER, POLY 4X8X0. 25T	

## 6 PC BOARDS AND PARTS LIST

基板図とパーツリスト

## KEY PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*5200345400	KEY PCB ASSY
	*5210345401	KEY PCB
	5555590000	EARTH PLATE A
	5347009100	FL DISPLAY, FIP10YM8
	*5801532100	FL GUIDE
	*5801180900	FL CUSHION
	*5801529700	LED HOLDER
	*5801158000	LED SPACER, L=6
D501, 502	5224012920	D, 1S2473
D503, 504	5224017820	D, MA165P-TA5
D505-508	5225028000	LED, SLV-31DC3F (ORG)
D509, 510	5225028800	LED, SLR-34DC3F (ORG)
P501	5336299800	SOCKET, 00-8370-187-
P502	5336299900	SOCKET, 00-8370-197-
S501-506	5302108600	SW, TACT SKHVBE
U501	5220812900	IC, UPD7566CS-085
U502	5292210300	REMOTE MODULE, SBX1610-52
U504-508	5232255620	TR, DTC114ES
W501	5355243800	FLAT CABLE B, 19P
W502	5355243900	FLAT CABLE C, 18P
X501	5347006500	OSC, CERAMIC CSB700A

## SERVO PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*5200344700	SERVO PCB ASSY
	*5210344704	SERVO PCB
	5801385900	EARTH PLATE
	5801587200	EARTH PLATE
	5555590000	EARTH PLATE A
	5800990100	HEAT SINK
	5730018100	COATING CLIP, CP-1S
	*5347023000	SHIELD SHEET (CU) A
	*5347026000	SHIELD SHEET (CU) 55X15
	*5347026700	SHIELD SHEET (CU) 10X32
C 1	△ 5260428110	C, ELEC 4700UF 16V M AS
C 2	△ 5260427610	C, ELEC 3300UF 16V M AS
C 55	5267207000	C, TRIMMER VCT51F 30P
D 1	△ 5228010800	SILICON STACK, S2VB10
D 2	5224016420	D, S5688G
D 11- 13	5224017820	D, MA165P-TA5
D401, 402	5224017820	D, MA165P-TA5
L 51	14727479	INDUCTOR FERRITE BEADS
L 52	5286033820	COIL, CHOKE 8.2UH K
L 53	5286033120	COIL, CHOKE 2.2UH M

## SERVO PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
L401	5286033520	COIL, CHOKE 4.7UH K
P401	5336297000	SOCKET, 00-8370-201-
P402	5336127000	PLUG, 8263-1012 (WHT)
P403	5336305200	PLUG, B2B-EH-R (RED)
P404	5336303200	PLUG, B2B-EH (WHT)
P405	5336305300	PLUG, B3B-EH-R (RED)
P406	5336303300	PLUG, B3B-EH (WHT)
P407	5336303400	PLUG, B4B-EH (WHT)
P408	5336296800	SOCKET, 00-8370-181-
P409	5336296900	SOCKET, 00-8370-191-
P410	5336303700	PLUG, B7B-EH (WHT)
P412	5336250200	PLUG, B12B-PH-K-S (WHT)
P413	5330512700	PIN JACK, 1P
Q 1	5230509100	TR, 2SB562C
Q 11	5230781120	TR, 2SC1740SLN
Q401	5230509100	TR, 2SB562C
Q403, 405	5231756200	TR, 2SD882Q-P
Q404, 406	5230508900	TR, 2SB772P
S401	5300918300	SW, SLIDE SSSF1 1-2A
TP 1	13150492	CONNECTOR, 3022-6A
TP 2, TP4	13150488	CONNECTOR, 3022-2A
TP 3	5544750000	COMBINATION PIN
U 1	△ 13447943	IC, NJM78M05FA
U 2	△ 13447961	IC, NJM79M05FA
U 11	5220040700	IC, UPD74HC04C
U 51	5220041200	IC, UPD74HC00C
U 52	5220057500	IC, M74HC6004P
U 53	5292209800	OPTICAL MODULE, GP1F31T
U401	5220441400	IC, CXA1081S
U402	5220447500	IC, CXA1372S
U403	5220099600	IC, CXD2500AQ
U404	5220442500	IC, LA6500
U405	5220447600	IC, TA8410AK
U406	5220444000	IC, NJM4565LD
U407	5220444000	IC, NJM4565LD
U409	5220444000	IC, NJM4565LD
U410	S0017070	IC, LB1648
U491	5220837000	IC, UPD75212ACW-A86
U493	5232255620	TR, DTC114ES
U494	5220052000	IC, TC74HC32AP
V401	5280021500	VR, SEMI-FIXED 22KB
V402, 405	5280021100	VR, SEMI-FIXED 4.7KB
V403, 404	5280021500	VR, SEMI-FIXED 22KB
X 51	5347010900	OSC, CRYSTAL 16.9344M
X491	5347017700	OSC, EFO-EC4194A4
Z 1	5224592821	DZ, RD33ESB1
Z 2	5224585621	DZ, RD6.2ESB1
Z403	5224585621	DZ, RD6.2ESB1
Z404	5224585621	DZ, RD6.2ESB1
Z405	5224587221	DZ, RD9.1ESB1

## AUDIO PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*E95024700A	PCB ASSY, AUDIO
	*E90024700A	PCB, AUDIO
	5801385900	EARTH PLATE
	5801062000	EARTH PLATE E
	M00350800A	HEAT SINK, OSH-2435-SPL
	5730039200	HEAT SINK, OSH-2425-SPL
	*5783743008	SCREW, BIND S-TITE M3X8 (CU)
	*5347023000	SHIELD SHEET (CU)A
	*5347026100	SHIELD SHEET (CU)27X8
	*5347028200	SHIELD SHEET (CU)11X11
	*5347027200	SHIELD SHEET (CU)10X30
C 24- 26	5260462720	C, ELEC 47UF 25V M AU
C 51, 52	△ C0000000	C, ELEC 4700UF 25V ASF
C 55, 56	△ C0000000	C, ELEC 4700UF 25V ASF
C101, 201	5260462720	C, ELEC 47UF 25V M AU
C103, 203	5260462720	C, ELEC 47UF 25V M AU
C104, 204	5260462720	C, ELEC 47UF 25V M AU
C105, 205	5260462720	C, ELEC 47UF 25V M AU
C106, 206	5260462720	C, ELEC 47UF 25V M AU
C107, 207	5260462720	C, ELEC 47UF 25V M AU
C108, 208	5260463820	C, ELEC 220UF 25V M AU
C114, 214	5260463220	C, ELEC 100UF 25V M AU
C116, 216	5260463220	C, ELEC 100UF 25V M AU
C121, 221	5260463820	C, ELEC 220UF 25V M AU
C122, 222	5260462720	C, ELEC 47UF 25V M AU
C123, 223	5260462720	C, ELEC 47UF 25V M AU
C124, 224	5260462720	C, ELEC 47UF 25V M AU
C129, 229	5260463320	C, ELEC 100UF 35V M AU
C130, 230	5260463320	C, ELEC 100UF 35V M AU
C142, 242	5260462720	C, ELEC 47UF 25V M AU
C143, 243	5260462720	C, ELEC 47UF 25V M AU
C144, 244	5260462720	C, ELEC 47UF 25V M AU
D 51- 58	△ 5224018120	D, FEID-G23(TA)
D 59, 60	5224016420	D, S5688G
J101	5330513700	PIN JACK, 1P
J201	5330513800	PIN JACK, 1P
L 1	5286033520	COIL, CHOKE 4.7UH K
P102	5336303600	PLUG, B6B-EH(WHT)
Q101, 201	5231762520	TR, 2SD1915TA
Q102, 202	5231762520	TR, 2SD1915TA
R 11- 13	5241619820	R, METAL MRS25 100 F
R 14	5241627020	R, METAL MRS25 100K F
R 27, 28	5241620620	R, METAL MRS25 220 F
R 51, 52	5241623020	R, METAL MRS25 2.2K F
R 53	5241622220	R, METAL MRS25 1.0K F
R101, 201	5241620620	R, METAL MRS25 220 F
R102, 202	5241620620	R, METAL MRS25 220 F
R103, 203	5241620620	R, METAL MRS25 220 F
R104, 204	5241620620	R, METAL MRS25 220 F
R105, 205	5241620620	R, METAL MRS25 220 F
R106, 206	5241617420	R, METAL MRS25 10 F
R107, 207	5241620620	R, METAL MRS25 220 F
R108, 208	5241620620	R, METAL MRS25 220 F
R109, 209	5241620620	R, METAL MRS25 220 F
R110, 210	5241629420	R, METAL MRS25 1.0M F

## AUDIO PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
R111, 211	5241617420	R, METAL MRS25 10 F
R112, 212	5241617420	R, METAL MRS25 10 F
R113, 213	5241617420	R, METAL MRS25 10 F
R114, 214	5241622620	R, METAL MRS25 1.5K F
R115, 215	5241623420	R, METAL MRS25 3.3K F
R116, 216	5241623420	R, METAL MRS25 3.3K F
R117, 217	5241621620	R, METAL MRS25 560 F
R118, 218	5241624920	R, METAL MRS25 13K F
R119, 219	5241624920	R, METAL MRS25 13K F
R120, 220	5241624620	R, METAL MRS25 10K F
R121, 221	5241624620	R, METAL MRS25 10K F
R122, 222	5241616620	R, METAL MRS25 4.7 F
R123, 223	5241616620	R, METAL MRS25 4.7 F
R124, 224	5241624620	R, METAL MRS25 10K F
R125, 225	5241624620	R, METAL MRS25 10K F
R126, 226	5241624920	R, METAL MRS25 13K F
R127, 227	5241624920	R, METAL MRS25 13K F
R128, 228	5241621620	R, METAL MRS25 560 F
R129, 229	5241623420	R, METAL MRS25 3.3K F
R130, 230	5241623420	R, METAL MRS25 3.3K F
R131, 231	5241622620	R, METAL MRS25 1.5K F
R132, 232	5241617420	R, METAL MRS25 10 F
R133, 233	5241617420	R, METAL MRS25 10 F
R134, 234	5241624120	R, METAL MRS25 6.2K F
R135, 235	5241624120	R, METAL MRS25 6.2K F
R136, 236	5241621620	R, METAL MRS25 560 F
R137, 237	5241621920	R, METAL MRS25 750 F
R139, 239	5241621620	R, METAL MRS25 560 F
R141, 241	5241622220	R, METAL MRS25 1.0K F
R142, 242	5241619820	R, METAL MRS25 100 F
R143, 243	5241623820	R, METAL MRS25 4.7K F
R144, 244	5241621020	R, METAL MRS25 330 F
R145, 245	5241623820	R, METAL MRS25 4.7K F
R146, 246	5241627020	R, METAL MRS25 100K F
R147, 247	5241625620	R, METAL MRS25 27K F
R148, 248	5241625620	R, METAL MRS25 27K F
R149, 249	5241627820	R, METAL MRS25 220K F
R150, 250	5241624620	R, METAL MRS25 10K F
R161	5241627020	R, METAL MRS25 100K F
R163	5241624620	R, METAL MRS25 10K F
U 17	5220052200	IC, TC74HC86AP
U 18	5220099800	IC, SM5840AP
U 51	△ 13447943	IC, NJM78M05FA
U 52	△ 13447961	IC, NJM79M05FA
U 53	△ 13447947	IC, NJM78M12FA
U 54	△ 13447965	IC, NJM79M12FA
U 55	5232254720	TR, DTA114ES
U101, 201	5220110700	IC, SAA7350AGP
U102, 202	5220100800	IC, TDA1547
U103, 203	5220448100	IC, NJM211 4L
U104, 204	5220448100	IC, NJM211 4L
U105, 205	5232254720	TR, DTA114ES
U106, 206	5232255620	TR, DTC114ES
U111, 211	5220448100	IC, NJM211 4L
U112, 212	5220448100	IC, NJM211 4L
Z 51	5224584921	DZ, RD5.1ESB2

## POWER PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*5200345500	POWER PCB ASSY [J]
	*5200345530	POWER PCB ASSY [US, C, GE]
	*5200345540	POWER PCB ASSY [E]
	*5200345550	POWER PCB ASSY [UK]
	*5210345501	POWER PCB
	5555590000	EARTH PLATE A
	5332015800	FUSE HOLDER
C601	△ 5267704100	SPARK KILLER 0.0047UF 250V
F601, 602	△ 5307050200	FUSE, 2A SLOW BLOW [J, US, C, GE]
F601, 602	△ 5307053100	FUSE, 2.0A TIME LAG [E, UK]
L602	△ 5292806300	NOISE FILTER, FK0B16MH13
P601	5327007200	LAPPING TERMINAL, 2P [E, UK]
S601	△ 5300054700	SW, PUSH SDDL1 1-1

## SENSOR PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*5200345100	SENSOR PCB ASSY
	*5210345100	SENSOR PCB
	5228014100	PHOTO INTERRUPTER, GP1A51HR

## C-MOTOR PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*5200345000	C-MOTOR PCB ASSY
	*5210345001	C-MOTOR PCB

## T-MOTOR PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*5200344900	T-MOTOR PCB ASSY
	*5210344901	T-MOTOR PCB

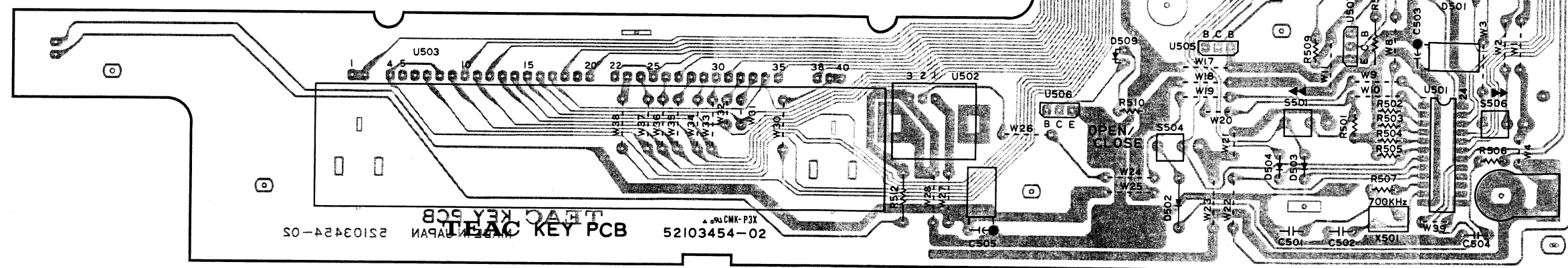
## JOINT PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*5200344800	JOINT PCB ASSY
	*5210344801	JOINT PCB
P491	5336366000	SOCKET, TOC-L20X-A1
P492	5336300000	SOCKET, 00-8370-207-

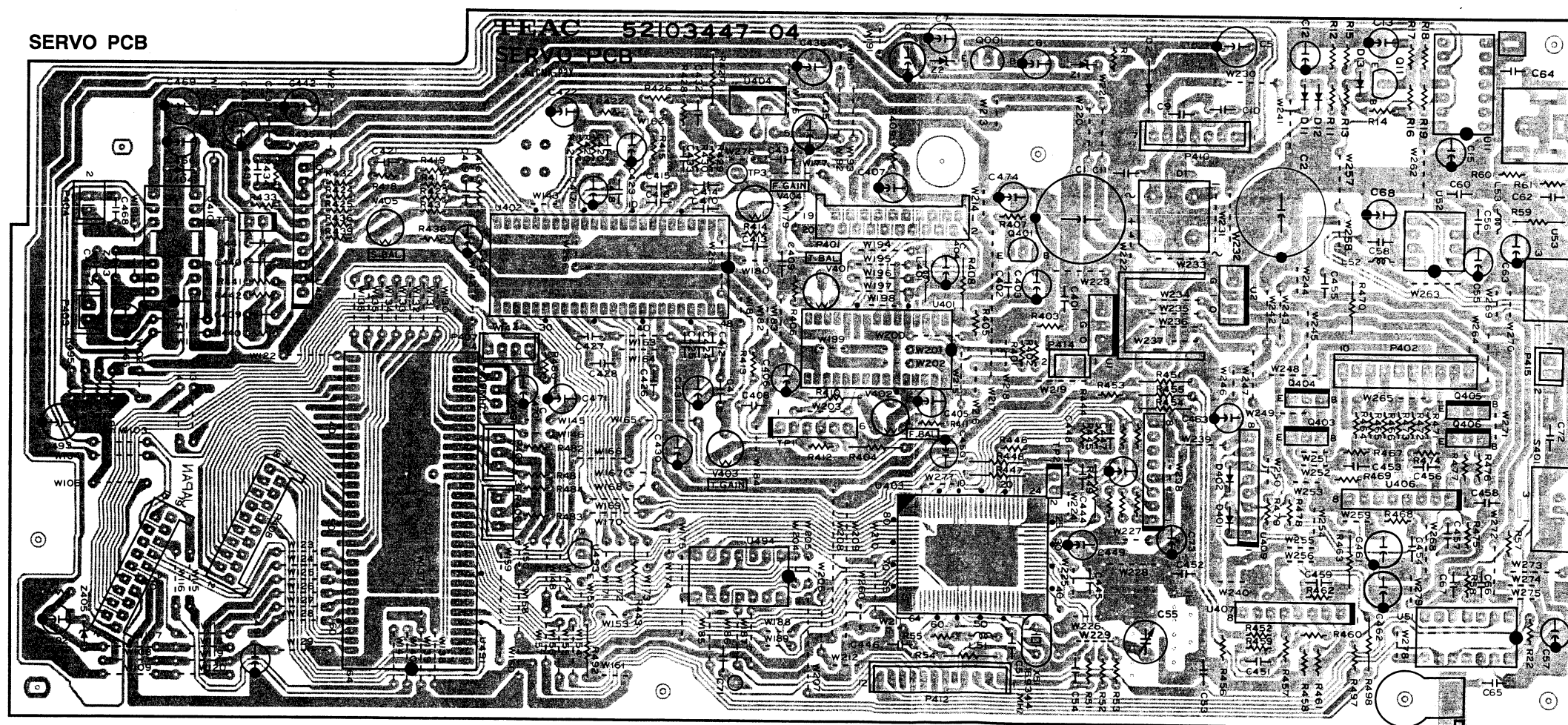
## VOLTAGE SELECTOR PCB ASSY [US,C,GE]

REF. NO.	PARTS NO.	DESCRIPTION
	*5200345600	VOLTAGE SELECTOR PCB ASSY
	*5210345601	VOLTAGE SELECTOR PCB
	△ 5300918600	VOLTAGE SELECTOR, SDKGA4

## KEY PCB

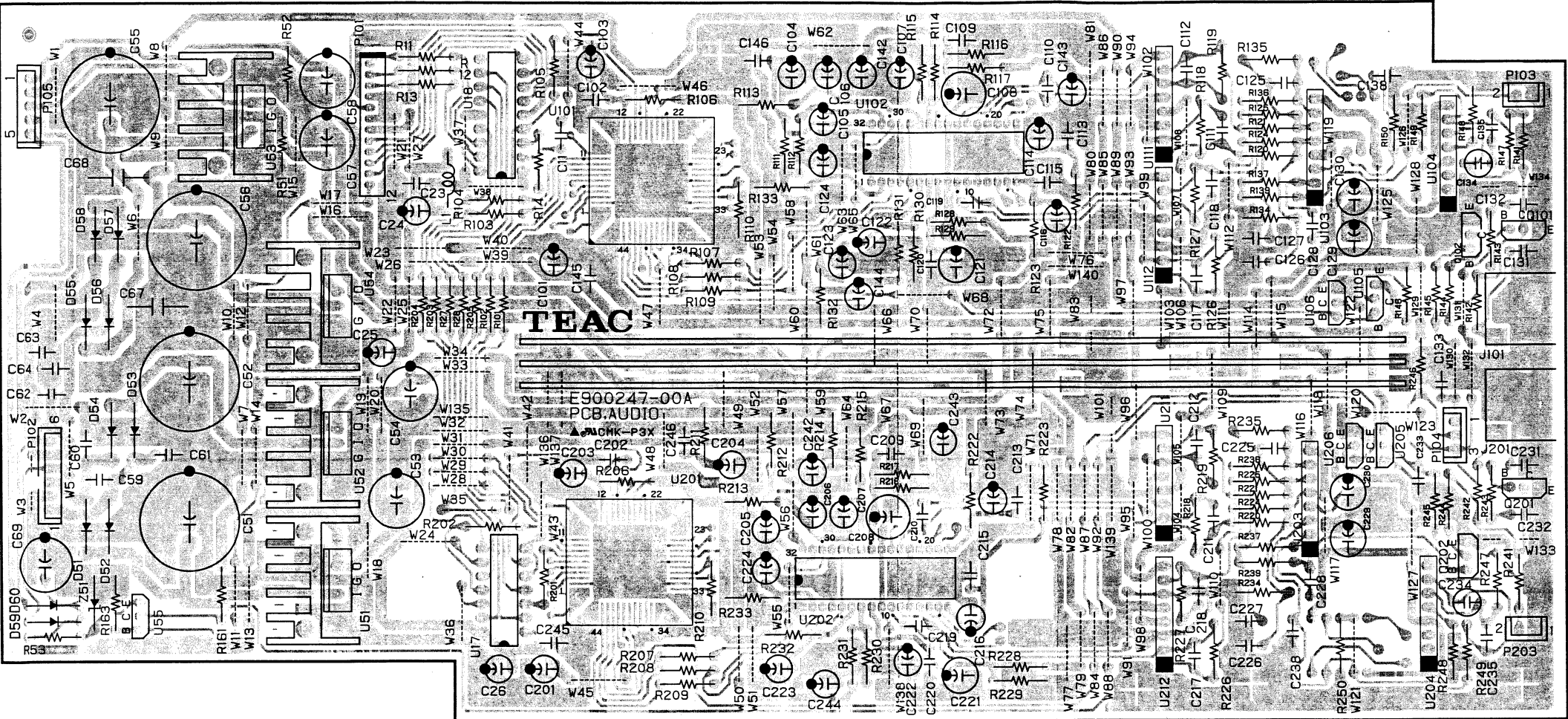


## SERVO PCB

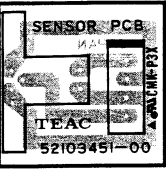




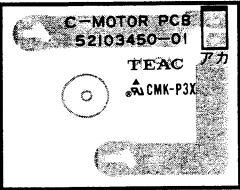
AUDIO PCB



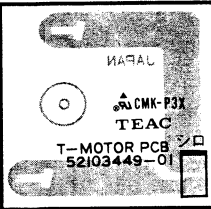
SENSOR PCB



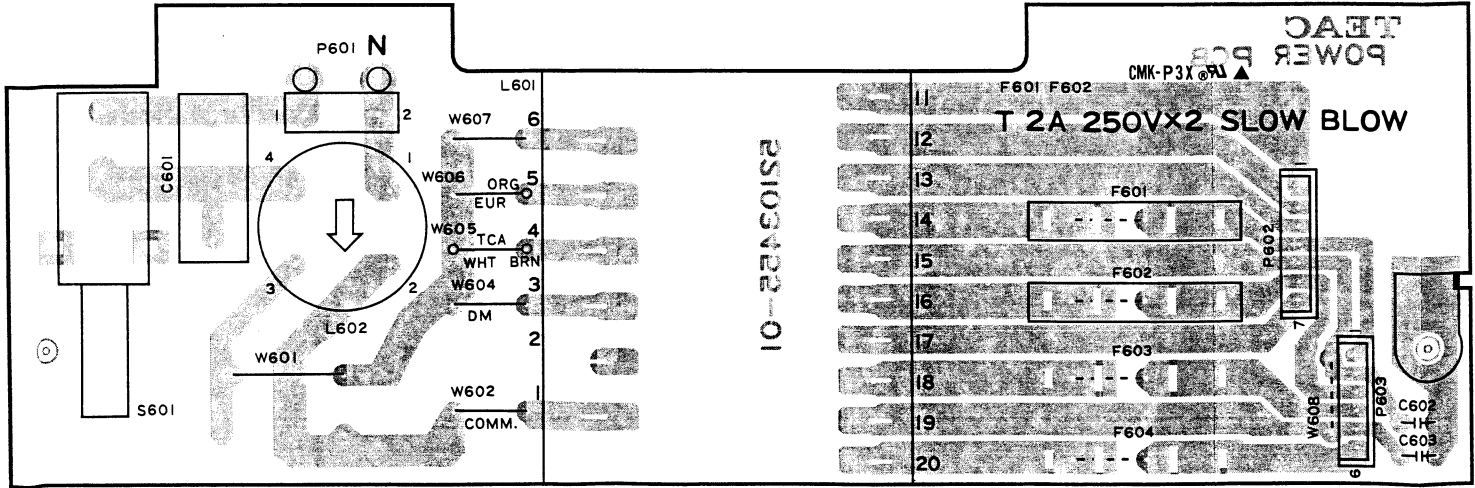
C-MOTOR PCB



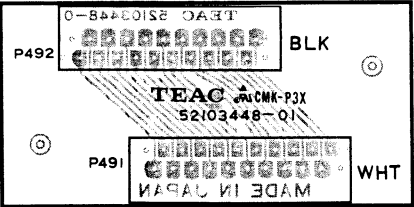
T-MOTOR PCB



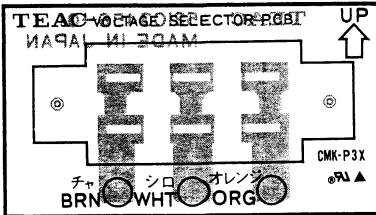
POWER PCB



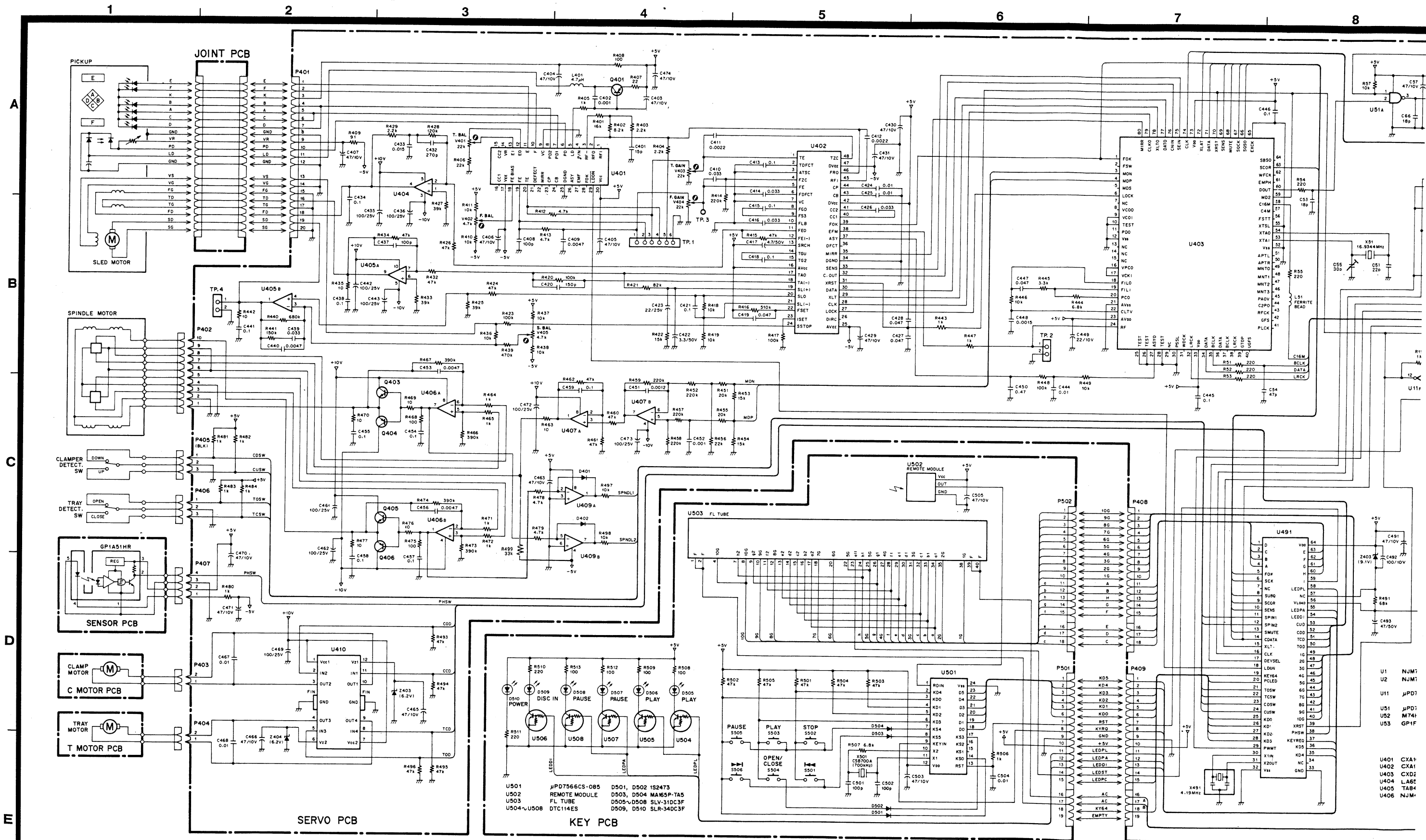
JOINT PCB



VOLTAGE SELECTOR PCB



# TEAC SCHEMATIC DIAGRAM VRDS-10SE



**INSTRUCTIONS FOR SERVICE PERSONNEL**  
BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

**NOTES:**  
1. Resistor values are in ohms (k=kilo-ohms, M=megohms).  
2. Capacitor values are in microfarads (p=picofarads).  
3.  $\Delta$  Parts marked with this sign are safety critical components. They must always be replaced with identical components—refer to the appropriate parts list and ensure exact replacement.

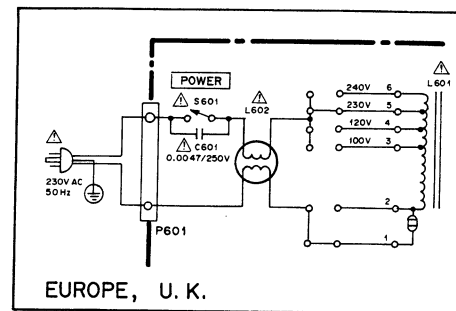
**注意**  
1. 抵抗の単位は  $\Omega$  (k=k $\Omega$ , M=M $\Omega$ ) です。  
2. コンデンサの単位は  $\mu F$  (p=pF) です。  
3.  $\Delta$  マークのある部品は安全規格重要部品です。交換するときは必ずディテック指定の部品を使用してください。



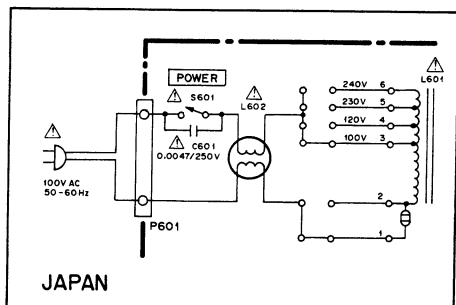


# TEAC SCHEMATIC DIAGRAM VRDS-10SE

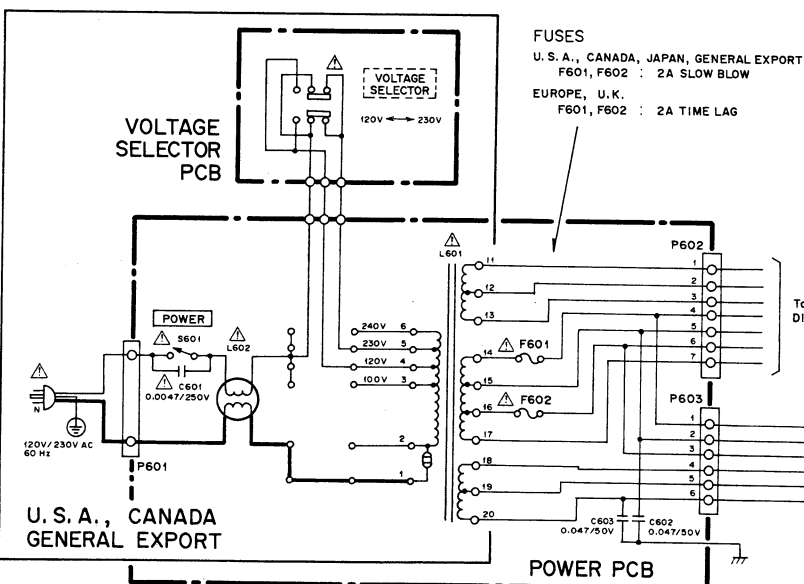
A



B



C



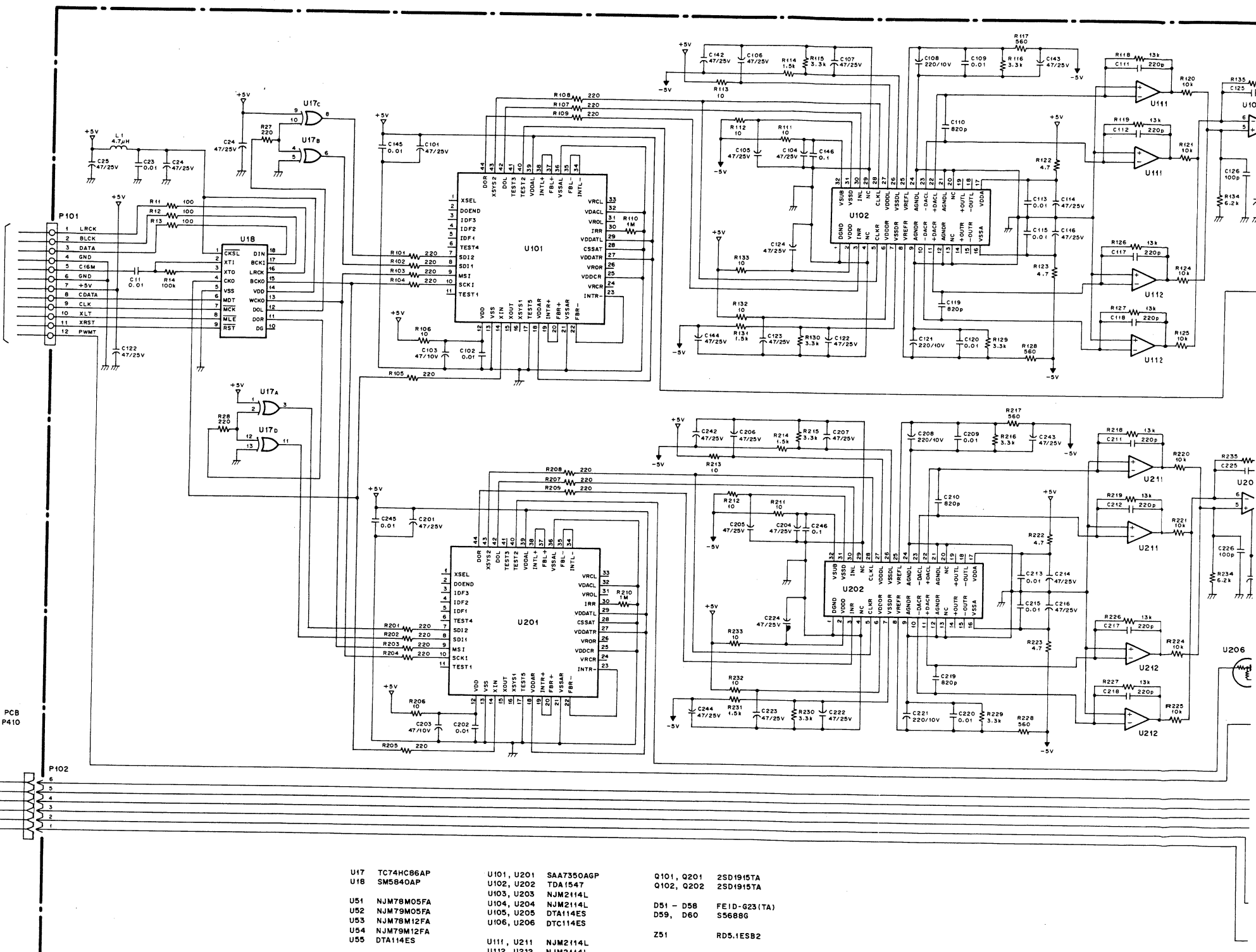
D

E

**INSTRUCTIONS FOR SERVICE PERSONNEL**  
BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

To DIGITAL PCB P411

To DIGITAL PCB P410



U17	TC74HC66AP	U101, U201	SAAT350AGP	Q101, Q201	2SD1915TA
U18	SM5840AP	U102, U202	TDA1547	Q102, Q202	2SD1915TA
U51	NJM78M05FA	U103, U203	NJM2114L	D51 - D58	FE1D-G23(TA)
U52	NJM79M05FA	U104, U204	NJM2114L	D59, D60	S56886
U53	NJM78M12FA	U105, U205	DTA114ES	Z51	RD5.1ESB2
U54	NJM79M12FA	U106, U206	DTA114ES		
U55	DTA114ES	U111, U211	NJM2114L		
		U112, U212	NJM2114L		

## NOTES:

1. Resistor values are in ohms (k=kilo-ohms, M=megohms).
2. Capacitor values are in microfarads (p=picofarads).
3. Parts marked with this sign are safety critical components. They must always be replaced with identical components-refer to the appropriate parts list and ensure exact replacement.

## 注意

1. 抵抗の単位はΩ (k=kΩ, M=MΩ) です。
2. コンデンサの単位はμF (p=pF) です。
3. △マークのある部品は安全規格重要部品です。交換するときは必ずディック指定の部品を使用してください。



**NOTES:**

1. Resistor values are in ohms (k=kilo-ohms, M=megohms).
2. Capacitor values are in microfarads (p=picofarads).
3.  Parts marked with this sign are safety critical components. They must always be replaced with identical components-refer to the appropriate parts list and ensure exact replacement.

**注意**

1. 抵抗の単位は $\Omega$  ( $k = k\Omega$ ,  $M = M\Omega$ ) です。
2. コンデンサの単位は $\mu F$  ( $p = pF$ ) です。
3.  $\Delta$ マークのある部品は安全規格重要部品です。  
交換するときは必ずティアック指定の部品を使用してください。

# VRDS-10SE

## Compact Disc Player

1 st Issue; September 1995