

# TEAC

## SERVICE MANUAL

# VRDS-9



### Compact Disc Player

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#### 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 [E]: EUROPE [UK]: U. K.  
VRDS-9(N): Gold Version VRDS-9(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 [E]: EUROPE [UK]: U. K.  
VRDS-9(N): Gold Version VRDS-9(B): Black Version

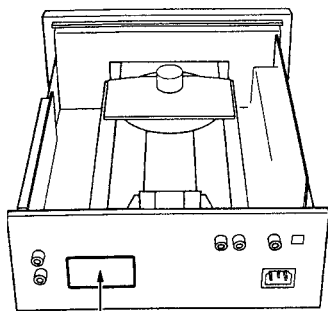
# 1 SAFETY INFORMATION

## 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

USE OF CONTROLS OR ADJUSTMENT OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.



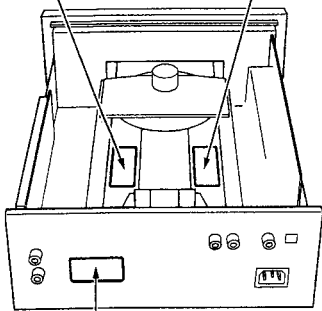
① **CERTIFICATION**  
 THIS PRODUCT COMPLIES WITH DHHS  
 RULES 21 CFR SUBCHAPTER J APPLI-  
 CABLE AT DATE OF MANUFACTURE  
 TEAC CORPORATION  
 2-2-33 NAKA-CHO, NAGASHINO-SHI, TOKYO, JAPAN  
 MANUFACTURED

**Optical pickup:** Type : KSS-213C  
 Manufacturer : SONY Corporation  
 Laser output : Less than 0.2 mW on the objective lens  
 Wavelength : 760 - 800 nm

## • CAUTION • ACHTUNG • OBSERVERA • ADVARSEL

② **CAUTION** - INVISIBLE LASER RADIATION WHEN OPEN AND  
 INTERLOCK DEFECTED. AVOID EXPOSURE TO BEAM  
**VORSICHT!** UNSICHTBARE LASERSTRAHLUNG TRITT AUS  
 WENN DIE SICHERHEITSSPERRE ODER FUNKTION  
 SICHERHEITSSPERRE GELÜCKT (FEBRÜCKT) IST!  
 NICHT DEM STRAHLE AUSSETZEN!  
**VARNING** - OSYNLIG LASERSTRÅLNING NÄR DENNA DEL  
 ÄR ÖPPNAD OCH SPÄRR AR UTKOPPLAD  
 STRÅLEN ÄR FARLIG

② **ADVARSEL** - USYNLIG LASERSTRÅLING VED ÅBNING NÅR  
 SIKKERHEDSafbrydere ER UDE AF FUNKTION.  
 UNDGÅ UDSÆTTELSE FOR STRÅLING  
**VAROITUS!** SUOJAKOTELOA EI SAA AVATA LAITE SISÄLTÄÄ  
 LASERDIODIN, JOKA LÄHETTÄÄ (NÄKYMÄTÖNTÄ) SILMILLE  
 VAARALLISTA LASERSÄTEILYÄ.  
**ADVARSEL** - USYNLIG LASERSTRÅLING NÅR DENNE  
 DELEN ER ÅBEN OG SIKKERHETSPPERREN ER UTKOBLET  
 UNNGÅ UTSETTELSE FOR STRÅLING



① **CLASS 1 LASER PRODUCT**  
**LUOKAN 1 LASERLAITE**  
**KLASS 1 LASERAPPARAT**

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.

VARNING: APPARATEN INNEHÅLLER LASER KOMPONENT MED STRÅLNING ÖVERSTIGANDE KLAS 1

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

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

ADVARSEL: USYNLIG LASERBESTRÅLING NÅR DENNE DELEN ER ÅBEN OG SIKKERHETSPPERREN ER UTKOBLET 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>	0.0015% (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>	0.5V <sub>p-p</sub> /75 $\Omega$ (COAXIAL) -15dBm ~ -21dBm (OPTICAL)
<b>D/A Converter</b>	Advanced sign magnitude 20 bit 4 DAC
<b>Digital Filter</b>	8-times oversampling 20-bit digital filter
<b>Analog Filter</b>	3rd order Butterworth filter

#### PICK UP

<b>Type</b>	Objective lens drive, 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
<b>Error Correction</b>	CIRC

#### GENERAL

<b>Power Requirements</b>	120V AC, 60Hz (U.S.A./Canada Model) 230V AC, 50Hz (Europe/U.K. Model)
<b>Power Consumption</b>	18 watts
<b>Dimensions (W <math>\times</math> H <math>\times</math> D)</b>	285 $\times$ 133 $\times$ 330mm (11-1/4" $\times$ 5-1/4" $\times$ 13")
<b>Weight (net)</b>	9kg (20-3/16 lbs)
<b>Standard Accessories</b>	Wireless Remote Control Unit RC-626 : VRDS-9(N) RC-629 : VRDS-9(B) Battery (SUM-3, "AA", "R6" type) $\times$ 2, AC Power Cord $\times$ 1, 1P Remote Control Cord $\times$ 1 (only for EUR/UK model)

#### (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(EIAJ)
ダイナミックレンジ	99dB以上(EIAJ)
高調波歪率	0.0015%以下(EIAJ)
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(EIAJ)
アナログ出力	2.2Vrms
デジタル出力	0.5V <sub>p-p</sub> /75 $\Omega$ (COAXIAL) -15~-21dBm (OPTICAL)
D/Aコンバーター	アドバンスド サイン マグニチュード方式
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	285 $\times$ 133 $\times$ 330mm (W $\times$ H $\times$ D)
質量	9.0kg

#### 付属品

- ワイヤレスリモコン RC-626  $\times$  1
- 乾電池(単3、SUM-3)  $\times$  2
- リモコンコード  $\times$  1
- 電源コード  $\times$  1

\* EIAJは日本電子機械工業会規格に定められた測定法によるものです。

\* 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。

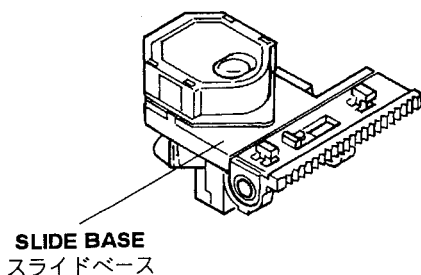
- Improvements may result in specification or feature changes without notice.

### 3 ADJUSTMENT AND CHECKS

#### 調整と確認

#### 1. Handling the pickup assembly

- Before servicing the pickup assembly be sure to prevent electrostatic-inducer destruction by grounding not only test equipment in use but also yourself.
  - \* Electrostatic charge drastically shortens the operating life of the laser diode or possibly results in its destruction.
- Hold the slide base when handling the pick-up.
- LD terminals are factory-strapped before shipment to protect LD from electrostatic discharges during transportation. After connector insertion, unstrap the LD terminal with a soldering iron. The temperature of the soldering iron tip must be 320°C or below (30W) and the unstrapping should be performed quickly.
- 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.
- The LD chip is manufactured from GaAs and GaAlAs, which contains toxic As (Arsenic). Parts removed in servicing should be disposed of with due care.

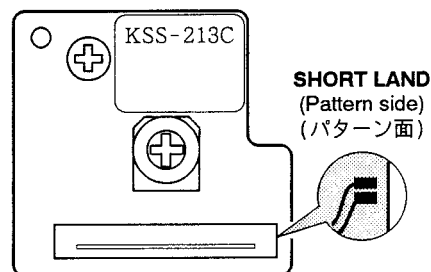


#### 2. Objective

- Never look directly into the LD or observe the laser beam through another lens or mirror.
- 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.

#### 1. ピックアップ ASSY の取扱

- 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。
  - \* 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。
- ピックアップ ASSY の取り扱いは、スライドベースを持って行なってください。
- LD の端子は、出荷時に輸送による静電破壊防止のためショートされています。ショート部の解放はコネクターを差し込んだ後、半田ゴテで行なってください。半田ゴテは、コテ先温度が320°C以下(30W)のものを使用し、すみやかに行ってください。
- 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。
- LD のチップは GaAs + GaAlAs で有毒な As を含んでいます。サービスパーツの不良品は指定の方法で廃棄処理をしてください。

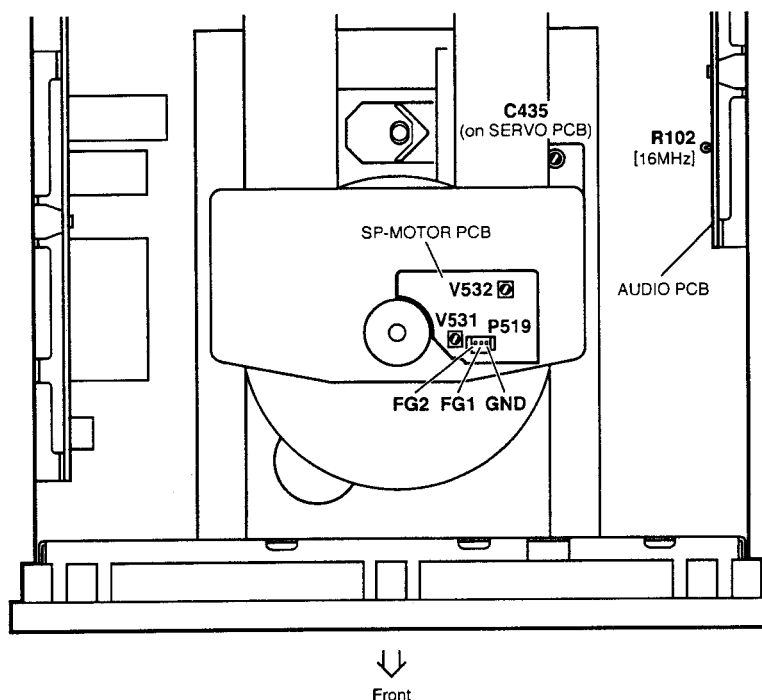


#### 2. 対物レンズについて

- 動作中の LD を直視したり、あるいは他のレンズやミラーを介して光束を観察すると危険ですから絶対に行なわないでください。
- 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。

## 3-1 SERVO ADJUSTMENT

## 3-1 サーボ調整



## 3-1-1 Clock frequency adjustment

1. Connect the frequency counter to R102.
2. Adjust C435 so that the clock frequency is  $16.9344 \text{ MHz} \pm 25 \text{ ppm}$  ( $16.933977 \text{ MHz} \sim 16.934823 \text{ MHz}$ ) at the stop mode.

## 3-1-1 クロック周波数調整

1. 周波数カウンターをR102に接続する。
2. 停止状態でのクロック周波数が  $16.9344 \text{ MHz} \pm 25 \text{ ppm}$  ( $16.933977 \text{ MHz} \sim 16.934823 \text{ MHz}$ )になるようにC435を調整する。

## 3-1-2 Spindle offset adjustment

1. Turn off the power once. While holding down the **stop** button, turn on the power again. Next, press the **pause** button, and then the **play** button to enter the test mode.
2. Adjust V532 until the electrostatic potential difference between the terminals of the spindle motor reaches 0V. (The turn table stops rotating.)

## 3-1-2 スピンドルオフセット調整

1. 一旦電源を切り、**stop** ボタンを押しながら電源を入れる。次に **pause** ボタン→**play** ボタンの順に押して、テストモードにする。
2. スピンドルモーター端子間の電位差が0VになるようにV532を調整する。(ターンテーブルの回転が止る。)

## 3-1-3 Sled adjustment

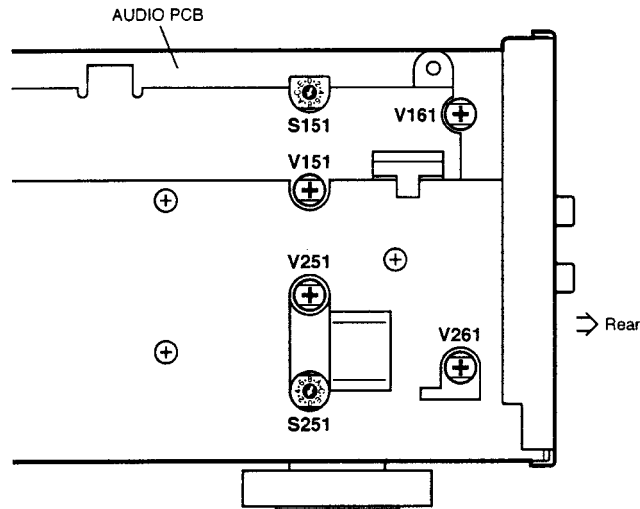
1. In the test mode, connect the oscilloscope across FG1 of P519 and GND. Then, adjust V531 so that the waveform is displayed at  $1.2 \text{ Vp-p}$ .
2. Turn off the power to cancel the test mode.

## 3-1-3 スレッド調整

1. テストモードでP519のFG1とGND間にオシロスコープを接続し、波形が  $1.2 \text{ Vp-p}$  になるようにV531を調整する。
2. 電源を切り、テストモードを解除する。

## 3-2 AUDIO ADJUSTMENT

## 3-2 オーディオ調整



### 3-2-1 DC offset adjustment

1. Connect the DC voltmeter to the LINE OUT.
2. Play the track 17 (1kHz, -60dB) of the MCD-111, and adjust V161 (Lch)/V261 (Rch) so that the offset voltage becomes within  $0 \pm 10\text{mV}$ .

### 3-2-1 DC オフセット調整

1. LINE OUT 端子にDCボルトメーターを接続する。
2. MCD-111の17曲目(1kHz, -60dB)を再生し、オフセット電圧が $0 \pm 10\text{mV}$ になるようV161(Lch)/V261(Rch)を調整する。

### 3-2-2 Output level check

1. Connect the AC voltmeter to the LINE OUT.
2. Play the track 2 (1kHz, 0dB) of the MCD-111, and check the output level.  
Specification :  $2.2 \pm 0.5\text{Vrms}$  (47 k $\Omega$  load)

### 3-2-2 出力レベルチェック

1. LINE OUT 端子にACボルトメーターを接続する。
2. MCD-111の2曲目(1kHz, 0dB)を再生し、出力レベルを確認する。  
規格 :  $2.2 \pm 0.5\text{Vrms}$  (47 k $\Omega$ 負荷)

### 3-2-3 Distortion adjustment

1. Connect the distortion meter to the LINE OUT.
2. Play the track 2 (1kHz, 0dB) of the MCD-111.
3. Perform coarse adjustment with S151 (Lch)/S251 (Rch), then fine adjustment with V151 (Lch)/V251 (Rch) so that the distortion becomes minimum.  
Specification : 0.006 % or less  
(400Hz HPF + A weight + 20kHz LPF)

### 3-2-3 歪率調整

1. LINE OUT 端子に歪率計を接続する。
2. MCD-111の2曲目(1kHz, 0dB)を再生する。
3. 歪率が最良となるようにS151 (Lch)/S251 (Rch)で粗調整後、V151 (Lch)/V251 (Rch)で微調整する。  
規格 : 0.006 %以下  
(400Hz HPF + A weight + 20kHz LPF)

### 3-2-4 Frequency response check

1. Play the track 3-6 (20Hz-20kHz, 0dB) of the MCD-111, and check that output level are within the specified values with respect to the 1kHz reference level.  
Specification : within  $\pm 0.5\text{dB}$

### 3-2-4 周波数特性チェック

1. MCD-111の3~6曲目(20Hz~20kHz, 0dB)を再生し、基準レベル(1kHz, 0dB)に対し規格内であることを確認する。  
規格 :  $\pm 0.5\text{dB}$ 以内

**3-2-5 S/N check**

1. Play the track 7 (non-signal) of the MCD-111, and check that noise level are within the specified values with respect to the 1kHz reference level.  
Specification : 100dB or more (DIN AUDIO)

**3-2-6 Channel separation check**

1. Play the track 8 (L:1kHz/R:non-signal) of the MCD-111, and check the leakage from Lch to Rch.
2. In the same way, play the track 10 (R:1kHz/L:non-signal) of the MCD-111, and check the leakage from Rch to Lch.  
Specification : 100dB or more (DIN AUDIO)

**3-2-5 S/N チェック**

1. MCD-111の7曲目(無信号)を再生し、ノイズレベルが基準レベルに対し規格内であることを確認する。  
規格：100dB以上(DIN AUDIO)

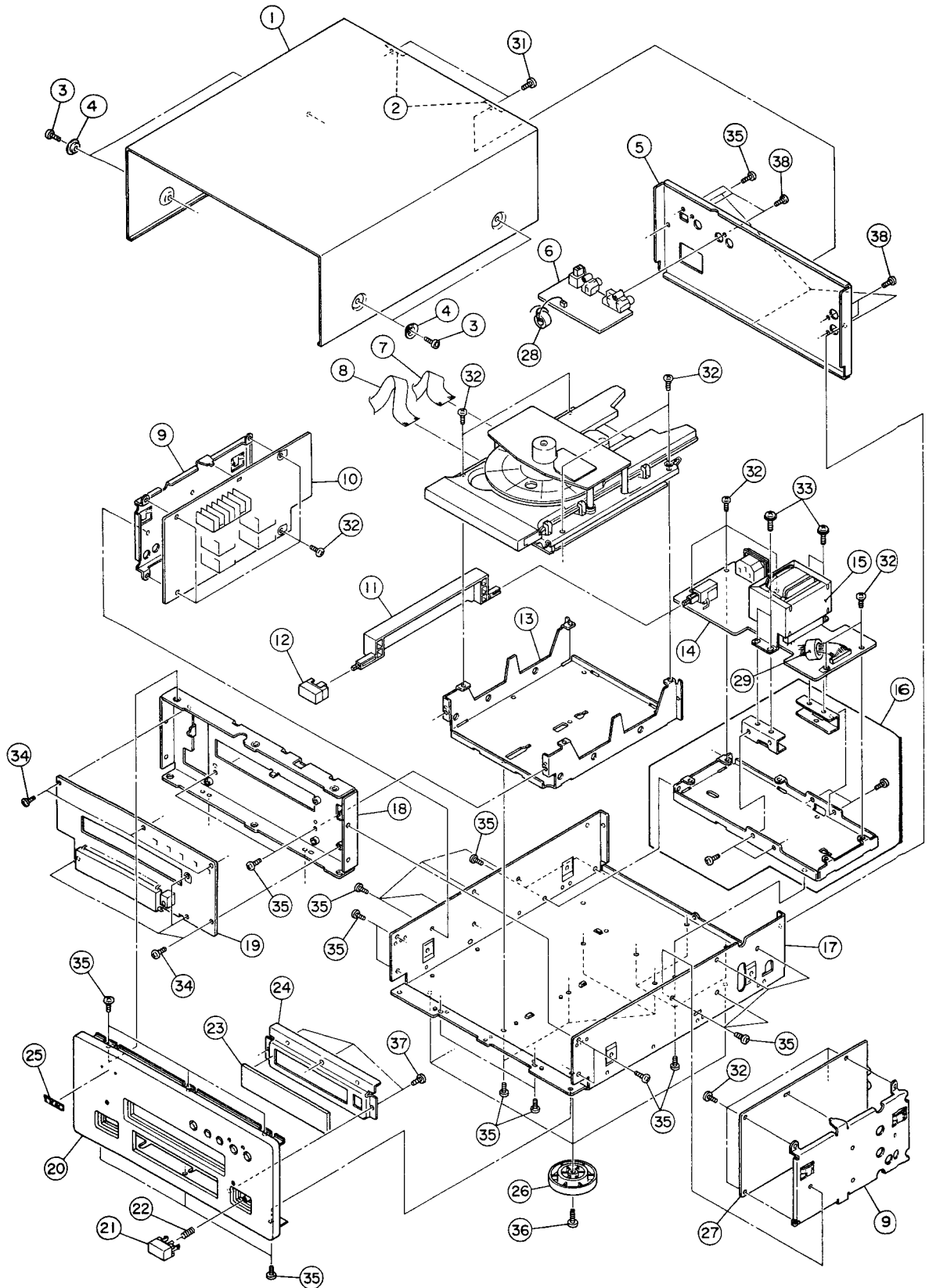
**3-2-6 チャンネルセパレーションチェック**

1. MCD-111の8曲目(L:1kHz/R:無信号)を再生し、Rchへの漏れを確認する。
2. 同様に10曲目(R:1kHz/L:無信号)を再生し、Lchへの漏れを確認する。  
規格：100dB以上(DIN AUDIO)

# 4 EXPLODED VIEWS AND PARTS LIST

分解図とパーツリスト

EXPLODED VIEW-1

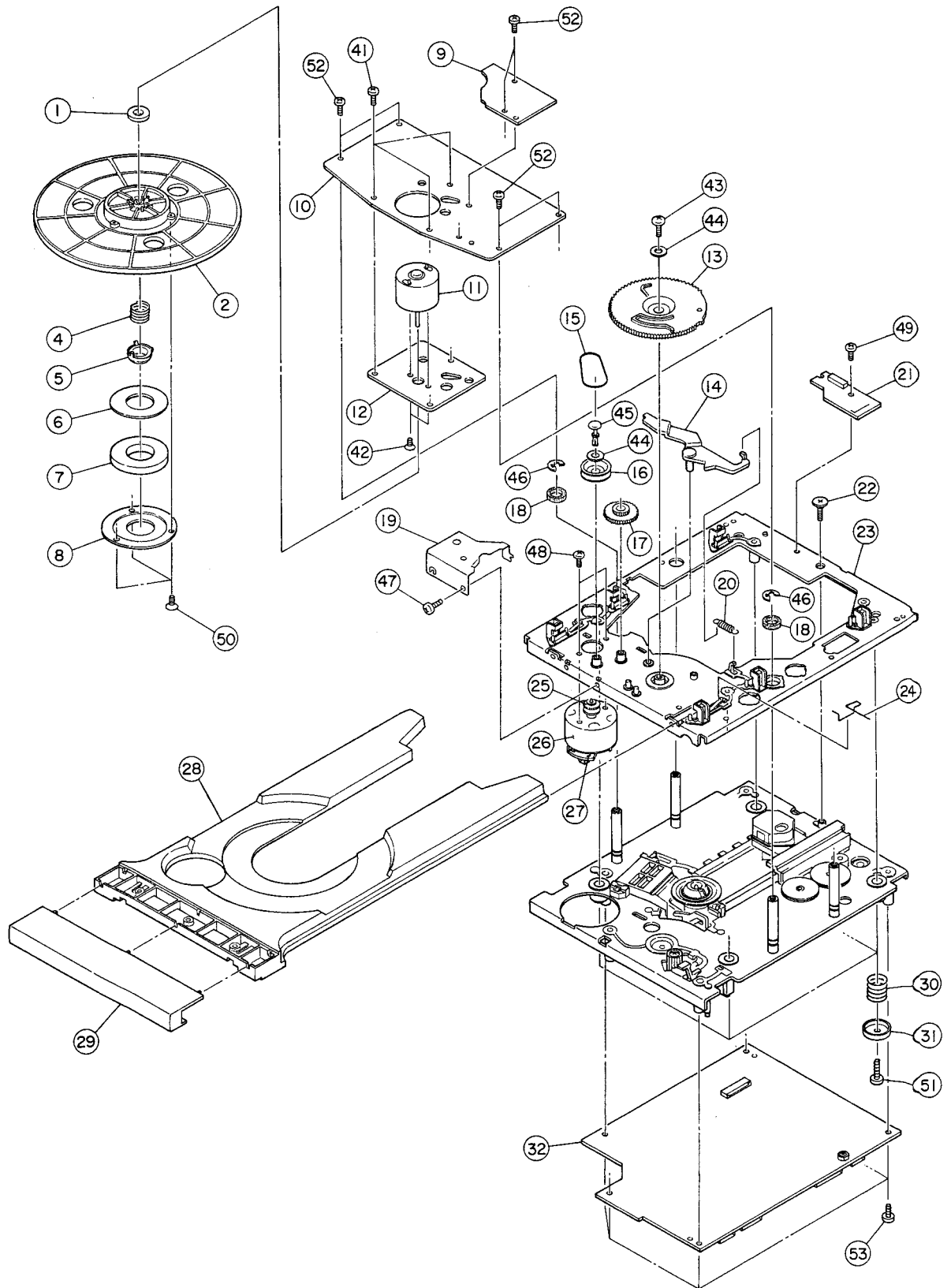




**EXPLODED VIEW-1**

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
1- 1	*M00521400B	BONNET	
1- 2	*5801096900	SHEET, RUBBER	
1- 3	*5801532500	SCREW, HEXAGON SOCKET B	
1- 4	*5801532910	COLLAR(B)	
1- 5	*M00520800A	PANEL, REAR	
1- 6	*E95043600A	PCB ASSY, I/O	
1- 7	*E00277500A	FLAT CABLE, 18P	
1- 8	*E00277600A	FLAT CABLE, 19P	
1- 9	*M00520700A	ANGLE, PCB	
1-10	*E95043000A	PCB ASSY, POWER	
1-11	*M00521100A	ROD, POWER SW	
1-12	*M00521900A	BUTTON ASSY, POWER(N) .....	VRDS-9(N)
	*M00523400A	BUTTON ASSY, POWER(B) .....	VRDS-9(B)
1-13	*M00520600A	ANGLE, M	
1-14	*E95043800A	PCB ASSY, TRANS [J]	
	*E95043811A	PCB ASSY, TRANS [US, C]	
	*E95043840A	PCB ASSY, TRANS [E, UK]	
1-15	△ E00274200B	POWER TRANSFORMER	
1-16	*M00520900A	CHASSIS ASSY, T	
1-17	*M00520100A	CHASSIS, MAIN	
1-18	*M00520400B	FRONT CHASSIS ASSY	
1-19	*E95042900A	PCB ASSY, KEY	
1-20	*M00518700B	FRONT PNL ASSY(N) .....	VRDS-9(N)
	*M00518800B	FRONT PNL ASSY(B) .....	VRDS-9(B)
1-21	*M00521800A	BUTTON ASSY(N) .....	VRDS-9(N)
	*M00523300A	BUTTON ASSY(B) .....	VRDS-9(B)
1-22	*5801070100	SPRING, KNOB	
1-23	*M00521300C	WINDOW	
1-24	*M00519300A	PLATE, PANEL	
1-25	*5801533710	NAMEPLATE, TEAC(GLD T) .....	VRDS-9(N)
	*5801413200	NAMEPLATE, TEAC .....	VRDS-9(B)
1-26	*M00521200A	FOOT ASSY, D50	
1-27	*E95042800A	PCB ASSY, AUDIO	
1-28	*E0031460	CORE, K6 T 12. 7X7. 9X6. 35	
1-29	*E0032180	CORE, K5A T 22. 5X13. 8X12. 8	
1-31	*5783613008	SCREW, C-TITE M3X8 糸ツテ(NI-BLK)	
1-32	*5783533008	SCREW, B-TITE BIND M3X8(NI-BLK)	
1-33	*B00052000A	SCREW, BPSF 4X8FCU	
1-34	*5780023006	SCREW, BIND M3X6(NI-BLK)	
1-35	*B00050600A	SCREW, BPBC 3X8FCU	
1-36	*5783034014	SCREW, S-TITE BIND M4X14	
1-37	*5783732605	SCREW, B-TITE BIND M2. 6X5	
1-38	*5783543008	SCREW, P-TITE BIND M3X8(NI-BLK)	

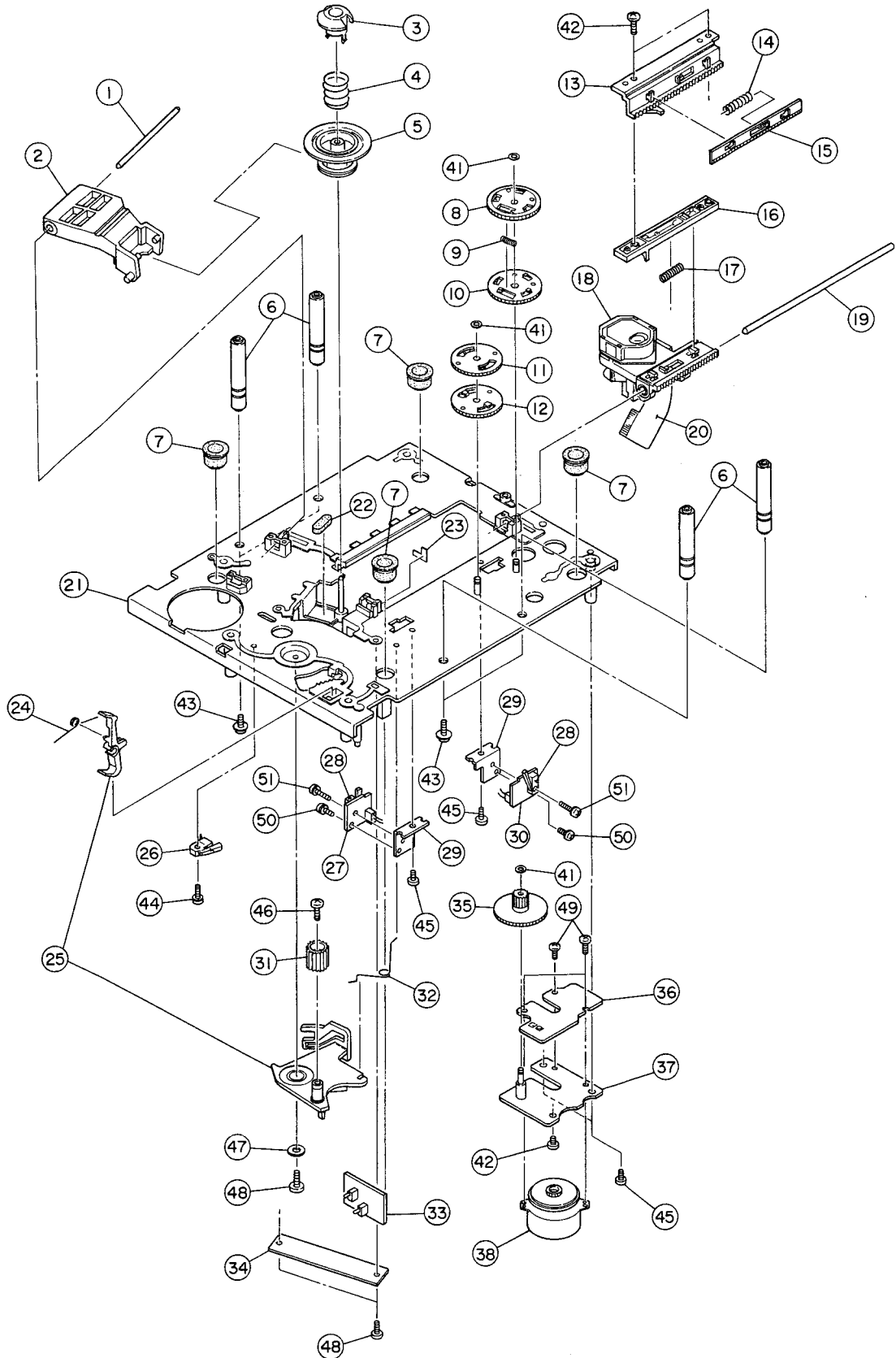
EXPLODED VIEW-2



**EXPLODED VIEW-2**

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
2- 1	5730033400	MAGNET, REC-26A 12X5X1.5	
2- 2	*M00068300A	TURNTABLE (GRN)	
2- 4	*5801600600	SPRING	
2- 5	*5801599801	CENTER RING	
2- 6	*5801569800	MAGNET YOKE	
2- 7	5801493501	MAGNET, FB3G DH32X18X4.5FMS	
2- 8	*5801057200	MAGNET HOLDER	
2- 9	*E95043100A	PCB ASSY, SP-MOTOR	
2-10	*M00515800A	BRACKET, SP MOTOR	
2-11	5370008800	DC MOTOR, RF-310T	
2-12	*M00515900A	BRACKET, SP MOTOR SUB	
2-13	5801570900	MAIN GEAR	
2-14	5801570800	T LEVER	
2-15	5801571500	BELT, 1.5X22	
2-16	5801571000	PULLEY GEAR	
2-17	5801571100	2-STEP GEAR	
2-18	5801597500	RING CUSHION, T3	
2-19	*5801571400	GEAR COVER	
2-20	*5801392100	COIL SPRING (D)	
2-21	*E95043900A	PCB ASSY, TP	
2-22	*5801276700	SCREW, STEP	
2-23	*M00540600A	CHASSIS, MECH (B)	
2-24	*5801595301	SUPPORT SPRING	
2-25	5800979201	MOTOR PULLEY	
2-26	5370009200	DC MOTOR, RF-500TB	
2-27	*E95043200A	PCB ASSY, T-MOTOR	
2-28	*5801629900	TRAY	
2-29	*5801573200	TRAY PANEL .....	VRDS-9 (N)
	*5801599710	TRAY PANEL (G) B .....	VRDS-9 (B)
2-30	*5801480500	FLOATING SPG (A)	
2-31	*5800846700	SPRING SUPPORT	
2-32	*E95042700A	PCB ASSY, SERVO	
2-41	*5780022606	SCREW, BIND M2.6X6 (NI-BLK)	
2-42	*5780202004	SCREW, FLAT M2X4	
2-43	*5783543008	SCREW, P-TITE BIND M3X8 (NI-BLK)	
2-44	*5785013000	WASHER, FLAT M3 (0.5T)	
2-45	*5786610400	PUSH RIVET, RP-3065-NB	
2-46	*5786004000	E-RING, E-4 (JIS)	
2-47	*5783533006	SCREW, B-TITE BIND M3X6 (NI-BLK)	
2-48	*5780002603	SCREW, BIND M2.6X3	
2-49	*5783533006	SCREW, B-TITE BIND M3X6 (NI-BLK)	
2-50	*5781212005	SCREW, TAPPING FLAT M2X5	
2-51	*5783603016	SCREW, P-TITE BIND M3X16	
2-52	*5780142606	SCREW, PAN SEMS-B M2.6X6	
2-53	*5783602608	SCREW, P-TITE BIND M2.6X8	

EXPLODED VIEW-3



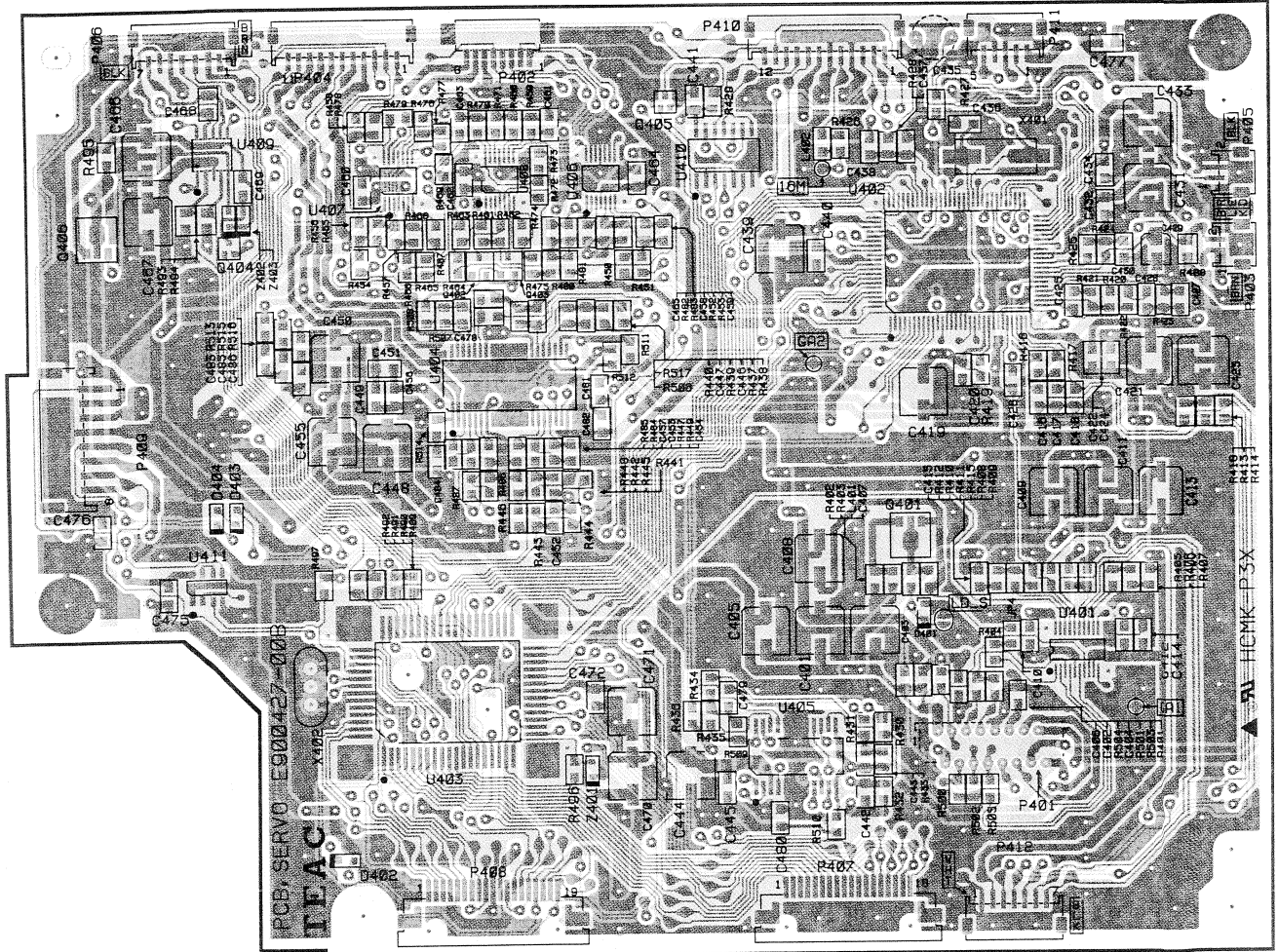
**EXPLODED VIEW-3**

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
3- 1	5801575400	CLAMPER SHAFT	
3- 2	5801569400	CLAMPER ARM	
3- 3	*5801569600	GUIDE RING	
3- 4	*5801575500	SPRING(C)	
3- 5	5801569500	CLAMPER	
3- 6	*M00516600A	POST, MECH	
3- 7	*5801480200	RUBBER BUSH	
3- 8	M00036600A	GEAR, SLED, 3	
3- 9	M00036800A	CPRSN SPRING, BL	
3-10	M00036700A	GEAR, SLED, 3BL	
3-11	M00036900A	GEAR, SLED, 4	
3-12	M00037000A	GEAR, SLED, 4BL	
3-13	*M00516300A	RACK, A	
3-14	*5801570400	SPRING(B)	
3-15	*M00516400A	RACK, B	
3-16	*M00516200A	BASE, RACK	
3-17	*5801570300	SPRING(A)	
3-18	K0000320	OPT PU ASSY, KSS-213C	
3-19	5801570100	GUIDE SHAFT	
3-20	*E00277400A	FLEX PCB, PICK-UP	
3-21	*M00515700A	CHASSIS, MECH(A)	
3-22	*5801510700	POINT CUSHION	
3-23	*M00574200A	STOPPER, PU 4X6XT05	
3-24	*5801571700	ACT SP	
3-25	5801570703	2P ARM	
3-26	5300060200	SW, PUSH SPPB21	
3-27	*E95043500A	PCB ASSY, IN SW	
3-28	5301457000	SW, DETECT SPPB22	
3-29	*M00516100A	BRACKET, DET SW	
3-30	*E95043400A	PCB ASSY, OUT SW	
3-31	5801571200	PLANETARY GEAR	
3-32	*5801571300	REVERSE SPRING	
3-33	*E95043300A	PCB ASSY, T-SW	
3-34	*5801605200	STOPPER 2	
3-35	M00516500A	GEAR, SLED	
3-36	*E95049100A	PCB ASSY, SL-MOTOR	
3-37	*M00516000A	BASE, SLD MOTOR	
3-38	M00035000B	SLED MOTOR ASSY	
3-41	*M00054700A	WASHER, SPLIT 2. 1X4X0. 25T	
3-42	*5783602006	SCREW, P-TITE BIND M2X6	
3-43	*5780142606	SCREW, PAN SEMS-B M2. 6X6	
3-44	*5780132006	SCREW, PAN SEMS-A M2X6	
3-45	*5780022004	SCREW, BIND M2X4(NI-BLK)	
3-46	*5783542608	SCREW, P-TITE BIND M2. 6X8(NI-BLK)	
3-47	*5785013000	WASHER, FLAT M3(0. 5T)	
3-48	*5783543008	SCREW, P-TITE BIND M3X8(NI-BLK)	
3-49	*16499417	SCREW, PAN 1. 7X3. 5(BLK)	
3-50	*5780142006	SCREW, PAN SEMS-B M2X6	
3-51	*5780132008	SCREW, PAN SEMS-A M2X8	

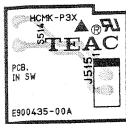
# 5 PC BOARDS AND PARTS LIST

基板図とパーツリスト

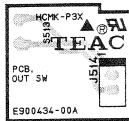
## SERVO PCB



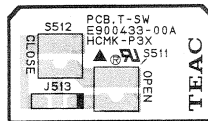
## IN SW PCB



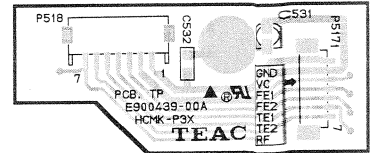
## OUT SW PCB



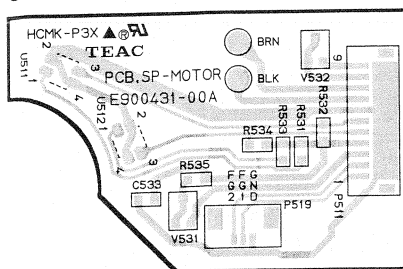
## T-SW PCB



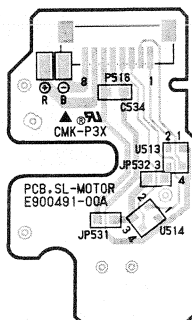
## TP PCB



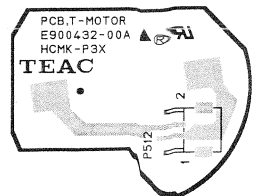
## SP-MOTOR PCB



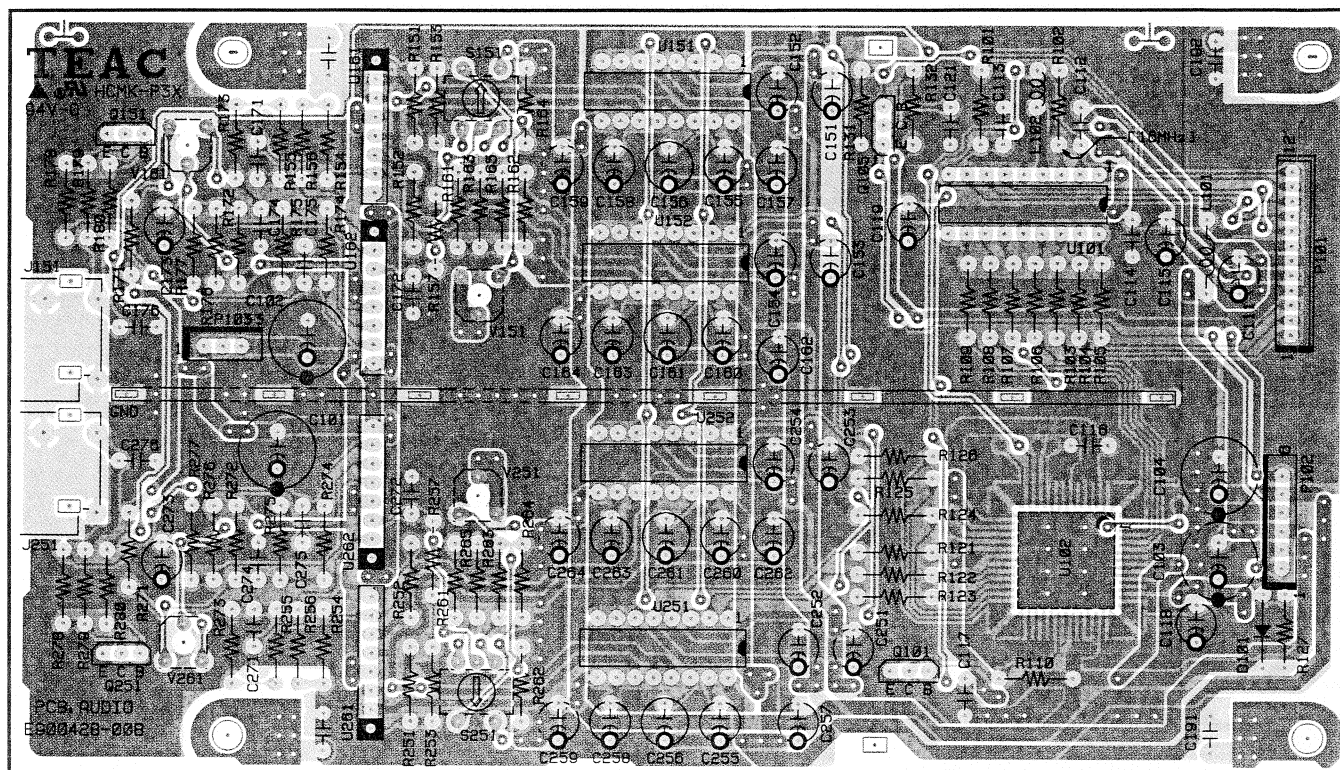
## SL-MOTOR PCB



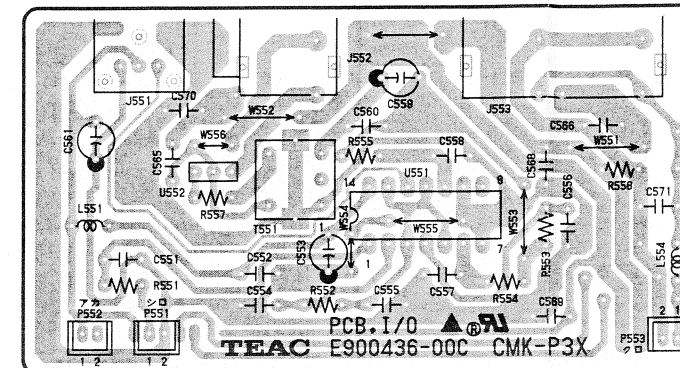
## T-MOTOR PCB



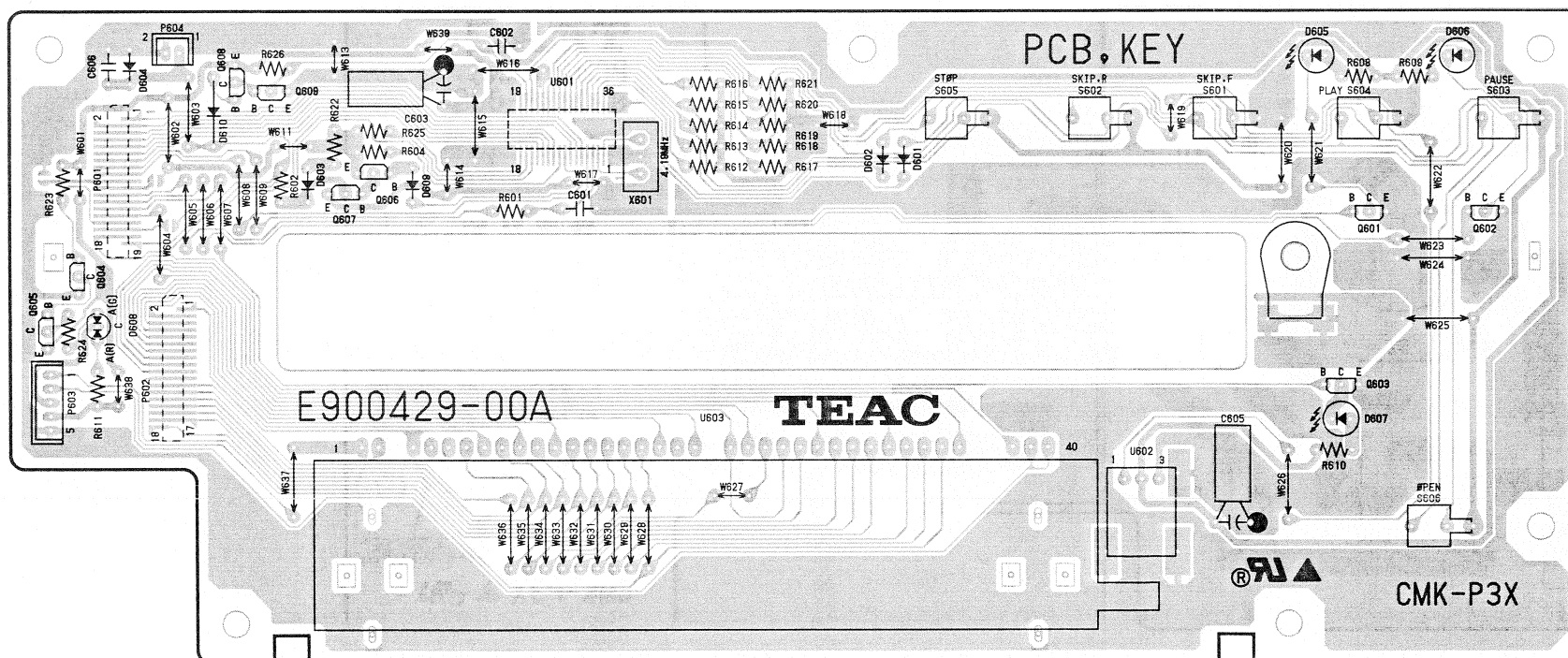
AUDIO PCB



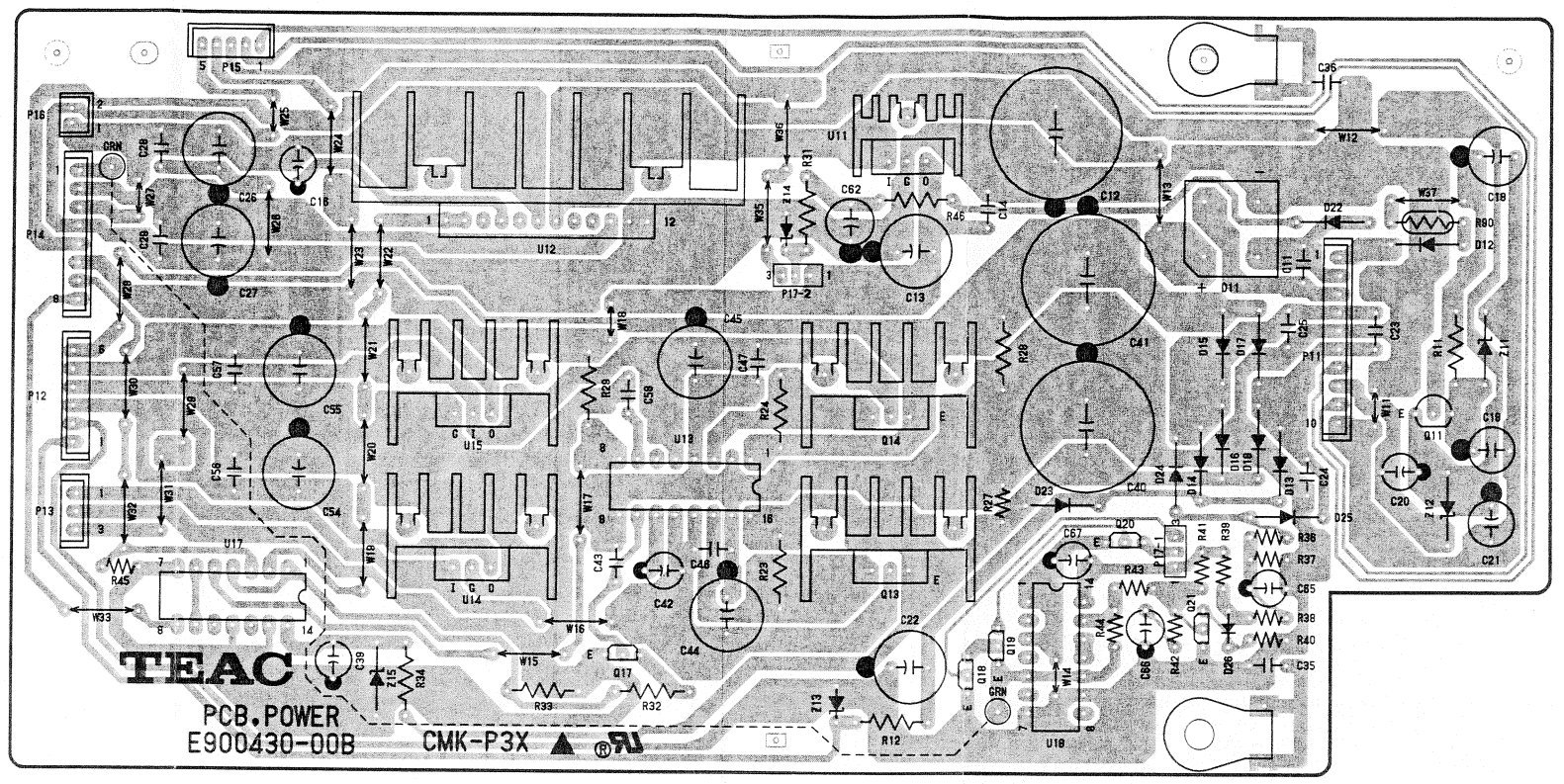
I/O PCB



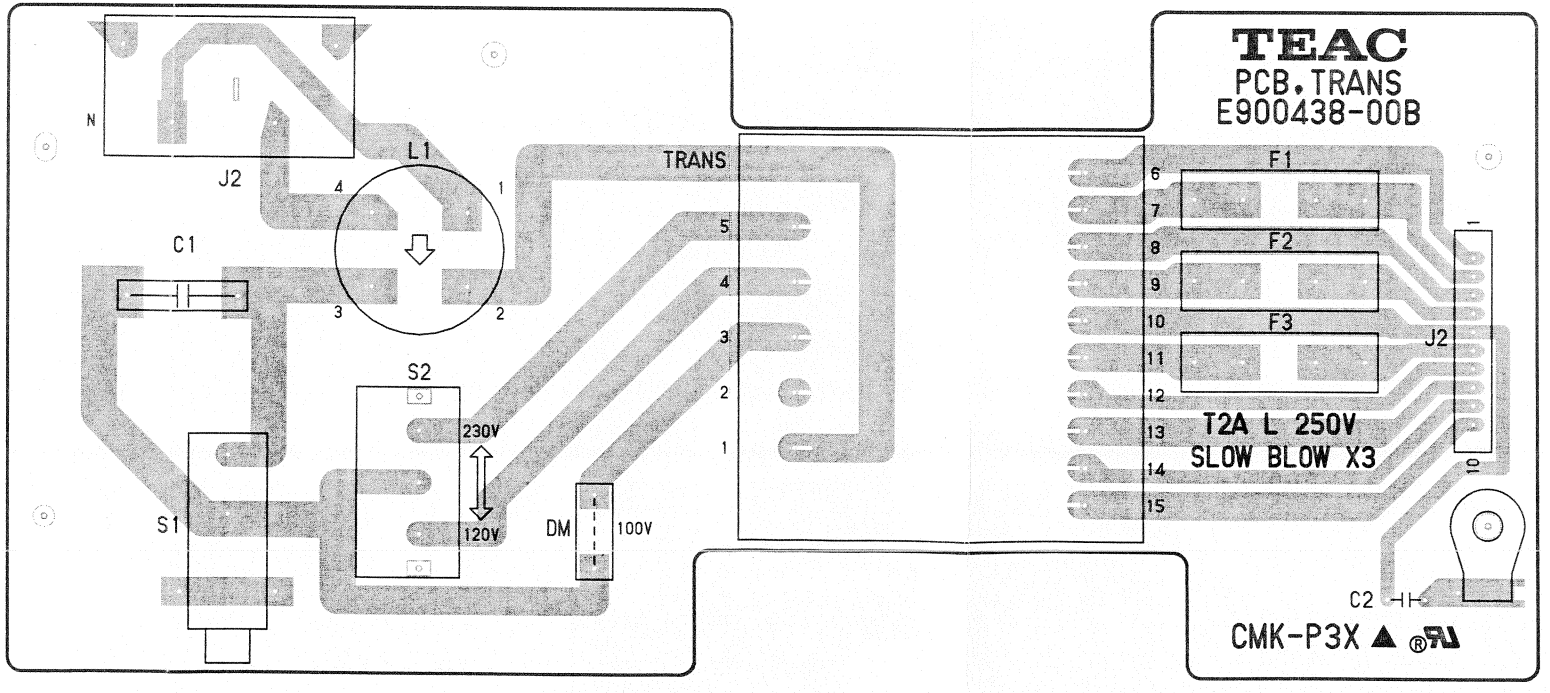
KEY PCB



POWER PCB



TRANS PCB





**SERVO PCB ASSY**

REF. NO.	PARTS NO.	DESCRIPTION
	*E95042700A	PCB ASSY, SERVO
	*E90042700B	PCB, SERVO
C435	5267207000	C, TRIMMER VCT51F 30P
D401-D404	13411644	DIODE, CHIP 1SS355
L401	5347027700	FERRITE BEAD, BK2125HS121
L402	5347027700	FERRITE BEAD, BK2125HS121
P401	E0030640	CONNECTOR, 52089-1620
P402	E0020444	CONNECTOR, 53261-0890
P403	E0034054	CONNECTOR, S2BZRSM3ATF
P404	13124028	CONNECTOR, 11P (S11B-ZR)
P405	E0034054	CONNECTOR, S2BZRSM3ATF
P406	E0034104	CONNECTOR, S7BZRSM3ATF
P407	13153074	CONNECTOR, 18P
P408	13153075	CONNECTOR, 19P
P409	5336380600	CONNECTOR, 8P S8BPHSM3TB
P410	E0027734	CONNECTOR, S12BZRSM3ATF
P411	E0034084	CONNECTOR, S5BZRSM3ATF
P412	E0034104	CONNECTOR, S7BZRSM3ATF
Q401	13427450	TR, 2SA1369G
Q402	S0001064	TR, DTC323TK
Q403	S0001064	TR, DTC323TK
Q404	S0001224	TR, DTC114EUA
Q405	S0001224	TR, DTC114EUA
Q406	S0022974	TR, 2SC5053
U401	S0018314	IC, CXA1571N-T4
U402	S0018323	IC, CXD2545Q
U403	S00259800A	IC, UPD75218GF-544-3BE
U404	S0022424	IC, BA6297AFP-E2
U405	S0018334	IC, TA8406F(EL)
U406-U408	5220450100	IC, NJM3403AV-TE2
U409	5220451100	IC, LB1638M
U410	13444419	IC, 74HC32F
U411	S0001324	IC, TC7W04F
X401	E0021644	RESONATOR, 16.9344MHZ SD3
X402	5347017700	OSC, EFO-EC4194A4
Z401	S0018374	DIODE, ZENER UDZ 9.1B
Z402	S0018364	DIODE, ZENER UDZ 6.2B
Z403	S0020374	DIODE, ZENER UDZ 5.1B

**IN SW PCB ASSY**

REF. NO.	PARTS NO.	DESCRIPTION
	*E95043500A	PCB ASSY, IN SW
	*E90043500A	PCB, IN SW

**OUT SW PCB ASSY**

REF. NO.	PARTS NO.	DESCRIPTION
	*E95043400A	PCB ASSY, OUT SW
	*E90043400A	PCB, OUT SW

**T-SW PCB ASSY**

REF. NO.	PARTS NO.	DESCRIPTION
	*E95043300A	PCB ASSY, T-SW
	*E90043300A	PCB, T-SW
S511, S512	5301654000	SW, PUSH SPPB-51

**TP PCB ASSY**

REF. NO.	PARTS NO.	DESCRIPTION
	*E95043900A	PCB ASSY, TP
	*E90043900A	PCB, TP
P517	E0020294	CONNECTOR, 53398-0790
P518	E0034104	CONNECTOR, S7BZRSM3ATF

**SP-MOTOR PCB ASSY**

REF. NO.	PARTS NO.	DESCRIPTION
	*E95043100A	PCB ASSY, SP-MOTOR
	*E90043100A	PCB, SP-MOTOR
	*M00543200A	SPACER
P511	13124028	CONNECTOR, 11P (S11B-ZR)
P519	E0020254	CONNECTOR, 53398-0390
U511, U512	5228017700	PHOTO-INTERRUPTER GP2S24
V531	R0014724	VAR RES, 1K EVN5EX50B13
V532	R0014774	VAR RES, 50K EVN5EX50B54

**SL-MOTOR PCB ASSY**

REF. NO.	PARTS NO.	DESCRIPTION
	*E95049100A	PCB ASSY, SL-MOTOR
	*E90049100A	PCB, SL-MOTOR
P516	E0020444	CONNECTOR, 53261-0890
U513, U514	S0001564	HALL DVC, LT135A

**T-MOTOR PCB ASSY**

REF. NO.	PARTS NO.	DESCRIPTION
	*E95043200A	PCB ASSY, T-MOTOR
	*E90043200A	PCB, T-MOTOR
P512	E0034054	CONNECTOR, S2BZRSM3ATF

## AUDIO PCB ASSY

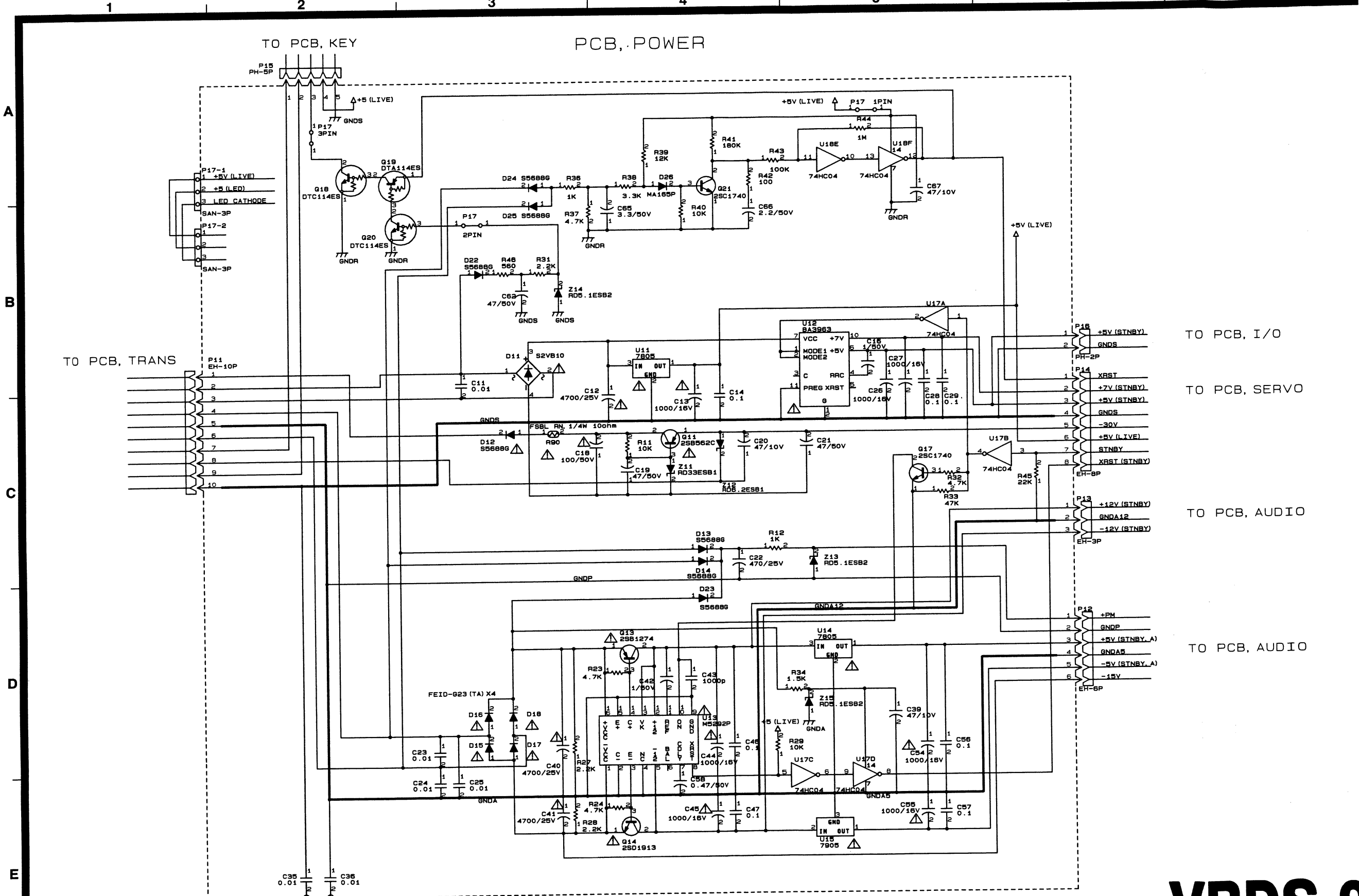
REF. NO.	PARTS NO.	DESCRIPTION
	*E95042800A	PCB ASSY, AUDIO
	*E90042800B	PCB, AUDIO
	*5801433600	BUSS BAR, L142 N8 OFC 0.8
D101	5224012920	DIODE, 1S2473
J151	E0027780	JACK, RCA 1P
J251	E0027770	JACK, RCA 1P
L101	5286033520	COIL, CHOKE 4.7UH K
L102	14727479	FERRITE BEADS
P101	5336250200	CONNECTOR, B12B-PH-K-S(WHT)
P102	5336303600	CONNECTOR, B6B-EH(WHT)
P103	5336303300	CONNECTOR, B3B-EH(WHT)
Q101	5232255620	TR, DTC114ESA
Q105	5232254720	TR, DTA114ESA
Q151, Q251	5231762520	TR, 2SD1915TA
R101	5241622220	R, METAL MRS25 1.0K F
R102	5241627020	R, METAL MRS25 100K F
R103-R105	5241619820	R, METAL MRS25 100 F
R106-R109	5241620620	R, METAL MRS25 220 F
R110	5241624620	R, METAL MRS25 10K F
R121-R126	5241620620	R, METAL MRS25 220 F
R127	5241623820	R, METAL MRS25 4.7K F
R131	5241624620	R, METAL MRS25 10K F
R132	5241627020	R, METAL MRS25 100K F
R151, R251	5241622820	R, METAL MRS25 1.8K F
R152, R252	5241622820	R, METAL MRS25 1.8K F
R153, R253	5241624620	R, METAL MRS25 10K F
R154, R254	5241624620	R, METAL MRS25 10K F
R155, R255	5241624420	R, METAL MRS25 8.2K F
R156, R256	5241622220	R, METAL MRS25 1.0K F
R157, R257	5241622220	R, METAL MRS25 1.0K F
R161, R261	5241609520	R, METAL MRS25 9.1K F
R162, R262	5241613920	R, METAL MRS25 620K F
R163, R263	5241613120	R, METAL MRS25 300K F
R164, R264	5241612420	R, METAL MRS25 150K F
R165, R265	5241611720	R, METAL MRS25 75K F
R171, R271	5241624620	R, METAL MRS25 10K F
R172, R272	5241624620	R, METAL MRS25 10K F
R173, R273	5241621620	R, METAL MRS25 560 F
R174, R274	5241621620	R, METAL MRS25 560 F
R175, R275	5241622620	R, METAL MRS25 1.5K F
R176, R276	5241627020	R, METAL MRS25 100K F
R177, R277	5241624620	R, METAL MRS25 10K F
R178, R278	5241622220	R, METAL MRS25 1.0K F
R179, R279	5241619820	R, METAL MRS25 100 F
R180, R280	5241623820	R, METAL MRS25 4.7K F
S151, S251	5302109900	SW, SRGE N=16
U101	5220099800	IC, SM5840AP
U102	5220088300	IC, UPD65031GC-433
U151, U251	S0019360	IC, PCMI702P
U152, U252	S0019360	IC, PCMI702P
U161, U261	5220431200	IC, M5238L
U162, U262	5220448100	IC, NJM2114L
V151, V251	5280180702	VR, SEMI-FIXED 220 B
V161, V261	5280181302	VR, SEMI-FIXED 2.2KB

## I/O PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*E95043600A	PCB ASSY, I/O
	*E90043600C	PCB, I/O
J551	5292210100	OPT. DATA LINK, GP1F32T
J552	E0027800	JACK, RCA 1P
J553	E0027810	JACK, RCA 2P
L551	5286033520	COIL, CHOKE 4.7UH K
L554	14727479	FERRITE BEADS
P551	5336249200	CONNECTOR, B02B-PH-K-S(WHT)
P552	5336251200	CONNECTOR, B02B-PH-K-R(RED)
P553	5336255200	CONNECTOR, B02B-PH-K-K(BLK)
T551	5320046300	PULSE TRANS, TC-1027-04
U551	5220040700	IC, UPD74HC04C
U552	5292808020	EMI FILTER, EMC EMT 100PFT

## KEY PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*E95042900A	PCB ASSY, KEY
	*E90042900A	PCB, KEY
	5555590000	EARTH PLATE A
	*M00539300A	HOLDER ASSY, FL
	M00404701A	SPACER, LED LH-5 L=9
D601-D604	5224017820	DIODE, MA165P(TA5)
D605	5225020600	LED, SLH38 MC3F(GRN)
D606	S0016502	LED, GL3HS8(C) (SUNSET ORG)
D607	S0016502	LED, GL3HS8(C) (SUNSET ORG)
D608	S0022962	LED, GL3ED8
D609	5224017820	DIODE, MA165P(TA5)
D610	5224017820	DIODE, MA165P(TA5)
P601	E0030373	CONNECTOR, SMT6232-19P
P602	E0030363	CONNECTOR, SMT6232-18P
P603	5336249500	CONNECTOR, B05B-PH-K-S(WHT)
P604	5336255200	CONNECTOR, B02B-PH-K-K(BLK)
Q601-Q604	5232255620	TR, DTC114ESA
Q605, Q606	5232254720	TR, DTA114ESA
Q607, Q609	5232255620	TR, DTC114ESA
Q608	5232254720	TR, DTA114ESA
S601-S606	5302108600	SW, TACT SKHVBE
U601	S00224100A	IC, UPD754302GS-031
U602	5292211000	REMOTE MODULE, SBX1785-52
U603	5347009100	FL DISPLAY, FIP10YM8
X601	5347012000	OSC, CERAMIC CST4.19MGW

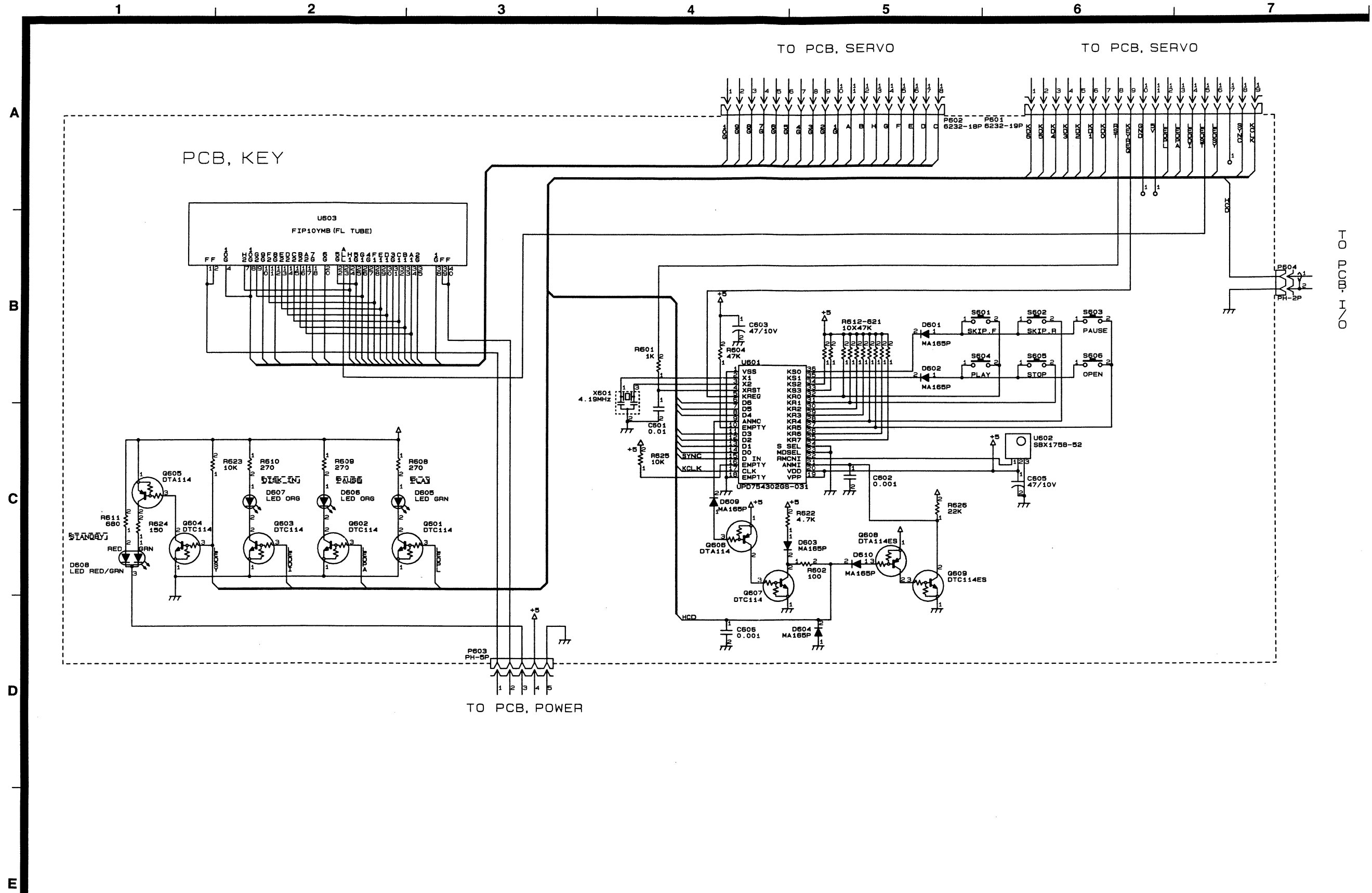


**NOTES:**  
 1. Resistor values are in ohms (k=kilo-ohms, M=megohms).  
 2. Capacitor values are in microfarads (p=picofarads).  
 3.  $\Delta$  Parts marked with this sign are safety critical components. They must always be replaced with identical components-refer to the appropriate parts list and 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 $\mu\text{F}$  (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ック指定の部品を使用してください。

**VRDS-9**  
 Compact Disc Player  
 1st Issue; May 1997

**TEAC** SCHEMATIC DIAGRAM **VRDS-9** KEY PCB



**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.

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**VRDS-9**  
**Compact Disc Player**  
 1st Issue; May 1997

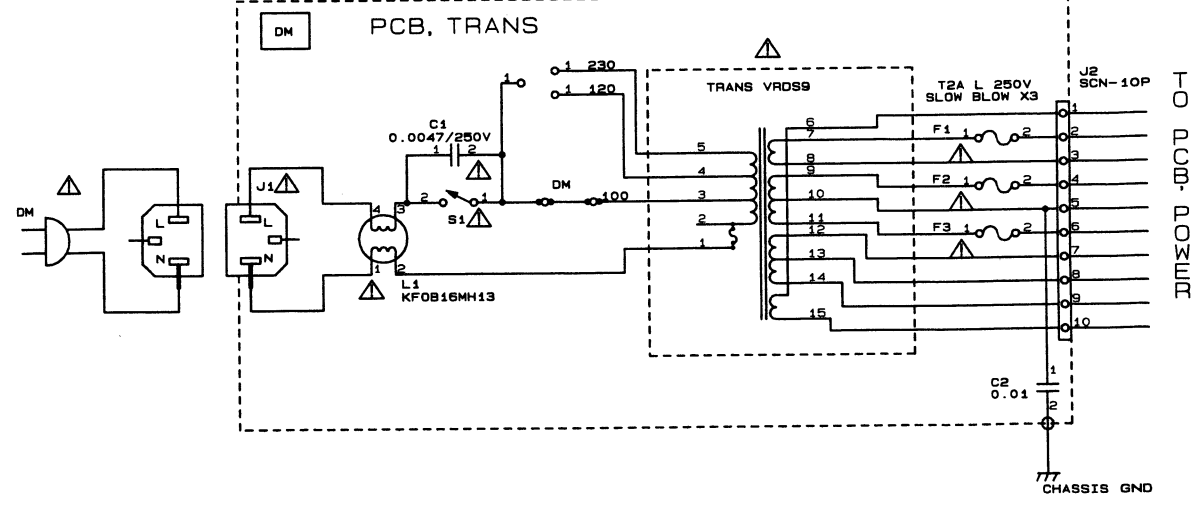
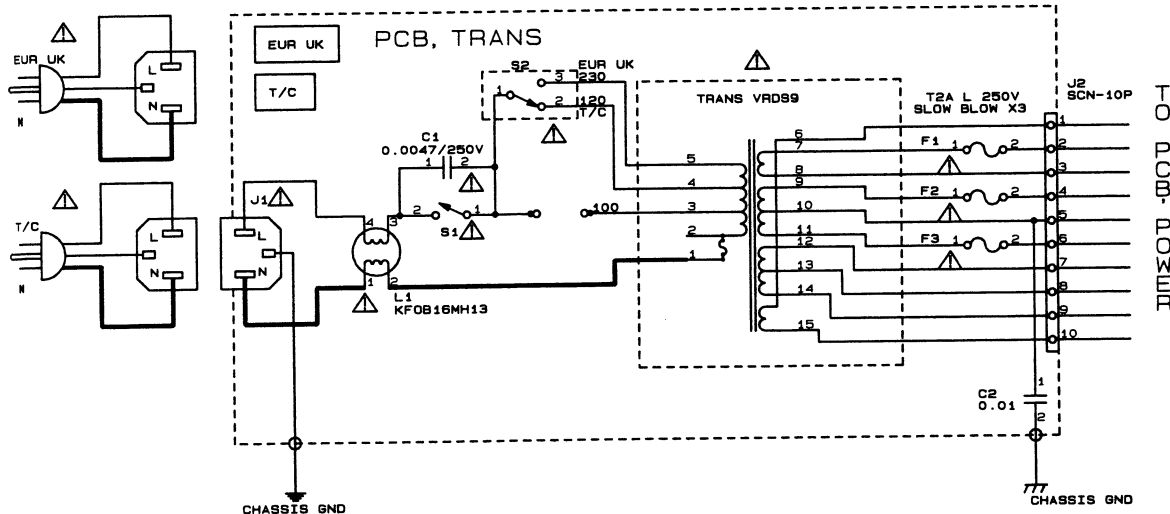
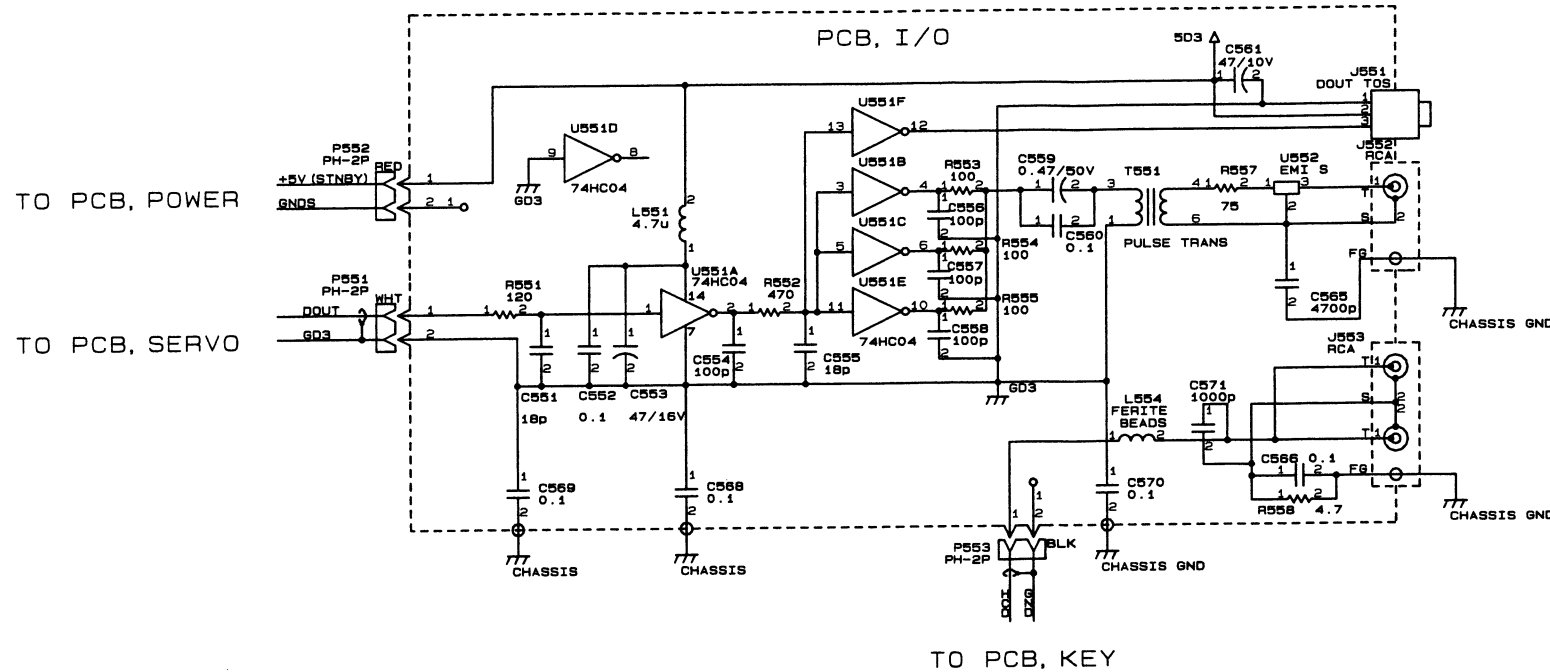
A

B

C

D

E



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 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.

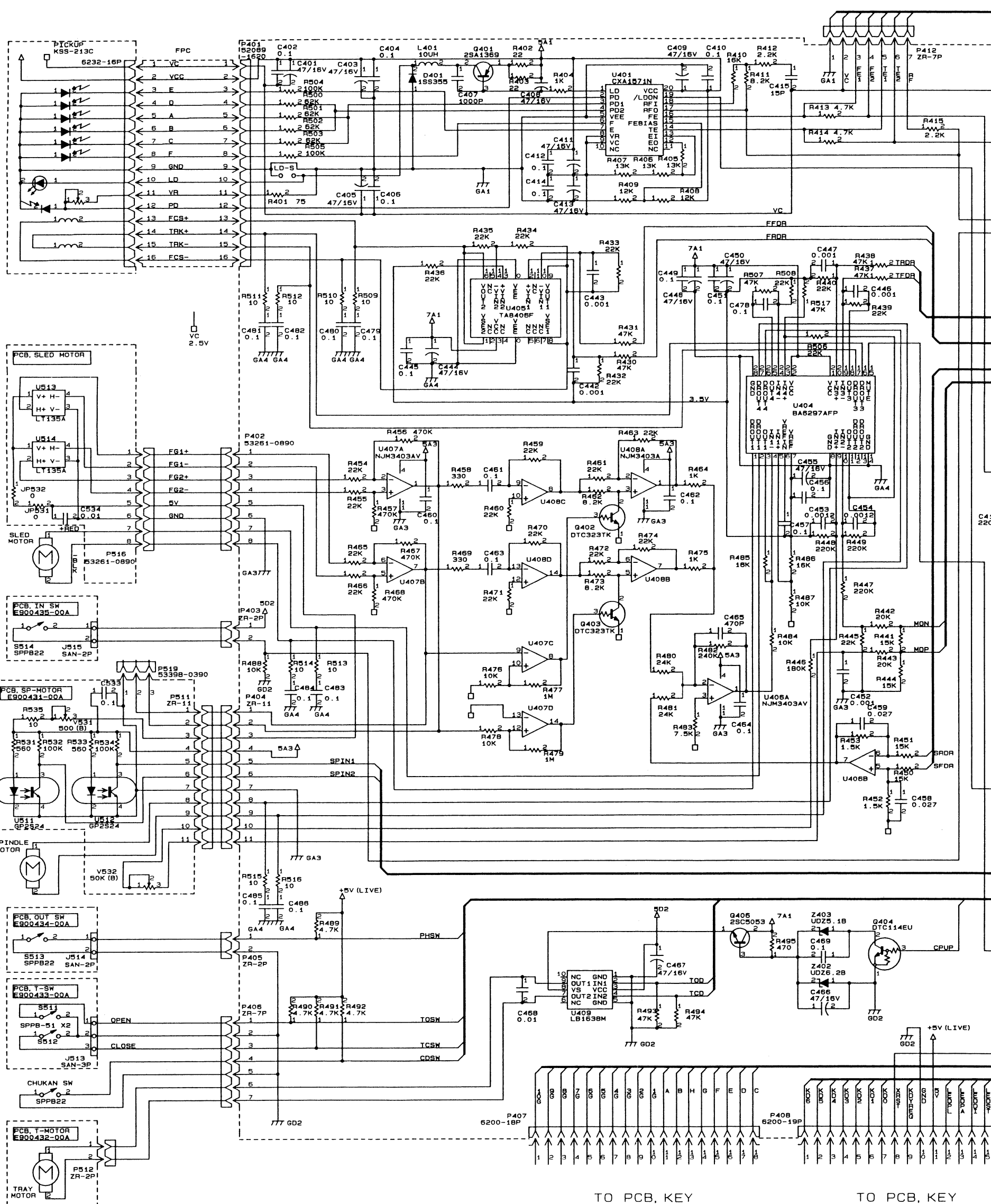
**注意**  
 1. 抵抗の単位はΩ (k=kΩ, M=MΩ) です。  
 2. コンデンサの単位はμF (p=pF) です。  
 3. △マークのある部品は安全規格重要部品です。交換するときは必ずティアック指定の部品を使用してください。

**VRDS-9**  
 Compact Disc Player  
 1st Issue; May 1997

# TEAC SCHEMATIC DIAGRAM VRDS-9 SERVO SECTION

1 2 3 4 5

A  
B  
C  
D  
E  
F  
G  
H

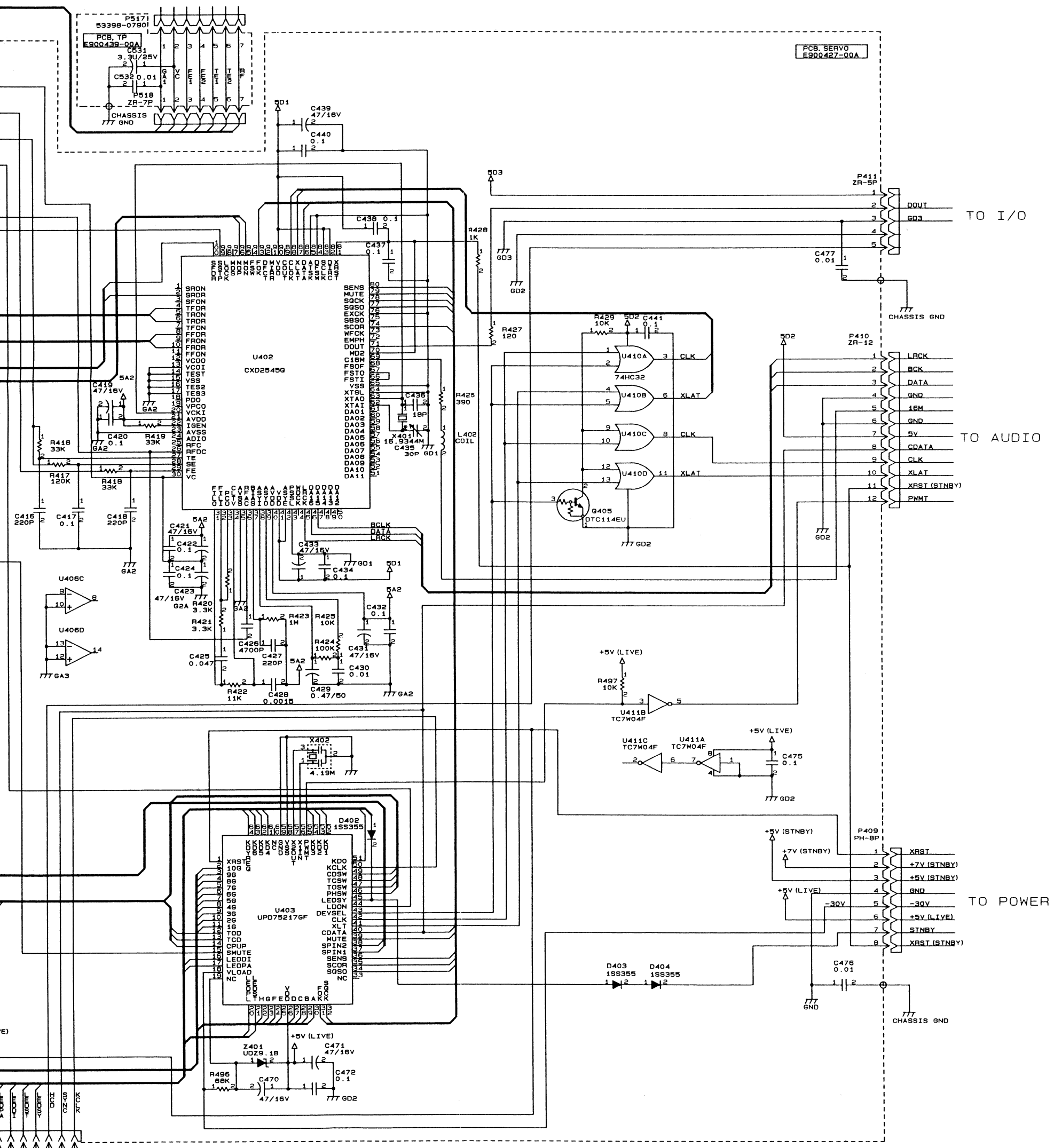


**INSTRUCTIONS FOR SERVICE PERSONNEL**  
**BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.**

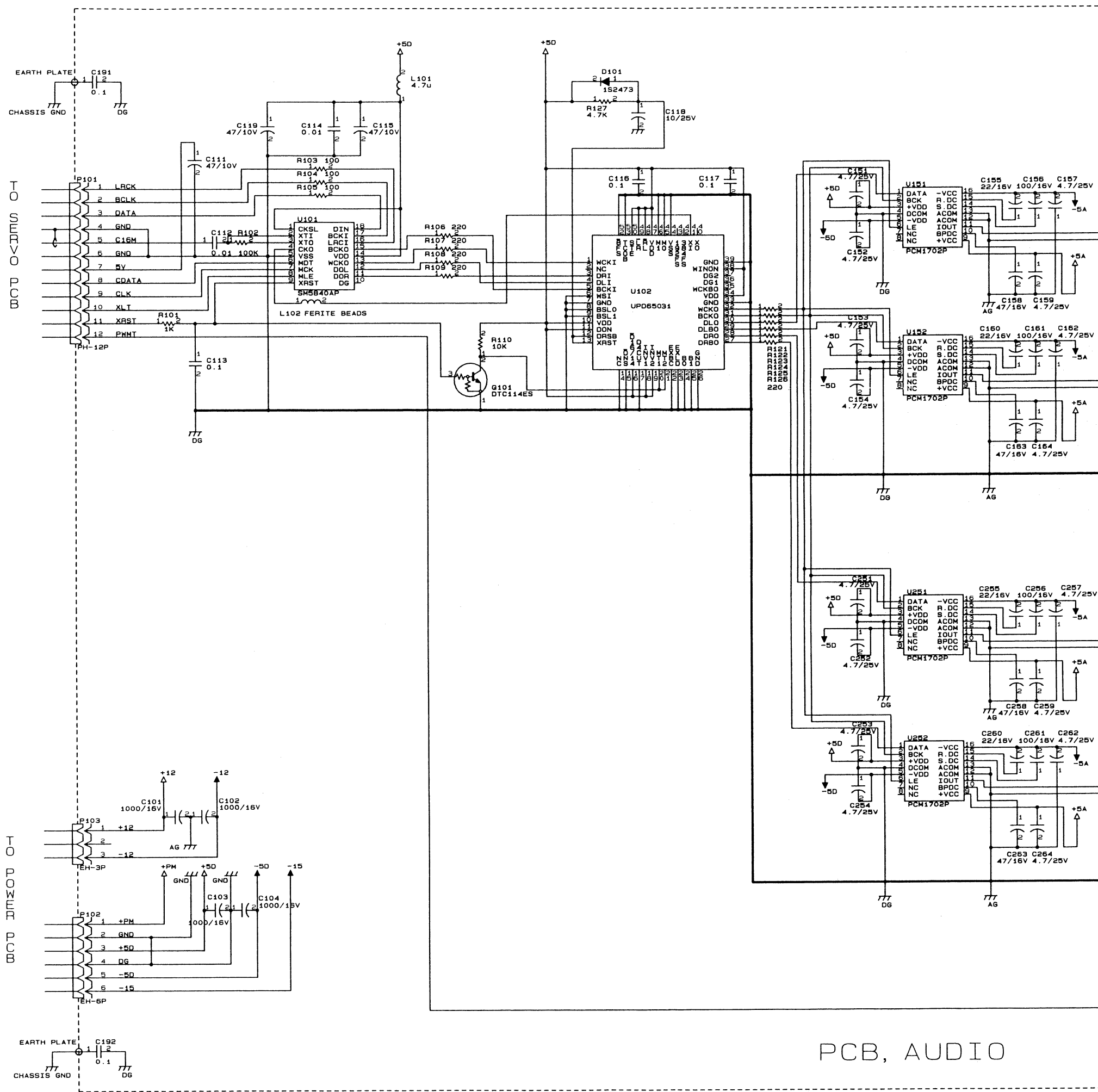
**NOTES:**  
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TO PCB, KEY TO PCB, KEY



A  
B  
C  
D  
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G  
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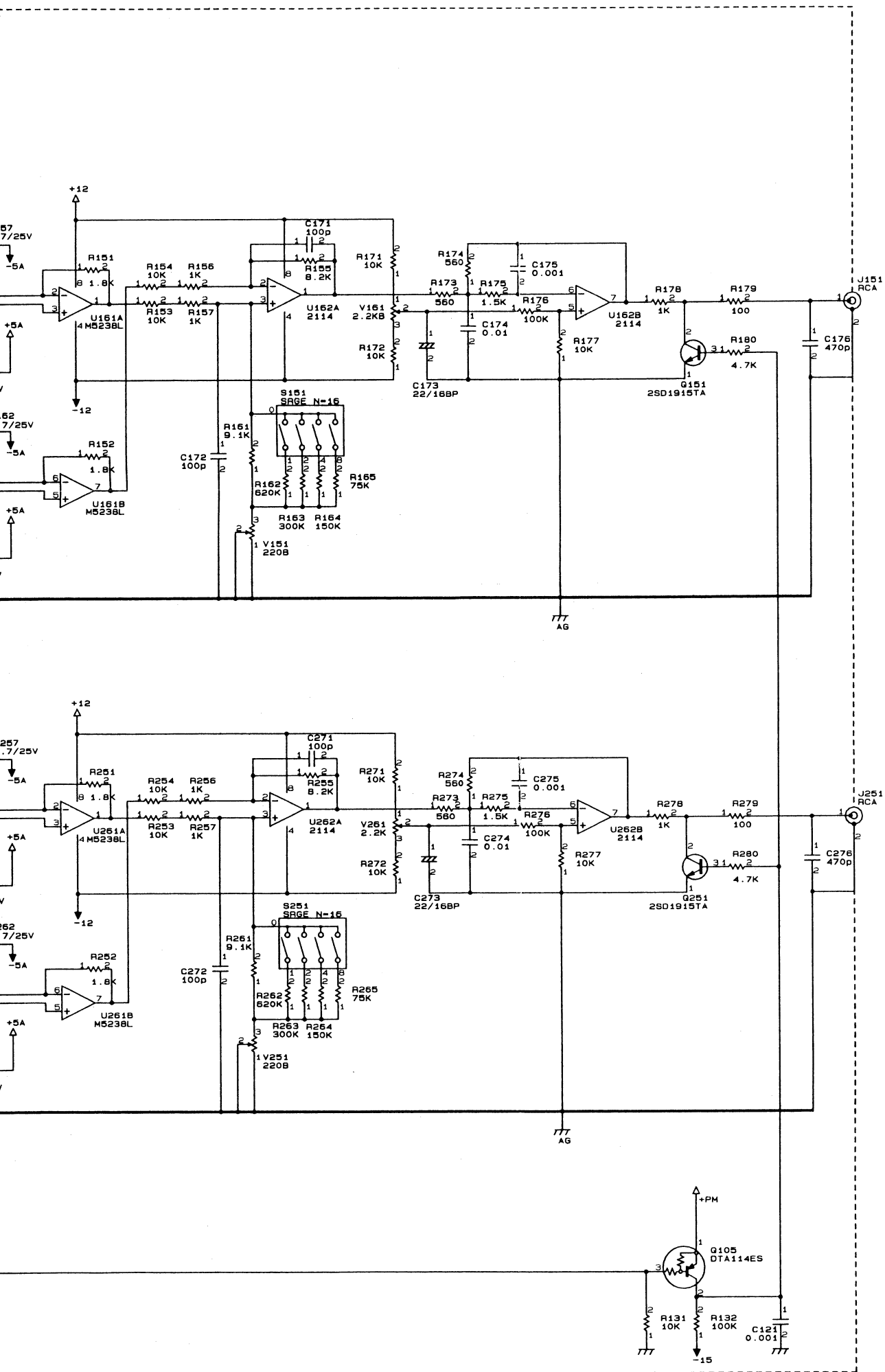
PCB, AUDIO

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**POWER PCB ASSY**

REF. NO.	PARTS NO.	DESCRIPTION
	*E95043000A	PCB ASSY, POWER
	*E90043000B	PCB, POWER
	5730039200	HEATSINK, OSH-2425-SPL
	M0052230	HEATSINK, OSH-1525-SP
	M00543100A	HEATSINK, 15PB54
	5555590000	EARTH PLATE A
	*5783743008	SCREW, S-TITE BIND M3X8 (CU)
C12	△ C0000000	CE, 4700UF 25V
C13	△ 5260485000	CE, 1000UF 16V
C18	△ 5260424320	CE, 100UF 50V
C40, C41	△ C0000000	CE, 4700UF 25V
C44, C54	△ 5260485000	CE, 1000UF 16V
C45, C55	△ 5260485000	CE, 1000UF 16V
D11	△ 5228010800	SILICON STACK, S2VB20
D12-D14	△ 5224016420	DIODE, S5688G
D15-D18	△ S0023340	DIODE, EU2Z
D22-D25	5224016420	DIODE, S5688G
D26	5224017820	DIODE, MA165P (TA5)
P11	5336304000	CONNECTOR, B10B-EH (WHT)
P12	5336303600	CONNECTOR, B6B-EH (WHT)
P13	5336303300	CONNECTOR, B3B-EH (WHT)
P14	5336303800	CONNECTOR, B8B-EH (WHT)
P15	5336241500	CONNECTOR, B05B-PH
P16	5336251200	CONNECTOR, B02B-PH-K-R (RED)
Q11	△ 5230509100	TR, 2SB562C
Q13	△ 5230509700	TR, 2SB1274R
Q14	△ 5231762800	TR, 2SD1913
Q17, Q21	5230781120	TR, 2SC1740SLN
Q18, Q20	5232255620	TR, DTC114ESA
Q19	5232254720	TR, DTA114ESA

**POWER PCB ASSY**

REF. NO.	PARTS NO.	DESCRIPTION
R90	△ R0030211	FSBL RN, 1/4W 10 OHM J
U11	△ 13447943	IC, NJM78M05FA
U12	△ S0022950	IC, BA3963
U13	△ S0022700	IC, M5292P
U14	△ 13447943	IC, NJM78M05FA
U15	△ 13447961	IC, NJM79M05FA
U17	5220051800	IC, TC74HC04AP
U18	5220051800	IC, TC74HC04AP
Z11	5224592821	DIODE, ZENER RD 33ESB1
Z12	5224585621	DIODE, ZENER RD6. 2ESB1
Z13-Z15	5224584921	DIODE, ZENER RD5. 1ESB2

**TRANS PCB ASSY**

REF. NO.	PARTS NO.	DESCRIPTION
	*E95043800A	PCB ASSY, TRANS [J]
	*E95043811A	PCB ASSY, TRANS [US, C]
	*E95043840A	PCB ASSY, TRANS [E, UK]
	*E90043800B	PCB, TRANS
	E0034560	CLIP FUSE, H0446
	5555590000	EARTH PLATE A
C1	△ E0022570	SPK KILLER, 0.0047UF 250V
F1-F3	△ 5307050200	FUSE, 2A SLOW BLOW [J, US, C]
F1-F3	△ 5307053100	FUSE, 2.0A TIME LAG [E, UK]
J1	△ E0021120	CONNECTOR, AC INLET
L1	△ 5292806300	NOISE FILTER, FK0B16MH13
S1	△ 5300054700	SW, PUSH SDDL1166A
S2	△ E0029810	V SELECTOR, SDKHA2 [EXCEPT J]

**6 INCLUDED ACCESSORIES**

付属品

**INCLUDED ACCESSORIES**

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	*D00267700A	OWNER'S MNL, JAPANESE [J]	English, French, German, Italian, Spanish, Dutch VRDS-9 (N) VRDS-9 (B)
	*D00267800A	OWNER'S MNL, MULTI [EXCEPT J]	
	*E00299200A	REMOTE CONTROL UNIT, RC-626 .....	
	*E00299300A	REMOTE CONTROL UNIT, RC-629 .....	
	5347006900	BATTERY (UM-3), JAPANESE [J]	
	5347007000	BATTERY (UM-3), ENGLISH [EXCEPT J]	
	△ 5350014800	AC CORD [J]	
	△ 5350018800	3P CORD SET [US, C]	
	△ 15922303	3P CORD SET [E]	
	△ 5350018500	3P CORD SET (13A FUSE) [UK]	
	E0031180	PIN CORD, BLK 0.8M 1P [J, E, UK]	

# VRDS-9

# TEAC

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